

PUBLIKACE 1:

KLSÁK, A., KŘÍŽKOVÁ, I. (2022): Spatial Patterns of the Foreign Population in Prague and the Central Bohemian Region: The State 10 Years After the Financial Crisis. In: Ouředníček, M. (ed.): Prague and Central Bohemia: Current Population Processes and Socio-Spatial Differentiation. Karolinum Press, Praha, 35–57.

Autorský podíl 80 %

3 / Spatial Patterns of the Foreign Population in Prague and the Central Bohemian Region: The State 10 Years After the Financial Crisis

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3.1 INTRODUCTION

In the era of Communist dictatorship between 1948 and 1989, people almost exclusively emigrated from Czechoslovakia. However, following the Velvet Revolution there was a significant turnover. Czechia has become a unique case in terms of its migration attractiveness within post-socialist Central and Eastern Europe during the last three decades (Drbohlav, 2011). Foreigners (which we define, in accordance with the legal definition, as all persons with a non-Czech citizenship) make up a significant share of the population of Czechia, and the importance of their influence on the formation of social, physical and functional spatial structures of Czech settlements is growing (Ouředníček, Temelová, 2009; Přidalová, Ouředníček, 2017; Přidalová, Hasman, 2018).

Prague is the city with the highest number of foreigners in the country, having by far the highest share of foreigners in the population among post-socialist capitals in Central and Eastern Europe and being known as a traditional gateway for foreign residents to enter the country (Janská, Čermák, Wright, 2014; Přidalová, Ouředníček, 2017). Prague, as a capital and the main city in the country's settlement hierarchy, attracts residents and investors due to its high standard of living, concentration of job and business opportunities, higher salaries compared to the rest of the country and its aesthetic qualities. At the same time, Prague's rent, property prices and other costs are skyrocketing (Temelová, 2009; Hudeček et al., 2019). This alongside many other aspects leads to the expansion of the Prague metropolitan region into areas far beyond its administrative boundary, thereby reshaping the social structure of both Prague itself and the Central Bohemian Region. The processes of residential and commercial suburbanisation contribute most to this expansion (Ouředníček, 2007; Ouředníček et al., 2018). Identifying the spatial aspects of the behaviour of foreigners, being important actors in urban processes in Prague and the Central Bohemian Region, is therefore important not only from a social science perspective, but also from the perspective of public institutions and self-government.

The aim of this chapter is to describe, analyse and interpret how foreigners, whose numbers continue to grow

in the Prague metropolitan region, have responded to its dynamic development in the last decade, particularly as the financial crisis affected human mobility and migration flows all over the world in 2008. Specifically, we will focus on spatial patterns of foreign population distribution, changes of these patterns over time and the differences between significant categories of foreigners. We use primarily location quotients, the traditional tool of measuring the concentration of population groups, as well as dissimilarity indexes. Basic demographic characteristics of all analysed groups are presented to provide another interpretative framework for the key results. We also want to set the stage for the following chapters (Křížková, Klsák, Šimon, 2022; Šimon, Křížková, Klsák, 2022 in this book) to bring together a truly detailed view of the topic.

This chapter is divided into several sections. The introduction is followed by a review of existing literature that deals with similar topics within the area of research, offering context in which the research is located. The next subchapter provides a description of the sources and methods used and discusses their quality and suitability in the given context. Three empirically oriented sections cover the key results and include an interpretation of the general characteristics of foreigners in the context of the zoning of Prague / Central Bohemia, as well as the specific spatial patterns in the studied area. The final section highlights and discusses the most important findings and brings a critical reflection of the research.

3.2 SPATIAL BEHAVIOUR OF FOREIGNERS – WORLD CITIES, CZECHIA AND PRAGUE

The traditional spatial “three generational model” suggests that immigrants entering the country settle in the transitional zones in inner cities of gate metropolises, where they are highly segregated and socially unassimilated. However, the second generation of immigrants is more assimilated and leaves such areas to go further into the city, therefore the group's overall level of segregation decreases. The third generation should then complete the process of assimilation, when it moves to the suburbs – the traditional destination

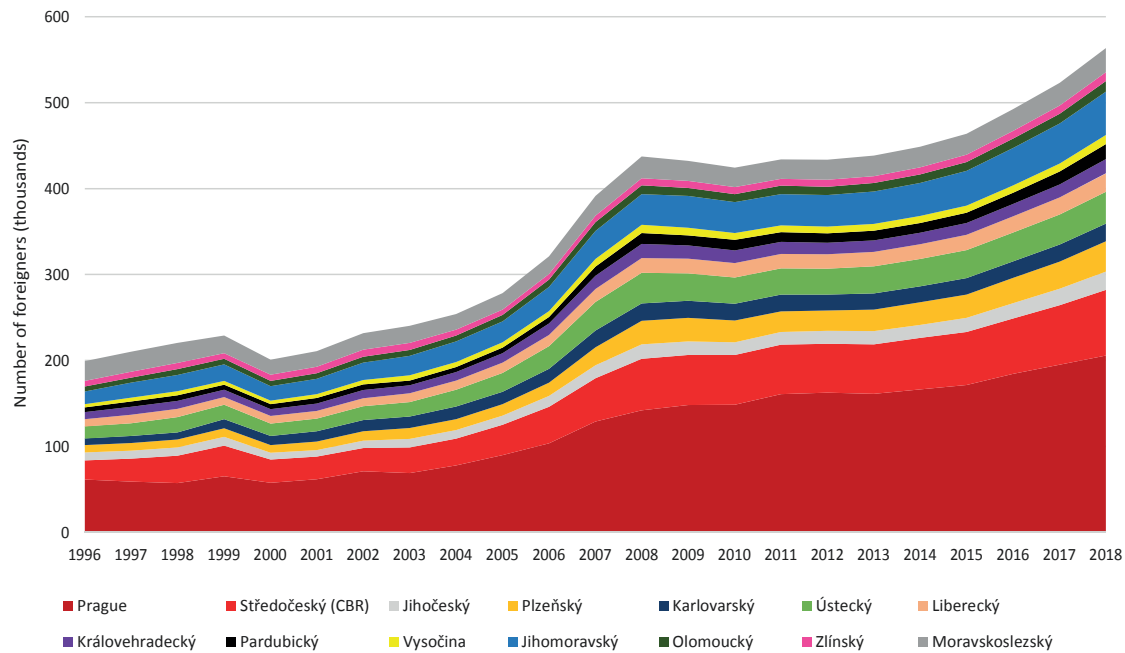


Figure 3.1: Development of total numbers of foreigners in regions of Czechia 1996–2018. **Data source:** CZSO (2019).

of the residential majority (Peach, 1996). Similarly to other paradigms on the subject matter, this model comes from the North American environment (a specific immigration society) and is therefore difficult to apply to a different context.⁴ The patterns of development in Western as well as (even more so) post-socialist Central and Eastern Europe, thus differ (Musterd, van Kempen, 2009; Hess, Tammaru, Leetmaa, 2012). Combining migration at the urban level with the traditional concept of phases of urbanisation processes (van den Berg et al., 1982; Geyer, Kontuly, 1996), one can deduct that “newcomers” from abroad are inclined towards urbanisation, and the majority of them towards gradual suburbanisation or counter-urbanisation, although such differences are blurred. A similar situation can be observed in Czechia today – in general, for foreigners, the attractiveness of a given place increases with its position in the settlement hierarchy of the country and thus the foreign population is more of an additional urban character; on the other hand, however, they also tend to increasingly disperse from the large urban centres (Čermák, Janská, 2011; Křížková, Ouředníček, 2020).

Even though the intensive presence of foreigners is usually considered as a relatively new phenomenon in Czechia, we cannot disregard the fact that the Czech lands, and even

more so Prague as their dominant centre, have been ethnically diverse throughout most of their history. The ethnic composition of Prague and the distribution of individual ethnic groups was studied in detail during the interwar era (1918–1938) by Boháč (1923), according to whom Prague, as a large commercial centre and capital of the country, has always been an important destination for many foreigners. In 1921, about 13 000 foreigners lived in Prague and made up about 2 percent of the city’s population, which was a significant increase from the previous census in 1910⁵. According to Boháč, foreigners at the time usually belonged to the upper class, amongst others members of the German and Jewish minorities, and their residential preferences were oriented towards the centre and specific parts of the inner city (Vinohrady, Bubeneč, Dejvice) rather than to the periphery (Boháč, 1923). The post-war period and the subsequent era of socialism meant the isolation of Czechoslovakia in the Eastern bloc, the closure of borders and the ethnic homogenisation of the population, however even in these times, specific groups of foreigners were migrating to Prague. Such groups consisted of mainly students and workers from the so-called allied countries on the basis of international agreements (Drbohlav, Čermák, 1998; Přidalová, Ouředníček, 2017). Even though their numbers were not fundamentally

⁴ It should be noted that this model is considerably simplistic and never universally valid even in the country of origin – an example is the African American minority in the USA (Peach, 1996). Original ideas by Chicago school researchers are dated, and in contrast, the environment of globalised metropolises is indeed changing and developing very dynamically.

⁵ This significant increase was probably caused by changes in the citizenship status of former Austrian-Hungarian citizens, as the author himself points out. Nevertheless, real cross-border migration was also recorded, and the number of newcomers increased, such as Czechs returning from abroad, foreign traders and students seeking potential in the newly established country, or refugees from Russia (Boháč, 1923).

high and the contacts between them and the majority were limited, we can trace the roots of certain migration flows – specifically the later Vietnamese migration (Freidingerová, Nováková, 2019; Přidalová, Ouředníček, 2017).

The real boom of foreign migration to Czechia took place following the Velvet Revolution of 1989. As mentioned above, Prague has a dominant position in this respect not only in Czechia (see Figure 3.1 comparing its position among other Czech regions), but in the wider region of post-Communist states of Central and Eastern Europe (Drbohlav, Valenta, 2014; Přidalová, Ouředníček, 2017). Hence a relatively large number of studies have already dealt with foreigners in Prague. However, most of them focus on various aspects of life and even more often on specific groups of foreigners. In a case study of the Ukrainian, Vietnamese and Armenian communities in Prague, Drbohlav and Dzúrová (2007) address aspects of the inclusion of such groups in Czech society, within the framework of acculturation strategies and segmented assimilation. The authors discovered significant differences in the strategies of these groups, and found that foreigners who are more familiar with the language and do not live close to their compatriots (thus with less segregation tendencies) are more satisfied with their life in the country (Drbohlav, Dzúrová, 2007). Nevertheless, the analysis of specific spatial patterns was not included in their research. A research report by Kušniráková, Plačková, Tran Vu (2013) follows up on the internal differentiation of the Vietnamese community in Czechia, but focuses in more detail on the community living in Prague, which is strongly concentrated around the city district Prague-Libuš. The study highlights the group's considerable diversity, role of the family and strong functional ties (Kušniráková, Plačková, Tran Vu., 2013). Relatively more attention was paid to the Prague Russian community investigated by Bittnerová (2012a,b), Volkovová (2012), Volkovová and Bittnerová (2012), Přidalová (2017) and Ignatiyeva and Sýkora (2019).

There are considerably fewer texts dealing in-depth with the spatial distribution of foreigners at the city level, or considering the wider urban region and the links therein. Works by Valenta (2012) or Přidalová and Ouředníček (2017) can be mentioned in this context. The differences in adaptation to the urban environment of the individual selected groups of in Czechia, are extensively summarised in the article by Uherek (2003), and despite the relative age of this text, its conclusions are still relevant. Unfortunately, the text does not go too far into the details of the inner differentiation of cities.

In Prague, foreigners play an important role in the process of the so-called new socio-spatial differentiation (Ouředníček, Pospíšilová, 2016) and constitute a significant part of all migration flows (Přidalová, Ouředníček, 2017). The population of foreigners in the city is thus very diverse, and yet earlier studies have noticed that its spatial distri-

bution is not uniform (Uherek, 2003). As Přidalová and Ouředníček (2017, p. 682) state, “the centre of Prague and selected neighbourhoods of the inner city are exposed to some of the effects of gentrification: the transformation of local services, the increase in housing prices and probably also the gradual displacement of the indigenous population of the central parts of towns by foreigners.” According to Křížková and Ouředníček (2020), suburbanisation is mostly connected to affluent and culturally and economically well-off groups of foreigners in Czechia, which likens non-native suburbanites to the majority trends. This significantly differentiates Prague from Western cities, where the suburbanisation of the poor is recently becoming a topic of debate, being intrinsically linked to immigrants (Cooke, Denton, 2015; Hochstenbach, Musterd, 2018).

3.3 DATA AND METHODS

In practice, research on foreign populations is subject to several difficulties and challenges, including the availability and quality of data, as well as the ability to capture an adequate amount of information from foreigners (Holá, 2005). Bernard and Leontiyeva (2013) aptly call migrants “a hard to reach population,” which is not far from the truth. Collecting and processing data on migration and foreigners is shared between three key institutions in Czechia: the Czech Statistical Office, the Ministry of the Interior (respectively Czech Alien Police) and the Ministry of Labour and Social Affairs (Drbohlav, Lachmanová-Medová, 2009). According to literature, the considerable limit of available statistics can be attributed to the fact that these registers are created for the needs of bureaucracy of responsible institutions rather than for statistical processing itself (Trlifajová, 2015). Censuses have long been considered the most comprehensive source of information on the foreign population of Czechia; however, in the past they were characterised by considerably high error rates and incompleteness of foreign nationals' inputs (Leontiyeva, Chytil, 2012). Another disadvantage is the ten-year interval between them, which makes the collected data less relevant to the current dynamic situation, several years after the census.

This study uses data from the Alien Police, which in our opinion, is currently the most reliable source of information on the spatial distribution of foreigners. This database includes basic individual data on all foreign citizens legally residing in Czechia and is available to us in the form of yearly anonymised aggregates. Apart from address, sex, age and resident status, the citizenship of these persons is distinguished in maximum detail. We are also aware of some of the shortcomings of this data, which must be borne in mind when interpreting the results. Some deficiencies can be attributed to procedural errors – for example incorrectly

entered addresses, which cannot be used when identifying the exact location. Typically, however, such errors make up only a small percentage of the entire sample and the quality of records has been increasing over time. The second issue is the validity of the records themselves. Citizens of the European Union are not obliged to report their residence, therefore the information about their stay may not be accurate and their numbers may be underestimated. A problem may also arise when individuals leave the country and do not report their departure to the competent authorities. Such cases are then addressed at the branches of the Alien Police, where foreigners can be registered.⁶

The dataset is aggregated into six groups according to citizenship for the purposes of this research. We have decided to analyse the four largest groups by citizenship individually – Slovaks, Ukrainians, Vietnamese and Russians – and then merged all persons from EU15, Iceland, Norway, Switzerland, USA, Canada, Australia and New Zealand into a group of “developed countries”. The last group consists of all other foreign nationals. This division is, of course, very simplified, but in practice it represents the most typical foreign groups in Czechia, and citizenship is to some extent also linked to socio-economic status of individuals and households (Přidalová, Ouředníček, 2017).

As we have already outlined, the main indicator of the concentration used in this work is the so-called location quotient (LQ). The LQ we have used to measure the spatial concentration of selected groups is calculated as:

$$LQ = \frac{S_i}{A}$$

where S_i represents the share of group X on population in unit i and A is the share of group X on population in the whole territory. In our research, city districts of Prague and municipalities of the Central Bohemian Region were used as i units of the LQ analysis. The wider area A consists altogether of Prague and the Central Bohemian Region to observe general trends at this level. The basic rule for the interpretation of the results of LQ is that, when the value of LQ exceeds 1, the given group is relatively more concentrated (and overrepresented) in the territorial unit compared to the wider area. Values above 2 are usually evaluated as relatively high and values above 5 as extremely high. Intervals used in graphic elements in the text are adapted to this fact.

To measure geographical (un)evenness of distribution of selected groups we have applied the traditional tool, the index of dissimilarity. However, given the low number of units, this is more of an illustrative indicator in our case. The index of dissimilarity is calculated as follows:

$$I_d = \frac{1}{2} \cdot \sum_1^K \left| \frac{a_i}{A} - \frac{b_i}{B} \right|$$

In this formula a_i and b_i represent populations of groups A and B in unit i , and A and B are total populations of these groups in the wider territory. In our case we always calculate the index of dissimilarity of the given group against the rest of the population. As the wider area we consider Prague and the Central Bohemian Region together, as in the case of LQ. Simply put, the dissimilarity index indicates what percentage of the population would have to move in order to have the same minority and majority share in all urban districts (Burjanek, 1997). The index ranges from 0 to 1 (or 0 to 100 percent respectively), with 0 representing an even distribution of the population in space (without segregation), while a value of 1 would indicate maximum segregation. The dissimilarity index, of course, has several limits that have been discussed for a long time. There is especially a problem with choosing the spatial unit and scale, which can significantly affect the results. Secondly, there is a problem with calculating for small populations, where the index tends to show higher values not entirely corresponding to reality (Šimon, Křížková, Klsák, 2020). These shortcomings need to be kept in mind when interpreting the dissimilarity index, yet we consider it a valid additional indicator for the needs of this text.

Emphasis is placed on graphic and cartographic visualisation of the results. All maps consist of proportional diagrams showing total population of each group of foreigners and the changes that take place between the analysed years, as well as choropleths, which indicate the current values of LQs. To prevent misinterpretation of low numbers and to increase the clarity of the maps, the choropleths that are given only show settlements where there are at least 100 registered foreigners (to date 31. 12. 2017). We prepared these maps for each of the six analysed groups separately. Municipalities of the Central Bohemian region and city parts of Prague were chosen as the basic spatial units of the analysis. Although it is possible to carry out analysis in greater detail (in smaller administrative units) with available data, as was the case with other research papers (e.g. Přidalová, Ouředníček, 2017), this approach would no longer be effective in respect to the emphasis placed on presenting the key results in maps. The spatial framework used in this chapter, i.e. the definition of the internal zoning of Prague and the typology of municipalities in the Central Bohemian Region, is described and explained in more detail in Chapter 2 (Ouředníček, Nemeškal, 2022, in this book).

⁶ Deficiencies of this data are described in more detail by Šimon et al. (2020).

3.4 FOREIGNERS IN PRAGUE AND THE CENTRAL BOHEMIAN REGION: AN OVERVIEW

The contents of this chapter provide us with a detailed view of the foreign population of Prague and the Central Bohemian Region, its current structure, how it has changed and how the spatial patterns of its distribution have been evolving over the last decade, as the financial crisis impacted the world's migration flows and people's mobility. These findings are relevant given the fact that Czechia is ranked first in migration attractiveness among the countries of Central and Eastern post-socialist Europe (Drbohlav, 2011). However, the phenomenon of foreign migration is still a relative novelty for Czechia, and therefore its manifestations and consequences in this specific context are still largely unexplored. The spatial behaviour of individual immigration groups can be an important sign of the success of their integration, or, conversely, advancing segregation tendencies.

When looking at units aggregated into individual zones and types (Figure 3.2), the results show a steep gradient of distribution of foreigners from the city centre to the hinter-

land. This is visibly the case for all considered divisions. As it can be seen, most foreigners in the surveyed area live in Prague, especially in its inner and outer city. The highest proportion of the population between individual zones is then found in the city centre of the city. These results confirm the thesis that Prague is the dominant destination of foreign migration in the country (Drbohlav, Valenta, 2014; Přidalová, Ouředníček, 2017). Beyond the administrative boundaries of Prague, higher total numbers of foreigners occur in suburbs and in other cities and larger towns (suburban cores). Taking a closer look at the suburban internal structure, we find that the number and proportion of foreigners decreases from zone 1 to zones 3 and 4, meaning that their involvement in the suburbanisation process is higher where suburbanisation is more intense (Křížková, Ouředníček, 2020).

In terms of the nature of the development in the last decade, when comparing the situation of the past three selected years, there was an increase in the share of foreigners in almost all types and zones, however being less dynamic in recent years, than it was between 2008 and 2013⁷. At the time, in some zones these values even doubled

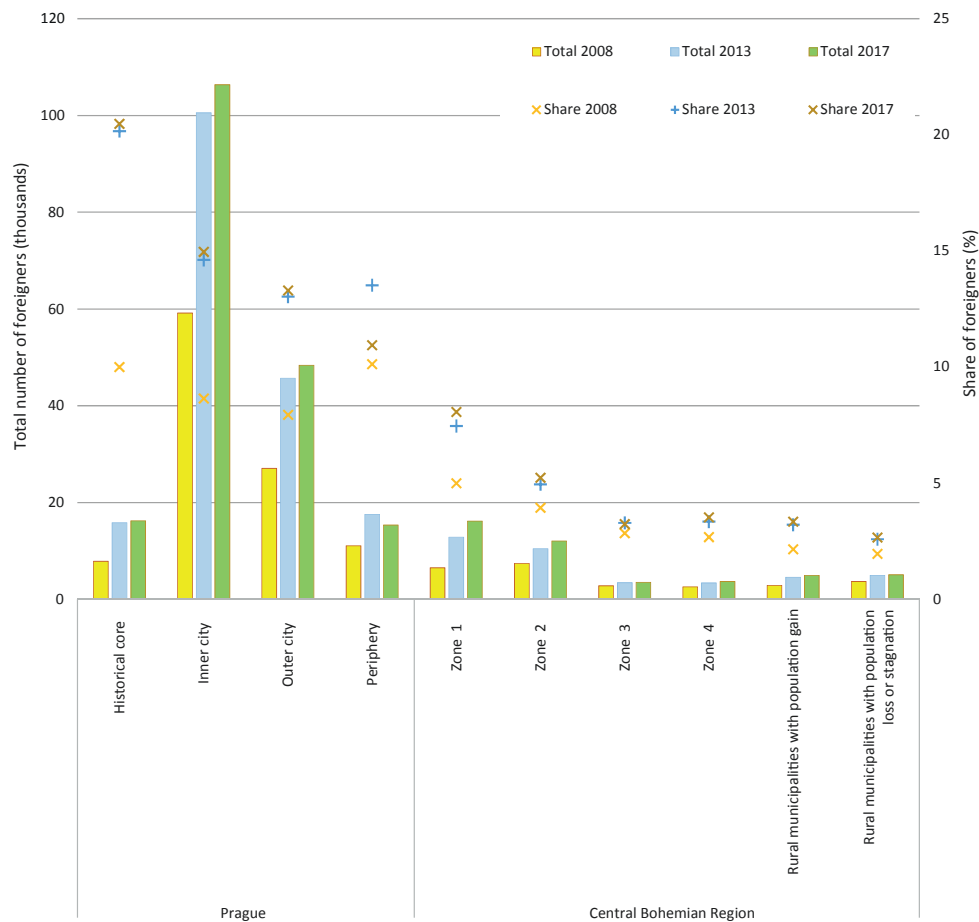


Figure 3.2: Total numbers and shares of foreigners on total population in Prague and the Central Bohemian Region according to zones and types (31. 12. 2008, 2013, 2017).

Data source: MICR (2018).

⁷ For this reason, we will no longer work with 2013 and deal directly with the changes between 2008 and 2017.

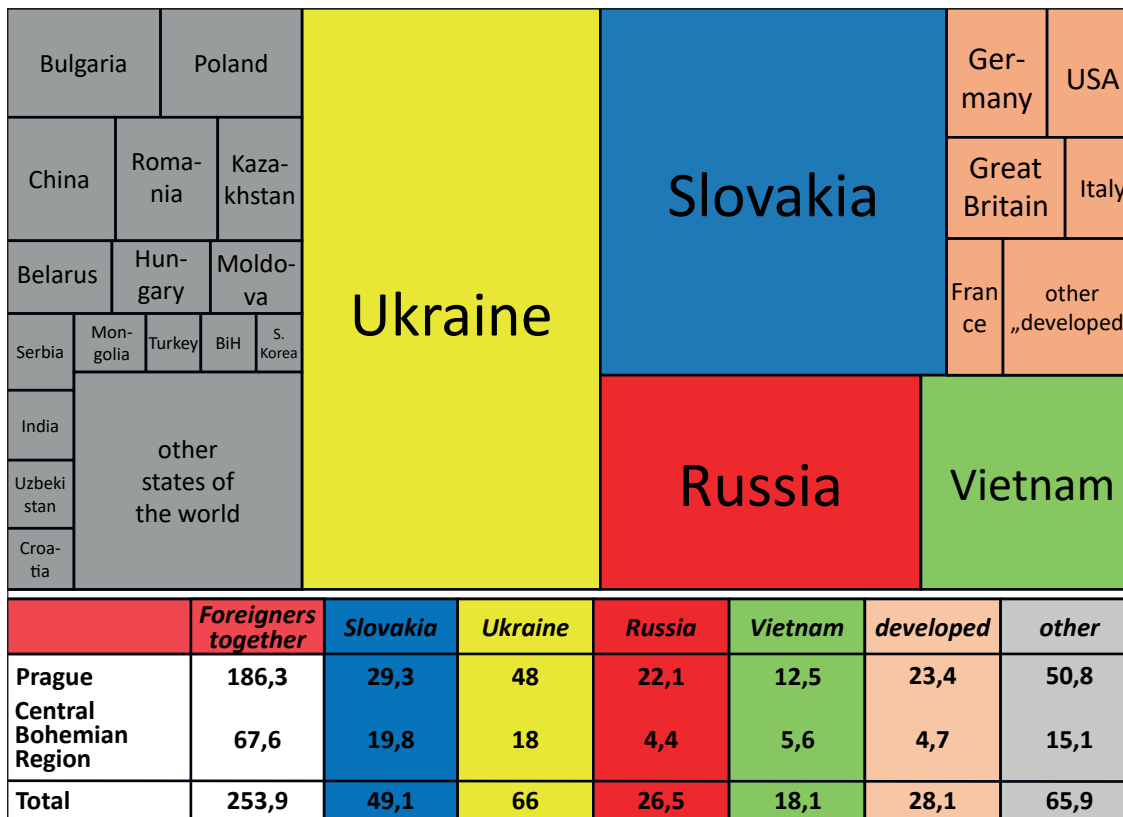


Figure 3.3: Detailed structure of foreign population in Prague and the Central Bohemian Region (31. 12. 2017)

Data source: MICR (2018).

Note: Values in thousands.

(city centre and inner city of Prague, suburban zone 1). The exception to this is the periphery of Prague, where the number and share of foreigners decreased between 2013 and 2017. This finding can be attributed to the reduced interest of manual workers in using shared dormitories and instead relocating to other job positions in the wider metropolitan region (e.g. areas of intensive commercial suburbanisation or housing construction) or other clusters of growing economic activities in Central Bohemia (e.g. areas of automobile industry) (Pavlínek, 2008). The growth of both indicators is obvious in the suburbs. While there was a fast growth in the zone most affected by migration and housing construction (zone 1), in the third zone it was comparatively slower. The values reported among rural municipalities are not fundamental; the differences between size categories reflect rather the nature of the settlement structure within Central Bohemia. The results confirm that foreigners in the research area are more attached to the urbanised environment and urban lifestyle, which corresponds to older findings (Uherek, 2003; Čermák, Janská, 2011).

Figure 3.3 clearly shows how diverse the structure of the foreign population of Central Bohemia is and why we decided to aggregate six groups for the purposes of our analysis. The four largest independent groups of foreigners – Ukrainians, Slovaks, Russians and Vietnamese – together make

up slightly over 60 percent of all foreigners in the analysed area (Prague and the Central Bohemian Region together). There is also a significant leap in the frequency of citizenship. However, if we merge the remaining citizenships into two aggregated groups of (i) the developed and (ii) other countries, they suddenly grow to more significant proportions. In this case, the group of “other foreigners” will become the most numerous, proving the mentioned diversity. It is worth saying that this aggregation is rather complementary and is not made on the basis of common features, as is the case with other groups. This can be clearly seen in the detailed structure: the most numerous representatives in this group are Bulgarians, Poles and other citizens of Eastern Europe. This raises the question of whether these countries do not deserve their own group for the purposes of analysis. The answer is certainly yes, however numerous Chinese or post-Soviet countries can also be seen in the analysis. For clarity of analysis, we prefer to stick to the selected six groups.

In the table of selected demographic characteristics (Table 3.1) of foreigners in the analysed area, there are significant differences between the selected groups. The high average age is particularly obvious in the case of citizens of developed countries, as well as the very low share of children in their population. On the contrary, Vietnamese in

Table 3.1: Selected demographic characteristics of analysed groups according to citizenship in zones/types of Prague and the Central Bohemian Region (31. 12. 2017).

		Together			Slovakia			Ukraine			Russia			Vietnam			Developed			Other		
		average age	share of women (%)	share of children (%)	average age	share of women (%)	share of children (%)	average age	share of women (%)	share of children (%)	average age	share of women (%)	share of children (%)	average age	share of women (%)	share of children (%)	average age	share of women (%)	share of children (%)	average age	share of women (%)	share of children (%)
Prague	City centre	40	43.7	7.2	38	49.1	4.2	38	53.1	9.8	36	60.2	7.8	32	49.4	23.8	46	30.7	4.5	36	62.2	6.9
	Inner city	37	46.2	9.3	37	48.2	6.9	37	49.7	10.9	34	58.4	9.4	33	48.0	21.8	44	31.5	5.4	36	65.6	8.0
	Outer city	37	47.1	13.1	38	46.2	8.5	36	49.5	14.4	36	56.1	12.5	34	48.9	21.4	46	28.1	6.0	37	57.4	10.4
	Periphery	38	42.8	11.6	38	44.7	10.1	39	41.7	10.8	36	54.3	15.4	34	49.4	19.5	42	33.2	9.7	37	67.2	8.9
	Other suburban cores	38	41.4	10.1	38	42.1	8.1	38	44.9	11.4	39	56.6	10.7	34	43.5	19.2	49	25.1	3.5	39	57.8	7.9
Suburbs	Zone 1	38	46.2	14.3	36	50.4	14.7	37	46.4	13.3	38	53.9	17.0	33	48.6	23.0	44	30.1	9.3	38	62.0	12.1
	Zone 2	39	43.2	10.6	37	47.4	10.3	38	44.3	11.6	40	55.4	13.3	33	43.1	21.2	48	26.0	4.9	41	60.4	7.4
	Zone 3	40	43.7	9.1	39	46.2	7.4	39	42.5	9.0	37	54.3	18.5	31	48.2	18.6	50	28.7	2.8	42	59.7	5.8
	Zone 4	39	43.5	9.0	38	45.1	8.4	39	45.2	6.3	41	57.6	12.1	32	46.0	24.4	49	24.0	3.6	40	52.1	6.5
Rural	Rural municipalities with population gain	39	41.2	9.9	37	44.0	9.0	39	39.9	10.0	43	53.5	11.4	31	47.3	19.7	48	29.6	6.5	41	62.6	6.2
	Rural municipalities with population loss or stagnation	40	41.9	10.1	39	42.3	7.0	40	41.6	8.9	43	52.6	9.8	33	45.0	23.2	50	27.7	3.8	41	61.6	7.5

Data source: MICR (2018).

Prague and the Central Bohemian Region are characterised by a lower average age and a very high share of children. At first glance, it seems that there are no fundamental age differences between zones and type; however, differences in the proportions of children are evident. The increased proportion of children in suburban localities suggests the validity of the traditional pattern of family relocation or moving to the suburb for the purpose of starting a family, while younger individuals tend to look for more central parts of the city – a motivation based on the life cycle (Coulter, Scott, 2015). On the other hand, it is interesting to see that most groups show a slightly higher average age in suburbs, which indicates that these are older families with grown-up children, rather than really young ones. The ratios of women and men within individual groups are also interesting. Generally, there are slightly more men than women among foreigners, and in the case of those from developed countries, this disproportion is the largest of all in comparison to the other monitored individual groups.

For Russians, on the other hand, women slightly prevail in all units. The relatively balanced ratios among Slovaks and Ukrainians correspond to the patterns seen among Czech citizens (Uherek, 2003; Valenta, 2012).

The dominance of Prague in comparison with its hinterland and the whole of Central Bohemia is again visible in Figure 3.4 and applies to all groups of foreigners. While in 2008, the population of Ukrainians was the highest in the inner city of Prague, in 2017, it was the group of other foreigners. According to Přidalová and Ouředníček (2017), the increase in the number of EU citizens was particularly noticeable. In this, we can see the consequence of the financial crisis in 2008. The crisis dampened the demand for manual workers⁸, while other economic sectors in Czechia, which emerged relatively successfully from the crisis, did not suffer such losses. In the city centre, the largest group of foreigners are residents of developed countries, i.e. the second aggregated group. Again, we see evidence of the growing diversity of the foreign population. Especially in the

⁸ Although no significant waves of return to source countries were recorded, there was an evident decrease in the number of newly arrived migrant workers from Ukraine and in the volume of financial flows (remittances).

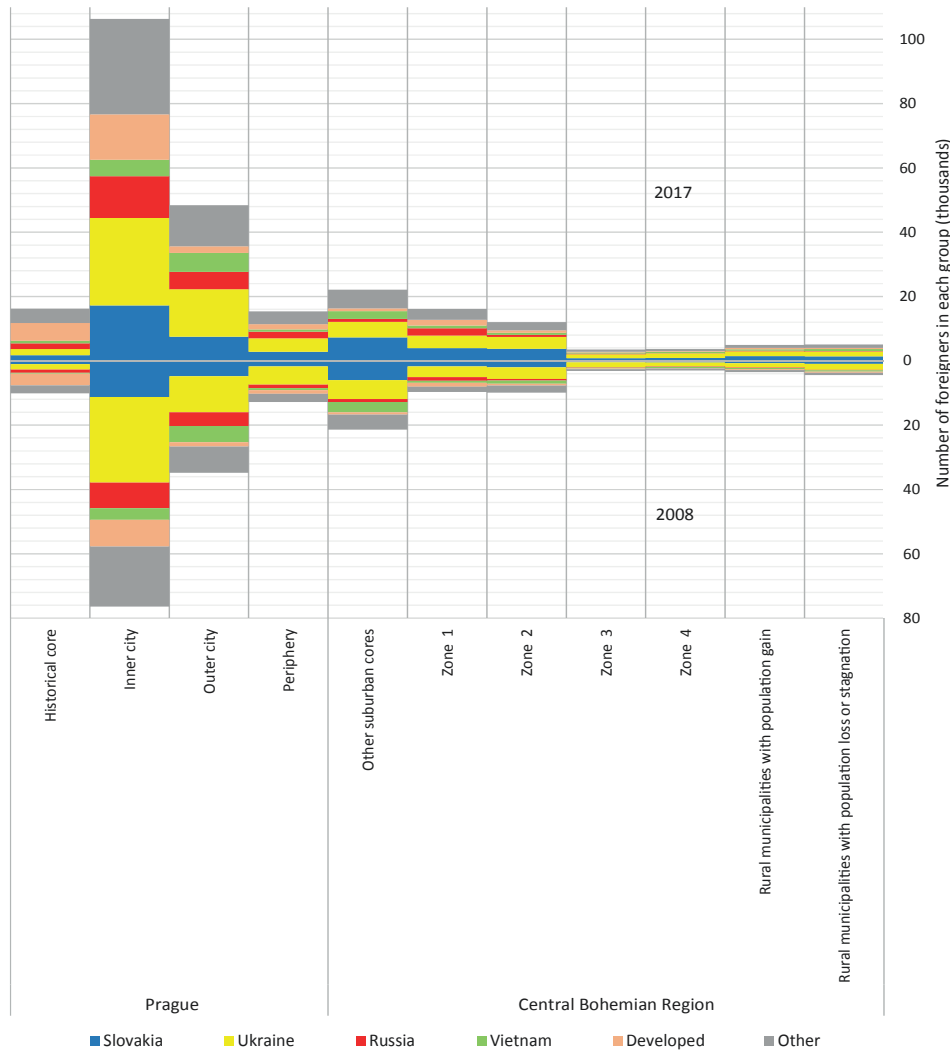


Figure 3.4: Comparison of foreign population structure in Prague and the Central Bohemian Region according to zones and types (31. 12. 2008, 2017).

Data source: MICR (2018).

first suburban zone, the differences in the absolute numbers of foreigners are relatively blurred and their representation here is similar. The number of Slovaks, Russians and other foreigners has increased in the suburbs, while the number of Ukrainians is rather stagnant. Of interest is the decline of Vietnamese in other suburban centres. This may point to the growing importance of Prague for this community, due to the fact that the Vietnamese population has increased in all zones of the capital.

3.5 SPATIAL PATTERNS OF SELECTED GROUPS OF FOREIGNERS

The aim of this chapter is to locate foreigners, especially in specific units, and to present the characteristics of their locations. The analysis is mainly based on the change of absolute numbers and location quotients (LQs) measuring the concentration of the analysed groups. This chapter is therefore divided into subchapters by individual groups.

Slovaks

Slovaks are a specific foreign group in Czechia and are very close to the Czech majority on the grounds of language and socio-cultural affinity. This is reflected in a significant assimilation tendency, the absence of the creation of closed enclaves, common mixed partnerships with Czechs and their range of economic activities (Uherek, 2003; Valenta, 2012). In 2017, almost 30 000 Slovaks lived in Prague and another 20 000 lived in the Central Bohemian Region. Their number has increased by more than one third since 2008 (MICR, 2018).

Although the predominance of Prague is again clear from the aggregated results, if we consider the Slovak population separately according to the units of analysis, Mladá Boleslav has its highest absolute numbers (Figure 3.5). In this respect, this is an exception among foreigners, as most representatives of all other groups can be found in the populous districts of Prague (Mladá Boleslav is followed by Prague 4 and Prague 10, both lying in the inner-city zone of Prague).

We found relatively low LQ values for Slovaks. The values indicate their presence in all city districts of Prague and almost all of the other municipalities in the Central Bohemian Region. Therefore, the case of Slovaks suggests their socio-cultural proximity to the majority population (Czechs). The highest concentrations of the Slovak population in Prague and the Central Bohemian Region are located out-

side the Prague Metropolitan Region in Mladá Boleslav (LQ 3.6) and close to the municipality of Josefův Důl (LQ 3.16). Both overrepresentations can most likely be attributed to the essential presence of the automotive industry. Here, Slovaks mostly play the role of less skilled “peripheral” workers, alongside Poles or Ukrainians (Pavlínek, 2008).⁹ On the other hand, their presence in the municipalities

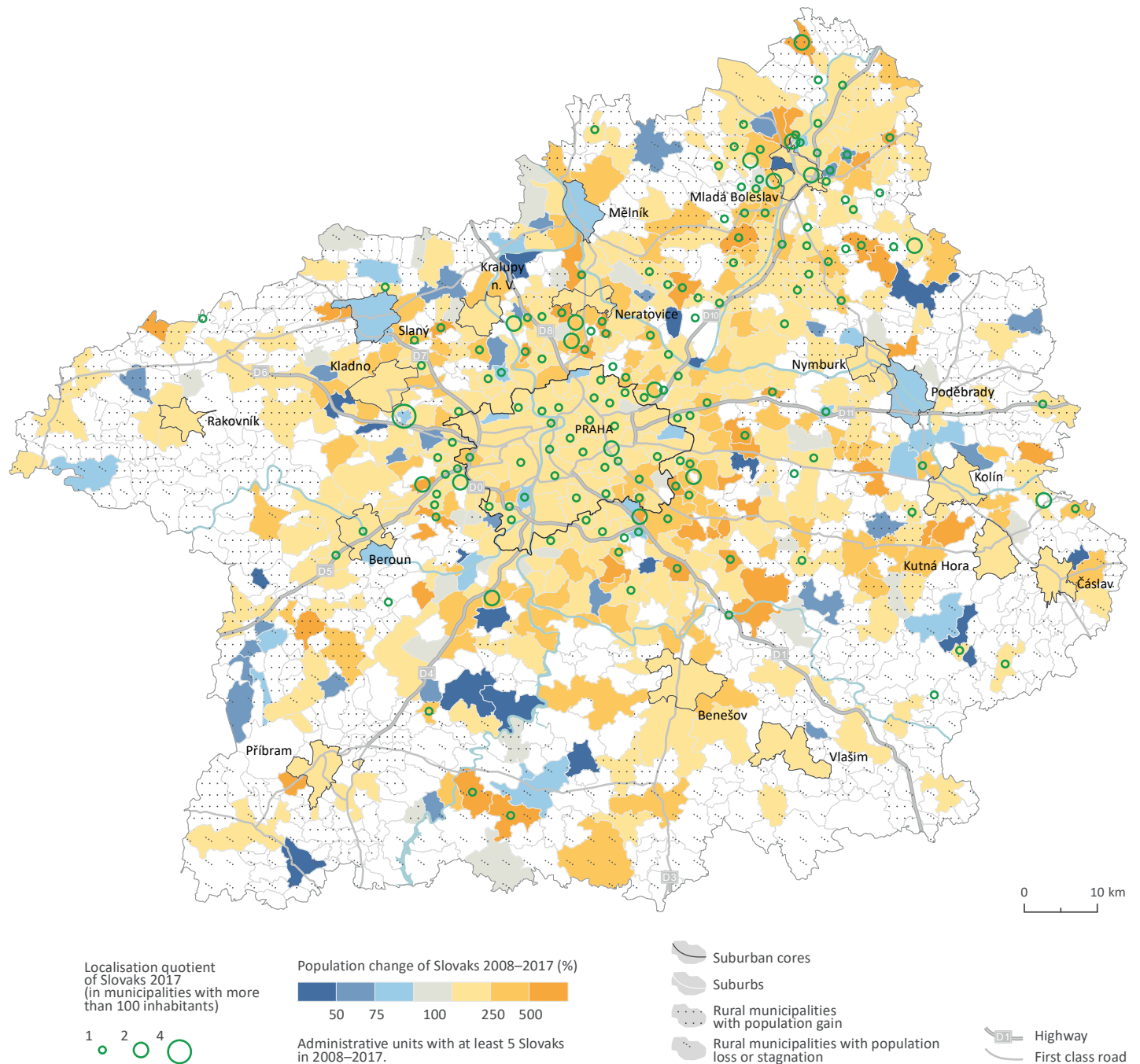


Figure 3.5: Changes in Slovak spatial distribution of population between 2008 and 2017 in Prague and Central Bohemian Region (2017).

Data source: MICR (2018).

⁹ According to Pavlínek (2008), the share of Škoda auto foreign workers was between 2–15 percent between 1991 and 2006, and the number has been growing over time.

of the suburban zone 1 close to Prague may show that Slovaks, like the majority, participate in the suburbanisation process, and thus those with higher socio-economic status move, together with their families, outside the hustle and bustle of the city.

Ukrainians

Ukrainians come to Czechia mostly as individual economic migrants and work in low-skilled and low-paid jobs; however, family reunification is slowly also becoming an important reason for their arrival (Leontiyeva, 2016). Ukrainians typically maintain strong transnational ties to their homeland, where parts of their families still reside (Drbohlav, Dzúrová, 2007). A typical manifestation of their transnational behaviour is their cross-border flows, being not only personal, but also in form of finances or goods (remittances in general) (Janská, Pauknerová, Koropecská, 2017). The temporary stay of Ukrainians has often resulted in their housing in workers' dormitories or lower-quality housing stock (Drbohlav, Janská, Čermáková, 2007; Přidalová, Ouředníček, 2017).

In 2017, 48 000 Ukrainians lived in Prague and another 18 000 in the Central Bohemian Region. The total number of Ukrainians has rather stagnated since 2008 and has grown only by a few thousand (MICR, 2018). The highest

absolute numbers of Ukrainians can be found unequivocally in the inner city of Prague, specifically in the districts of Prague 4, Prague 10 and Prague 8 (Figure 3.7). There is an exceptional decrease in the absolute number of Ukrainians in the peripheral district of Prague-Běchovice, which previously showed one of the highest shares of foreigners in the population among city districts. A workers' dormitory in the industrial area on the edge of the district (Figure 3.6) is responsible for this phenomenon and has already been mentioned in the literature as being characteristic representative place of residence of low-income manual working foreigners (Ouředníček, Novák, 2012). This decrease can be seen as a consequence of the financial crisis and the slowdown in the sectors that often employ foreign manual workers (Drbohlav et al., 2010; Přidalová, Klsák, 2017). On the other hand, the extent of the change suggests that this may also be related to a correction of statistics skewed by the long-term accumulation of workers' registrations.

Values of LQ show the highest concentrations beyond the administrative borders of Prague (Figure 3.7). Some of the high concentrations of the Ukrainian population seem to mainly relate to their orientation in the labour market, as the highest LQ values for this group are in the proximity of industrial zones. A more detailed view on resident structure in such localities shows high numbers of Ukrainians at certain addresses, suggesting the presence of workers'



Figure 3.6: Workers' dormitory in Prague-Běchovice.
Photo: Adam Klsák (2020).

dormitories. Some examples are the municipalities of Semice (LQ 8.9), Stará Lysá (LQ 7.8) in the Nymburk district and zone 2 suburbs Mochov (LQ 5.3) and Modletice (LQ 4.1) in the metropolitan area of Prague. The latter two are characterised by intensive development in commercial suburbanisation in close proximity to the important high-way infrastructure, therefore providing many job oppor-

tunities for manual workers. It is important to note that, with some exceptions, the concentrations of Ukrainians are smaller at the level of city districts and municipalities, and their population appears to be relatively evenly distributed. This confirms earlier findings on the gradual dispersion and possible spatial assimilation of Ukrainians (Přidalová, Ouředníček, 2017).

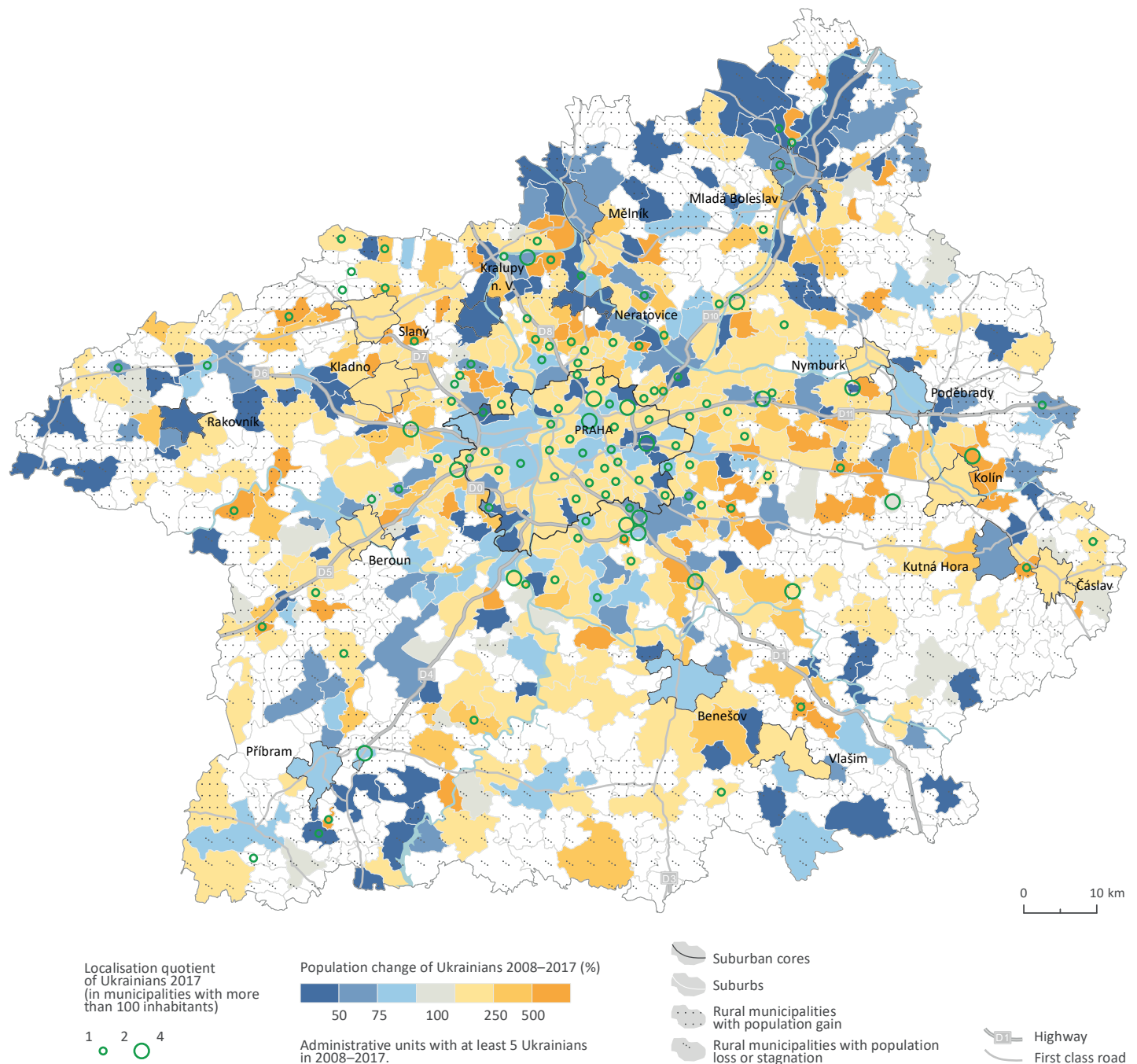


Figure 3.7: Changes in spatial distribution of Ukrainian population between 2008 and 2017 in Prague and the Central Bohemian Region (2017).
Data source: MICR (2018).

Russians

The first major migration from Russia to Czechia took place in the time of the “First Republic” interwar era, when mainly elites and intellectuals fled from the newly established Communist regime to the linguistically and culturally similar Czechoslovakia. An important milestone in the nations’ common history, was the twenty-year presence of the occupying forces of the Warsaw Pact, led by the USSR between 1968 and 1989. This is also a typical source of Czech majority’s negative feelings of towards the Russians. However, the major wave of migration only began after the fall of Communism. Current insights on the Czech-Russian community show that its members are usually highly educated, economically active, come from the upper or upper-middle class, and leave Russia for reasons of security, generally lower quality of life or restrictions set by the authorities. However, they tend to remain emotionally attached to the country of origin and stay partially isolated within their ethnic group and economy (Drbohlav, Janská, Šelepová, 1999; Janíčko, 2012).

In 2018, Prague’s Russian population totalled to around 22 000, and another 4 000 lived in the Central Bohemian Region. Since 2008, the Russian population has increased by about a third in the studied area (MICR, 2018). In literature, Russians in Czechia are usually as a typical urban-oriented group (Uherek, 2003), confirmed by the highest values among the absolute numbers (Figure 3.10). In 2017, most Russians lived in the urban districts of Prague 6 (which has been considered as a traditional destination for this group since the beginning of the First Republic), Prague 5 located in the inner-city zone and Prague 13, an outer city location with a significant share of new development, which is attractive for this group (Volkovová, 2012; Příkladová, 2017).

The highest LQ values for Russians indicate a growing tendency of suburbanisation (Figure 3.10). The LQ value for Russians is clearly the highest in the village of Trnová (17.5), where the massive construction of family houses has recently taken place. It should be noted that this “extreme” value is affected by the low total population of the municipality. Nevertheless, this indicates the presence of



Figure 3.8 and 3.9: Intensive suburban development in Trnová and Russian-language names on a mailbox in the same village.

Photo: Adam Klsák (2020).

a specific enclave. The presence of Russians (and other Russian-speaking inhabitants) in the village is obvious, but it is not a closed area – Russians have their houses, among others, in the new part of the village and do not separate in this respect at first glance (Figure 3.8 and 3.9). Trnová is in the first suburban zone of Prague, as are Jenštejn (LQ 4.5) or Velké Přílepy (LQ 4.4), which also have concentrations of Russians. The city-peripheral areas of Prague-Zličín (6.9)

and Prague-Benice (4.7) can be characterised by a large share of newly built housing stock too. It is interesting to see that the concentration of Russians in these areas surpasses other traditional localities associated with Russians, such as Prague 6 and 7 (the proximity of the Russian embassy is an important factor here) or Prague 13. On the other hand, there is still a much larger total population of Russians in these quarters.

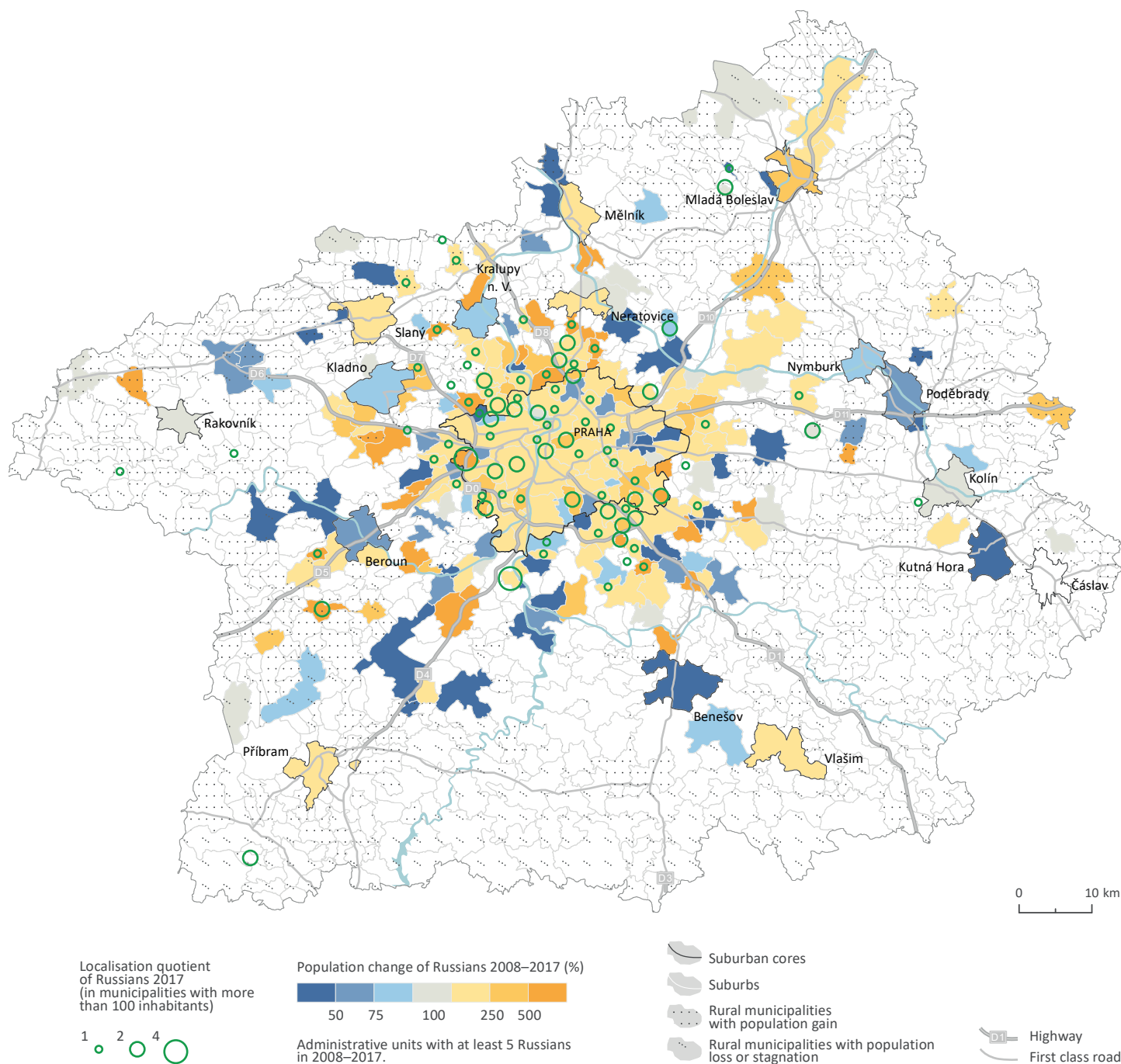


Figure 3.10: Changes in spatial distribution of Russian population between 2008 and 2017 in Prague and the Central Bohemian Region (2017).
Data source: MICR (2018).

Vietnamese

Due to a number of reasons, Vietnamese form a very specific group of foreigners in Czechia. It is the largest culturally distant group among migrants. The roots of their migratory flow can be traced back to the period of socialism, when Vietnamese workers came to Czechoslovakia as part of an exchange between the countries of the Eastern bloc. This trend continued spontaneously on an individual basis even after 1989. Vietnamese are not as strongly concentrated in Prague, unlike other groups of foreigners. Their residential preferences are related to their economic activities, leading them not only to the capital, but also to the peripheral areas

(especially West Bohemia, Cheb and Karlovy Vary districts) or even to smaller towns and villages elsewhere across the country (Janská, Bernard, 2015; Freidingerová, Nováková, 2019). However, this does not mean that Prague is not an important centre of the Vietnamese community.

At the end of 2017, 12 500 Vietnamese were registered in Prague and 5 500 in the Central Bohemian Region. Their population in the whole of the surveyed area increased by about 15 percent compared to 2008, which is a less significant increase compared to other groups of foreigners (MICR, 2018). While in most of the city districts of Prague the number of Vietnamese has been growing, in some cities in the Central Bohemian Region it decreased quite significantly from 2008 (e. g. in Mladá Boleslav, see Figure 3.13). This may indicate a gradual increase in the relative importance of Prague for the Vietnamese community and could be associated with the growing internal diversity of the diaspora, higher integration of the emerging generation into Czech society and the gradual diversification of economic activities, which is offered inexhaustibly in Prague (Freidingerová, Nováková, 2019). Most Vietnamese inhabitants live in districts of Prague 4 (inner city), Prague 11 and 12 (outer city), and the locality most traditionally associated with the Vietnamese community, Prague-Libuš, located in the outer city (Kušniráková, Plačková, Tran Vu, 2013).

From the mentioned literature, it is clear that Prague's Vietnamese population tends to live in close proximity to their jobs (Valenta, 2012). The SAPA market, widely referred to under the nickname "Little Hanoi", and the Prague-Libuš district, in which the market is located, are considered



Figure 3.11 and 3.12: Billboard directed at Vietnamese clients in Prague-Libuš and construction of family houses within the municipality of Vestec.

Photo: Adam Klsák (2020).

the centre of Vietnamese business and culture in Prague (Valenta, 2012; Kušniráková, Plačková, Tran Vu, 2013). The assumption is confirmed by both absolute numbers and the LQ value of Prague-Libuš, reaching 14.7 (Figure 3.13). An interesting finding, however, is a very high LQ for the neighbouring municipality of Vestec (16.2), lying in suburban zone 1 of Prague, characterised mainly by intensive suburban construction (Figure 3.11 and 3.12) of family houses. Even though the Vietnamese are usually associat-

ed with older or lower-quality housing stock (Drbohlav, Janská, Čermáková, 2008; Temelová et al., 2011), we can now observe a pilot phase of Vietnamese suburbanisation, which diffusively spreads from the locality Prague-Libuš (Kušniráková, Plačková, Tran Vu, 2013). The Vietnamese upper and upper-middle class households thus partly tend to move to newly built family houses, still paying attention to the close proximity of economic or community activities.

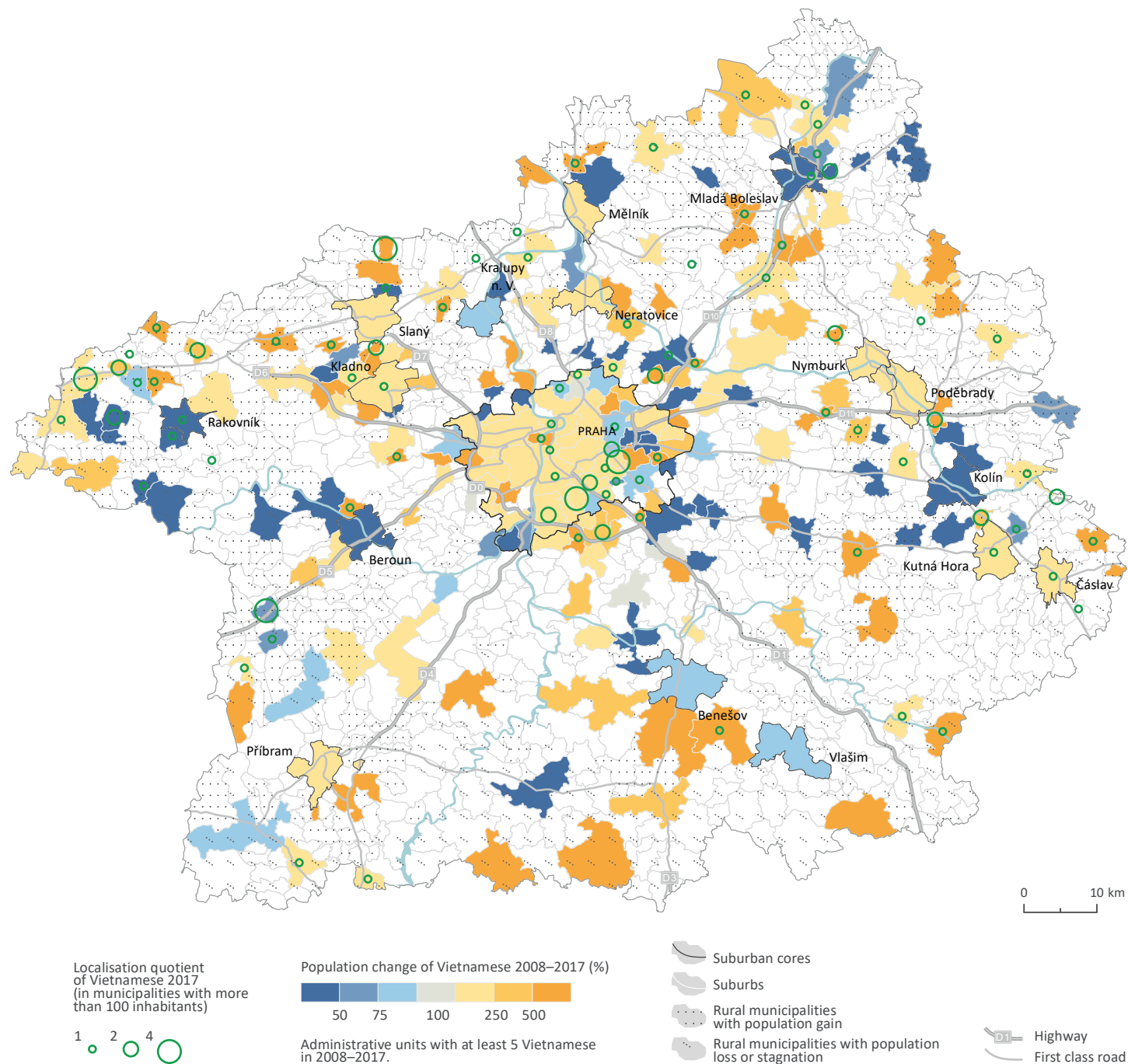


Figure 3.13: Changes in spatial distribution of Vietnamese population between 2008 and 2017 in Prague and the Central Bohemian Region (2017).
 Data source: MICR (2018).

Citizens of developed countries

A substantial part of Prague's citizens of developed countries are expats¹⁰, a highly diverse group in terms of countries of origin, but with common socio-economic characteristics (Gärtner, Drbohlav, 2012). Contemporary literature refers to them as the most segregated, or rather separated, group of foreigners¹¹. As mostly high-income and socio-economically strong individuals and households, members from this group tend to separate themselves and their families in condominiums and gated communities with high living standards, usually within newly built large development projects (Přidalová, Ouředníček, 2017).

In 2017, Prague had approximately 23 500 inhabitants from developed countries, while Central Bohemian Region almost 5 000. Since 2008, this group has grown by about a half (MICR, 2018). Absolute numbers prove that foreigners from developed countries are very strongly concentrated in Prague, and even more specifically in its city centre and inner city (Figure 3.15). The highest absolute number of foreigners from developed countries, from the analysed units, can be found in Prague 2 – in the city centre of Prague. This is followed by Prague 5, 6 and 3 in the inner-city zone, and then by Prague 1 (the city centre). This indicates the specific

spatial behaviour of this particular group and an orientation towards a higher standard of living.

The LQ values, for this group, are very high and show the greatest concentration tendencies in the city centre of Prague, specific peripheries and suburban areas (Figure 3.15). The district of Prague-Nebošice (LQ 15.3), located in Prague's periphery, and the municipality of Průhonice (LQ 9.2; suburban zone 1) are traditional localities of family housing, and are known for being very prestigious residential areas (Figure 3.14). The LQ value in Prague 1 (LQ 6.73) is not surprising, as the attractiveness of the city centre for this better-off and highly mobile group has often been mentioned in literature as well (Přidalová, Ouředníček, 2017). What is perhaps unexpected, is the group's high concentration in the non-suburban village of Mšecké Žehrovice (LQ 8.1), located on the Central Bohemian periphery. Unfortunately, we were unable to find out the reasoning behind this, however a manual data check showed an unprecedented high number of persons of one citizenship at only two addresses, which may refer to specific-purpose registrations without the registered people actually living at the given addresses. Literature has attributed such cases to the efforts in obtaining a driving license in Czechia, following a ban in the residents' home country (Čermák, Janská, 2011).



Figure 3.14: Newly built detached houses in Prague-Nebošice.

Photo: Google street view (2020).

¹⁰ The term expatriate or expat has several meanings. It is a person residing outside the country of origin and is usually associated with highly qualified professionals appointed by employers (corporations, governments, scientific institutions) as representatives abroad. More specifically, the term "sojourners" is sometimes used to distinguish them from other meanings (for example retirees who voluntarily reside in other countries or more generally migrants as a whole) (Gärtner, Drbohlav, 2012).

¹¹ Přidalová and Ouředníček (2017) demonstrate this with the example of US citizens.

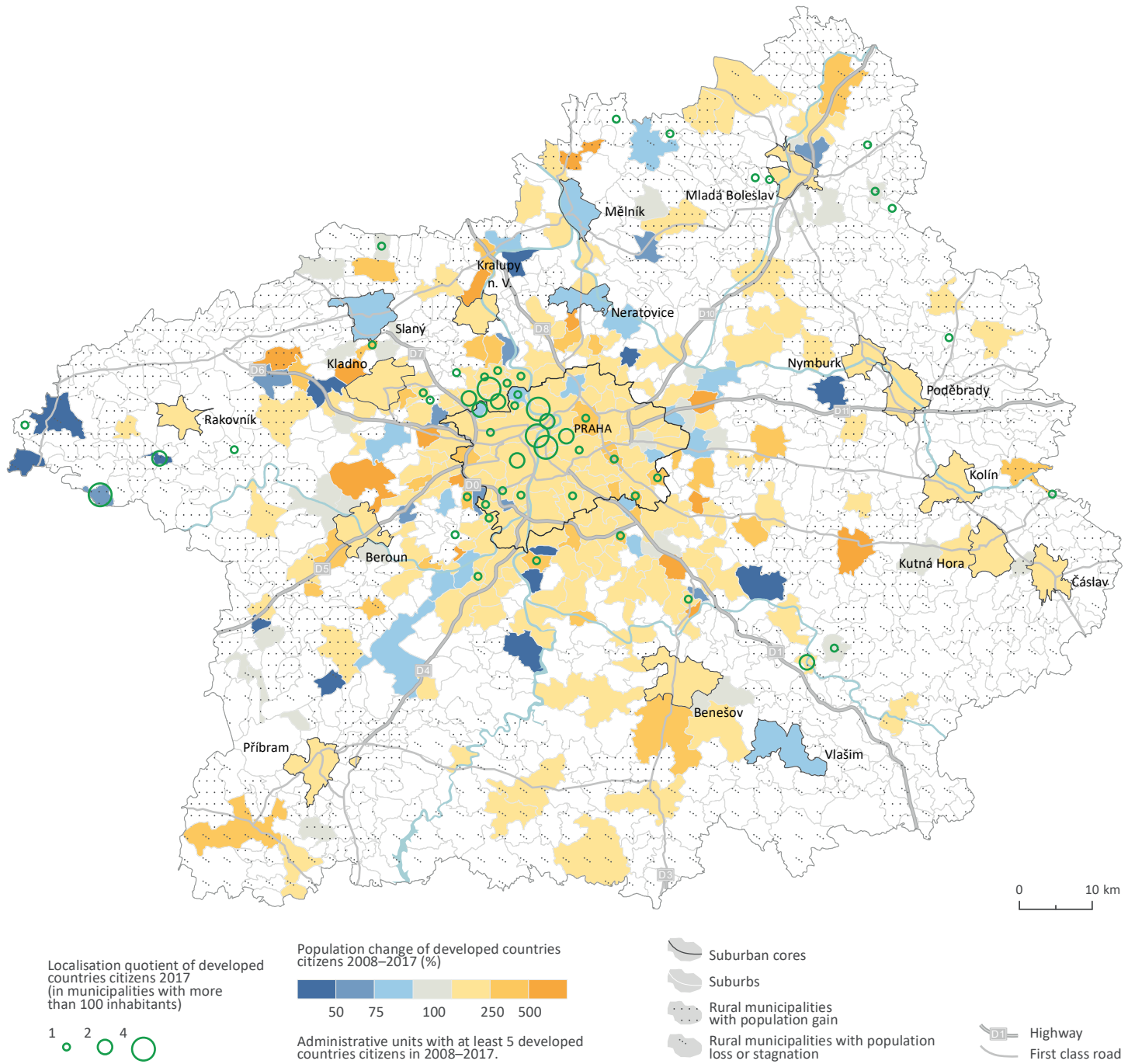


Figure 3.15: Changes in the spatial distribution of population of foreigners from developed countries, between 2008 and 2017 in Prague and the Central Bohemian Region (2017).
Data source: MICR (2018).

Other groups of foreigners

As mentioned above, the foreign population of Prague and the Central Bohemian Region is very diverse and to a certain extent, representatives of all citizenships live there. This is evident due to the fact that at least a small number of other (than mentioned) groups of foreigners are present in all city districts of Prague and most municipalities in the Central Bohemian Region (Figure 3.17). Such diversity, however, also means that the mentioned groups cannot be considered fully compact and therefore the results must be interpreted carefully.

In 2017, altogether, over 50 000 foreigners lived in Prague, and another approximately 15 000 in the Central Bohemian Region. The absolute numbers (Figure 3.17) again show a high preference for Prague (and specifically the inner city). In many of these units, over the past 10 years, the number has quite significantly increased, which is the case when we look at general population increase statistics, as well (about a one third population increase over this time). Specifically, the increases are observable in the city

districts of Prague 6, 4, 10, 3 and 5, all belonging to the inner-city zone. Similarly, high numbers of other foreigners can be found in the city centre of Prague, some suburbs and other suburban cores too.

The highest populations of other groups of foreigners, measured by LQs (Figure 3.17), are concentrated in Prague-Štěrboholy (3.9) and Prague-Nebošice (3.9); localities with a significant presence of newly built (partly gated) condominiums. While the development of Prague-Nebošice is characterised by family houses of suburban character, located at the opposite side of Prague's administrative border (partly gated), Prague-Štěrboholy is a gated area of apartment buildings (Figure 3.16). This demonstrates a concentration tendency for better-off expatriates, both from developed Western countries as well as other nations of origin. The increased values in Prague-Suchbátov can be attributed to the location of Czech University of Life Sciences campus and its students' dormitories, in line with the findings of Přidalová and Hasman (2018). All in all, these values are rather low compared to Vietnamese, Russians or citizens from developed countries.



Figure 3.16: Gated development of apartment houses in Prague-Štěrboholy.

Photo: Adam Klisák (2020).

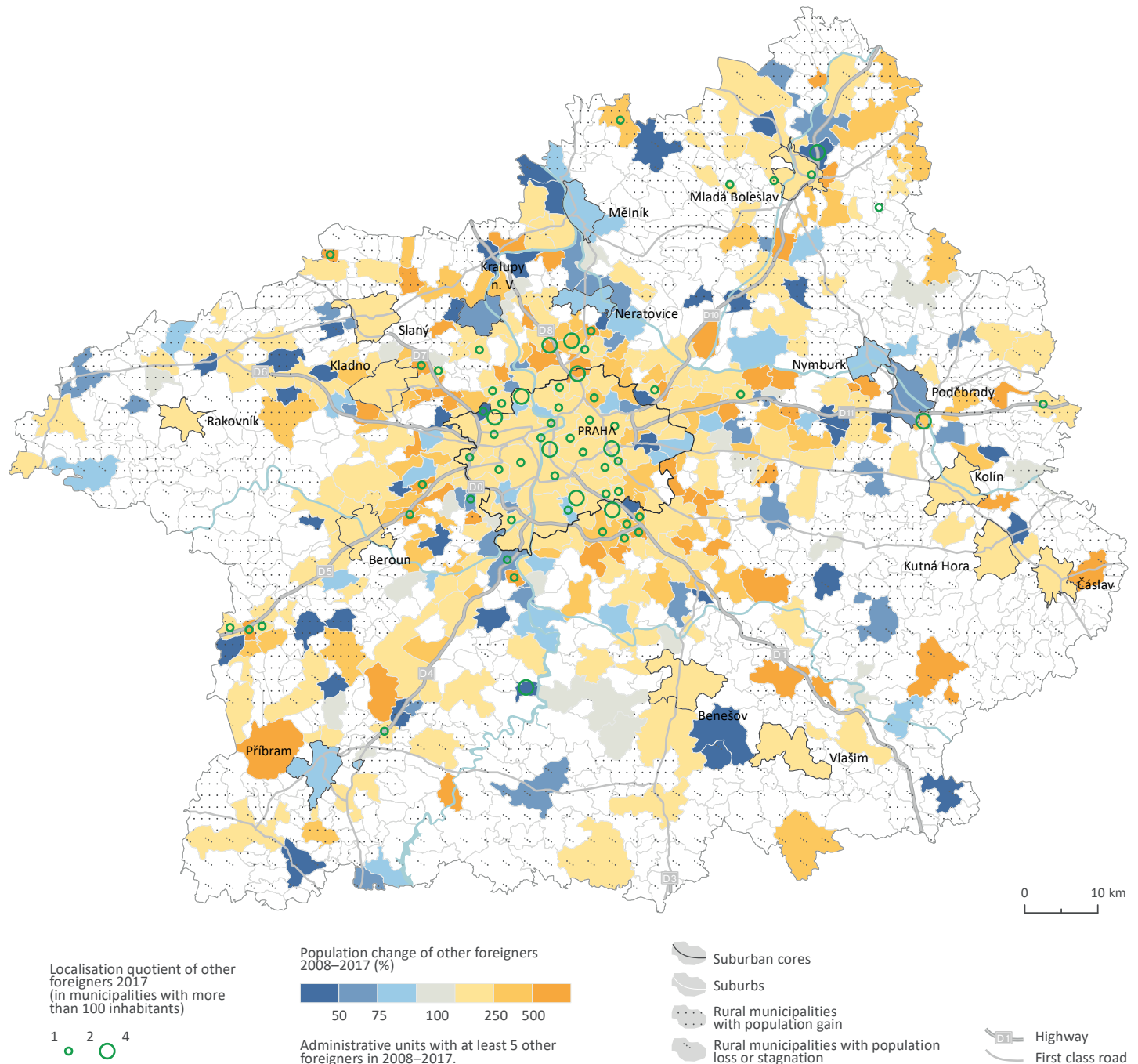


Figure 3.17: Changes in spatial distribution of other foreigners' population between 2008 and 2017 in Prague and the Central Bohemian Region (2017).
Data source: MICR (2018).

3.6 FOREIGNERS' SEGREGATION

As an additional indicator, we have calculated the index of dissimilarity (D_i). The above-mentioned gradient or centripetal character is visible also from its values (Table 3.2). Its results essentially confirm the above-written information. The highest values of D_i are found among the Vietnamese and Russians; the relatively lowest are found among Slovaks, Ukrainians and other foreigners. It may

come as a surprise that the values for citizens of developed countries are not particularly high either. According to the index, it seems that the level of segregation is growing from the inner city of Prague to its periphery and to the hinterland. In suburbs, the values are relatively high, which may indicate both the concentration of foreigners in workers' dormitories in specific localities, as well as in socio-economically well-off suburban enclaves (Přidalová, Ouředníček, 2017).

In general, the relatively low values of the index may be related to the fact that Prague, being the capital, has a relatively long history of foreign migration and foreigners, and can be considered relatively spatially assimilated in comparison to other cities in the country. In addition, this phenomenon gradually diffuses from the capital over time (Šimon, Křížková, Klsák, 2020). This could also explain the high values in the case of rural municipalities in Central Bohemia. On the other hand, we must not overlook the fact that the index tends to show higher values in the case of smaller absolute numbers, which is also the case with this type of unit (Manley, Jones, Johnston, 2019).

As mentioned, the calculation of the dissimilarity index was used here only as an additional indicator and its aim is not to draw fundamental conclusions. The measurement of segregation is dealt with in more detail in one of the book's following chapters (Šimon, Křížková, Klsák, 2022, in this book), with the application of the innovative method of individualised neighbourhoods. This allows segregation to be measured regardless of the problematic aggregation of administrative units. The study concludes that the degree of residential segregation in Central Bohemia is at a decline for most groups of foreigners. It also comes with further confirmation of the assumption that culturally and socio-economically closer migrants (residents of Slavic countries and the EU) are more evenly distributed in the studied area. These conclusions can be drawn from the results of this work only to a very limited extent, as different groups of citizenship were used. However, the low values for Slovaks or Ukrainians are persistent across these works.

3.7 DISCUSSION AND CONCLUSIONS

The population of foreigners is distributed unevenly in Central Bohemia. Throughout time, there has been a concentric pattern persisting with a decreasing gradient from the city centre to the periphery of Prague and further from suburbs to rural municipalities. However, this pattern is sometimes considerably disrupted. Naturally, Prague is the biggest attraction for foreigners and their preferences are mostly urban-oriented. This is evidenced by both the highest absolute and relative numbers of their populations especially in the city centre and inner-city zone. Given the high prices of real estate and the cost of living in the city centre and inner Prague, many foreigners and expats take on the role of gentrifiers, as entrepreneurs or well-paid experts can afford a higher living standard of the upper-middle class – unlike some former residents of the dynamically gentrifying quarters (Přidalová, Ouředníček, 2017; Hudeček et al., 2019). On the other hand, location quotients also indicate a progressive suburbanisation trend for some groups. A more detailed analysis suggests that the move of foreigners to suburbs is related to processes of both residential and commercial suburbanisation. In the first case, relocaters are traditionally better-off suburbanites seeking a corresponding lifestyle, combining the benefits of urban and rural space. In the latter case, they may be workers who move towards job opportunities that spread beyond the capital's border (see also Křížková, Ouředníček, 2020). Outside of Prague, foreign labour migrants also inhabit other important industrial centres and their surroundings (Mladá Boleslav, Kolín)

Table 3.2: Index of dissimilarity of foreigners according to citizenship in zones of Prague and types of municipalities in the Central Bohemian Region (31. 12. 2017).

	Zone/type	Slovakia	Ukraine	Russia	Vietnam	Developed	Others
Prague	City centre*	0.09*	0.16*	0.10*	0.10*	0.01*	0.05*
	Inner city	0.07	0.09	0.15	0.21	0.21	0.08
	Outer city	0.10	0.14	0.31	0.31	0.14	0.16
	Periphery	0.17	0.17	0.42	0.38	0.37	0.25
	Other suburban cores (cities)	0.30	0.15	0.36	0.19	0.17	0.23
Suburbs	Suburban zone 1	0.19	0.27	0.37	0.64	0.36	0.32
	Suburban zone 2	0.26	0.28	0.36	0.48	0.33	0.35
	Suburban zone 3	0.24	0.33	0.53	0.56	0.34	0.32
	Suburban zone 4	0.26	0.41	0.44	0.37	0.26	0.34
Rural	Rural municipalities with population gain	0.35	0.43	0.69	0.67	0.49	0.45
	Rural municipalities with population loss or stagnation	0.37	0.40	0.63	0.56	0.41	0.42

Data source: MICR (2018).

Notes: *Only two units in the City centre zone. Values in italics based on a very low total numbers.

in the Central Bohemian Region due to a greater range of job opportunities. Foreigners participate in several important urbanisation processes, which is dealt with in more detail, in the form of residential mobility of foreigners, in the following chapter of this book (Šimon, Křížková, Klsák, 2022, in this book).

Naturally, the behaviour of foreigners in the studied area differs, as do their various characteristics. On that account we separately analysed the most significant groups of foreigners categorically by citizenship in our text. The results of this work point to the growing diversity of the foreign population of Central Bohemia, with the share of other citizenships growing significantly within these areas. If we were to aggregate them into one group, there is a higher total population of such citizens in Prague and the Central Bohemian Region than the traditionally most numerous Ukrainians. While culturally closer groups, such as Ukrainians and Slovaks, are relatively evenly distributed and tend to deconcentrate, Vietnamese, Russians and citizens of developed countries still choose relatively specific places and areas to live. For citizens of developed countries, this is mainly the city centre of Prague and a few other selected older and wealthy suburbs, for Russians, in addition to the traditional locations of the inner city, also newly constructed areas on the outskirts of Prague, and for Vietnamese the traditional south-eastern edge of Prague (extending beyond the administrative border).

The economic crisis in 2008 partially affected the patterns and structure of migration waves to Czechia. This is the case of manual workers especially, reflected in the stagnation of the Ukrainian population and their decline in peripheral areas typical of workers' dormitories. However, when it comes to the other groups of foreigners, the crisis did not manifest itself to such an extent as might have been expected. A very interesting challenge will be to observe the manifestations of the new global security and health crisis associated with the new coronavirus, COVID-19, which will undoubtedly have a major impact on the economies of many countries, free movement and migration behaviour. We believe that the study of these impacts can easily become a crucial topic in the field of migration studies for the next decade.

Acknowledgments

This research was supported through funding by Charles University Grant Agency in project no. 1574319 „The Role of Foreigners in Fundamental (Post)Transformation Processes in Czech Cities“ and Czech Science Foundation project “Contemporary Changes of Social Environment Within the Czech Suburbs”, No. P404/18-14510S.

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PUBLIKACE 2:

KŘÍŽKOVÁ, I., KLSÁK, A., ŠIMON, M. (2022): Migration and Residential Mobility of Foreign Citizens in Prague and the Central Bohemian Region. In: Ouředníček, M. (ed.): Prague and Central Bohemia: Current Population Processes and Socio-Spatial Differentiation. Karolinum Press, Praha, 59–72.

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4 / Migration and Residential Mobility of Foreign Citizens in Prague and the Central Bohemian Region

Ivana Křížková, Adam Klsák, Martin Šimon

4.1 INTRODUCTION

Metropolitan regions are the main gateways for international migration and places of immigrant integration. More than a third of immigrants¹² in Czechia lives in Prague and the Central Bohemian Region, making it the most ethnically diverse and dynamic of the Czech regions (Janská, Čermák, Wright, 2014; Klsák, Křížková, 2022 in this book). Residential mobility of immigrants exceeds that of the domestic population, making the understanding of immigrant population's social geography highly relevant for urban transformation and integration policies. Therefore, the aim of this chapter is to describe and explain migration and residential mobility of foreign population in Prague and the Central Bohemian Region. We focus on the data from the key period of migration growth (2005 to 2018), when the key patterns of immigrant spatial distribution have been developed. We use migration rates, logistic regressions and cartographical visualisations to explore trends in migration and residential mobility and its structuring variables.

Although it is difficult to distinguish between residential mobility and migration, scholarly literature has found an important difference between short-distance and long-distance moves (Bell et al., 2015). Contrary to long-distance moves that tend to be job-related (Boman, 2011) and lead to a disruption of daily activity spaces, residential mobility is thought to be a function of the need to adjust one's residential environment to suit one's preferences (Rossi, 1980). Therefore, the majority of such moves occur over shorter distances, allowing people to sustain their daily activity spaces (Niedomysl, 2011; Coulter, van Ham, Findlay, 2016). Being associated with the adjustment of people's residence to their needs and preferences, immigrants' residential mobility may lead to either the creation of ethnic concentrations in certain areas or their spatial de-concentration (van Kempen,

Özüekren, 1998). Because immigrant spatial concentrations are often presented as a concern in public discourse (Peach, 1996; Přidalová, Klsák, 2019), one of the themes we examine in more detail is the relationship between the presence of co-ethnics¹³ and immigrants' residential mobility. More specifically, we want to discover whether residential mobility of immigrants in Central Bohemia contributes to their spatial concentration or de-concentration moves.

As residential mobility is believed to be an expression of adjusting one's residential environment to one's preferences, it may have several determinants relating to (i) the residentially mobile person's characteristics (see e.g. Cooke, 2008; Geist, McManus, 2008; Schaake, Burgers, Mulder, 2014); (ii) their former place of residence (more frequently theorised as residential satisfaction, see e.g. Clark, Deurloo, Dieleman (2006) and Špačková, Dvořáková, Tobrmanová (2016)); and (iii) their preferred new place of residence (Hedman, van Ham, Manley, 2011; van Ham, Boschman, Vogel, 2018). For foreign citizens, the first group of determinants may include indicators such as their stage in life-course, age, gender, resident status or length of stay in the country. In the second group, relevant residential mobility determinants may include the type of neighbourhood, home ownership and presence of (co-)ethnic population in the original place of residence. Although the characteristics of the third – new place of residence – may also play a role, the preferred residence does not have to be the same as the eventual destination of residential mobility for most population groups, including certain immigrants. As the choice of the actual new place of residence may be influenced by vacancies on the housing market and other phenomena that we were unable to operationalise, we refrained from evaluating these (pull) factors of residential mobility in this chapter. Instead, we relied more on the factors that urge people to move.

12 Given that this chapter is based on quantitative analysis of data that use citizenship as the main distinctive characteristic between groups, we hereafter use the notion of foreign citizens (foreigners) as synonymous to „immigrants“, the more oft-used term in international literature; see similar procedure in (Janská, Bernard, 2018). Technically, „foreigners“ also include children of foreign citizens born on the Czech territory (second-generation migrants), while Czech citizens do not count as immigrants in our approach. Otherwise, there is a large overlap between „foreigners“ and „immigrants“ in Czechia (Křížková, Ouředníček, 2020), which allows us to comment on literature that focuses on any of the two populations.

13 These are people who share the same ethnic background as the reference group. In this paper, co-ethnics are operationalised as people holding citizenship of the same country as the given group of foreigners.

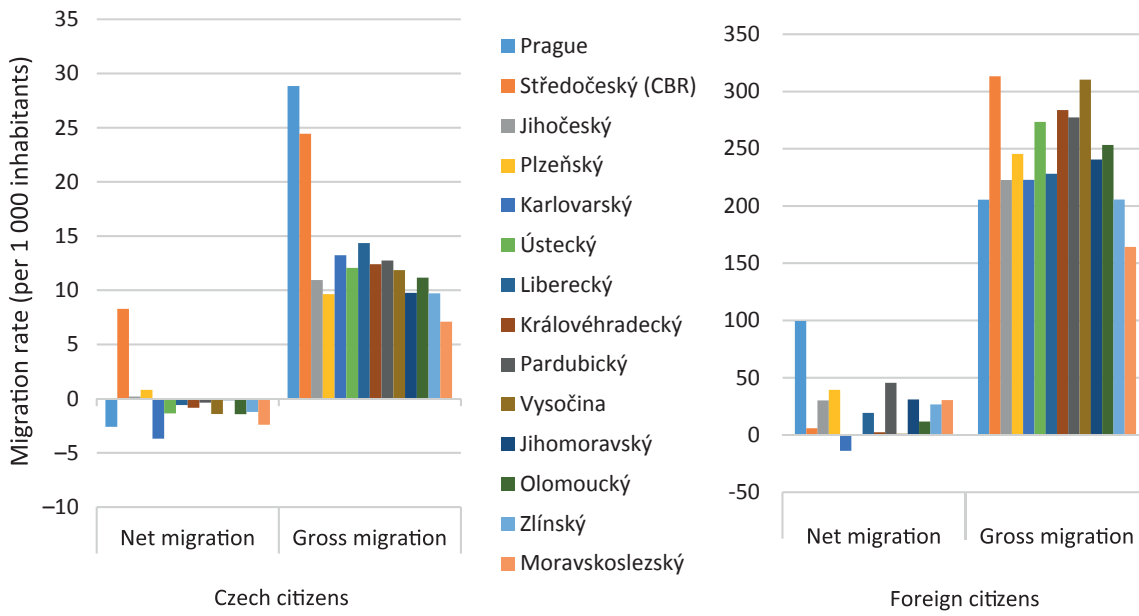


Figure 4.1: Average yearly net and gross migration rates of Czech and foreign population in Czech regions during 2005–2018.

Data source: CZSO (2019), MICR (2019a, b), own calculation.

Contrary to the research on immigrant spatial distribution, the study of their residential mobility in Czechia has received only limited attention so far (Přidalová, Ouředníček, 2017). Internal migration of foreign population in Czechia has been researched in relation to settlement size and age structure of migrants (Čermák, Janská, 2011), indicating that foreigners tend to undergo up-scale migration (towards urban areas) and that they are more likely to move when aged 20–24. This demonstrates that the internal migration of foreigners is different from that of the Czechs, who tend to partake in down-scale migration (toward suburbs) and mostly relocate when aged 25–29. Determinants of immigrants' internal migration were studied by Janská and Bernard (2015; 2018) who observed a preference for urban-bound migration in Ukrainians and Vietnamese in Czechia. They also concluded that internal migration of Ukrainians leads to their de-concentration at the neighbourhood level while the concentration of co-ethnics remains constant for Vietnamese after internal migration. A recent analysis by Křížková and Ouředníček (2020) suggests a partial reversal in the trend of immigrant participation in urbanisation processes with a (re-)urbanisation of some Czechs and development of suburbanisation in some immigrant groups. Despite the above studies also having looked at determinants of immigrant internal migration, they have mostly focused on the role of co-ethnic concentrations (Janská, Bernard, 2015; 2018) and/or on factors contributing to immigrant suburbanisation, leaving aside other urbanisation processes (Křížková, Ouředníček, 2020).

Nevertheless, a detailed understanding of immigrants' residential mobility in Central Bohemia, being their main concentration area in Czechia, is still lacking, despite the immigrant net migration in Prague and gross migration in

the Central Bohemian Region being among the highest in the country (Figure 4.1). This chapter focuses on the development and spatial patterns of immigrant migration and residential mobility in Central Bohemia. Determinants of immigrant residential mobility might differ when using migration register data or stock migration data for analysis, since the latter type of data is more detailed (see Data and methods).

The study tests three hypotheses on immigrant spatial behaviour within the Central Bohemian Region. Various international studies suggest that people in their 20s are more prone to relocating, than others (Andersson, 2012). We can therefore hypothesise, that groups with a higher proportion of younger people will be more likely to change place of residence, than groups where the proportion of young people is lower (H1). Drbohlav and Dzúrová (2007) note that the presence of compatriots is varies in importance for different groups of people. For instance, Russian respondents of their Prague-and-surroundings-based survey missed their kin, while transnationalism was typical for Ukrainians. Dissimilarity in links between the presence of co-ethnics and residential mobility can thus be expected for different immigrant groups (H2). As the transition towards home ownership is associated with more time spent in the destination country and more secure migrant status (Vono-de-Vilhena, Bayona-Carrasco, 2012; Janská, Bernard, 2018), it may be assumed that immigrants' housing is likely to be less stable shortly after arrival in the destination country, motivating them to relocate. We therefore expect to find a correlation between persons living in unstable housing conditions, characterised by buildings that are not intended for long-term living (H3), and the probability of relocation.

4.2. DATA AND METHODS

This chapter employs two main sources of data on migration and residential mobility. Firstly, for the period between 2005 and 2018, we rely on data from migration registers, made available for research by the Czech Statistical Office. It contains all residential relocations registered with Czech authorities throughout the mentioned years. This set of data allows us to establish the differences between migration intensity of Czech and foreign citizens and provides a longitudinal perspective on its development. Migration rates are plotted for the groups of Czech and foreign citizens throughout the period. Furthermore, this data is used to visualise the spatial patterns of immigrants' international and internal migration in the Central Bohemia in the more recent period of 2012–2018. In the Central Bohemian Region, this set of data is a record of the citizens' changing residence from one municipality to another. In Prague, it demonstrates the relocation of citizens between smaller basic settlement units. The figures presented in this chapter only consider migration across the borders of municipalities and various city parts of Prague, making greater comparability between the migration rates in the two types of areas possible. However, in order to explain the function of migration within the parts of Prague, the residential relocations between basic settlement units, belonging to the same part of the city, were calculated. Results of these analyses are stated in text, however are not plotted on the graphs. The graphs contained in this chapter allow us to compare the zones of Prague, with only basic settlement units listed by Ouředníček et al. (2012) and Ouředníček and Kopecká (2014) (i.e. those with 50 or more inhabitants or with new housing construction) considered. Due to missing sets of data from that period regarding the numbers of Czech and foreign citizens in various zones of Prague, the data for 2015 was used as a denominator for the calculation. Numbers of Czech and foreign citizens as of 2006 and 2018 were used as a denominator in the calculation for other areal units.

Our second data set was provided by the 'Alien Police' of the Czech Republic and contains geocoded data on all immigrants registered to reside in the country as of 1st January 2013 and 2018, the earliest and the most recent points available in given time period. Tracking the changes in residence between the two given dates enables us to uncover the micro-level determinants of residential mobility, an undertaking that would not be possible using migration registers, as the latter are only released to administrative units. The

merit of this approach lies in the fact that it allows for the understanding of certain micro-level determinants of immigrant residential mobility that would otherwise be susceptible to greater ecological fallacy. Despite known differences between registered and usual address of people's residence (Špačková, Ouředníček, 2012; Baštecká, Kurkin, 2018), the data should be more reliable for the foreign population (from third countries in particular) than for the Czech population, as the former are formally obliged to declare their relocation, and whose place of residence is randomly verified by the police.

As Central Bohemia covers Prague and its largely defined metropolitan area, internal migration within the region takes place over predominantly short distances and is therefore unlikely to disrupt people's daily activities, compared to long-distance migration¹⁴, thus qualifying as residential mobility. It has to be stressed, however, that only registered changes of residence within the Central Bohemia were considered, leaving out the possible short-distance moves across the external border of the Central Bohemian Region as well as the relocations not registered with the authorities.

To uncover the determinants of immigrant residential mobility, we ran a series of binary logistic regression analyses, where the dependent variable was whether the person changed residence in the time period between the 1st of January 2013 and the 1st of January 2018 (1 = mover, 0 = stayer). These analyses are conducted for all foreign citizens, and subsequently for three major subgroups – Ukrainians, Russians and Vietnamese – in order to determine the differences in residential mobility between the mentioned groups. We restrict the regressions to persons aged 15 and older, as inclusion of children under 15 years, who tend to change residence together with their parents, might result in biases. The propensities of residential mobility are related to a) individual characteristics of the movers and b) features of their areas of residence in 2013. We test the relationship of propensity to move and the following independent variables: (i) Individual characteristics: gender, residence permit type, length of stay in Czechia, age group, and citizenship. Length of stay is calculated as the difference between the actual year of residence and the initial year of validity of the person's residence permit valid in January 2013. Neighbourhood level characteristics used are (ii) residential type, house size, and share of foreigners and co-ethnics in the place of residence.¹⁵ Each address was assigned the type of residential areas for larger administrative units (cores of

14 It should be noted that residential mobility, often motivated by changes in family, can also alter people's daily activities. For instance, families may move to a larger apartment following a birth of a child, which also implies a change in the parents' daily activities and places visited. However, relocating over a short distance allows to maintain the same workplace and places of some other activities (e.g. shopping) as before relocation rather than in the case of long-distance migration.

15 These variables relate to the place of residence on the 1st of January, 2013. The reason for not considering the characteristics of place of residence in 2018 is two-fold. Firstly, as argued above, the actual destination of residential mobility may differ from that of the preferred place of residence. Secondly, the residential type categories and the size of house prior to and after moving, were highly correlated.

Table 4.1: Frequency of independent variable categories used in logistic regression analyses.

		All foreigners		Ukrainians		Russians		Vietnamese	
		N	%	N	%	N	%	N	%
Gender	Male	71 031	55.5	16 171	50.9	4 769	43.5	4 412	54.1
	Female	56 845	44.5	15 576	49.1	6 187	56.5	3 736	45.9
Residence permit type	Permanent	67 667	52.9	15 439	48.6	5 135	46.9	2 397	29.4
	Long-term	60 209	47.1	16 308	51.4	5 821	53.1	5 751	70.6
Length of stay in Czechia	0–2 years	31 778	24.9	8 379	26.4	2 986	27.3	569	7.0
	3–5 years	47 677	37.3	15 435	48.6	4 612	42.1	2 431	29.8
	6–9 years	32 791	25.6	6 407	20.2	2 076	18.9	3 090	37.9
	10 years and longer	15 630	12.2	1 526	4.8	1 282	11.7	2 058	25.3
Citizenship groups	EU	51 582	40.3						
	Third country	76 294	59.7						
Selected country citizenship	Ukraine	35 711	27.9						
	Russia	27 986	21.9						
	Slovakia	11 982	9.4						
	Vietnam	8 772	6.9						
	Other	43 425	34.0						
Age group	15–24	11 611	9.1	2 649	8.3	1 992	18.2	1 155	14.2
	25–34	38 647	30.2	9 290	29.3	2 101	19.2	2 027	24.9
	35–44	37 156	29.1	10 408	32.8	2 363	21.6	2 347	28.8
	45–54	24 513	19.2	6 869	21.6	2 460	22.5	1 884	23.1
	55 and older	15 949	12.5	2 531	8.0	2 040	18.6	735	9.0
House size	0 apartments	7 515	5.9	1 371	4.3	270	2.5	202	2.5
	1 apartment	26 918	21.1	6 600	20.8	2 630	24.0	2 022	24.8
	2–10 apartments	23 563	18.4	6 598	20.8	1 490	13.6	1 664	20.4
	11–20 apartments	27 032	21.1	6 967	21.9	2 422	22.1	1 420	17.4
	21–40 apartments	27 794	21.7	7 447	23.5	2 672	24.4	2 206	27.1
	41+ apartments	15 054	11.8	2 764	8.7	1 472	13.4	634	7.8
Residential type	Prague city centre	4 469	3.6	474	1.5	390	3.6	130	1.6
	Prague inner city	44 176	35.6	11 652	36.7	4 095	37.4	1 851	22.7
	Prague outer city	32 167	25.9	9 002	28.4	3 483	31.8	3 045	37.4
	Prague periphery	9 500	7.6	2 457	7.7	880	8.0	523	6.4
	Smaller cities	12 217	9.8	2 492	7.9	504	4.6	1 304	16.0
	Suburbs	16 557	13.3	4 331	13.7	1 428	13.0	886	10.9
	Rural areas	5 107	4.1	1 302	4.1	179	1.6	411	5.0
Share of migrants in neighbourhood	1 st to 5 th decile	12 519	9.8	2 926	9.2	656	6.0	538	6.6
	6 th and 7 th decile	18 359	14.4	5 107	16.1	1 152	10.5	1 050	12.9
	8 th decile	18 026	14.1	4 929	15.5	1 290	11.8	1 156	14.2
	9 th decile	26 900	21.0	6 660	21.0	2 231	20.4	1 796	22.0
	10 th decile	52 072	40.7	12 125	38.2	5 627	51.4	3 608	44.3
Representation of co-ethnics	LQ ≤ 1			4 160	13.1	942	8.6	193	2.4
	LQ > 1			27 587	86.9	10 014	91.4	7 955	97.6

Data source: CZSO (2016), MICR (2019c).

Note: Blank cells refer to the variables used only in some of the regression analyses (citizenship groups and selected citizenships in the analysis of all foreigners and representation of co-ethnics in the analyses of the three individual foreigner groups). Buildings without apartments are not intended for long-term living and include two types of addresses: a) dormitories, hostels and hotels, and b) newly built houses not yet approved for housing.

suburbanisation, suburbs, and other municipalities, and four concentric zones of Prague; Ouředníček et al., 2012; Ouředníček, Kopecká, 2014; Ouředníček, Nemeškal, 2022 in this book). In a different vein, representation of co-ethnics is calculated as their location quotient (LQ) in the nearest 400 neighbours based on 100m grid squares (for further discussion of this method, see Šimon, Křížková, Klsák, 2022 in this book). The combination of these three sets of independent variables allows us to establish the extent to which the different factors of residential mobility are relevant for the different immigrant groups. The basic breakdown of the categories relevant to the individual variables is presented in Table 4.1.

4.3 THE DEVELOPMENT OF FOREIGN CITIZENS' MIGRATION IN CENTRAL BOHEMIA

Longitudinal data based on continuous migration registers, confirms the significance of immigrants regarding Central Bohemia's population geography; their mean absolute net migration was positive in both Prague and the Central Bohemian Region (CBR) between 2005 and 2018 (around 215 000 and 5 000, respectively) as opposed to the net migration of Czech citizens, which was negative at that time (−41 000) in Prague and positive (142 000) in CBR. Foreigners' migration has clearly been much more dynamic than that of the domestic population, particularly in the Central Bohemian Region, where the extreme numbers are a result of still, rather moderate, numbers of registered foreign residents (Figure 4.2; Klsák, Křížková, 2022 in this book). Considering that our data also included

international migration and focused on the most attractive region for immigrants, the numbers presented here do not seem extraordinary, as intensity of internal migration alone exceeded 200 per mille for some immigrant groups in Czechia in 2007 (Drbohlav et al., 2010). Furthermore, Figure 4.2 shows a decrease in immigrant migration rates after 2007 and a slow increase in immigrant net migration after 2013. The values of immigrant migration rates are highly dependent on the numbers of foreign residents which increased markedly between 2005 and 2018, particularly in Prague. Therefore, the high values of migration rates in 2007 can partially be explained by the dynamic immigration to a previously low-immigration area.

The data on migration used in Figures 4.2 and 4.3, as registered with the Czech authorities, has several interpretational limits. Firstly, the number of registered moves may differ from the actual number. This can be attributed to a number of reasons; either (i) people may move without registering their relocation, which is likely to be the case particularly in the majority population (Špačková, Ouředníček, 2012), or (ii) they declare a change in residence without actually moving, which was observed amongst some immigrant groups (Čermák, Janská, 2011), or (iii) people reside at different addresses to the ones they have declared, which is more likely to be the case within the majority population than within the immigrant population. In addition, people who leave the country tend not to register their out-migration, as this is not enforced, leading to an underestimation of the number of out-migrants in both the Czech and the immigrant populations. These factors together explain the greater dynamics of in-migration as opposed to out-migration, particularly among foreign citizens (Figure 4.3). Secondly, the data is based on the calculation of registered

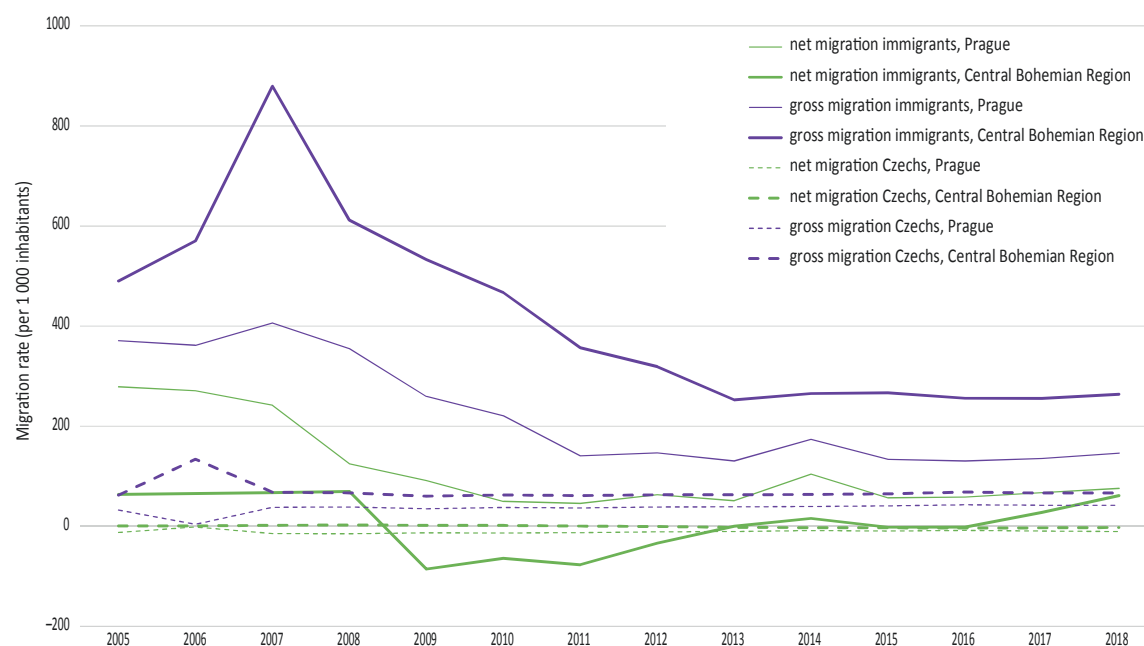


Figure 4.2: Net and gross migration rates of Czech and foreign citizens in Prague and the Central Bohemian Region, 2005–2018.

Data source: CZSO (2019), MICR (2019a, b), own calculation.

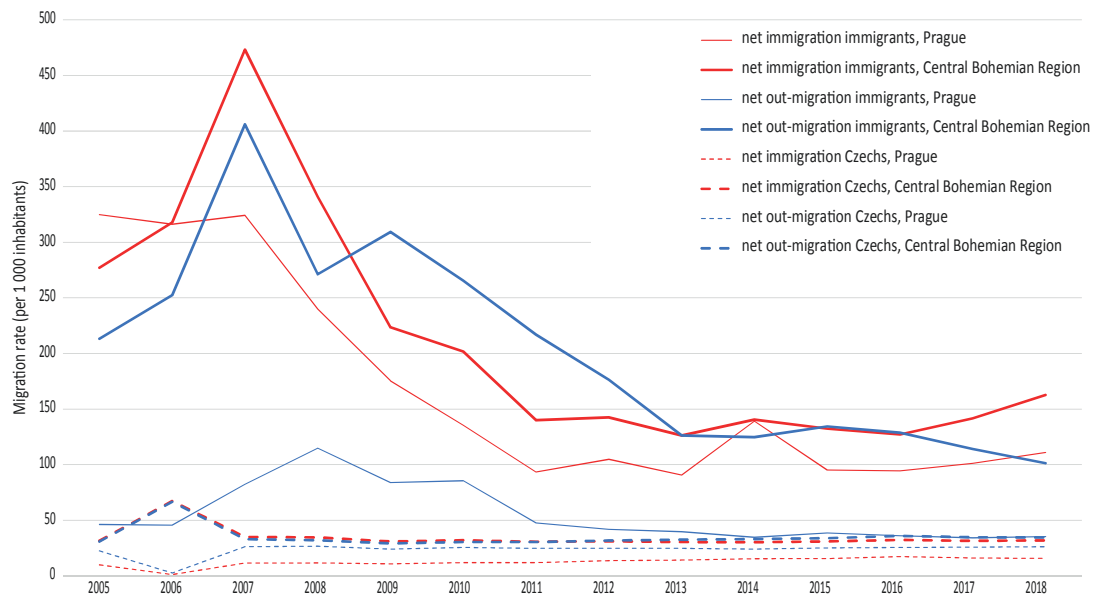


Figure 4.3: In- and out-migration rates of Czech and foreign citizens in Prague and the Central Bohemian Region, (CBR) 2005–2018. **Data source:** CZSO (2019), MICR (2019a, b), own calculation.

moves, rather than individual persons¹⁶. Circular migration of international migrants can thus inflate their numbers. The difference between the number of residents and the number of in-migrations might not be the same as the actual change in the number of residents.

4.4 SPATIAL PATTERNS OF IMMIGRANTS' MIGRATION IN THE CENTRAL BOHEMIAN REGION

The net migration rates among immigrants are higher in municipalities of the Central Bohemian Region, compared to that of Prague (Figure 4.4). This can likely be attributed to the overall low number of permanent foreign residents, used as the denominator in calculating net migration rate, in the municipalities beyond Prague. In absolute terms, however, the net migration is much higher in the capital city than in its hinterland. A spatial pattern can be traced when it comes to the foreigners' net migration rate in Central Bohemia. Highest values of net migration were found in the closest proximity to Prague as well as in more distant areas. By contrast, negative net migration rates were found in municipalities across the Central Bohemian Region.

The evidence suggests that the impact on most municipalities of the CBR of foreign citizens' net migration is of a similar extent to the impact on the city districts of Prague, when migrations within the city parts are not considered (Figure 4.5). In these circumstances, the greatest net mi-

gration rate within Prague can be found in its inner city. When considering the intra-city moves, the net migration of the immigrant population is clearly higher in Prague when compared to the CBR. Furthermore, when migrations within city parts are included in the analysis, the greatest net migration is observable on the periphery. The differentiating impact on Prague's zones of foreign citizens' migration is largely due to its scale. Additionally, this difference may be attributed to the location of (some) guest-worker dormitories as well as to an emergence of new housing projects on the urban periphery, where new residents, including immigrants, relocated to but had little time for any further residential mobility. Outside of Prague, suburbs and rural municipalities with population gain seem to be equally attractive to international migrants. In addition, the size of municipalities, within these types, appears not to play a vital role (Figure 4.5).

Spatial differences in foreign citizens' gross migration rate are moderate in Central Bohemia (Figure 4.6). Due to the map's omission of within-city-part migration, the city parts of Prague exhibit an average gross migration. If within-city-part migration is to be considered, the largest gross migration can be observed in the inner city. Contrary to this, when within-city-part migration is omitted, largest gross migration appears to be on the city's periphery (Figure 4.7). In the Central Bohemian Region, gross migration of foreign population is greatest in areas with abundant job opportunities. In particular, Mladá Boleslav in the North and Kolín in the East, host large automotive companies (see also

¹⁶ In 2018, 254 thousand foreign citizens resided in the Central Bohemian Region and Prague, 45 per cent of them holding a long-term resident permit. Although this type of resident permit is issued to people who intend to stay in the country longer than one year, the limited validity of their resident status makes long-term foreign residents more prone to move between their country of origin and Czechia and thus to change residence in Czechia more frequently than it makes holders of permanent resident permit.

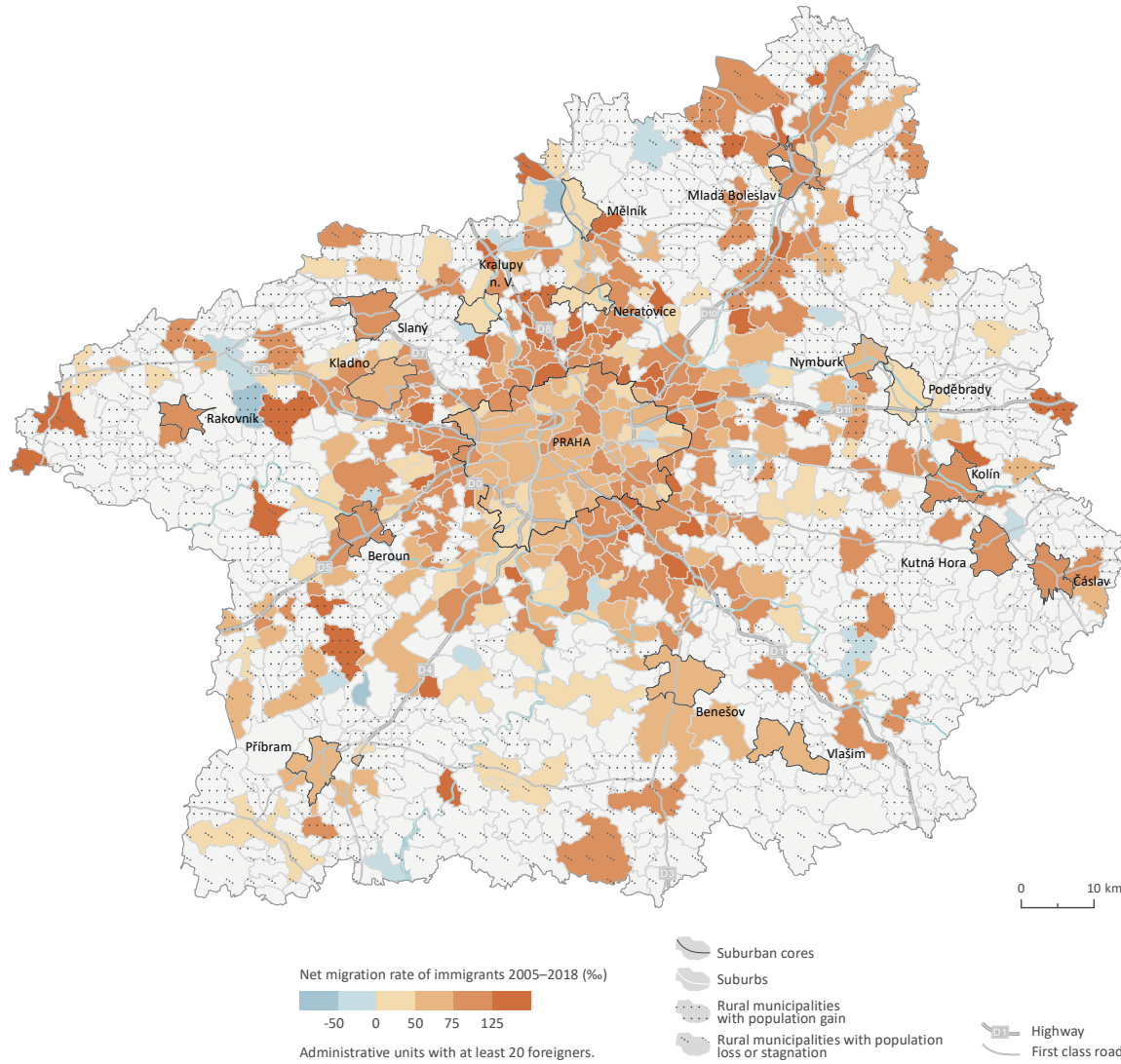


Figure 4.4: Net migration rate of immigrants in city parts of Prague and municipalities of the Central Bohemian Region, average 2005–2018. **Data source:** CZSO (2019), MICR (2019c), own calculation. **Note:** Net migration is calculated as the difference between in-migrants and out-migrants related to the number of registered foreign residents in municipalities and city parts of Prague.

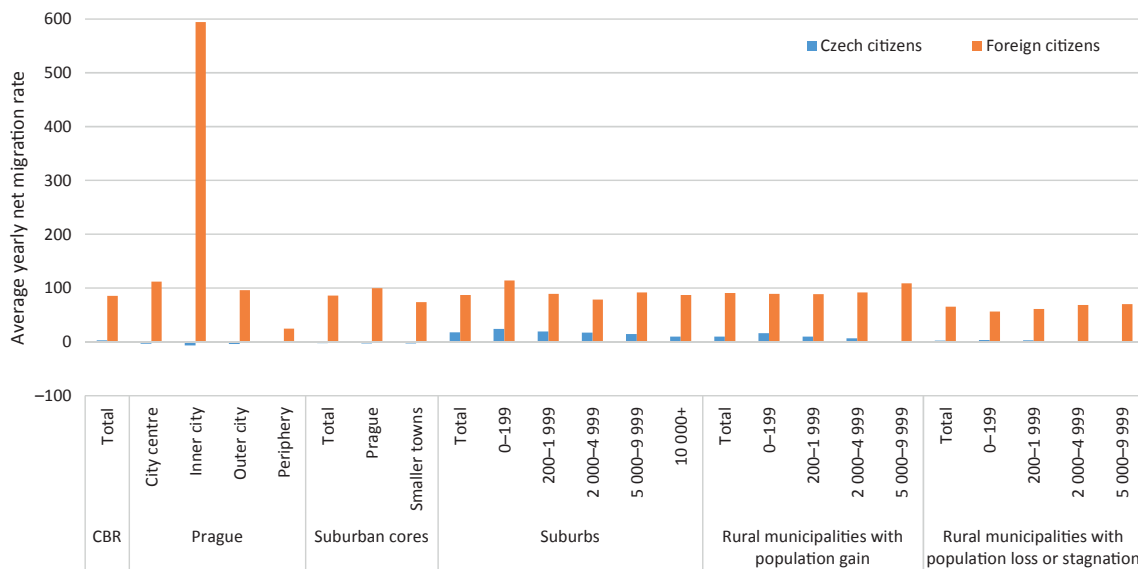


Figure 4.5: Average yearly net migration rates for Czech and foreign population in zones of Prague and types of municipalities of the Central Bohemian Region (CBR), 2005–2018. **Data source:** CZSO (2019), MICR (2019c), own calculation.

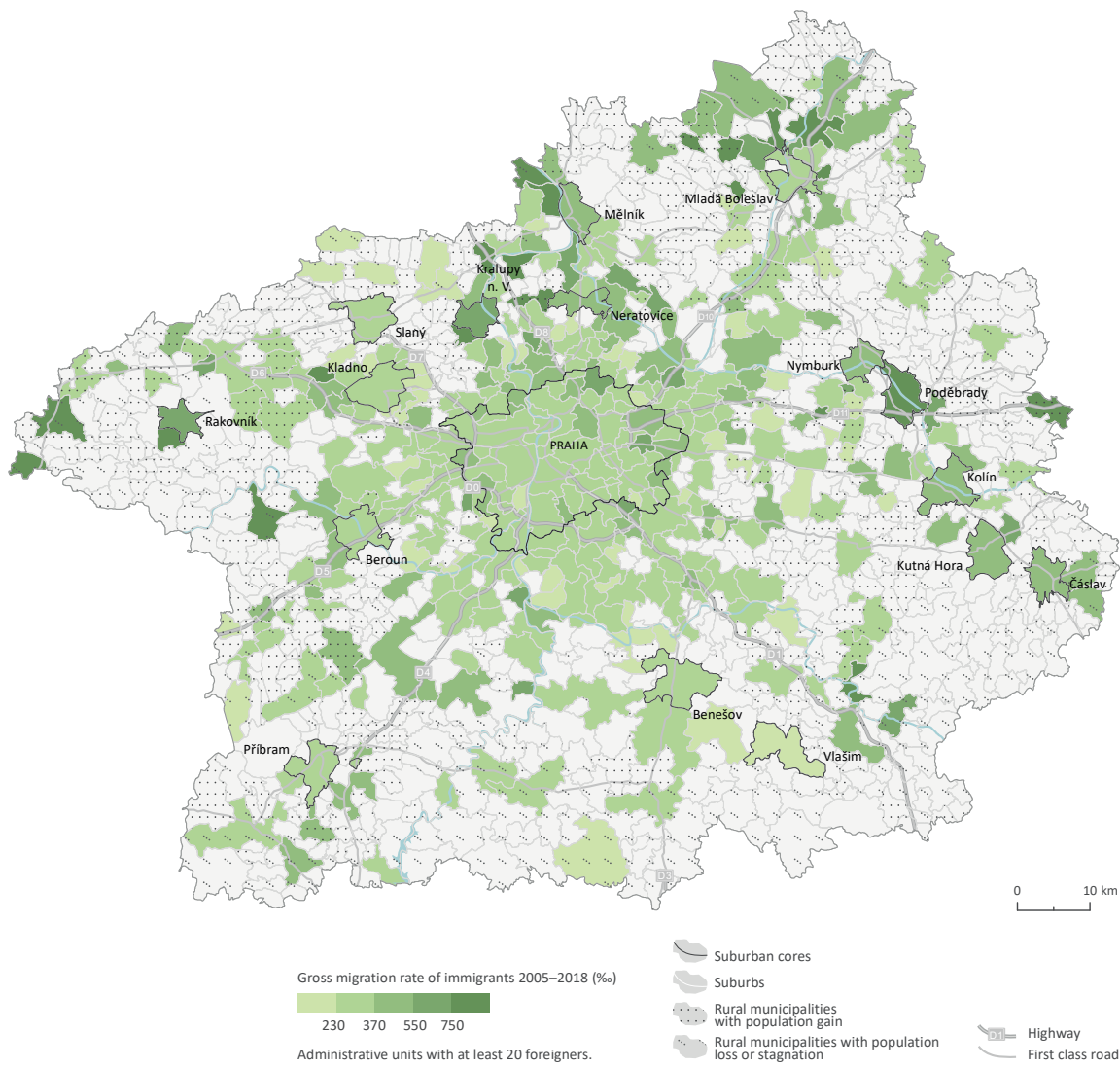


Figure 4.6: Gross migration rate of immigrants in city parts of Prague and municipalities of the Central Bohemian Region, average 2005–2018. **Data source:** CZSO (2019), MICR (2019c), own calculation. **Note:** Gross migration is calculated as the sum of in-migrants and out-migrants related to the number of registered foreign residents in municipalities and city parts of Prague.

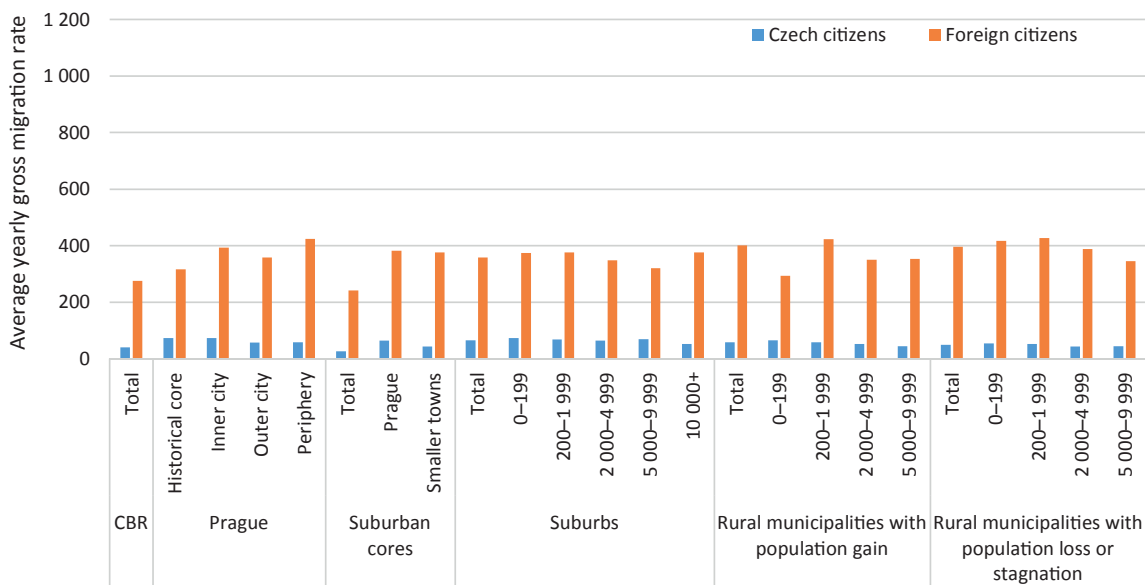


Figure 4.7: Average yearly gross migration rates for Czech and foreign population in Prague and types of municipalities of the Central Bohemian Region, 2005–2018. **Data source:** CZSO (2019), MICR (2019c), own calculation.

Klsák, Křížková, 2019; Klsák, Křížková, 2022 in this book), while retail and logistics are centered in transport corridors around Prague. Similarly to the net migration rates, there are only limited differences in gross migration of foreign citizens between municipalities of different sizes. Moreover, different types of municipalities in the CBR exhibit comparable rates of gross migration.

The gross migration rate being around seven times greater in the Central Bohemian Region and nine times greater in Prague, demonstrates that foreign citizens are more geographically mobile than the native population of Central Bohemia (Figure 4.7). This is in line with the findings of more established immigrant destinations, where immigrants are more likely to move within the country when compared to the native population – in Germany, this is twice the likelihood and in Spain this is three or four times the amount (Reher, Silvestre, 2009; Vidal, Windzio, 2012). However, these figures are not directly comparable for two reasons. Firstly, the cited studies focus on the countries as a whole, whereas our analysis is only concerned with the metropolitan region. Secondly, the rates of migration are affected by

the country's stage in the migration cycle. In comparison to more established immigrant destinations, new immigrant destinations are likely to have a greater proportion of incoming younger immigrants making residential choices. Within the CBR, Russian citizens had the greatest gross internal migration rate, ahead of Ukrainians and Vietnamese (Figure 4.8). The same pattern applies to the population's rates of gross international migration, though the numbers are up to twice as high as for internal migration, indicating a persistent trend of in-migration from abroad.

We next turn our attention to the spatial patterns of the three selected immigrant groups' internal and international net migration rates in the period between 2012 and 2018 (Figure 4.8). The three groups arrive in Central Bohemia through gateways which serve as a departure point for subsequent internal migration. For Ukrainians and Russians, such gateways include Mladá Boleslav and Poděbrady. The city of Mladá Boleslav features an automotive plant, while in Poděbrady, there is a spa and an education centre for future Czech language students. For Vietnamese, an important entry-point is Kolín with its automotive industry.

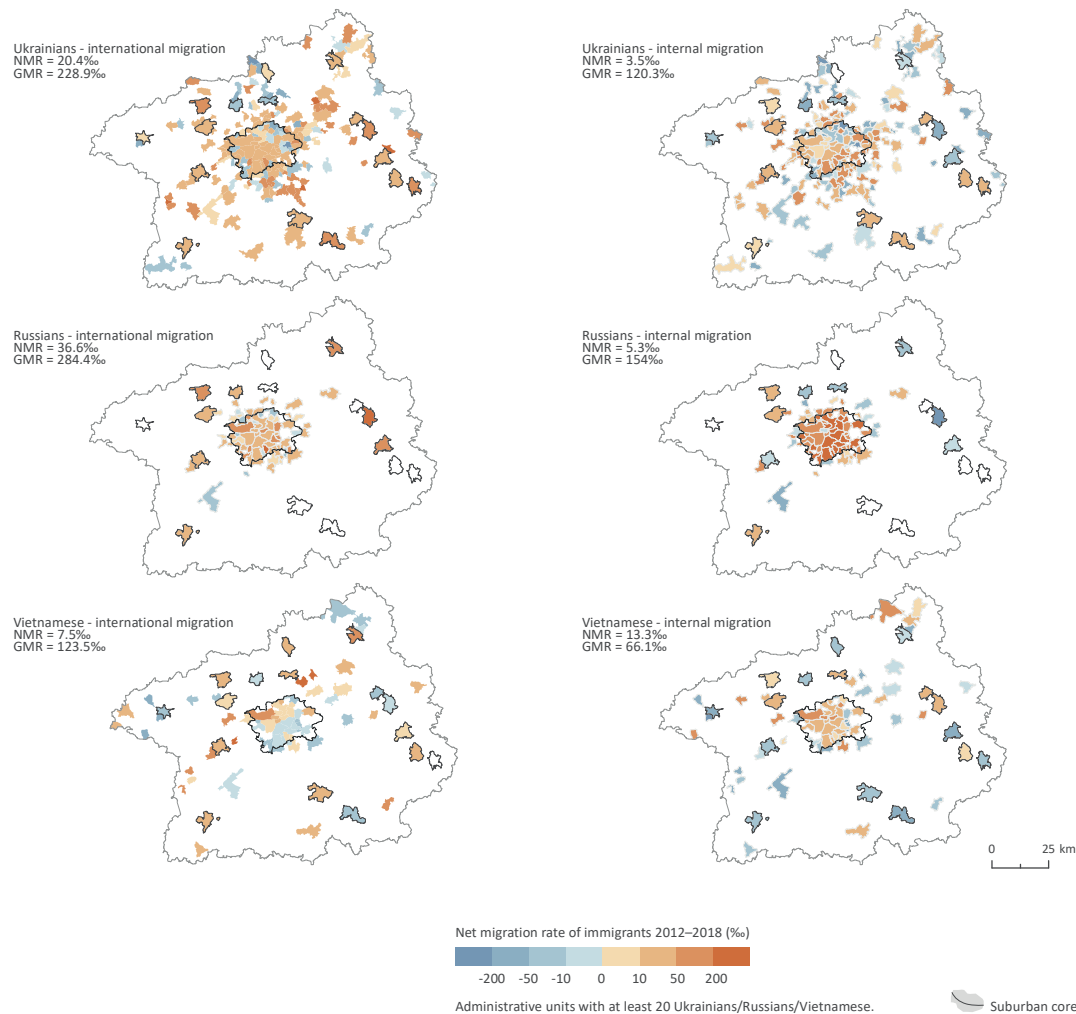


Figure 4.8: Net internal and international migration rates of Ukrainians, Russians and Vietnamese in Prague and the Central Bohemian Region, average 2012–2018. **Data source:** CZSO (2019), MICR (2019c), own calculation. **Note:** Net migration rate (NMR) and gross migration rate (GMR) are given for Central Bohemia as a whole, excluding migration within administrative borders of Prague.

Beyond these important entry-points, municipalities like Kladno and Slaný attract both international and internal migration, likely due to the combination of affordable housing and a reasonable commuting distance to Prague. In terms of residential location, there are important differences between the three groups. Whereas Ukrainians move extensively across the CBR, Russian and Vietnamese citizens are more spatially selective when it comes to both internal and international migration. Russian immigrants have a clear preference for Prague and certain suburbs. For Russians, Prague's appeal is documented through a very high net internal migration of Russian citizens in a large proportion of Prague's city parts. In contrast, Vietnamese immigrants also move to more peripheral parts of the CBR.

4.5 DETERMINANTS OF IMMIGRANTS' RESIDENTIAL MOBILITY IN CENTRAL BOHEMIA

Between 2012 and 2018, over 23 percent of the 644 thousand internal migration moves across municipality borders within Central Bohemia (including moves within Prague), were made by immigrants. This figure highly surpasses the proportion in the population of Central Bohemia (10 percent in 2018), revealing the key role immigrants play in housing change within the region. While the initial settlement choices of immigrants' international and internal migration in Czechia have been explored (Novotný, Janská, Čermáková, 2007; Čermák, Janská, 2011), little is known about the determinants of their subsequent residential mobility. To address this research gap, we model their residential mobility using binomial logistic regression. In this analysis, those who changed residence within Central Bohemia between 2013 and 2018 are referred to as 'movers' (55 000 or 37.7 percent of all immigrants aged 15 and older in 2013 who also resided in Central Bohemia in 2018) and those who have not as 'stayers' (90 000 or 62.3 percent). Those who were not present in the Central Bohemian region in both years – particularly in-movers after 2013 and out-movers before 2018 – are not considered¹⁷. The analysis is based on a comparison of stock data from the 1st January 2013 and 2018.

In order to understand structural and contextual factors of residential mobility of immigrant population in Central Bohemia, we calculated a logistic regression analysis (Table 4.2). The model explains 20 percent of the variance in foreign citizens' residential mobility¹⁸. Based on the tested variables, the likelihood of moving between 2013 and

2018 for third-country citizens, was more than three times greater than for EU-citizens. However, this was because different conditions apply to the registration of EU-citizens and third-country citizens (see Data and methods). Looking at citizenships of individual countries, the Vietnamese are most residentially mobile of the selected groups, followed by the Ukrainians and Russians. Moreover, all of them were more likely to be movers than members of the heterogeneous "Other" group. Conversely, Slovaks proved to be less likely to change residence within Central Bohemia. The likelihood of changing residence within Central Bohemia was greater for persons with long-term visas, as opposed to those holding permanent residence permits as well as for younger and recent immigrants, especially those aged 15–34 and residing in the country for less than two years at the time of moving. Citizens living in any type of housing in Prague, or other suburban cores, were twice as likely to move in comparison to those living in other (rural) municipalities. The role of house size in correlation with the residential mobility variable, confirmed that unstable housing conditions relate to a greater propensity to change residence within the region, as buildings without apartments are most likely to represent guest-worker, student and tourist accommodation. However, in 2013, there was no clearly observable pattern in the propensity to move between the other house sizes. In addition, the likelihood for immigrant residential mobility was greater for those living in areas with fewer immigrants in the vicinity of their residences, than for those living in areas belonging to the decile of neighbourhoods with the most concentrated immigrant population. This may indicate that immigrants prefer to live in areas which are somewhat ethnically heterogeneous. Our subsequent analyses illustrate differences between immigrant groups in regards to this indication.

Spatial patterns of international and internal migration differ depending on the selected immigrant groups and immigrant groups are unequally likely to move within the region. To unpack the possible differences in determinants of residential mobility within Central Bohemia, between the selected immigrant groups, we repeated the regression analysis for three main groups: Ukrainians, Russians and Vietnamese (Table 4.3). Despite the known differences in socio-demographic profile and spatial distribution between these immigrant groups (Hasman, Novotný, 2017; Přidalová, Hasman, 2018), certain determinants of residential mobility apply for all, in a similar manner. For these three groups, residential mobility is more likely for persons with long-term residence permits, as opposed to those hold-

17 There were 18 thousand children with foreign citizenship in Central Bohemia as of 1st January 2013. Population aged 15 and older that is neither further discussed here comprises of i) 68 000 foreign citizens residing in Central Bohemia in 2018 who moved in after 2013 and of ii) 4 000 who resided there in 2013 but moved out before 2018. Furthermore, iii) some 800 cases did not have a valid address in 2013.

18 The proportion of the variance in the dependent variable predictable from the independent variables is expressed by the coefficient of determination (R Square).

ing permits for permanent stays. The length of stay in the country decreases the odds for residential mobility of the majority of groups, except for the Vietnamese, who are most likely to relocate somewhat later, within 3–5 years of the initial year of validity of their residence permits. In addition,

Table 4.2: Binomial logistic regression models of residential mobility in Central Bohemia for immigrants (odds ratios) in 2013–2018.

Indicator		Odds ratio
Nagelkerke R Square		0.197
Gender	Male	1.000
	Female	1.040
Residence permit type	Permanent	1.000
	Long-term	1.842
Length of stay in Czechia	0–2 years	2.279
	3–5 years	1.639
	6–9 years	1.312
	10 years and longer	1.000
Citizenship groups	EU	1.000
	Third country	3.307
Selected country citizenship	Ukraine	1.288
	Russia	1.184
	Slovakia	0.897
	Vietnam	1.562
Other	Other	1.000
	15–24	2.600
	25–34	2.467
	35–44	1.856
Age group	45–54	1.489
	55 and older	1.000
	0 apartments	2.194
	1 apartment	0.960
House size	2–10 apartments	1.026
	11–20 apartments	1.011
	21–40 apartments	0.987
	41+ apartments	1.000
	Prague city centre	1.740
Residential type	Prague inner city	2.027
	Prague outer city	1.907
	Prague periphery	1.816
	other suburban cores	1.647
	suburbs	1.189
	other municipalities	1.000
	1 st to 5 th decile	2.335
Share of migrants in neighbourhood	6 th and 7 th decile	1.601
	8 th decile	1.372
	9 th decile	1.247
	10 th decile	1.000

the three groups are more likely to move from areas with a lower proportion of immigrants of their population, to areas with greater concentration of immigrants. Furthermore, for Russians, the odds of moving out decrease when living in an area with over-representation of co-ethnics, which isn't

Table 4.3: Binomial logistic regression models of residential mobility in Central Bohemia for selected immigrant groups (odds ratios) in 2013–2018.

Indicator		Ukrainians	Russians	Vietnamese
Nagelkerke R Square		0.126	0.168	0.160
Gender	Male	1.000	1.000	1.000
	Female	1.014	1.071	0.949
Residence permit type	Permanent	1.000	1.000	1.000
	Long-term	2.191	2.045	2.404
Length of stay in Czechia	0–2 years	2.335	2.580	1.438
	3–5 years	1.916	1.623	1.572
	6–9 years	1.485	1.386	1.385
	10 years and longer	1.000	1.000	1.000
Age group	15–24	2.026	2.717	2.014
	25–34	2.140	2.286	2.156
	35–44	1.686	1.636	1.472
	45–54	1.461	1.384	1.240
	55 and older	1.000	1.000	1.000
House size	0 apartments	1.045	1.788	0.972
	1 apartment	1.129	1.024	1.028
	2–10 apartments	0.974	1.548	1.044
	11–20 apartments	0.952	1.207	1.045
	21–40 apartments	1.000	1.229	0.830
	41+ apartments	1.000	1.000	1.000
Residential type	Prague city centre	2.687	0.776	3.783
	Prague inner city	2.640	0.874	2.670
	Prague outer city	2.495	0.934	2.223
	Prague periphery	1.835	0.748	2.380
	other suburban cores	1.847	0.634	2.085
	suburbs	1.220	0.614	1.562
	other municipalities	1.000	1.000	1.000
Share of migrants in neighbourhood	1 st to 5 th decile	2.802	2.205	3.949
	6 th and 7 th decile	1.769	1.497	1.868
	8 th decile	1.548	1.364	1.336
	9 th decile	1.267	1.514	1.146
	10 th decile	1.000	1.000	1.000
Representation of co-ethnics	LQ ≤ 1	1.000	1.000	1.000
	LQ > 1	1.230	0.973	1.022

Note: The difference in size of individual variable categories between the three groups, notably the smallest group of Vietnamese, limits the explanatory power of some results of the binomial logistic regression model.

the case for Ukrainians and Vietnamese. This outcome is in line with previous research based on various data sources (Janská, Bernard, 2015; 2018; Příkladová, Klsák, 2017) and suggests that whereas Ukrainians and Vietnamese are more inclined towards deconcentration, Russians tend to spatially concentrate. This preliminary statement, however, requires confirmation by further thorough research.

Moreover, notable differences can be observed within the three immigrant groups' residential mobility. For Ukrainians and Russians, the odds of moving are higher for females, meanwhile the opposite is the case for Vietnamese. Despite the difference not being particularly high, in comparison with other age groups, Ukrainians and Vietnamese are most likely to relocate when aged 25–34 and Russians when aged 15–24, which suggests a student component of the population. The observed likelihood of residential mobility depended on the type of residential area occupied prior to moving, with Ukrainians being much more prone to move out from all types of housing located in Prague, from other suburban cores and to a lesser extent also from suburbs, when compared to moving out from rural areas. Vietnamese were most likely to relocate from urban and suburban areas and are less likely to move from rural parts of the CBR. Russians, on the other hand, were much more likely to relocate from rural areas in the CBR than from suburban cores and suburbs. Although the research would benefit from more evidence, this outcome may be perceived as a result of the overall socio-economic differences between the different immigrant groups, with Russians generally holding the most favourable position of the three analysed groups. This would explain why Russians are more likely to relocate from rural areas. The probability of Ukrainians and Vietnamese to move out of rural areas, which have more affordable housing, is likely to be lower because of their limited chances of finding suitable housing in Prague's and its suburbs' restrictive housing market.

House size also contributed to variation, with Ukrainians being most prone to relocate from single-apartment-buildings, rather than from the reference category of houses with over 40 apartments. Russians, on the other hand, were most likely to relocate from houses with zero and between 2 and 10 apartments. Again, this might point to the difference in the two groups' socio-economic position, demonstrating that Russians, compared to Ukrainians, might have greater resources to move out from non-residential buildings, intended for temporary accommodation, to more stable conditions. For the Vietnamese population, there was no clear correlation observable between the likelihood of moving and the house size. These results, however, paint only a partial picture, as some categories had too small of a sample to make strong conclusions.

Overall, the residential mobility of the three immigrant groups can be attributed to the characteristics of the respec-

tive group. Compared to the other groups, the residential mobility of the Ukrainian population is influenced by the overall more circular character of their stay and the less stable housing conditions in Czechia. Russians showed to contain a non-negligible student segment (see also Ignatyeva, 2020) and were more likely to stay in urban and suburban areas than the other two mentioned groups. Due to the extent of cultural differences experienced more greatly than by the two other immigrant populations, the Vietnamese population might have been more likely to change residence somewhat later, in comparison to the other two groups, in order to acclimate to the Czech society. Nevertheless, the insufficient data in some independent variable categories only allowed us to draw preliminary conclusions that must be verified through further analyses. Finally, our analyses explained some 13–17 percent of the three groups' determinants of residential mobility within Central Bohemia (Table 4.3). This points to the great importance of other factors that could not be tested here, such as the finer differences between parts of the housing market, the majority population's residential behaviour and immigrant individuals' and households' preferences for different areas within the CBR related to, amongst other things, their lifestyle and social networks. This also applies to socio-economic status, typically measured by income or education – aspects not available in our data set.

4.6 CONCLUSIONS AND DISCUSSION

This chapter aimed to generate an overview and provide basic explanations for different types of migration to and within Prague and the Central Bohemian Region between 2005 and 2018. Based on the migration register and stock data, trends in development of foreign citizens' migration and residential mobility, using cartographic analysis and a set of binomial logistic regressions, were demonstrated. Despite being an increasingly important part of Prague's metropolitan area, the Central Bohemian Region continued playing a smaller role in the geographical breakdown of immigrant populations, when compared to Prague. Furthermore, the spatial patterns of migration and its determinants differed for subgroups of immigrant population, registered to reside in Central Bohemia.

Going back to the research hypotheses, it was documented that to a considerable extent, the rates of foreigner migration relates to age. Those in their 20s had an increased propensity to change residence within the region – this is in line with current knowledge in the field (Finney, Catney, 2012). Our second hypothesis – assuming a different role of co-ethnic presence for moving – was supported by the data for all three of the tested groups. Ukrainians, Russians and Vietnamese alike were prone to move from least eth-

nically heterogeneous areas. Furthermore, Ukrainians and Vietnamese were also prone to move from areas where their co-ethnics were over-represented. This would suggest that even though generally, everyone is in search of a moderately diverse residential environment where they would not stand out, only some may prefer to stay close to their co-ethnics. This result corroborates earlier findings of Drbohlav and Dzúrová (2007). Our third hypothesis seems to be acceptable, as immigrants indeed tended to relocate most from buildings without apartments, representing temporary worker, student and tourist accommodation, as well as newly built residential properties. However, as the proportion of immigrants living in unstable accommodation was very low, this statement should be taken as indicative and subject to further research.

Despite presenting important findings, this paper has its own limitations. Firstly, it was noted that the reliability of our data may be questionable. On the other hand, due to the fact that immigrants, especially those from outside of the EU, are legally obliged to register their residence and any changes thereof, the data is likely to be more reliable compared to the data for the majority population. Secondly, most of the data used in our analyses related to administrative units, which may be susceptible to Modifiable Area Unit Problem (Šimon, Křížková, Klsák, 2022 in this book). Although the central information on residential mobility – the address – was geocoded in our case, many other variables are not yet detailed enough to avoid the risk of ecological fallacy. Thirdly, this quantitative analysis could not reach beyond the content of the data, meaning that some important aspects of migration and residential mobility determinants were left under-researched.

The results of our analyses have several implications for the socio-spatial differentiation of Central Bohemia. Firstly, foreign citizens represent an important component in migration within the region, contributing to the increase of their proportion in total population of that location (Klsák, Křížková, 2022 in this book). Secondly, along Prague being the main immigrant gateway to Czechia (Janská, Čermák, Wright, 2014), the Central Bohemian Region also provides some secondary gateways through which foreigners arrive in the region. These regional gateways are likely to show greater dynamics of immigration than other parts of Central Bohemia and are likely to become places of new immigrant concentrations. As such, they would be interesting cases for future examination of socio-spatial differentiation beyond the capital city. Thirdly, immigrants were shown to prefer living in moderately ethnically heterogeneous areas rather than creating space-based ethnic communities. This suggests that ethnic segregation is not likely to increase in Central Bohemia in the near future, a conclusion which could also be drawn from a multi-scalar segregation measurement study (Šimon, Křížková, 2022 in this book).

Acknowledgments

This research was supported by the Czech Science Foundation within the project No. 19-03211S “Residential Segregation and Mobility of Foreign Citizens: Analysis of Neighbourhoods, Housing Trajectories, and Neighbourhood Context”.

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PUBLIKACE 3:

ŠIMON, M., KŘÍŽKOVÁ, I., KLSÁK, A. (2022): Residential Segregation in Prague and the Central Bohemian Region in 2012–2018: A Multiscalar Approach Using Individualised Neighbourhoods. In: Ouředníček, M. (ed.): Prague and Central Bohemia: Current Population Processes and Socio-Spatial Differentiation. Karolinum Press, Praha, 73–89.

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5 / Residential Segregation in Prague and the Central Bohemian Region in 2012–2018: A Multiscalar Approach Using Individualised Neighbourhoods

Martin Šimon, Ivana Křížková, Adam Klsák

5.1 INTRODUCTION

After 1989, and more significantly after joining the European Union in 2004, the number of foreigners in the Czech Republic increased. At present, 590 thousand people with a foreign passport live in the Czech Republic, of which 294 thousand live in Prague and the Central Bohemian Region and 213 thousand live in Prague alone. Roughly every seventh registered inhabitant in Prague and every twentieth of the Czech Republic is a foreigner (MICR, 2020). As the number of foreigners in the country is increasing, the foreign population's diversity is also growing. Therefore, it is of increasing importance to monitor the development and distribution of the foreign population and to create data and inputs for public policies. Without this knowledge, we cannot effectively influence the integration of foreigners into society and mitigate the possible negative consequences of immigration.

The aim of this text is to describe and compare the residential distribution of foreigners in Prague and the Central Bohemian Region and its development in the years between 2012 and 2018. In order to do so, we use detailed data on the foreign population from the records of the Ministry of the Interior. We measure the distribution of foreigners using a new method of individualised scalable neighbourhoods. This method allows us to compare the distribution of minority and majority population on multiple scales and does not depend on the statistical-administrative division of the territory. Particularly, we focus on Slavic and EU migrants and explore the effects of cultural proximity and legal status on residential segregation. In conclusion, we discuss the results and evaluate the merits of the individual scalable neighbourhood method.

The term residential segregation (i.e. the inequality resulting from different conditions in the place of residence) is used in literature to denote social, economic or ethnic inequality present in space. In some localities, neighbourhoods or regions, better-paid job opportunities, better housing stock, more varied educational opportunities and leisure activities are readily available, while other localities, neighbourhoods or regions have low salaries, poor housing, poor schools or public infrastructure. Studies of residen-

tial segregation show that the spatial concentrations of the poor, foreigner or ethnic minorities have an effect on the inhabitants' deteriorating life chances in such localities (van Ham et al., 2012; van Ham et al., 2013). The disadvantage resulting from the individual characteristics of a person is thus multiplied by the contextual effect of the disadvantageous locality, district or region. At the same time, segregation studies show that the negative effects of residential segregation are stronger in countries with neoliberal market orientation and weaker in countries with strong welfare policies, where income redistribution or housing policy moderates socio-spatial polarisation of society (Friedrichs, Galster, Musterd, 2003). Therefore, it is vital to explore how segments of immigrant population are spatially segregated in Czechia.

The development of inequalities in spatial distribution of ethnic population groups is a major topic in urban studies. Empirical evidence from established immigration countries led to the formulation of spatial assimilation theory in the second half of the twentieth century. The theory holds that on arrival, immigrants tend to spatially gravitate towards their co-ethnics. Earlier arrivals can provide new immigrants with assistance when searching for jobs and housing. Living in proximity to co-ethnics also allows for sustaining cultural habits acquired in the country of origin and overcoming the language barrier many immigrants face in their destination countries. Later on, when immigrants become more culturally integrated in the host society and improve their socio-economic status, the spatial assimilation theory expects them to spatially disperse, making their spatial distribution more similar to that of the majority population (Park, 1928; Massey, 1985). Spatial assimilation theory is therefore apt to describe the current situation in Czechia as an emerging immigration country (Šimon, Křížková, Klsák, 2020).

Based on the assumptions of the spatial assimilation theory, we can hypothesise that:

- H₁) immigrant residential segregation will decrease in time;
- H₂) residential segregation of an immigrant group culturally close to the majority of the population will be smaller than that of a culturally distant group;

H₃) immigrant groups socio-economically similar to the majority population will be less segregated than groups whose socio-economic status is more distinct.

When measuring and evaluating residential segregation, it is critical that the spatial assimilation theory does not consider some important aspects of immigrant residential segregation, notably the neighbourhood size. Previous literature reports that the development of segregation in time may occur in opposing directions (towards concentration or deconcentration) based on different scales of analysis (Malmberg et al., 2018). Moreover, the spatial assimilation theory expects changes in segregation to manifest themselves in a longer time period – over the course of immigrant generations. In this text, we use the term ‘foreign’ or ‘population of foreign citizens’, as the Czech immigrant population is rather recent, with a low share of second-generation migrants and the data we use is based on state citizenship. We operationalise the segregation decrease through time according to the spatial assimilation theory by evaluating a period of 2012–2018, assuming that a convergence of the minority and the majority occurs gradually over time. Between 2012 and 2018, the foreign population in the country grew by further in-migration, with new foreigners having less time to potentially assimilate.

Research on the development of foreign citizens’ residential segregation has been scarce in Czechia due to the rather short history of foreign population in the country as well as the relevant data sources having some important drawbacks. Among the exceptions is the work of Špačková, Pospíšilová and Ouředníček (2016), which documents the increase in the proportion of people with non-Czech ethnicity from 1971 until 2011, suggesting a growing importance of ethnic structure in the differentiation of Prague’s urban space. Differences in levels of dissimilarity between selected immigrant groups (Ukrainians, Russians, Vietnamese, and Americans) and tendencies towards spatial dispersal in most groups between 2001 and 2011, were observed by Přidalová and Ouředníček (2017). Similarly, Přidalová and Klsák (2017) detected a stability of spatial patterns of the four above-mentioned immigrant groups in Prague from 2008 until 2015, despite the fact that foreign citizens were among the population groups most affected by the 2008 economic crisis. Although these studies bring primary valuable insights into residential segregation of foreigners, they are based on data for administrative units, making their results dependent on the chosen spatial scale and susceptible to ecological fallacy. As indicated in Robinson’s research on segregation already in 1950, ecological correlations cannot validly be used as substitutes for individual ones. Possible invalid transfer of aggregate results to individuals or vice versa points to the critical role of multilevel analysis in achieving more robust and comprehensive results (Subramanian et al., 2009).

The chapter is organised according to its two main aims. Firstly, it strives to introduce the innovative method of individualised neighbourhoods in the Czech context, which allows for the overcoming of some limitations of previous research in residential segregation. Secondly, it seeks to present the basic trends in residential segregation of foreign citizens (1) in the city of Prague and (2) in Central Bohemia on multiple spatial scales, independent of arbitrary administrative boundaries. The results are presented for (i) total foreign population registered to reside in Czechia in 2012 and 2018; (ii) subgroups of Slavic and non-Slavic migrants, which represent culturally closer and culturally more distant foreign citizens; and (iii) subgroups of EU and non-EU migrants, which represent a critical legal difference between migrants. The concluding part evaluates the merits of the novel methodology and discusses implications of current findings.

5.2 MEASURING SEGREGATION

Understanding residential segregation across the globe is subject to three main sets of challenges: those of available data, methods of measurement, and conceptual framing. In the last few years advancements have been made in the three areas of challenges. Firstly, segregation research traditionally relied on primary census data, that typically comes aggregated to administrative units. However, new data sources have recently become available for segregation research, such as geocoded register-based data (Andersson et al., 2018; Šimon, Křížková, Klsák, 2020). These allow for the tailoring of spatial units to the needs of the given research question, in order to evaluate the development of spatial inequalities in-between censuses, and may be linked to other administrative data sources. In this paper, of special interest is the possibility to create user-defined spatial units, which has been increasingly used in research. So-called individualised (or bespoke) neighbourhoods allow for the centering of the research attention on individuals, by looking at the characteristics of the population living in their proximity, instead of making assumptions of individuals’ living situation based on the administrative unit they live in. Frontier studies in residential segregation (Andersson, Lyngstad, Sletutjes, 2018) alongside many other research fields, focused on the impact of contextual effects on human behaviour shifted towards a dynamic understanding of spatial exposure (Kwan, 2012; Greenberg Raanan, Shoval, 2014; Farber et al., 2015; Järv et al., 2015; Wissink, Schwanen, van Kempen, 2016; Yip, Forrest, Yian, 2016; Helbich, 2018; Kwan, 2018).

In residential segregation research, individualised neighbourhoods are typically defined by a certain distance threshold, e.g. all people living within a given distance from each

individual (Reardon et al., 2008; Petrović, van Ham, Manley, 2018) or by a certain number of nearest neighbours, e.g. the given number of people nearest to the individual, regardless of the numerical distance from them (Andersson et al., 2018; Sleutjes, Valk, Ooijevaar, 2018). Individualised neighbourhoods therefore can be applied at different scales, allowing us to assess segregation on multiple spatial levels. Individualised neighbourhoods better represent location of individuals' daily life activities, rather than their official residential neighbourhood, and provide information about wider socio-spatial configurations "nested" around (Sampson, 2013). However, even with the application of individualised neighbourhoods for segregation measurement, issues of group classification and taxonomy still matter when producing research outcome (Wright et al., 2020).

Secondly, improved segregation measurement would not be possible without the recent computational advancements (Fossett, 2017), that make it possible to analyse larger samples, e.g. in replicating the computations for various spatial scales (Piekut, Pryce, van Gent, 2019). Juxtaposing the results obtained through analyses of spatial units of varying definition, enable us to avoid the trap of the Modifiable Area Unit Problem (MAUP). More precisely, we deal with MAUP of spatial units within a region we analyse, but not of a region we analyse. This second MAUP is only partially tackled through the inclusion of two analysed regions: 1) the city of Prague and 2) Central Bohemia.

Thirdly, the advancements in data and methods allow to re-conceptualise segregation. Once understood through the lens of residence and the labour market, it is now being increasingly acknowledged that segregation of social groups occurs in time and in people's free-time activities (Wong, Shaw, 2011; Silm, Ahas, 2014). This creates new avenues for research, such as the use of big data and spatial tracking studies (Goldman, Cornwell, 2021). However, segregation measurement still has to be seen within a broader social and historical context, reflecting the politics of minority – majority relations and power dynamics (Rothstein, 2017; Kaufmann, 2018).

As the data available on Czechia reports on people's residences, we focus primarily on the first two challenges in segregation research and the opportunities for their overcoming, as discussed above: that of using individualised neighbourhoods on several geographical scales. Research on residential segregation and its impacts is conditioned by the availability of data and the methodological questions regarding the measurement of segregation. The contemporary history of international migration to Czechia dates back to the 1990s. However, the intensity of foreigner's immigration increased in speed after the 2004 EU accession and therefore, in recent years, the research on residential segregation of immigrants is gaining more importance. Previously, the available data allowed researchers to use predominantly census data, published once per decade and available for administrative units. This prevented the analyses of developmental trends and resulted in research focusing on the smallest administrative units (basic settlement units), containing data for foreign population that was large enough only for the purposes of analysis of Prague. Studies by Ouředníček and Novák (2007) and by Sýkora (2009) are exceptions which ventured beyond the capital city and employed indicators such as the location quotient and index of segregation. Only recently has research begun to use more detailed data sources and elaborate methods of measurement, see e.g. Šimon, Křížková and Klsák (2020) and Šimon et al. (2020) and Přidalová and Klsák (2017) for studies analysing register-based data aggregated to a population grid.

5.3 METHODS AND DATA

Individualised scalable neighbourhood method

A key added value of the individualised scalable neighbourhood method is that it measures indicators of segregation independently of the existing administrative division. Residential segregation is not measured with data for city

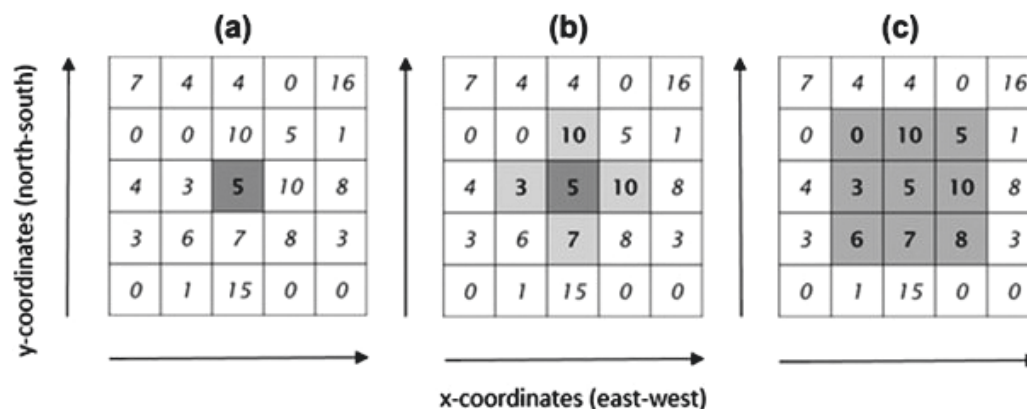


Figure 5.1: Individualised neighbourhoods using population grid. **Source:** Sleutjes, de Valk, Ooijevaar (2018). **Note:** Constructing an individualised neighbourhood of 50 nearest neighbours ($k = 50$), using the EquiPop software.

districts or municipalities, but for individuals geocoded in a population grid, taking into account their mutual spatial proximity. The method of individualised scalable neighbourhoods uses user-defined threshold values to delimit neighbourhoods of different sizes. For these individual neighbourhoods, it calculates the proportions of minority and majority population, serving as the basis of segregation indices. Aggregation and clustering of these input values allows for the measurement of segregation across neighbourhood scales and population groups. Figure 5.1 illustrates how individual neighbourhoods are constructed for computation. For each raster cell, the algorithm adds the surrounding raster cells until a specified critical value is reached – the threshold value of *k*-nearest neighbours.

For instance, if we are interested in the segregation of foreigners at the micro-level, we will set a critical value to the 50 nearest neighbours. The algorithm starts at the first cell of the grid and will add the surrounding cells to it until 50 inhabitants are reached in the current territorial selection. Then the algorithm performs the same calculation sequentially for all the cells of the population raster. As a result, we get two numbers representing the count of minority and majority populations for each individualised neighbourhood. Foreigners living in the same cell of the population grid will therefore have the same resulting values because they share a residential location. As a result, we can determine which of the calculated neighbourhoods has the highest concentration rate of foreigners and what the average concentration rate of foreigners is in the neighbourhoods at *k* = 50 level. The calculation can be performed for any neighbourhood size in EquiPop software (Östh, 2014). It is possible to perform the calculation for any group which is sufficiently numerous for the subsequent meaningful interpretation of the data.

Data

This chapter is based on data from the Directorate of the Alien Police, which manages data on the complete population of foreigners in the Czech Republic. The study is focused on Prague and the Central Bohemian Region – representing the most important region in the geography of the foreign population in the Czech Republic (Klsák, Křížková, 2022, this book). The data on the citizenship of foreigners in the years 2012 and 2018¹⁹ are analysed to monitor population changes. For the purposes of our case study, we divided the population of foreigners into four groups. In particular, groups of foreigners from Slavic/non-Slavic and European/non-European countries are distinguished. The data contains information on foreigners with permanent

or temporary residence, but does not include tourists or undocumented foreigners. We opted for sizes 100–800 to capture segregation at the micro level (housing segregation), 1 600–6 400 at the meso level and 12 800–51 200 at the macro level (labour market segregation). The analysis is computed in parallel for (i) the city of Prague and for (ii) Prague and the Central Bohemian Region.

Foreigners, according to their official citizenships, comprise of many small groups, which are not suitable for the selected computational method of measuring segregation per se (except for a few of the most numerous groups of Ukrainians, Slovaks, Russians and Vietnamese – see Klsák, Křížková, 2022 in this book). Therefore we decided to separate individual citizenships into groups (Table 5.1). According to spatial assimilation theory, we utilised cultural distance and legal status as two key factors in clustering foreigner groups. Firstly, we differentiate between Slavic and non-Slavic citizens based on cultural distance. Slavic citizens are operationalised as citizens of countries where a Slavic language is either spoken, widely used or considered official language. Foreigners with a similar language are likely to be less different to the Czech majority, their assimilation into the population of destination country is supposedly easier than for non-Slavic citizens. Therefore, the spatial distance between Slavic citizens and the majority is expected to be smaller than the distance between the majority and non-Slavic citizens. Secondly, we differentiate between EU and non-EU citizens based on legal status. The EU group encompasses citizens of EU-28 countries (the UK was a member of the EU during the analysed period) and EFTA. Non-EU group is a residual category. In general, non-EU citizens hold a less advantageous position legally than those migrating from EU countries (Kušniráková, 2014). Although there are other factors in play, notably the individual and country-specific differences between groups (Přidalová, Hasman, 2018), legal status is closely linked to the socio-economic distance. Therefore, the non-EU group is less likely to resemble the Czech majority in terms of spatial distribution than the EU group. The Czech legislation influences rights and duties of foreign citizens and it can in turn affect the ability of those citizens to reside in specific parts of the region.

The data in this study has its limitations. Our approximation of socio-economic position based on legal status is far from ideal as despite having the same legal status, different groups were shown to have a different socio-economic distance from the majority population, probably as a result of individual-level factors, which could not be controlled in this study. As well as that, we noted that the groups consist of a heterogeneous mixture of countries. Thus, we acknowledge that a binary categorisation of groups is rather crude

¹⁹ 1. 1. 2012 and 1. 1. 2018.

Table 5.1: Delimitation of citizenships into groups.

Countries with a Slavic language widely spoken			
Member states of European Union	Yes		No
	Yes	Slovakia, Bulgaria, Poland, Croatia	Romania, Germany, Great Britain, Italy, Hungary, France, Netherlands, Spain
	No	Ukraine, Russia, Belarus, Moldova, Serbia, Bosnia and Herzegovina, Macedonia	Vietnam, China, USA, Kazakhstan, India, Mongolia, Uzbekistan, Turkey, South Korea, Armenia, Japan

Note: Only countries with over 1 000 citizens in Prague and the Central Bohemian Region as of 2018 are listed, ordered by number of members.

and somewhat arbitrary and does not consider the internal heterogeneity of foreigners' populations. However, this binary categorisation enables us to apply a novel method of segregation measurement and test our hypotheses in a robust way.

Computation of segregation measurement is based on a population grid of 100 m × 100 m, covering the whole territory of Prague and the Central Bohemian Region. This grid is used for aggregation of raw data in geographical information systems and subsequently for calculations of residential segregation indicators using EquiPop software. The analysis of segregation in individualised scalable neighbourhoods does not take administrative borders into account. Therefore, the grid cells near administrative borders of Prague also include in their nearest neighbourhoods units located in the neighbouring administrative unit – the Central Bohemian Region. Table 5.2 overviews the input data for geo-computation.

Table 5.2: Number of foreign citizens by country groups in Prague and the Central Bohemian Region and the city of Prague in 2012 and 2018.

	Prague and Central Bohemian Region		Prague	
	2012	2018	2012	2018
All foreign citizens (in thousands)	203	271	149	197
EU countries	67	100	44	67
Non-EU countries	135	170	104	129
Slavic countries	140	176	99	121
Non-Slavic countries	49	94	49	75

Data source: MICR (2020), own elaboration.

Index of dissimilarity for individualised neighbourhoods

The dissimilarity index (D) is employed to capture the changing distribution of foreigners in individualised multi-scalar neighbourhoods. The dissimilarity index measures the similarity of the spatial distribution of two populations in space on the basis of their mutual share in individual territorial units. The index is calculated according to the formula below.

$$D = 0,5 * \sum \left| \frac{N_{ia}}{N_a} - \frac{N_{ib}}{N_b} \right|$$

In the formula, N_a denotes the number of inhabitants of the majority in the whole grid and N_{ia} the number of inhabitants of the majority in the individualised neighbourhood. Furthermore, N_b represents the number of inhabitants of the minority in the whole grid and N_{ib} the number of inhabitants of the selected minority in the individualised neighbourhood.

Compared to the standard calculation of the dissimilarity index, this formula uses individualised neighbourhoods instead of administrative units as it takes into account the spatial proximity of the population. It is therefore a more appropriate indicator for capturing residential segregation, compared to other traditional indicators. The factual interpretation of the dissimilarity index is the same as in the standard calculation. The value 0 expresses an even distribution of both populations in all territorial units and the value 100 expresses an extremely uneven distribution. The value of the dissimilarity index indicates the proportion of the minority population which would have to move in order for an even distribution across spatial units to be achieved. As the indicator is sensitive to population size, its trend (decrease or increase of dissimilarity) should be evaluated, rather than the actual numerical values (Šimon, Křížková, Klsák, 2020).

5.4 RESIDENTIAL SEGREGATION OF FOREIGN CITIZENS IN PRAGUE AND THE CENTRAL BOHEMIAN REGION

This section presents an analysis of foreign groups' distribution in Prague and the Central Bohemian Region between 2012 and 2018. Firstly, general segregation trends of foreign citizens are introduced. Secondly, we focus on Slavic/non-Slavic and EU/non-EU groups of foreigners. These two distinctions represent major cultural, legal, and socio-economic differences when contrasted with the majority population. Therefore, the two binary groups are likely to show dissimilar patterns in spatial distribution.

General segregation trends between 2012 and 2018

The dissimilarity in foreign citizens' spatial distribution range from 37 ($k = 100$) to 10 ($k = 51\,200$) for the city of Prague. The values of dissimilarity index are higher for the whole metropolitan region (Central Bohemia), where it ranges from 50 ($k = 100$) to 27 ($k = 51\,200$). Only 10–37 percent of the minority population would have to move in order to achieve an equal spatial distribution in the capital city compared to 27–50 percent in Central Bohemia (Figure 5.2). Residential segregation of foreigners is thus very low. Moreover, the dissimilarity is greater at the micro scale and smaller at the macro scale. The results suggest that there are virtually no large areas in Central Bohemia, where there would be an absence of the foreign population, whereas on the level of small-scale neighbourhood ($k =$ nearest 100 neighbours), more areas remain predominantly Czech.

The overall trend is a decrease in dissimilarity in the spatial distribution of foreign citizens, both in Prague and its metropolitan region, between 2012 and 2018 (Figure 5.2). This suggests that the spatial distributions of foreign citizens and Czech citizens converge towards each other in time. However, contrasting trends for different scales of dissimilarity index do emerge. While for small-scale neighbourhoods, the dissimilarity index decreases, at the macro-scale stagnation or a moderate increase of the dissimilarity index can be observed. At the micro-level, the spatial distribution of foreign citizens is becoming increasingly similar to that of the majority population, while at the macro-level the two groups tend to gravitate towards different regions. We can

thus observe a concentration supposedly in some macro-regions which provide job opportunities for foreigners (Figure 5.3), and a dispersal in micro-level spatial distribution.

The concentration trend at the macro-level can be explained by the growing attractiveness of the Central Bohemia for foreigners in the past few years. The number of foreigners is increasing in most areas of Prague and some parts of Prague's metropolitan hinterland. The deconcentration trend at micro level invites several possible and complementary explanations. Firstly, as expected by the assimilation theory, this may be due to foreigners' gradual assimilation into Czech society, providing immigrants with more resources to find residence of their choice. The second and third possible explanations relate to the recent situation of the housing market. Prague has been experiencing a housing shortage since 2016, due to limited housing construction and increases in housing prices. This resulted in an increased suburbanisation from Prague to Prague's metropolitan hinterland (Hudeček et al., 2019). The second explanation we propose is that due to the limited offer of available housing, foreigners may also either have to search for available housing in areas which would otherwise not be suitable for them or opt for sub-standard housing arrangements. For instance, foreigners might share an apartment with others to decrease housing cost per unit. So far, we have sparse evidence to support this residential strategy and we are not aware of any scientific literature that would confirm this hypothesis. Our third proposition is that the micro-level dispersal of foreigners is driven by wealthier parts of the foreign population that can overpay the majority population on the housing market, e.g. by buying

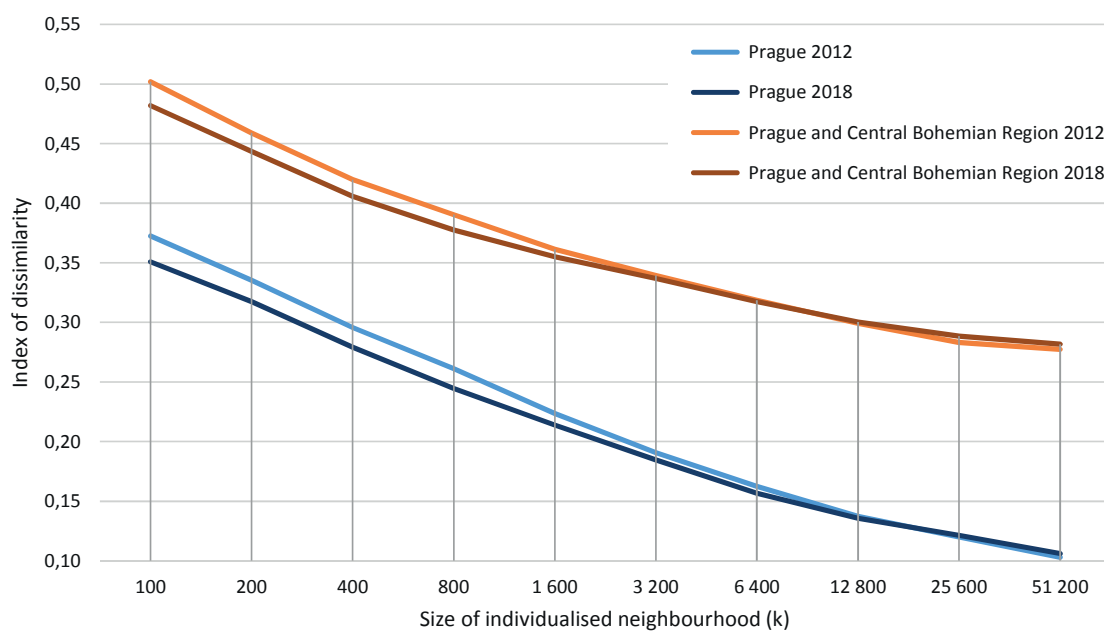


Figure 5.2: Change in dissimilarity index for individualised scalable neighbourhoods of foreigners in the Central Bohemian Region and Prague in 2012 and 2018.

Data source: MICR (2019), own elaboration.

or renting newly built properties, many of which are unaffordable for the majority population (Figure 5.3; Křížková, Ouředníček, 2020).

The multi-scalar nature of segregation is highlighted by our methodological approach presenting the observed extent of foreigners' dissimilarity at multiple scales of individualised neighbourhoods. For instance, slightly different patterns of concentration and deconcentration can be mea-

sured by using different k-levels. We document this by comparing the maps of changes in foreign citizens' count on the level of 200 nearest neighbours (Figures 5.3 and 5.4) and 3 200 nearest neighbours in Central Bohemia (Figures 5.5 and 5.6). The larger the scale (k-value), the higher number of areas that have experienced an increase in foreign residents. Our further analyses show that such increase is due to relatively small numbers, only exceptionally reaching above

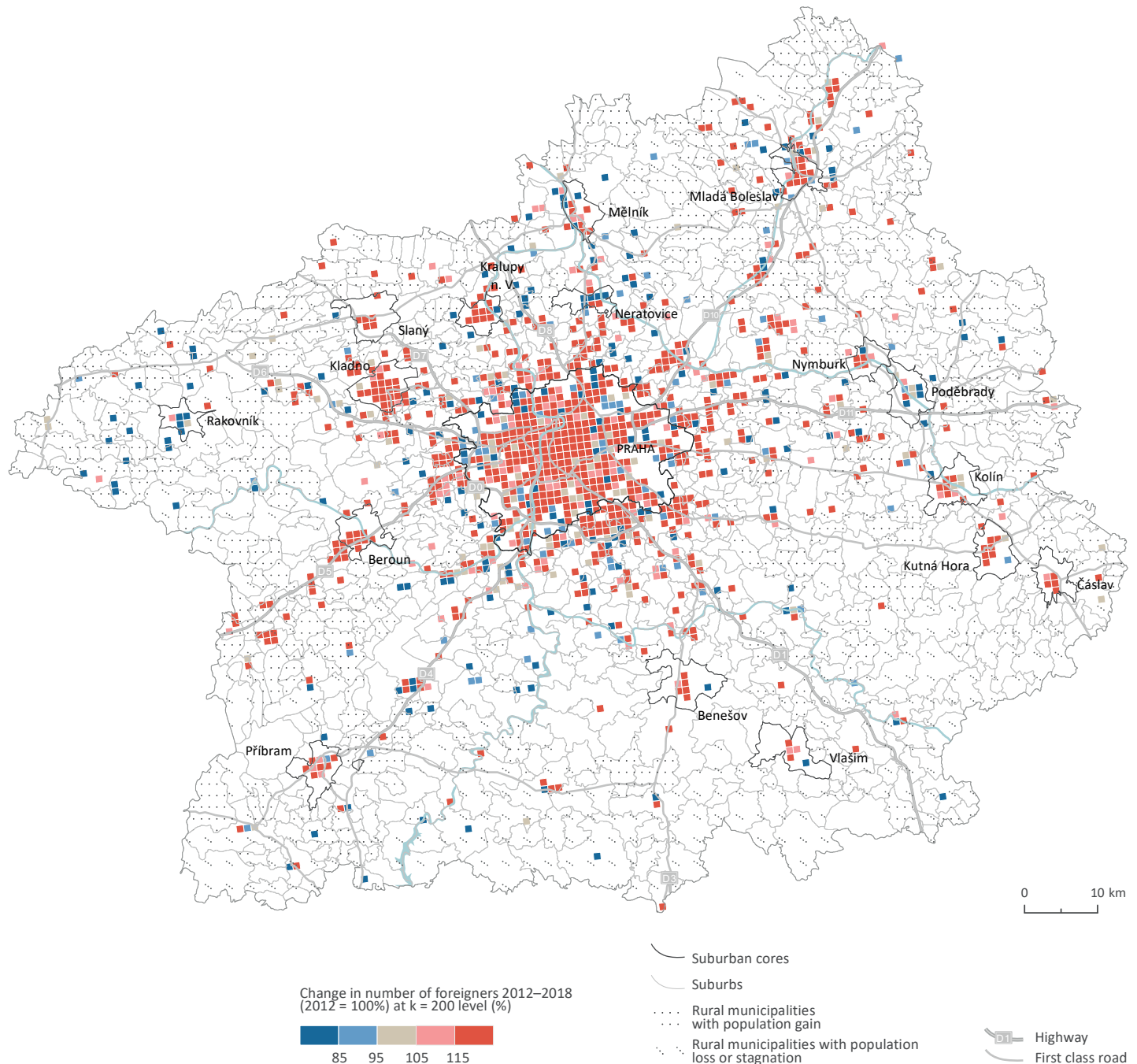


Figure 5.3: Change in number of foreigners in individualised scalable neighbourhoods at k = 200 level in Central Bohemia 2012–2018.

Data source: MICR (2019), own elaboration.

Note: Values above 105 percent (red) indicate an increase in the number of foreign citizens in the given grid cell between 2012 and 2018, values below 95 percent (blue) indicate their decrease. Grid cells with at least 10 foreigners are visualised. Grid size is 1 000 m.

20 people in one grid cell. However, all the individualised neighbourhoods are computed for k-nearest neighbours, but the resulting value is visualised only in one grid cell each time. Therefore, an increase in number of foreigners in grid cell is reflected in all other neighbouring cells, whose k-nearest neighbourhood reach this cell. Moreover, relevant changes in spatial patterns of change in foreign citizens' numbers are visible when different grid sizes are visualised (compare e.g. Figure 5.2 using 1 000 m grid to visualize

Central Bohemia and Figure 5.3 using 100 m grid to visualise city of Prague). Although the grid square size used for comparison in our study is constant (100 m × 100 m), we highlight this to steer our readers' attention to the fact that the size of spatial units matters for visualisation of outcomes. However, our additional analyses (not presented here) indicate that trends in segregation in the Central Bohemia, achieved through the analysis of larger grid squares, are like those commented on in this chapter.

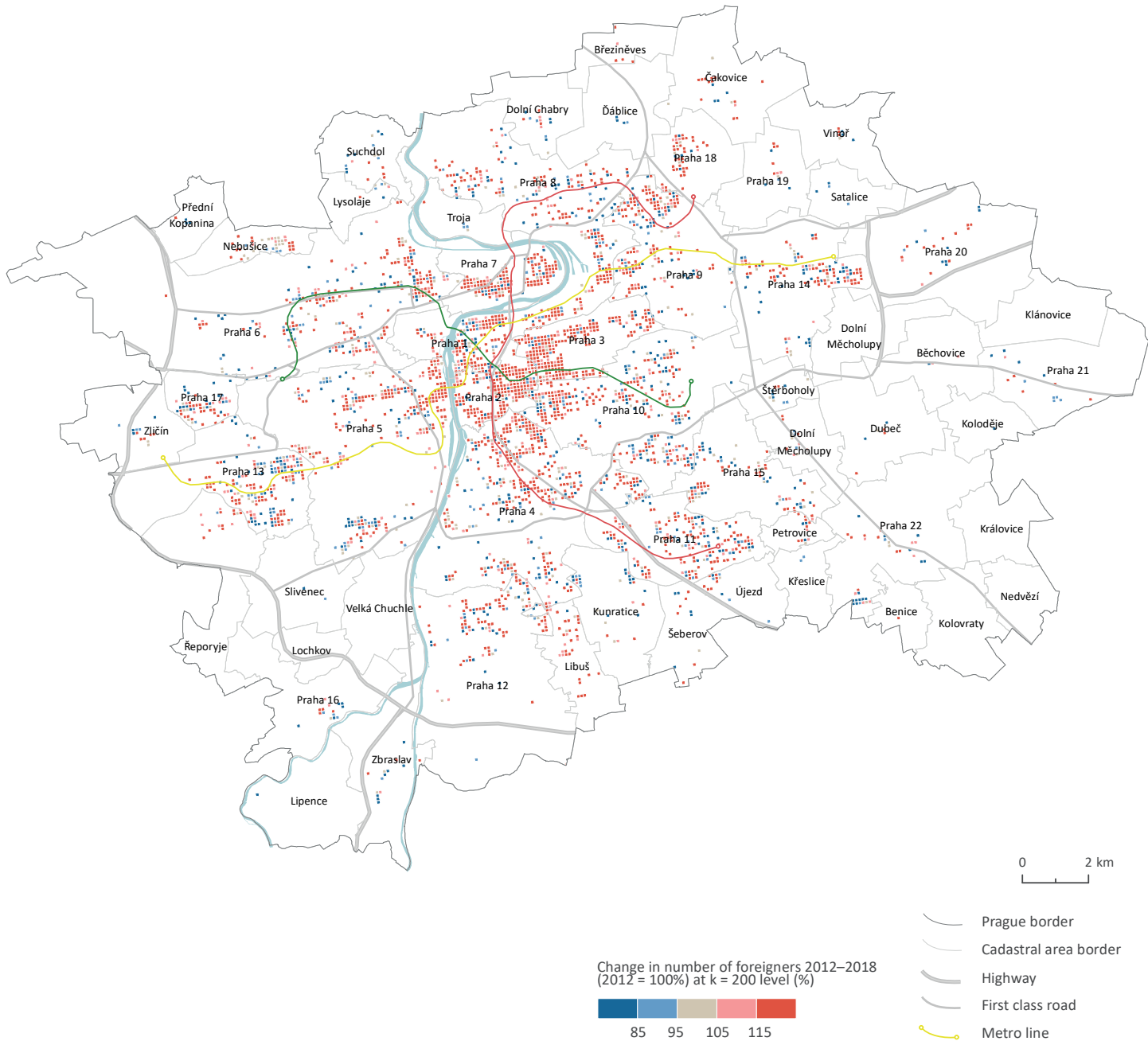


Figure 5.4: Change in number of foreigners in individualised scalable neighbourhoods at k = 200 level in Prague in 2012–2018.

Data source: MICR (2020), own elaboration.

Note: Values above 105 percent (red) indicate an increase in the number of foreign citizens in the given grid cell between 2012 and 2018, values below 95 percent (blue) indicate their decrease. Grid cells with at least 10 foreigners are visualised. Grid size is 100 m.

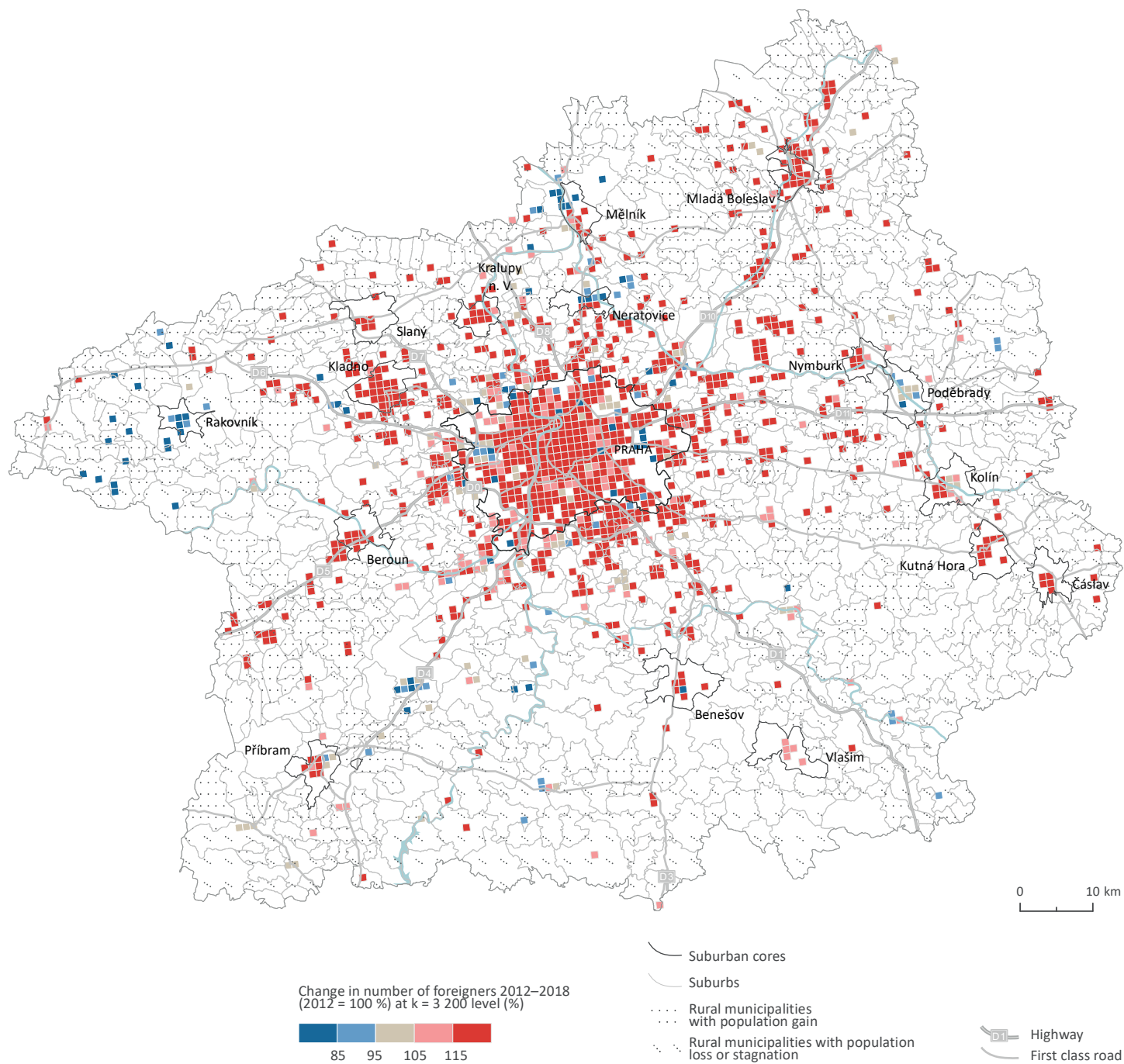


Figure 5.5: Change in number of foreigners in individualised scalable neighbourhoods at k = 3 200 level in Central Bohemia in 2012–2018.

Data source: MICR (2019), own elaboration.

Note: Values above 105 percent (red) indicate an increase in the number of foreign citizens in the given grid cell between 2012 and 2018, values below 95 percent (blue) indicate their decrease. Grid cells with at least 10 foreigners are visualised. Grid size is 1 000 m.

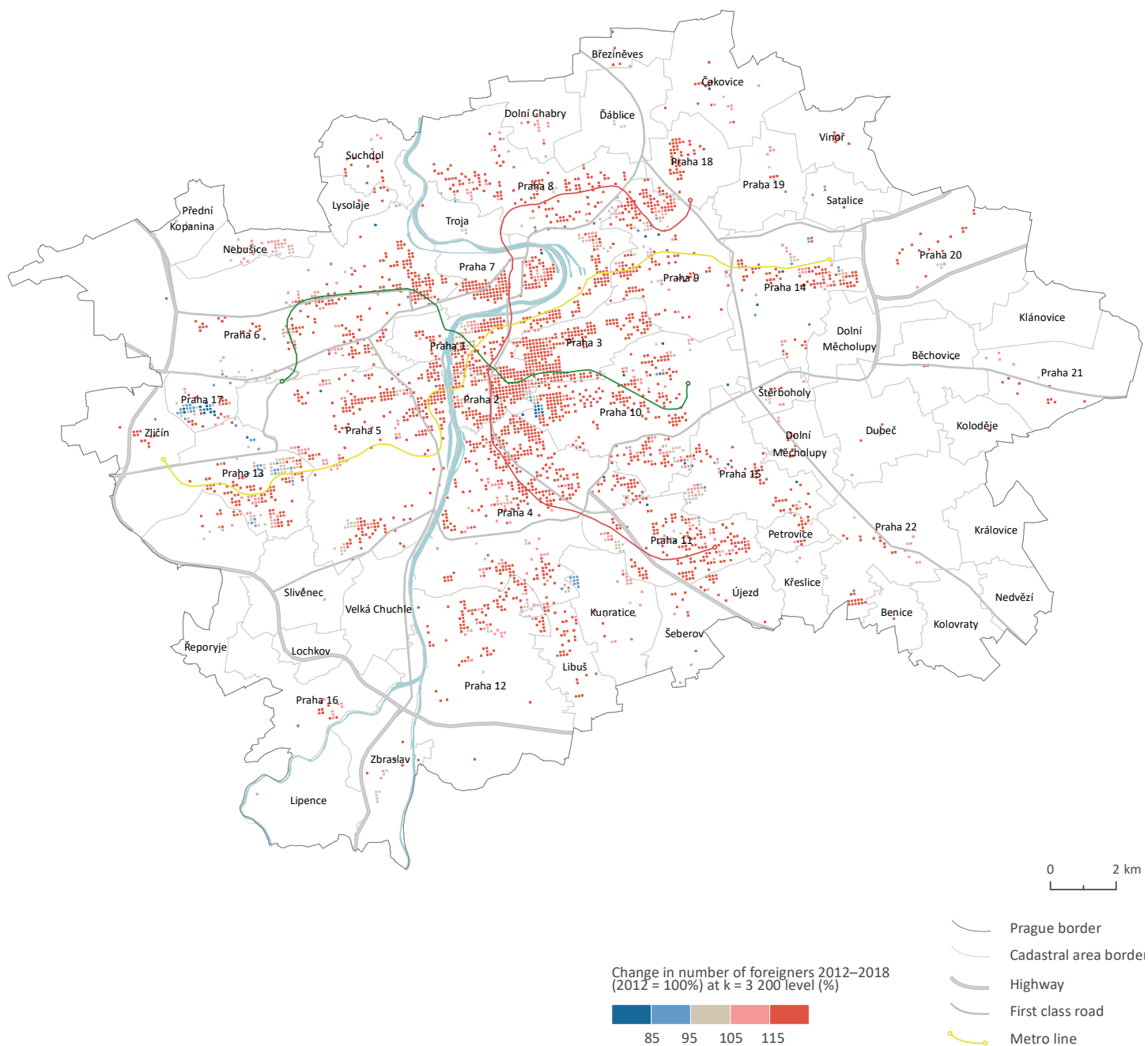


Figure 5.6: Change in number of foreigners in individualised scalable neighbourhoods at k = 3 200 level in Prague in 2012–2018.

Data source: MICR (2019), own elaboration.

Note: Values above 105 percent (red) indicate an increase in the number of foreign citizens in the given grid cell between 2012 and 2018, values below 95 percent (blue) indicate their decrease. Grid cells with at least 10 foreigners are visualised. Grid size is 100 m.

Segregation of European and non-European immigrants

European and non-European citizens²⁰ are subject to different rights in and obligations towards the Czech society, with the non-European citizens being in a more disadvantageous position. Non-EU migrants have different socio-economic distance to the Czech society, which may translate into residential segregation. In line with our hypothesis, EU citizens are more equally distributed in space in both Prague and in the Central Bohemia, in comparison to non-EU citizens (Figures 5.7 and 5.8, respectively). While the difference in dissimilarity index among groups is kept stable across k-levels in the metropolitan region (Figure 5.8), it decreases with larger k-values in Prague (Figure 5.7). This marginal difference for large spatial levels in Prague results from the fact that among the 50 thousand nearest neighbours of all Prague residents, there is a similar mix of EU and non-EU population. This underlines earlier observations of non-existence of larger spatially-bounded communities where only one specific group of foreign citizens would predominate (Přidalová, Ouředníček, 2017). Although micro-concentrations of foreigners exist in certain parts of the city (expensive areas in the city centre, gated communities and newly built residential properties; Temelová et al., 2011), they are not clearly pronounced when individualised neighbourhoods are taken into account.

Dissimilarity index for non-EU foreigners is around 0.2 lower in Prague than in Central Bohemia. This confirms larger inequalities in this group's representation in the metropolitan region. While parts of Central Bohemia have only a few non-EU residents, their population is more concentrated in other areas of the region. Non-EU citizens tend to reside predominantly in larger towns and areas with a good accessibility to Prague, while their population is sparse in rural areas. The proximity to job opportunities thus emerges as the key localisation factor in non-EU foreigners' settlement in Prague and the Central Bohemian Region. Work opportunities for non-EU population (where Ukrainians predominate, making up over 40 percent of non-EU foreigners in Central Bohemia in 2018) are more concentrated in Central Bohemia, than those for Europeans (where Slovaks predominate, representing 51 percent of EU foreigners in Central Bohemia in 2018), whereas they are equally accessible for both groups in Prague.

For the EU and non-EU groups in both Prague and metropolitan region between 2012 and 2018 (Figures 5.7 and 5.8), the values of the dissimilarity index observed a general decrease. The most pronounced decline in the dissimilarity index was found for smallest neighbourhood levels across all groups. Some exceptions to the overall decrease were the largest scales (k-values), where moderate increases of dissimilarity index could be observed for non-EU citizens in both Prague and Central Bohemia. As our data indicates

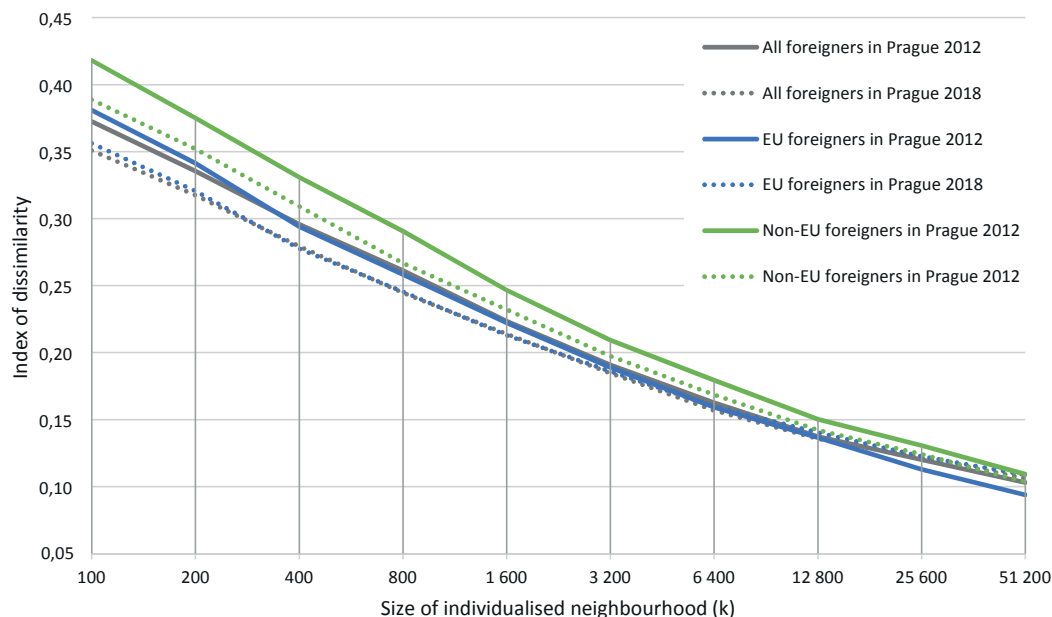


Figure 5.7: Change in dissimilarity index for individualised scalable neighbourhoods for European and non-European foreigners in the city of Prague between 2012 and 2018.

Data source: MICR (2019), own elaboration.

²⁰ European citizens, further referred to as EU-citizens, were operationalised as citizens of EU-28 and EFTA countries. The group consists of citizens of the following countries (in thousands): Slovakia (114), Poland (21), Germany (21), Bulgaria (15), Romania (14), United Kingdom (7), Hungary (6), Italy (5), France (4), Austria (4), the Netherlands (3), Croatia (3), Greece (2), Spain (2), and Sweden (1). Non-European citizens were operationalised as citizens of all countries outside EU-28 and EFTA. The group consists of the following countries' citizens: Ukraine (126), Vietnam (60), Russia (37), Mongolia (9), China (7), USA (7), Belarus (6), Kazakhstan (6), Moldova (6), India (4), Serbia (4), Turkey (2), Uzbekistan (2), Korea (2), Bosnia and Herzegovina (2), Macedonia (2), Armenia (2), Japan (2), Philippines (1), Syria (1), Thailand (1), Azerbaijan (1), Nepal (1), Israel (1), Egypt (1), and Tunisia (1). Only countries with over 1 000 citizens in Prague and the Central Bohemian Region as of 2018 are listed.

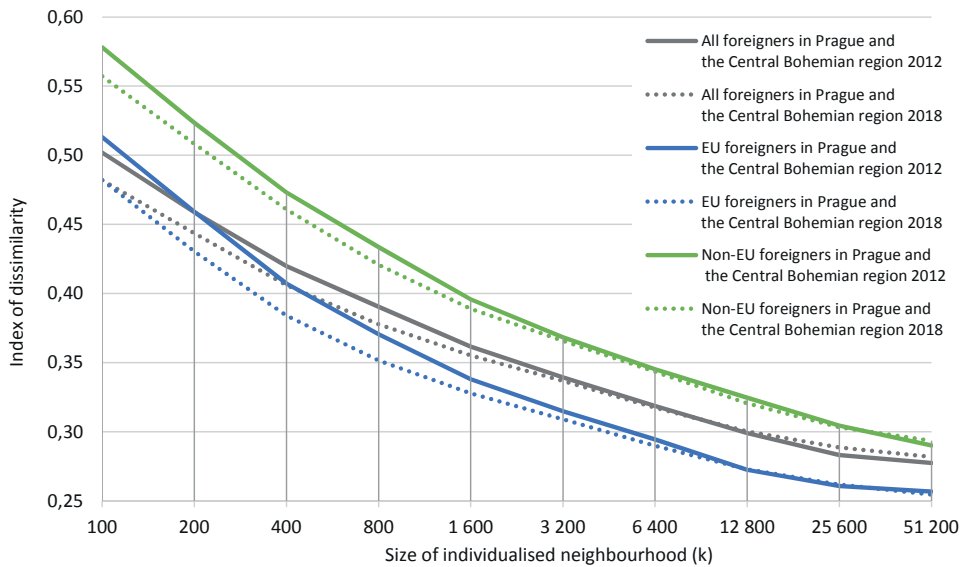


Figure 5.8: Change in dissimilarity index for individualised scalable neighbourhoods for European and Non-European foreigners in Central Bohemia between 2012 and 2018. **Data source:** MICR (2019), own elaboration.

an almost uniform increase in the numbers of foreign citizens across the studied area, the slight increase in non-EU citizens' spatial unevenness is likely to stem from residential behaviour of the majority population, which tends to suburbanise and thus vacate housing stock for incoming foreigners, as documented by Křížková, Klsák and Šimon (2022).

Segregation of Slavic and non-Slavic foreigners

Distinguishing between Slavic and non-Slavic foreigners²¹ allows us to examine the relationship between the ability to speak a language similar to that of the majority population and the subsequent outcomes in residential segregation. Language advantage presumably increases foreigners' chances to assimilate into the majority, thus leading to a lower residential segregation. In line with our expectations, Slavic citizens are indeed more equally distributed in space than non-Slavic citizens in both Prague and the metropolitan region (Figures 5.9 and 5.10). This confirms our hypothesis that Slavic citizens are more prone to spatial dispersal than linguistically more distant foreigners.

Citizens of Slavic countries are more equally distributed than all foreigners in Central Bohemia (Figure 5.9). The comparison of 2012 and 2018 data indicates that spatial distribution of Slavic group is becoming increasingly similar to that of the majority population. This is due to an over-

all dispersal of Slavic foreign population across the whole region in time. This micro-scale dispersal is evidenced by the decreasing dissimilarity values for the two groups and accompanied by a stagnation of dissimilarity index on larger scales in time. Dissimilarity index for non-Slavic group decreased throughout the period of 2012–2018 for all scales except the largest one. These developments were similar both in Prague and in the Central Bohemia.

Contrasting cultural and legal perspective in segregation outcomes

We have provided evidence that suggests that segregation of foreign citizens in the city of Prague and in Central Bohemia depends on scale, i.e. the number of nearest neighbours. A comparison of binary delimited groups of foreigners provides an insight on how differences in linguistic ability and in rights derived from foreign state citizenship affect residential segregation. These distinctions use country citizenship, due to the fact that other relevant indicators, such as the country of birth, are not available. If we compare all four groups, non-Slavic citizens are more segregated than non-EU citizens in both regions. Slavic citizens, however, are more segregated on smaller scales, while slightly less segregated on larger scales, compared to the EU citizens in Central Bohemia. The likely higher cultural distance between the majority and non-Slavic citizens as

²¹ Slavic citizens were operationalised as citizens of countries where a Slavic language is spoken, widely used or considered official language. The group consists of citizens of the following countries (in thousands): Ukraine (126), Slovakia (114), Russia (37), Poland (21), Bulgaria (15), Belarus (6), Moldova (6), Serbia (4), Croatia (3), Bosnia and Herzegovina (2), and Macedonia (2). Non-Slavic citizens were operationalised as citizens of all countries where a Slavic language is not spoken, widely used or considered official language. The group consists of the following countries' citizens: Vietnam (60), Germany (21), Romania (14), Mongolia (9), China (7), USA (7), United Kingdom (7), Hungary (6), Kazakhstan (6), Italy (5), France (4), India (4), Austria (4), the Netherlands (3), Turkey (2), Uzbekistan (2), Korea (2), Armenia (2), Japan (2), Greece (2), Spain (2), Philippines (1), Syria (1), Thailand (1), Azerbaijan (1), Nepal (1), Israel (1), Egypt (1), Tunisia (1), and Sweden (1). Only countries with over 1 000 citizens in Prague and the Central Bohemian Region as of 2018 are listed.

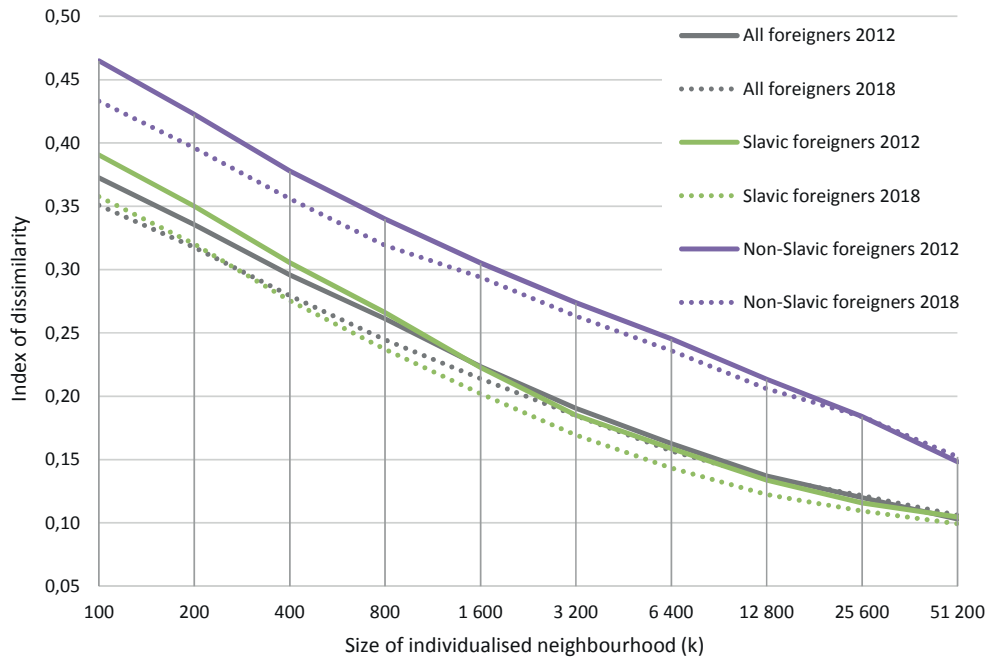


Figure 5.9: Change in dissimilarity index for individualised scalable neighbourhoods for Slavic and non-Slavic foreigners in the city of Prague between 2012 and 2018.

Data source: MICR (2019), own elaboration.

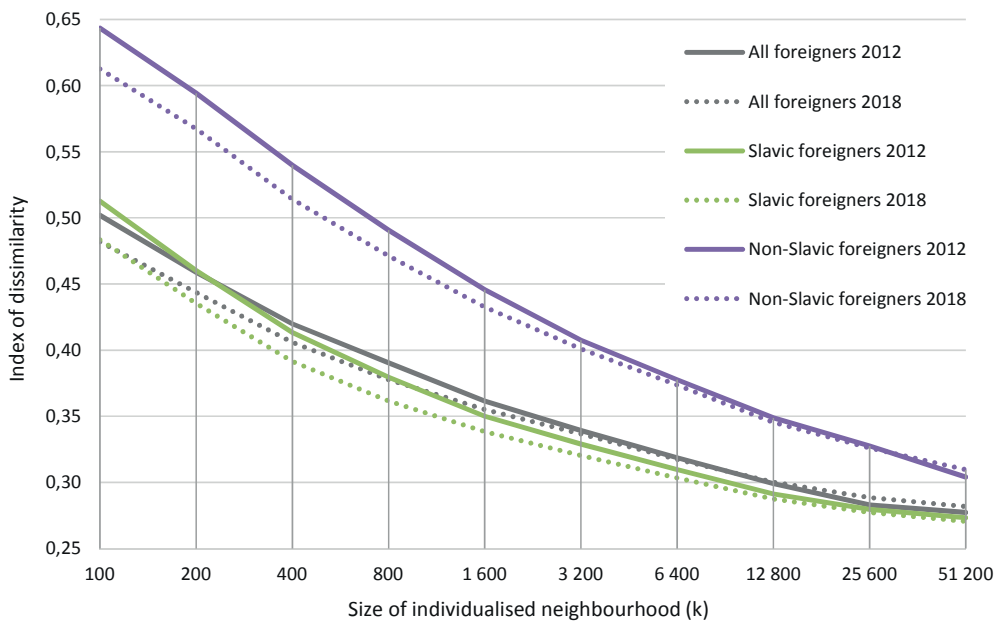


Figure 5.10: Change in dissimilarity index for individualised scalable neighbourhoods for Slavic and non-Slavic foreigners in Central Bohemia between 2012 and 2018.

Data source: MICR (2019), own elaboration.

opposed to between the majority and EU citizens as well as the selective and more spatially concentrated labour market opportunities, are the probable causes of the higher dissimilarity of non-Slavic compared to non-EU group.

The values of dissimilarity index for Slavic and all foreign citizens are very similar both in the city of Prague and in Central Bohemia, while the values for EU citizens were only similar to those of all foreigners in Prague (compare Figures 5.9 and 5.10 to Figures 5.7 and 5.8). This suggests that there are larger regional differences between EU citizens and all citizens than between Slavic citizens and all foreign

citizens in the whole of the metropolitan region. Therefore, EU foreigners are less equally distributed than Slavic ones in Central Bohemia. The groups of foreigners from Slavic and EU countries overlap in the cases of Slovakia, Bulgaria, Poland, and Croatia, making most of the remaining EU population consist of the citizens of EU-15 and EFTA countries. These groups generally possess higher socio-economic status than other migrants in Czechia and can therefore afford to reside in more attractive localities, which leads to the clustering of their population in parts of Prague and some suburbs (see Klsák, Křížková, 2022, this book).

5.5 MERITS OF MEASURING SEGREGATION BY THE METHOD OF INDIVIDUALISED SCALABLE NEIGHBOURHOODS

The results of our study present a rather complex picture of segregation that combines several research objectives, neighbourhoods, and geographical scales. Although this intricacy may present a minor challenge to the readers' and policymakers' understanding of segregation, it has undeniable benefits.

Firstly, the method of individualised scalable neighbourhoods applied to geocoded data allows us to move beyond census-based research. Earlier studies of residential segregation were sparse due to the recentness of international migration and the limited availability and reliability of data on foreign citizens in Czechia. The present research thus allowed us to look beyond the administrative border of Prague which has traditionally been regarded as the only area where a population of foreigners is large enough to be subjected to a quantitative analysis of residential segregation. Nevertheless, our study provided evidence for the overall decreasing trend of residential segregation of foreign citizens in Prague observed by earlier studies, e.g. Přidalová, Ouředníček (2017). The method of individualised neighbourhoods emphasises the spatiality of segregation as opposed to previous research into segregation that employed administratively defined areas as units of analysis. It does so by considering the actual distances between individuals rather than the mere residential belonging within a container of an administrative unit and by assessing segregation simultaneously on multiple scales, each of which can be relevant to a different feature of segregation (Fowler, 2016; Costa, de Valk, 2018).

Secondly, the method of individualised scalable neighbourhoods provides us with an opportunity to compare the extent of residential segregation in Czechia with results using the same methodology achieved in other European countries. While some comparisons could be drawn using census data on administrative units, such as those used by Jaczewska and Grzegorzczak (2016) in the study of Paris and Berlin metropolitan regions, the dependency on census data prevented us from evaluating the more recent changes in the spatial distribution of population. For instance, comparing our results to the recent Swedish study (Malmberg et al., 2018) shows that the index of dissimilarity for non-European migrants at $k = 100$ is slightly larger in Central Bohemia (0.56–0.58) than in Sweden (0.51–0.54). This suggests that there is similar level of residential segregation of non-European population in Central Bohemia when compared to the whole country of Sweden. Although the two studies look at differently defined populations (based on country of birth in the Swedish case and on state citizenship in the Czech case) and research areas (the whole country and the metro-

politan region of the capital city), both observed a gradual decrease of segregation indexes in time. Similar results were reported in the Netherlands (Sleutjes, Ooijevaar, de Valk, 2019). This finding appears contradictory to much of the public concern about increasing residential segregation, which is not always evidence-based (Catney, 2016; Malmberg et al., 2018).

Thirdly, geocoded data, together with the method of individualised scalable neighbourhoods, open new possibilities for research that can bring valuable insights into trends and mechanisms of residential segregation. One example is cohort studies that track segregation of people who were born in the same year or who experienced a key life event such as immigration to a new country in the same period. Such research would step beyond the initial exploratory analyses, highlighting the age aspect of segregation by comparing ethnic groups further divided to subgroups of age (Sabater, Catney, 2019). Further linking to other register data or contextual variables extends the options of this research method and makes it possible to study the relationships between people's residential and workplace segregation (Strömberg et al., 2014), residential and school segregation (Östh, Malmberg, Andersson, 2015), and the spatial and temporal patterns of economic segregation (Östh, Shuttleworth, Niedomysl, 2018) in the Czech context.

Finally, the interconnectedness between different aspects of segregation and the multi-scalarity of the phenomenon can yield rich results that require nuanced interpretation, rather than one straightforward message about decrease or increase of segregation. There is no single map of segregation. Instead, by using our data, we can produce a map of residential segregation for each of the five groups multiplied by ten neighbourhood scales and two sizes of grid units resulting in a hundred different maps. Residential segregation can be both increasing and decreasing at the same time, but at different spatial scales. For example, we have seen that segregation of foreign citizens has generally decreased from 2012 until 2018, but there were differences between population subgroups based on country of citizenship as well as between geographical scales. Though more difficult to grasp, we believe that this complexity is an opportunity for those who want to understand the underlying mechanisms and to formulate policy recommendations aimed at countering the possible negative effects of segregation.

5.6 DISCUSSION AND CONCLUSION

Despite being one of the central issues in urban studies, the understanding of segregation was compromised by a number of factors, particularly the (un)availability of data and unsuitable reporting on the spatial distribution of people and their activities. This chapter introduced the method of

individualised scalable neighbourhoods as a promising avenue for future research in segregation. The method was applied to the newly available geocoded data on foreign citizens residing (1) in the city of Prague and (2) in Central Bohemia to show a truly complex picture of residential segregation in a cross-sectional analysis of multiple scales and groups.

In general, the study provided a clear evidence of decreasing segregation in Prague and Central Bohemia between 2012 and 2018. Two different population classifications were used to explore the effects of cultural and legal differences on residential segregation. Reflecting on our hypotheses, we argue that spatial assimilation does occur in Central Bohemia. Firstly, it was shown that residential segregation decreases in time for most groups and most neighbourhood sizes. Contrary to this, a moderate rise in residential segregation was measured at the macro scale where the increase is likely to stem from the spatial distribution of jobs available to foreigners. Secondly, residential segregation of the culturally close group (citizens of Slavic countries) is indeed generally lower than the culturally more distant group (citizens of non-Slavic countries). Thirdly, the legally and socio-economically closer group to the Czech majority (EU citizens) proved to be more equally distributed as opposed to the more dissimilar group (non-EU citizens). All three hypotheses were thus supported by the data. While the merits and shortcomings of this research have to be acknowledged, we believe that our study brings important insights into residential segregation, that have not yet been presented in Czechia. As the numbers of foreigners increase, it will be crucial for research and policy makers to ensure that evidence is scrutinised and interpreted using appropriate techniques, one of which was presented here.

Acknowledgements

This research was supported by the Czech Science Foundation within the project No. 19-03211S “Residential Segregation and Mobility of Foreign Citizens: Analysis of Neighbourhoods, Housing Trajectories, and Neighbourhood Context”.

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PUBLIKACE 4:

ŠIMON, M., KŘÍŽKOVÁ, I., KLSÁK, A. (2021): New Urban Diversity at and after the Economic Downturn: Recent Trajectories of Ethnic Segregation in Central European Cities. *Central and Eastern European Migration Review*, 10, 2, 23–47.

Autorský podíl 20 %

New Urban Diversity at and after the Economic Downturn: Recent Trajectories of Ethnic Segregation in Central European Cities

Martin Šimon*, Ivana Křížková**, Adam Klsák**

Immigration is one of the most contentious fields of contemporary European urban policy. While the development of urban segregation is well documented in traditional immigration countries with population register data, there is a lack of detailed research on population dynamics in many countries and cities across Europe. This article examines ethnic residential segregation in Czechia in the period after the economic crisis of 2008. Special attention is paid to the trajectories of individual cities and their position in the urban hierarchy. Longitudinal population register data are used and segregation indicators of unevenness and exposure are computed for the largest cities using a detailed spatial grid. The results show a broad picture of decreasing segregation despite the continuously growing number of immigrants in the country. While the economic crisis temporarily halted immigration, the spatial patterns of immigrant dissimilarity did not change and more-established immigration gateway cities experienced an increase in spatial isolation. In the conclusion, the article calls for further discussion on ethnic residential segregation in post-socialist cities.

Keywords: residential segregation, immigration, post-socialist cities, spatial grid, Czechia

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Introduction

Residential segregation by race, ethnicity, class or social group as a potential source of conflict and disadvantage in a society has been among the main interests of urban researchers and policy-makers. As with urban research at large (Robinson 2006), understanding the segregation patterns of ethnic minorities or immigrants has originated in studies of paradigmatic cities located in established destination countries of international migration (see, e.g., Panori, Psycharis and Ballas 2018). According to Nijman (2000: 135), the paradigmatic city is defined as a city that displays more clearly than others the fundamental features and trends of the wider urban system. By contrast, relatively little is known about the nature of ethnic segregation, either across city sizes or in new immigrant destinations, which both often provide new settings in which segregation matters. Smaller cities and new immigrant destinations represent a context for segregation research which is equally as relevant as traditional immigrant destinations. Given the largely labour migration character of many migrant populations, it is relevant here to also discuss the links between economic development and changes in ethnic residential segregation. Labour-intensive manufacturing regions and those struggling with economic restructuring are believed to have higher levels of segregation (Musterd 2005).

Exploring the trends in ethnic residential segregation development across individual cities allows an assessment of the general level and dominant patterns of segregation development. This is a basic yet fundamental task in a new immigration context, where most immigrants are first-generation migrants. The ethnic spatial distribution thus reflects, to some extent, their initial residential choice – as residential mobility in Czechia is generally low and housing opportunities for new migrants are both restricted and spatially limited. More advanced research, focused for example on the role of changing housing needs with respect to the shifting age structure of minority populations, is yet to be developed.

This article explores the trajectories of ethnic segregation in Czech cities in the years following the 2008 economic crisis. This undertaking allows us to inform the segregation literature with findings from a previously unscrutinised context – that of a post-socialist country that has recently become an immigrant destination (King and Okólski 2019) and where the number of foreigners doubled between 2001 and 2011. Specifically, we focus on the following research questions:

- What is the extent of ethnic residential segregation across the differently sized Czech cities?
- How has ethnic residential segregation evolved in the post-crisis period 2008–2011–2015?

These questions are answered using newly available geocoded anonymised data on foreign citizens residing in selected large Czech cities in 2008, 2011 and 2015, extracted from the official country register. To protect their confidentiality, the data were aggregated to a rectangular grid (square size of 250m) covering the territory of the cities. The use of population grid data allows us to directly compare ethnic residential segregation across major Czech cities for the first time. As segregation is a multidimensional phenomenon, we focus here on just two of its dimensions (Reardon and O'Sullivan 2004): evenness – measured by the dissimilarity index – and exposure, measured by the isolation index.

The first part of this article introduces the research into socio-economic and ethnic residential segregation in the Central and Eastern European post-socialist region. The second section contextualises the study on Czechia. The third section presents data sources and the methodology used for our study. The fourth section examines the level of immigrant dissimilarity and isolation in the selected large Czech cities. The fifth part of the article provides a comparison of ethnic residential segregation in Czechia as a post-socialist country and in some more-established immigration countries elsewhere in Europe before, finally, key findings stemming from new immigration into the region are summarised.

Ethnic residential segregation in the Western and post-socialist contexts

Theories of segregation

Residential segregation is a complex, multidimensional phenomenon (Massey and Denton 1988), indicating the preferred or imposed separation of individuals in space and time. In general, it can be understood as the difference in the spatial distribution of the different population groups within a given territory, distinguishing the groups by race, ethnicity, religion, language, wealth, social class or other attributes. The reasoning behind residential segregation measurement is based on an expectation that living in a particular place matters, therefore group differences in places of residence are important mechanisms generating and sustaining inequality (Dorling 2014; Sharkey and Faber 2014). For the purpose of measuring segregation, it can be operationalised along several axes. The recent literature focuses predominantly on the aspects of evenness and of exposure, proposed as key segregation axes by Reardon and O'Sullivan (2004).¹ Evenness is conceptualised as a differential distribution of the subject population, indicating an unequal access to localised resources and infrastructures. Exposure is defined as the composition of people's local environments, measuring the possibility of interaction between groups. The remaining three dimensions of residential segregation focus on concentration, centralisation and clustering.

Ethnic residential segregation is a complex phenomenon, which is illustrated by the number of frameworks explaining the reasons for ethnic segregation to occur and change over time (Krysan and Crowder 2017; Musterd 2020). In general, four main explanations can be identified. First, segregation is thought to be a spatial expression of socio-economic and cultural differences between the minority and the majority population, differences which are expected to decrease over time, as proposed by spatial assimilation theory (Massey 1985). Both the upward socio-economic mobility of a minority and their acculturation through the adoption of the language and customs of the majority population lead to a residential change, where migrants leave their initial poor and migrant-dense neighbourhoods and move to wealthier ones. The assumption of the straight-line assimilation theory was later revised (Portes and Zhou 1993) to include broader and more nuanced insights into various life domains (Waters, Tran, Kasinitz and Mollenkopf 2010; Zhou 1997).

Second, the stratification framework views segregation as the result of housing discrimination, stereotypes and prejudice based on race or ethnicity which, together, create segmented housing markets and neighbourhood strata within urban areas (Chung and Brown 2007). The European segregation literature also stresses the role of public policy and the welfare state in shaping segregation (Arbaci 2007; Asselin, Dureau, Fonseca, Giroud, Hamadi, Kohlbacher, Lindo, Malheiros, Marcadet and Reeger 2006). The eligibility of population groups for housing and social assistance has the potential to prevent the emergence of stratified neighbourhoods. In a similar vein, cross-national research shows that 'grand ideas' (e.g. the models of immigrant integration, the nature of a country's political economy or the tradition of immigration as a constituent part of the nation or not) impact on immigrant integration (Alba and Foner 2014). Since residential segregation represents the spatial aspect of immigrant integration, these factors are equally relevant for ethnic residential segregation (Koopmans 2010).

Third, the approach of resurgent ethnicity (also termed the ethnic community model) explains segregation as originating in individuals' preferences to maintain ethnic community by residing in ethnically homogeneous areas (Alba, Logan, Lutz and Stults 2002; Brown and Chung 2006). This notion challenges perceptions of ethnic neighbourhoods or immigrant enclaves as places of poverty. Instead,

a socially and economically successful ethnic community might provide positive externalities for its residents, such as reported health (Walton 2012).

Finally, a fourth factor – which has seldom been systematically evaluated (some exceptions are Maloutas and Fujita 2012; Skifter Andersen 2019) – is the local context. The term encompasses a number of determinants ranging from local socio-spatial inequalities and history of immigration to urban governance (Skifter Andersen 2019; Hasman and Křížková 2021). One methodologically important factor of the local context for ethnic segregation is the varying population sizes across cities. Smaller population groups naturally have a greater likelihood of being segregated as they can reside in only a few places (Manley, Jones and Johnston 2019).

Context of segregation research

Although the explanatory frameworks of segregation listed above originate in established immigration countries and can be challenged in the post-socialist context, we believe that the underlying mechanisms which the theories identified remain relevant. Given the differences between them and newer immigrant destinations, these approaches need to be adapted for use in other contexts. Crucially, established immigration countries belong to the ‘Western’ world, whereas some of the emerging ones are located in the post-socialist region, which laid on different ideological and material foundations for over 40 years (Malý, Dvořák and Šuška 2020; Stanilov 2007). According to Přidalová and Hasman (2018), important differences between established immigration countries and new destinations in the post-socialist region include the different lengths of the countries’ immigration histories, the composition of their immigrants’ origins and the specificity of the post-socialist geographical context in terms of the urban structure, housing markets and social inequality. For instance, only a small minority of immigrants can be considered as ‘visible minorities’ and a large share of immigrants have an economic status similar to that of the majority population (Křížková and Šimon 2021).

Moreover, residential segregation is likely to be related to different determinants in the capital city and in smaller cities. Capital cities typically concentrate more political, economic and cultural power and are more embedded in global networks than other cities (Cardoso and Meijers 2016; Connolly 2008). Given this privileged position, capital cities receive different types of migrants than do second-tier cities. The largest cities function as escalator regions, attracting young professionals at the expense of second-tier cities (Champion, Coombes and Gordon 2014). Previous research suggests that the attractiveness of capital cities to both international and internal migration and their connectedness to global networks result in more pronounced and polarised spatial patterns than can be observed in second-tier cities (Haase, Steinführer, Kabisch, Grossmann and Hall 2011).

Conversely, small cities and towns feature different settings as they probably provide a smaller diversity of housing, schools and labour choices. Smaller urban areas, notably those dominated by a certain economic sector like manufacturing, can be impacted on by economic developments to a different extent than larger cities with more diversified economic bases. This is particularly relevant for Central and Eastern Europe (CEE), where the pre-2008 economic growth and post-2008 decline were more intense in the capital-city regions than in the remaining areas (Capello, Caragliu, Fratesi 2014; Cuadrado-Roura, Martín, Rodríguez-Pose 2016).

Immigrants are often perceived as vulnerable populations because of their generally lower socio-economic status, restricted political rights and limited command of the destination-country language. Due to their less-advantageous position in a society, they are more likely to be impacted on by economic crises.

Andersson and Hedman (2016) show that an economic downturn increases the inequality between advantaged and disadvantaged populations on the labour market. Moreover, their results corroborate Musterd's (2005) claim that manufacturing regions and those struggling with economic restructuring have greater social segregation. Consequently, the segregation of vulnerable populations is expected to be higher during economic downturns and to decrease with an improvement in the state of the economy. Given that a substantial proportion of the foreign population in Czechia consists of labour migrants and that this population was indeed impacted on by the economic crisis set off in 2008, we analyse their residential segregation from a longitudinal perspective. Although there are surprisingly few studies which address the impacts of economic crises on ethnic segregation with which we can compare our results, we intend to highlight this relationship and to open discussion of its causes and consequences.

Segregation research in post-socialist countries

Analyses of residential segregation have focused on the largest, often capital, cities (Bolt, van Kempen and van Ham 2008; Malheiros 2002; Musterd 2005; Tammaru, Marcińczak, van Ham and Musterd 2015), leaving aside the segregation experiences of smaller urban areas. Socio-economic segregation (which may be related to ethnic segregation in some cases) increased across Europe between 2001 and 2011, reaching similar values in CEE and Western European cities in the later years (Marcińczak *et al.* 2015). Although the issue of the largest or capital cities as opposed to smaller cities was not the main focus of most of these studies, differences in ethnic residential segregation stem not only from city size but also from the cities' locations within Europe. In line with the advocates of the 'ordinary cities' approach, we argue that segregation studies need to overcome their focus on a few paradigmatic cities of the West and their neglect of cities elsewhere. Truly comprehensive segregation research, like urban studies at large, needs to be informed by empirical studies of 'ordinary cities' across city sizes and world regions (Arbaci 2019; Robinson 2006).

Research on urban segregation is relatively limited in post-socialist countries thus far, when contrasted with research in Western countries which relies on population register data. There is a big knowledge gap (in ethnic segregation) between countries with available long-term register data or countries where important variables such as income are available and many CEE countries, where these options are not yet or are just recently available. The geo-coded and linked population data enable us to trace how certain population groups ended up living in particular neighbourhoods, providing an insight into processes producing residential segregation. This insight is further advanced by the decomposition and examination of all underlying demographic processes and social mobility changes, capturing both spatial mobility and *in situ* changes of and within neighbourhoods (Bailey 2012). In contrast, studies based on census data for a relatively large administrative units tend to measure residential segregation as an outcome of the socio-spatial structuring process. Thus, the aggregate outcome resulting from a mixture of (often contradictory) processes at various spatial scales is evaluated. According to a recent review by Kovács (2020), empirical analyses of socio-economic segregation are relatively rare, with a majority of the studies building on area-level census data stymied with analytical limitations (for example: MAUPs – Modifiable Area Unit Problems – Nielsen and Hennerdal 2017; occupational structure classification or educational attainment classification as a proxy for income – Maloutas 2007). Notwithstanding the data issues, research on both capital and second-tier cities has shown that the socio-economic segregation of population groups tends to increase but that historically developed urban structures and low residential mobility prevented full materialisation of this trend (Marcińczak 2012; Marcińczak, Musterd and Stepniak 2012).

Current research on urban segregation has three distinct but interrelated foci with regard to immigration and ethnicity in post-socialist countries, where socio-economic and ethnic segregation are differently related to each other (Musterd, Marcińczak, van Ham and Tammaru 2017). Firstly, the most common are studies of socio-economic segregation, where ethnicity or immigrant status are of secondary importance. As explained by Kovács (2020), due to historical developments, ethnicity played a subordinate role in post-socialist cities. Thus, in contrast to Western Europe or the US, CEE studies measure socio-economic segregation without having race and ethnicity at the core of the analysis. The second and third groups of studies focus primarily on the ethnic dimensions of segregation which intersect to a different degree with socio-economic differences between the majority and the minority populations. The second group of studies focuses on the residential segregation of established minorities. The time dimension is a crucial factor distinguishing old and established minorities from new immigration groups that present a novel integration challenge. This group includes primarily studies conducted in Baltic countries with large Russian minority populations (e.g. Burneika and Ubarevičiene 2016; Krišjāne, Bērziņš and Kratoviš 2016; Tammaru, Kährik, Mägi, Novák and Leetmaa 2016) as well as other established minorities. The third group of studies (including this study) explores a new immigration, where former socio-spatial patterns are disrupted by the in-migration of foreign citizens. For example, new immigration shapes residential segregation in capital cities and more broadly in countries with recent migration growth such as Czechia or Poland (e.g. Jaskulowski and Pawlak 2020; Přidalová and Ouředníček 2017). In sum, progress in solving the contradictions of segregation in post-socialist countries can build both on improving data quality and on an advanced insight into the ethnic, social and economic intersectionality of population register data.

The Czech context of ethnic residential segregation

Ethnic residential segregation has long been on the agenda of researchers of the post-socialist space, although they have mostly focused on national minorities, including the Roma (Křížková and Šimon 2021). Residential segregation research focusing on new immigrants in the region has rarely been conducted because the Central European post-socialist region has long been typical of emigration rather than immigration (Okólski 2012). The migration balance of post-socialist countries is positive only in a few cases, Czechia being the pioneering country (Eröss and Karácsonyi 2014). Thus, research into ethnic residential segregation is only just emerging in the region (Přidalová and Ouředníček 2017; Šimon, Křížková and Klsák 2020), predominantly covering capital cities with rising ethnic diversity and socio-economic polarisation, Kashnitsky and Gunko 2016; Sageata 2014; Toruńczyk-Ruiz 2014). Processes of neighbourhood change capturing both social and spatial mobility and shaping segregation have not been explored in detail nor measured and compared across cities.

Czechia recently became a new immigration country in the post-socialist context, where a vast majority of the country's foreign citizens arrived as labour migrants in the past two decades (Drbohlav and Lesińska 2014). The number of immigrants grew from 210,000 to 460,000 between 2001 and 2015, resulting in a 4.4 per cent share of foreign citizens in the Czech population in 2015. The number of foreign citizens (i.e., immigrants) has been growing despite the economic crisis of 2008 and the tightening of migration policy in the years that followed. The fast recovery of the national economy led to an increasing demand for foreign workers and a further growth in net migration after 2013 (a similar trend was also observed in Poland by Duszczyk and Matuszczyk 2018).

In general, migrants going to Central and Eastern Europe are more similar – in terms of socio-economic status, cultural background and appearance – to the destination-country population than migrants going to old EU states and North America (Ouředníček 2016). The countries in the CEE region lack international colonial history or *Gastarbeiter* ties to distant countries that continue to shape migration patterns and ethnic diversity in established immigration countries to this day.² The mix of migrants therefore differs from that in traditional immigration countries in their cultural distance, language differences and the economic gap between them and the majority population³ as well as in their length of stay. Less-extreme differences between immigrants and host societies thus provide fewer incentives for spatial segregation. For instance, the limited economic distance of the migrant population and the Czech majority results in both groups operating within a unified housing market. In turn, no one group is more eligible for social housing than the other, a mechanism known in some Western European countries (Andersson, Malmberg, Costa, Sleutjes, Stonawski and de Valk 2018).

Most immigrant groups in Czechia originate from regions of Central and Eastern Europe, the former Soviet Union and Vietnam. The largest groups include Ukrainian (105,000 in 2015), Slovak (100,000) and Russian citizens (35,000). The Vietnamese (56,000) constitute a single numerically significant immigrant group from a culturally distant environment. The foreign population is concentrated in urban areas – particularly in large cities with sufficient labour-market opportunities – and in the borderlands (Janská, Čermák and Wright 2014). More than 60 per cent of foreign citizens live in the 14 largest cities (see Table 1). A third of all foreign citizens live in the capital city of Prague, including a major concentration of citizens from Western countries. The remaining 13 second-tier cities comprise a smaller and less diverse set of immigrant groups, roughly proportional to the main immigration groups at the country level. The exception is Karlovy Vary, a spa city with a large Russian minority. Only the more immigrant-dense cities apply immigrant-related policies, which mostly focus on immigrant social integration and on supporting intercultural events; none of the cities targeted immigrants as a specific group in need of support due to economic or housing needs (Šimon *et al.* 2020).

The spatial distribution and level of residential mobility in Czechia differ between immigrant groups (Přidalová and Hasman 2018). For example, immigrants from Ukraine tend to concentrate in large cities due to their occupational specialisation in manufacturing and housing construction. In contrast, immigrants from Vietnam are more evenly dispersed all over the country due to their largely retail occupations (Janská, Čermák and Wright 2014). Moreover, recent internal and external developments may lead to changes in immigrant spatial behaviour in Czechia. The gradually increasing share of permanent stay permit-holders among immigrants suggests that they tend to settle in the country (see e.g. Drbohlav 2015). Family growth may increase local immigrant isolation, as shown in more-established immigration countries (Finney and Simpson 2009). Another important factor influencing immigrant spatial patterns is the global economic crisis of 2008 and the subsequent changes in the Czech migration policy. Although the global economic downturn did not affect the Czech economy greatly, foreign workers were impacted on to a considerable extent. Shortly after the crisis burst, many lost their jobs, which made their subsequent stays illegal; others left the country. Furthermore, issuing new residence permits for a foreign workforce was halted and their stays were more closely monitored (Ministry of the Interior of the Czech Republic 2009).

A considerable effort has been made to understand the spatial distribution and mobility of immigrants in Czechia (Drbohlav and Valenta 2014; Janská and Bernard 2018; Janská *et al.* 2014; Křížková and Ouředníček 2020; Šimon, Křížková and Klsák 2021). In general, immigrants are more concentrated in cities than the majority population, which is consistent with the predominantly working-age structure of the immigrant population. Although most Czech cities experienced a minor population decrease due

to suburbanisation, their population and economic development are relatively stable, partially thanks to population replacement by immigrants.

Table 1. Foreign citizens in Czech cities in 2015

City	Total population	Number of grid squares	Foreign population			
			Total	As % of city population	% of permanent residents	% of change in foreign citizens 2008–2015
Praha	1,288,147	8,321	168,852	13.1	52.2	25.3
Brno	400,977	3,978	24,570	6.1	50.0	36.6
Ostrava	301,503	3,666	9,845	3.3	58.3	0.1
Plzeň	171,526	2,378	13,025	7.6	51.5	9.0
Liberec	105,896	1,877	6,518	6.2	58.9	-0.3
Olomouc	102,392	1,865	3,547	3.5	50.2	15.5
Ústí nad Labem	96,170	1,729	4,185	4.4	66.2	-4.6
České Budějovice	95,377	1,022	3,819	4.0	57.9	35.3
Hradec Králové	94,071	1,851	3,572	3.8	57.2	-2.1
Pardubice	90,160	1,527	4,532	5.0	41.1	65.4
Zlín	76,607	1,847	1,785	2.3	59.7	16.4
Kladno	70,022	928	3,833	5.5	64.0	35.3
Karlovy Vary	51,025	1,085	5,647	11.1	65.3	18.3
Jihlava	51,003	1,588	1,731	3.4	62.4	16.6

Source: Ministry of the Interior (2017); Czech Statistical Office (2017), own elaboration.

However, existing research on ethnic residential segregation suffers from two major shortcomings: the reliance on census data and the use of administrative units for spatial analysis. Firstly, due to the previous unavailability of register-based data, knowledge on residential segregation was limited to census snapshots (see Ouředníček, Pospíšilová, Špačková, Kopecká and Novák 2016; Sýkora 2009) thus preventing researchers from grasping the dynamics of the residential change in between censuses. Census data on the spatial distribution of immigrants in neighbourhoods tell us a little about which individual-level processes are at play; however, we only capture their aggregated outcome. For example, an increase in the differences – between two consecutive censuses – between urban neighbourhoods in the level of education tends to be interpreted as a sign of socio-economic polarisation. However, without the ability to decompose internal and external underlying demographic changes occurring in the ten-year period (Bailey 2020) we are unable to identify which micro-level processes are responsible for this change (social and spatial mobility, physical and functional characteristics of a neighbourhood, within-neighbourhood changes). Other researchers opted for survey-based research (Drbohlav and Džúrová 2017) and for case studies of particular localities or focused on particular immigrant groups (Šnajdr and Drbohlav 2016) instead.

Secondly, the use of data available for administrative units such as municipalities or city boroughs in quantitative research limited the level of spatial detail for the analysis of residential segregation. Previously, there were no detailed data about the internal differentiation of immigrants for Czech cities (except Prague) and only total numbers of foreign citizens in each city were available. Moreover, the

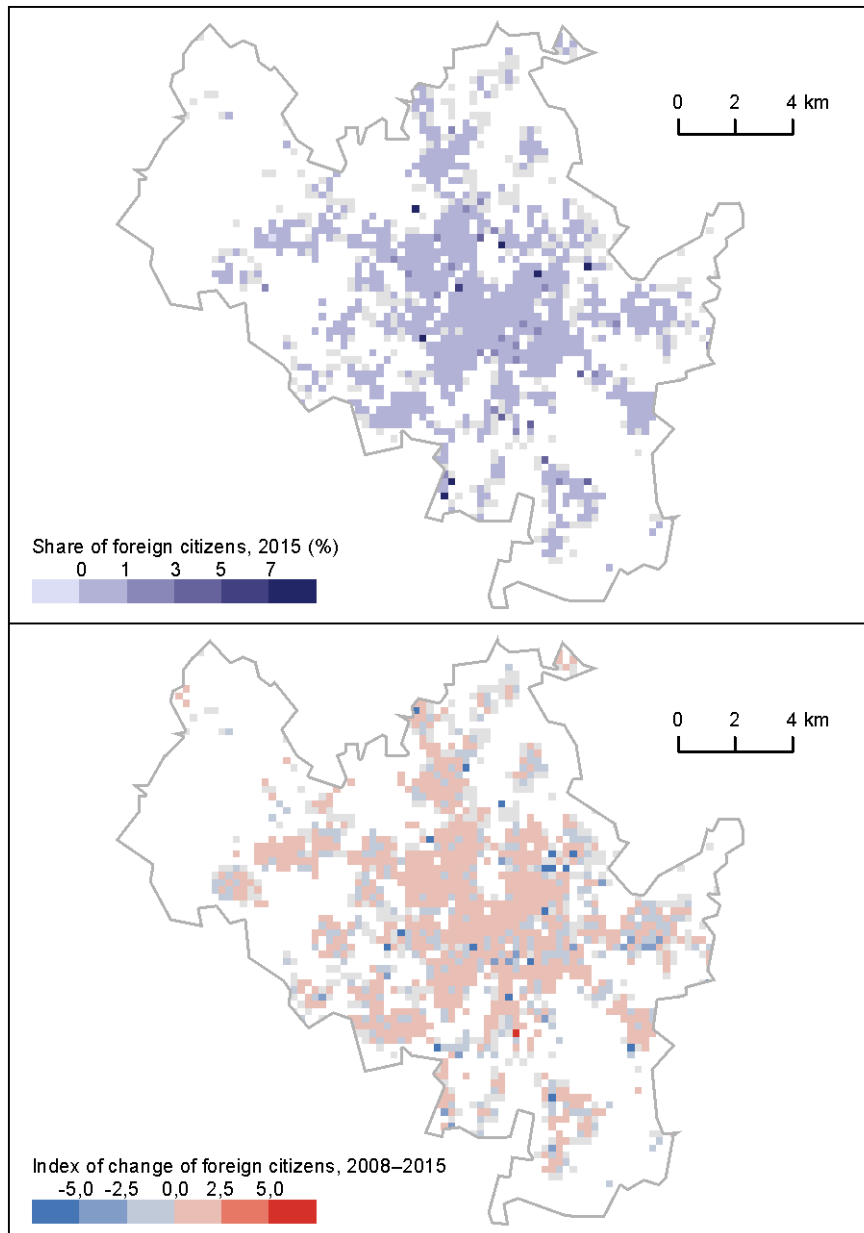
differences in the size and shape of spatial units influences the value of segregation indices (Wong, Lasus and Falk 1999) and limits the comparative research of segregation. For these reasons, patterns and trajectories of the segregation of new immigrants and their differences between cities in Czechia remain a gap to be filled. The overall descriptive analysis at city level needs to be supplemented by studies of the social and spatial mobility processes creating neighbourhood change, which are enabled by register data and further complemented by the qualitative research of segregation mechanisms. City-level analysis – including this study which combines three measures to explore segregation development across cities and a previous study by Šimon, Křížková and Klsák (2020) using one segregation metric to explore group differences and the scale effects of segregation – are initial steps in that direction.

Data and methods

The current study introduces a new data source enabling the longitudinal analysis of ethnic residential segregation in Czechia. The database provided by the Foreign Police of the Czech Republic contains geocoded information on all foreign citizens with registered residence⁴ in Czechia between 2008 and 2015. The data on the Czech population are based on the official housing registry of the Czech Statistical Office, where information about the number of foreign citizens is subtracted from the total population to obtain the number of Czech citizens. The anonymised population data were aggregated to grid squares covering the whole territory of the 14 cities analysed here (see Figure 1). The median value of the population in a grid cell ranges from 28 to 108 (the average population from 104 to 289) for the cities. The grid square size of 250m ensures the anonymity of residents while improving the validity of the segregation measurement considerably.

Moreover, the use of grid data reduces discrepancies stemming from the use of pre-determined administrative units that often involve a great variability in the number and size of units (the Modifiable Area Unit Problem – MAUP), which has been a major obstacle in comparing the results of segregation studies across regions and countries (Andersson *et al.* 2018; Openshaw 1984).

To measure the two key dimensions of residential segregation (Massey and Denton 1988), we employ two widely used indexes recommended by Reardon and O'Sullivan (2004): the index of isolation as a measure of exposure and the index of dissimilarity as an indicator of spatial evenness between the minority group (foreign citizens registered to reside in the selected Czech cities) and the majority population (Czech citizens).⁵

Figure 1. Population grid for segregation measurement – example of Brno

Note: This figure serves as an illustration of the spatial grid used in our segregation analyses. The grid square size is 250m.

Source: Ministry of the Interior (2017), own elaboration.

The dissimilarity index measures differences in the relative group presence for the two groups and shows how different the share of the minority population in each neighbourhood is from the share of the minority population in the whole city. The outcome of such a measurement is an aggregate-level description of the unevenness of distribution. Strictly speaking, the index indicates possible consequences stemming from the unevenness of distribution but it neither reports on processes of segregation nor informs on changes at the individual or household levels. The index of dissimilarity (D) is computed according to the formula (1), where e_i denotes the size of the minority population living in neighbourhood i , ne_i denotes the size of the majority population living there, E denotes the total size of the minority population and NE the total size of the majority population in the city.

(1)

$$D = 100 * \frac{1}{2} * \sum_{i=1}^N \left| \frac{e_i}{E} - \frac{ne_i}{NE} \right|$$

The isolation index measures the probability of interaction with a member of a different group – i.e., how likely a minority group member is to interact with the majority if interaction between groups reflects only their neighbourhood presence. The isolation index is dependent both on spatial distribution and on the proportions of the minority and the majority. The lowest values of the isolation index occur when both groups are of equal size and are evenly distributed in neighbourhoods. Contrary to this, the highest values of the isolation index occur when the minority group is small and only located in one neighbourhood. The index of isolation (P) is computed according to the formula (2), where e_i denotes the size of the minority population living in neighbourhood i , E denotes the size of the minority population in the city and f_i the total size of the population of neighbourhood i .

(2)

$$P = 100 * \sum_{i=1}^N \left(\frac{e_i}{E} * \frac{e_i}{f_i} \right)$$

Therefore, exposure (measured by the isolation index) can be interpreted as the extent to which individuals are exposed to members of their own group, whilst evenness (measured by the dissimilarity index) can be understood as the proportion of minority members who would have to move to achieve an even distribution. The two measures tend to be highly correlated but, in extreme cases, the isolation index can be high in an area with low levels of segregation as measured by the dissimilarity index and *vice versa*. Given the indices' calculation, the isolation index is more sensitive to group size than the dissimilarity index (Hess 2020)⁶. We therefore refrain from assessing the segregation of ethnic subgroups, although we acknowledge the different spatial behaviour of immigrants coming from different regions that was observed in other studies (Šimon, Křížková and Klsák 2020).

The trajectories of residential segregation are measured for the period from 2008 to 2015, which is further broken down into two shorter periods that had specific impacts on immigration to the country: the crisis (2008–2011) and post-crisis regrowth (2011–2015, see Křížková and Ouředníček (2020) for a similar delimitation). The trajectories are captured by the change in indices of dissimilarity (D) and of isolation (P) for each city. The analysed set of cities includes Prague – the Czech capital – and 13 regional cities, the largest one in each self-governed administrative district of the country. The cities were delimited using their administrative boundaries. Thus, suburban municipalities beyond the city borders were not considered.

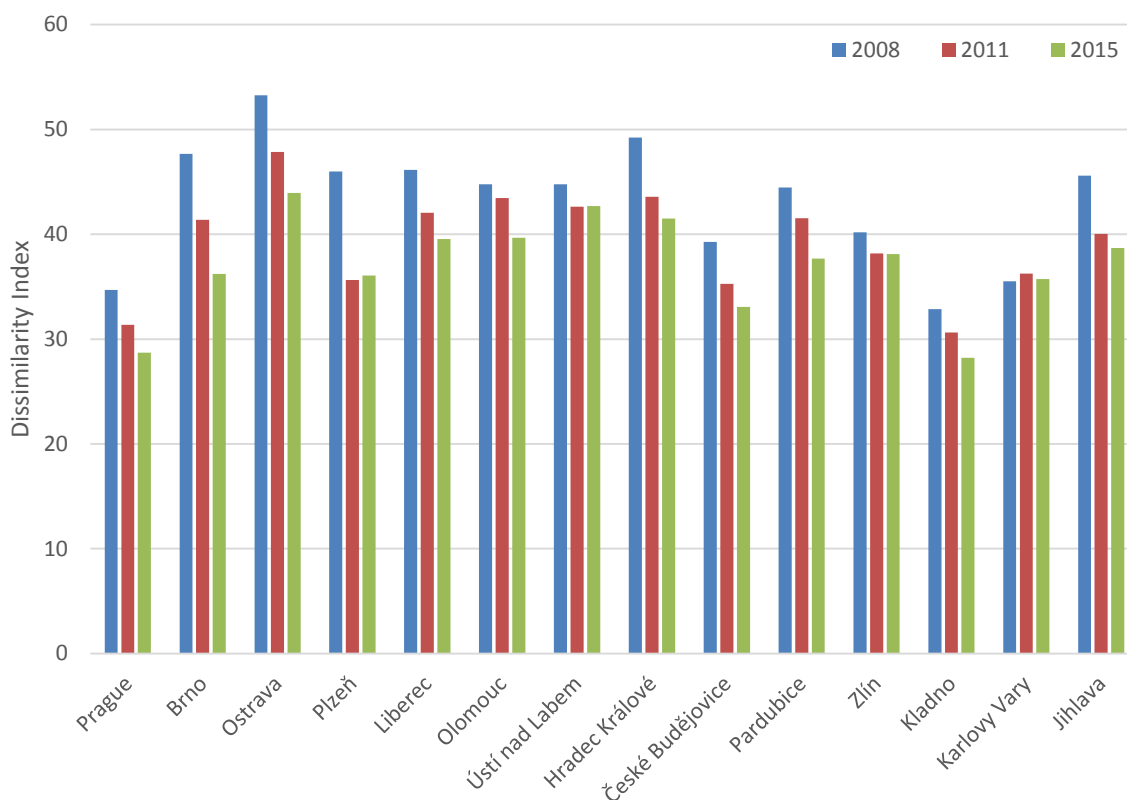
Results

Index of dissimilarity

First, we analysed the overall level of spatial dissimilarity between the minority (immigrants) and the majority population. Figure 2 shows that the level of dissimilarity is considerably lower in the capital city of Prague and in Kladno, which is a part of the larger Prague metropolitan area, as opposed to the other large cities. The dissimilarity-index values indicate that, in Prague and Kladno, around 30 per cent

of the population would have to move in order to achieve an equal spatial distribution, whilst this percentage is on average between 35 and 53 in the other large Czech cities.

Figure 2. Dissimilarity Index for all immigrants in Czech cities in 2008, 2011 and 2015



Note: Cities are sorted according to population size from largest (left) to smallest (right).

Source: Ministry of the Interior (2017), own elaboration.

Second, we looked at the dynamics of immigrant dissimilarity from 2008 to 2015. The main finding here is that the dissimilarity index decreased between 2008 and 2015 across the selected large Czech cities. The only exception from this trend is Karlovy Vary, a spa city with a long history of internationalisation and a large share of the immigrant population. The development of Russian minority in Karlovy Vary could have been influenced by the Russian aggression in Ukraine in 2014 (Klsák 2020).

The intensity of the decline in segregation differs considerably, nevertheless, between cities. The larger second-tier cities such as Brno, Plzeň and Ostrava experienced a faster pace of desegregation than was observed in Prague (Figure 2). Conversely, desegregation was much slower in smaller second-tier cities. For example, a slower pace of desegregation was observed in Ústí nad Labem and in Zlín, cities peripheral in both the economic and the geographical sense. These findings suggest that cities closest to the top of the urban hierarchy adopt the trends occurring in the capital city more rapidly than the peripheral ones.

Importantly, the level of segregation decreased more rapidly in the economic crisis period of 2008–2011 – when volumes of immigration to Czechia were smaller – and decreased more slowly in the period 2011–2015, when economy recovered and immigration started to intensify again (Kurkin, Němečková and Štyglerová 2020). Thus, the changes in the dissimilarity index as a measure of the unevenness of spatial distribution cannot be attributed only to growing numbers of immigrants (Table 1) but also to actual residential changes.

Since the values of the dissimilarity index can be biased if the share of a minority group is small (Voas and Williamson 2000), we also measured spatial evenness by an alternative indicator – the entropy index. The results, however, are generally consistent with our results for the dissimilarity index. We therefore only present the details on the calculation of the entropy index and its empirical results for the selected Czech cities in Appendix 1.

Index of isolation

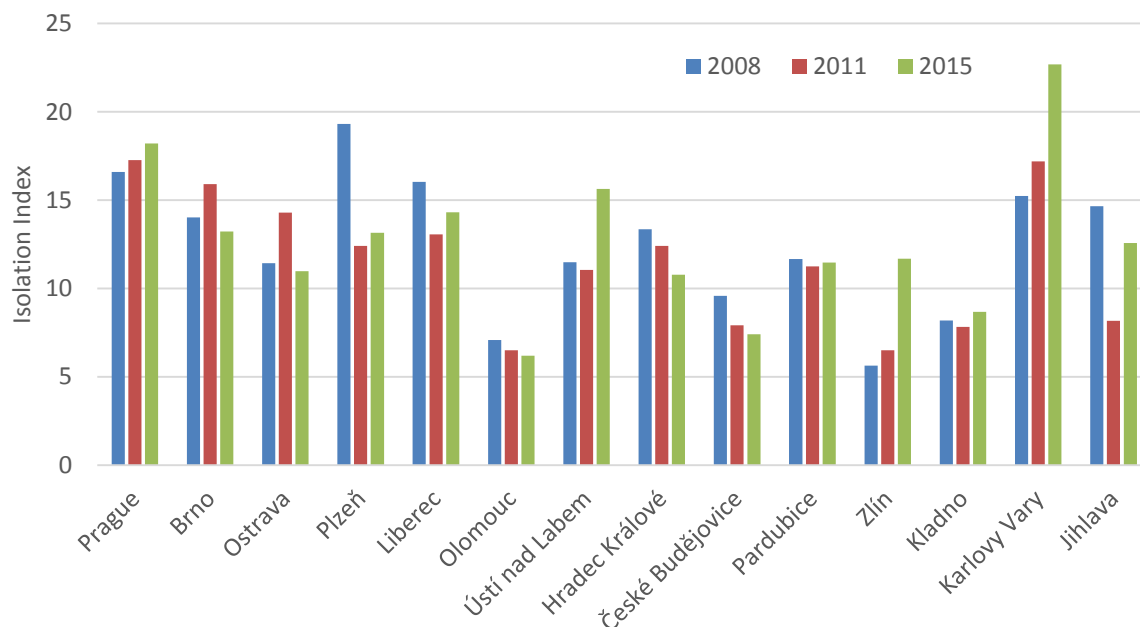
Contrary to the relative uniformity in the values and development of the dissimilarity index, there was greater variability in the spatial isolation of immigrants in large Czech cities in 2008–2015 (Figure 2). The average exposure of foreign citizens to other foreigners ranged between 6.6 and 18.4 per cent. The highest values were observed in Prague and Karlovy Vary, cities which also feature the highest proportion of foreigners in the population. Although the isolation index and the proportion of foreigners in the population are quite strongly correlated (Pearson $R^2 = 0.8$), the isolation-index values were also rather high in certain cities (e.g. Ostrava, Jihlava) with relatively few immigrants in the population.

The development of the isolation index between 2008 and 2015 was also far from uniform. While foreign citizens became more exposed to other immigrants in some cities over time than they were at the onset of the economic crisis, they became less so elsewhere. Regardless of the magnitude of change, most (nine) cities witnessed a decrease in the isolation index from 2008 to 2015 as opposed to five others where the isolation index increased. However, the change in many cities was almost negligible. A more substantial change – by more than 10 per cent – was recorded in just eight cities: three where the isolation index increased and five where it decreased. A substantial increase was observed in three cities (Zlín, Karlovy Vary and Ústí nad Labem), which differ in size, the proportion of immigrants in the city population as well as in the percentage change of growth in the immigrant population between 2008 and 2015. Similarly, the set of five cities where the isolation index decreased quite considerably (Plzeň, České Budějovice, Hradec Králové, Jihlava, Olomouc) is very diverse in terms of their immigrant share and growth and in city size.

Furthermore, the developmental trend is without a clear tendency to increase or decrease in the two partial periods – the immediate years following the crisis (2008–2011) as well as the period of new growth (2011–2015). Figure 3 indicates that the isolation-index values changed considerably across the periods and cities with a variable immigrant structure and dynamics. However, the values and dynamics of the isolation index allow us to delimit three groups of large Czech cities with specific characteristics. First, the main immigrant gateway cities of Prague and Karlovy Vary constantly show high isolation-index values and a growing immigrant isolation throughout 2008–2011–2015. The second group, consisting of Olomouc, České Budějovice, Zlín and Kladno, scores the lowest isolation-index values and shows its decrease in the crisis period, followed by an increase in the regrowth period. However, the general trend in isolation-index change from 2008 to 2015 in this group was an increase in immigrant isolation (though this is probably driven by the substantial increase in Zlín, as the values for Olomouc and České Budějovice declined). The remaining eight cities form a third cluster with moderate isolation-index values

and a trend to decrease in 2008–2011 followed by an increase in 2011–2015. Nevertheless, the overall tendency in this group was towards a decrease in the isolation index between 2008 and 2015.

Figure 3. Isolation Index for all immigrants in Czech cities in 2008, 2011 and 2015



Note: Cities are sorted according to population size from largest (left) to smallest (right).

Source: Ministry of the Interior (2017), own elaboration.

While the levels of immigrant isolation seem to relate to the overall proportion of immigrants in the local population, the differentiated dynamics in city groups can partly be explained by the extent of support which each city offers to immigrants. While the first cluster mentioned above witnessed a growing number of immigrants, including those with temporary residence permits, in 2008–2011 the second group was mostly typical, with a decline in temporarily resident immigrants. Although some immigrants with temporary residence permits left the country, some could have moved from foreigner-sparse cities to immigrant gateways with a more-resilient labour market. In the latter, they were more likely to find the support of fellow immigrants and a greater choice of work opportunities (Horáková 2010), infrastructure and services like immigrant counselling. This flow could have contributed to an increased isolation in both groups of cities. In immigrant-scarce cities, the minority population declined, increasing the likelihood of them being segregated, as a small population can naturally only reside in a limited number of places. In the migration gateways, the newcomers could have joined the pre-existing immigrant clusters, thus increasing their exposure to their fellow immigrants. The continued growth in the isolation index in the main immigrant gateway cities might be due to the time lag whereby migrants react to the economic conditions with some delay.

Discussion: the nature of segregation in CEE compared to Western European cities

Hoping to provide the first study of systematic quantitative research into the ethnic residential segregation of new minorities (immigrants) using register data in Central and Eastern Europe, this article

enables the comparison of segregation in Czechia as a CEE case with segregation in immigrant-destination countries in Europe. Although the overall trend towards desegregation across the Czech urban context appears robust, its interpretation must remain both cautious and preliminary. First, the early stage of the immigration process allows only a limited interpretation of the data. Current ethnic spatial patterns reflect, to some extent, the initial residential choice of immigrants and its change is limited in the Czech super-housing-ownership society with a limited renting sector (Stephens, Lux and Sunega 2015). Initial residential choices are probably informed by a different set of heuristics and economic resources than subsequent residential mobility. Thus, patterns of segregation are not fully crystallised as yet. Second, the city-level measurement using segregation indices is a-spatial – based on aggregated indices – and thus limits our insight into the individual-level processes of social mobility and residential attainment. Such process-focused studies aimed at assessing the exact mechanism of segregation have not yet been conducted (Šimon *et al.* 2020). Third, urban diversity and multiculturalism are not foundational cornerstones of policy narratives and frameworks in Czech cities (cf. Raco and Kesten 2018; Raco and Tasan-Kok 2019). Instead, the lack of a social-housing law and the crisis of housing availability dominate the policy discourse in Czechia. The housing policy of cities is focused on the socially excluded Czech population and immigrants are usually not eligible for municipal housing. Thus, the places of poverty of the majority population and of immigrants do not necessarily overlap.

The results of our study show that the evenness in the immigrant spatial distribution in Czech cities resembles closely that in other European cities. The dissimilarity-index values observed in large Czech cities ranged between 30 and 50 per cent, similar to the values calculated for Italian and Spanish cities by Benassi, Iglesias-Pascual and Salvati (2020) and slightly lower than in some Western European, e.g. British, cities (Benassi, Corrado, Frank, Fabio 2020). Despite the structural differences between CEE and Western Europe, ethnic residential segregation seems to unfold in similar ways in both regions. Segregation levels, notably that of dissimilarity, for the immigrant population are similar, as are their predominant dynamics towards desegregation. Thus, development in time towards desegregation in Czech cities, expected by spatial assimilation theory, seems to be more relevant in this study than factors explaining the persistence of immigrant clusters and the diverse dynamics of segregation like ethnic preference or public policies. Although spatial assimilation theory is currently an apt theoretical framework for explaining the general desegregation trend in Czech cities, stratification frameworks and individual preferences apply simultaneously in shaping the segregation outcome in the local context.

Furthermore, the differences in ethnic segregation between city sizes seem to be in line with previous studies. The index of dissimilarity tends to be lower in the largest metropolitan areas as opposed to the smaller urban areas, which is the case in most of the Western European countries analysed by Benassi *et al.* (2020). In Belgium and Sweden, the index of isolation tends to be greatest in the largest capital cities (Imeraj, Willaert and de Valk 2018; Östh, Clark and Malmberg 2015). We argue, however, that this result is highly dependent on the proportion of the minority population examined and its position on the labour market. Group size plays an important role in the resulting values of the isolation index (Hess 2020; Lan, Kandt and Longley 2020). The share of immigrants in Czech cities is proportional to the attractiveness of a particular metropolitan labour market, with Prague having the highest number and largest share of immigrants.

The dynamics of ethnic segregation following a crisis period were examined in several countries. A decrease in the dissimilarity index was identified across selected immigrant gateways of England and Wales between 2008 and 2015 for most ethnic groups (Lan *et al.* 2020). In the Amsterdam metropolitan region, a moderate drop in the dissimilarity index was observed in the 2009–2014 period for non-European migrants (Sleutjes, Ooijevaar and de Valk 2019). This article shows a decrease in segregation in

Czech cities after 2008. This suggests that an economic downturn does not have to be associated with an increase in immigrant unevenness. However, our results indicate that the picture is less clear in the case of immigrant isolation, the dynamics of which were more diverse and perhaps indeed related to current economic conditions. This tentative statement, however, needs to be supported by further analyses that control for the different sizes of immigrant groups within cities. One explanation for the opposite result can be the variegated behaviour of the individual minority groups in Czechia. Some migrants, arguably the most vulnerable ones who lost their jobs and lacked kin and community support, left the country, which contributed to a decrease in spatial inequality between the minority and the majority. Those who found support from family and the immigrant community could have temporarily increased their spatial isolation by joining other fellow immigrants in the main gateway cities.

This Czech study represents a case from CEE; however, it is questionable whether its findings are typical for this region. First, because Czechia is one of the main immigration countries in the region and is likely to feature greater proportions of immigrants in urban populations than cities elsewhere in CEE. Population stagnation and restrictive immigration policies typical of many CEE countries prioritise processes of urban change that do not include a strong immigration dimension. Secondly, previous research has shown that the post-socialist urban transition can result in highly heterogeneous patterns of local transformation, even within countries with a shared history (Malý *et al.* 2020). The cities in the CEE region share a common socialist past but faced rather variable challenges and fortunes shaping its social structure, built environment and governance in recent multiple transformations. Thus, the results presented here should not be generalised uncritically to the whole CEE region but are intended to open up a debate on ethnic segregation and its causes and consequences there.

The approach used in this article has methodological caveats that may have impacted on the comparison between countries and cities to some extent. Firstly, individual grid squares do not respect natural boundaries such as areas divided by rivers. Grid squares are as arbitrary as administrative boundaries and their use does not allow the avoidance of MAUP entirely. However, our robustness tests yield similar results when using differently sized grids, therefore they should not be biased by the geography used here. Secondly, using grid squares of equal area across the selected cities results in different numbers of grid squares in each city (Table 1) and in different numbers of the total population in each grid square. This should not harm our results either, as we use indicators that consider population proportions rather than absolute numbers. Thirdly, we acknowledge that using alternative units of segregation measurement such as individualised neighbourhoods would be more precise. Yet our more detailed analyses using different units are consistent with the results presented in this exploratory study.

The interpretation of residential segregation measurement is context-dependent in multiple ways, although the practice can use the same methods and same units of analysis in different contexts. First, the measurement and categories of analysis are context-dependent. For example, the risk of MAUP is more likely to matter in conditions of extreme segregation, where there are sharp block or neighbourhood boundaries, such as in US cities. In contrast, there are no sharp ethnic boundaries between neighbourhoods or city blocks with a predominantly ethnic population in Czech cities, where no legacy of racial zoning is present. Conversely, issues of group-size effects are more likely to matter in the CEE context, where new minorities are still relatively few in comparison to those in traditional immigration countries. Secondly, the social role of residential segregation in a neighbourhood and in a society is context-dependent. Institutional settings, the presence of public infrastructures, the perceived valuation of space and other localised factors shape the outcome of residential segregation and its impact (or a lack thereof) on everyday lives.

Concluding remarks

To bring evidence on ethnic segregation beyond the traditional research areas – i.e. the largest cities in established immigration countries – this article has explored residential segregation in the Czech urban context in the years following the economic crisis of 2008. Building on newly available register data and measures of segregation using a detailed spatial grid, this article contributes to the literature on the impacts of an economic downturn on migrant populations. While the impact on individuals and countries was highly debated – see e.g. Beets and Willekens (2009), Leontiyeva (2014) and Tilly (2011) – the literature on the consequences of economic crises for the spatial distribution of immigrant populations is surprisingly scarce.

Our first research question focused on ethnic residential segregation across Czech cities. According to our analysis, the proximity of the main metropolitan region seemed to be key distinguishing feature in the level of segregation, rather than city size. While spatial dissimilarity was the lowest in Prague, it was similar in a relatively small city that lies in its metropolitan region (Kladno) and higher in the largest second-tier cities. Furthermore, spatial isolation does not relate directly to city size but more to the proportion of immigrants there. Cities of varying sizes – e.g. Prague and Karlovy Vary – show similar levels of ethnic residential segregation. These findings highlight the importance of comparative analysis as suggested by the ordinary-cities approach (Robinson 2006).

Our second research question focused on segregation dynamics in the period 2008–2015. Interestingly, the segregation indicators of unevenness and exposure we used yielded complex patterns of population change with a decreasing trend towards spatial dissimilarity and isolation. Contrary to the expectations derived from the literature, we did not observe a general trend towards growing segregation at times of economic crisis. Immigrants as a vulnerable population are expected to be the most impacted on by an economic downturn (Andersson and Hedman 2016), which is believed to decrease their socio-economic status and, in turn, change their spatial distribution.

Although not without its limitations, this article hopes to serve as a springboard for further studies on ethnic residential segregation in Czechia and in Central and Eastern Europe. Such an undertaking would permit the enrichment of both urban and migration studies by evidence from a region which is gaining importance on the map of international migration.

Notes

¹ Other dimensions of segregation proposed by Massey and Denton (1988) include concentration, centralisation and clustering. The two former dimensions are not assessed in this paper due to space limitations; the latter – clustering – is understood here, in line with Reardon and O’Sullivan (2004), to be the opposite of evenness.

² In the Czech case, an exception to this is the Vietnamese, whose migration originated in the bilateral agreements between the-then socialist countries in the 1950s (Martínková 2011). The connection between the countries, established earlier, serves as a springboard for further migrations in the present day. Contrary to this, migration from other countries that exchanged workers and students with Czechia during socialism decreased to a negligible level.

³ The circularity of migration, a high labour activity and strategies of saving allow some minority groups in Czechia to keep substantial proportions of their earnings, producing a quite small economic distance between them and the majority population (Křížková and Šimon 2021; Janská, Pauknerová and Koropecová 2017).

⁴ Unregistered foreign citizens such as citizens of EU countries who decide not to register, short-term migrants from third countries staying in the country for less than 90 days and undocumented migrants are not considered. The citizens of EU countries are obliged to report to the Czech authorities if their stay in the country is to exceed 30 days. Unless wishing to apply for a permanent residence permit, they are not liable to register for residence in Czechia. Only persons with either a temporary or a permanent residence permit are included in the database. This data source differs from that used in studies of other countries, which use data on race or country of birth to measure ethnic segregation.

⁵ Fossett (2017) provides a comprehensive review of segregation measurement with a broad range of computational options. Notwithstanding the debate on the advantages and disadvantages of the indices, the measurement of urban segregation is far more complex, involving topics like identity group classification, MAUP and activity space, the framing of inequality and segregation discourse, the historical legacy and current power relations, links between group differences and individual-level attainment and several others (Ellen and Steil 2019; Krysan and Crowder 2017; Lloyd, Shuttleworth and Wong 2014; Musterd 2020).

⁶ The computation of the adjusted index of isolation, which introduces a simple adjustment based on a minority proportion at city level (as in Johnston, Poulsen and Forrest 2005) provided highly similar results to the unadjusted version of the isolation index. Due to this high consistency, only an unadjusted index of isolation is presented here.

Acknowledgements

The authors wish to thank Aneta Piekut and Martin Ouředníček for their comments on earlier draft of the article. We are also grateful to the referees and the journal editors for helpful comments and suggestions.

Funding


This research was supported by the Czech Science Foundation within the project No. 19-03211S 'Residential Segregation and Mobility of Foreign Citizens: Analysis of Neighbourhoods, Housing Trajectories, and Neighbourhood Context'.


Conflict of interest statement

No conflict of interest was reported by the authors.

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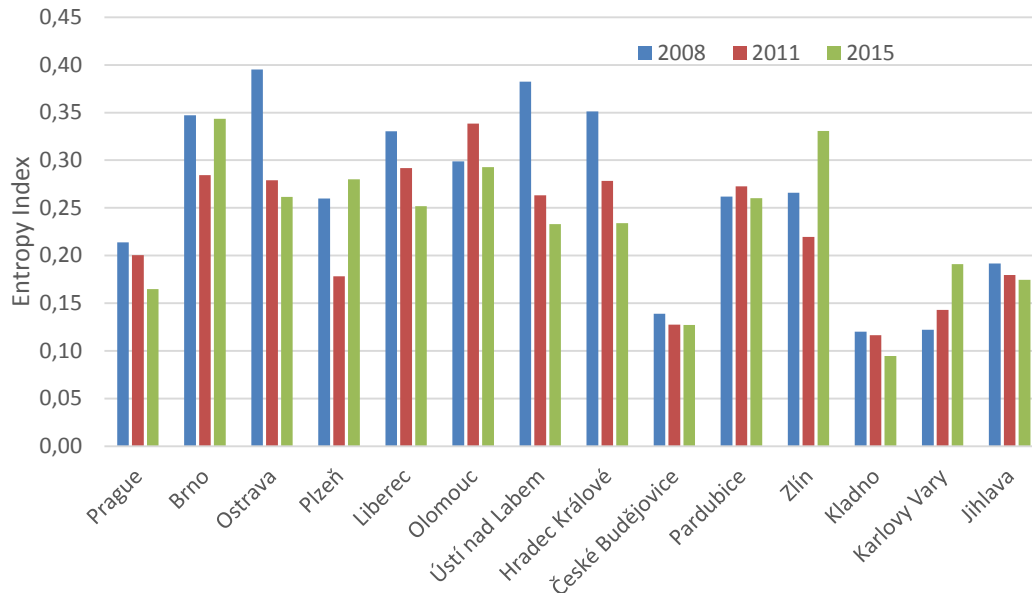
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How to cite this article: Šimon M., Křížková I., Klsák A. (2021). New Urban Diversity at and after the Economic Downturn: Recent Trajectories of Ethnic Segregation in Central European Cities. *Central and Eastern European Migration Review* 10(2): 23–47.

Appendix 1

Figure 4. Entropy index for all immigrants in Czech cities in 2008, 2011 and 2015



Note: Cities are ranked according to population size from largest (left) to smallest (right).

Source: Ministry of the Interior 2017, own elaboration.

The entropy index h for a neighbourhood is:

$$h_i = - \sum_{j=1} p_{ij} * \ln(p_{ij})$$

Where p_{ij} is a proportion of the population of j^{th} ethnicity in neighbourhood i ($=n_{ij}/n_i$); n_{ij} is the size of the population of j^{th} ethnicity in neighbourhood i ; and n_i is the total size of the population in neighbourhood i .

The entropy index of a city is then:

$$H = \frac{(\hat{H} - \bar{H})}{\hat{H}}$$

Where \hat{H} is the entropy index for the city as a whole and \bar{H} is the average of the individual neighbourhoods' values of h , weighted by population.

The values of the entropy index of a city (H) range from 0 to 1. Cities with a uniform ethnic distribution have low values of H whereas cities with a less-uniform ethnic distribution have higher values of H .

PUBLIKACE 5:

KLSÁK, A. (2020): Proměny „ruských“ Karlových Varů: Aktuální trendy v migraci, zahraničních investicích a cestovním ruchu. Regionální rozvoj mezi teorií a praxí, 9, 43–53.

Autorský podíl 100 %

PROMĚNY „RUSKÝCH“ KARLOVÝCH VARŮ: AKTUÁLNÍ TRENDY V MIGRACI, ZAHRANIČNÍCH INVESTICÍCH A CESTOVNÍM RUCHU

TRANSFORMATION OF „RUSSIAN“ KARLOVY VARY: CURRENT TRENDS IN MIGRATION, FOREIGN INVESTMENT AND TOURISM

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Klíčová slova:

Cizinci, Rusové, Karlovy Vary, gentrifikace, turistifikace

Keywords:

Foreigners, Russians, Karlovy Vary, gentrification, touristification

Abstrakt:

Karlovy Vary jsou v posledních třech desetiletích hlavní cílovou destinací pro Rusy v Česku (mimo Prahu) z hlediska rezidenční, investiční i turistické atraktivity. V důsledku přítomnosti cizích obyvatel, podnikatelů a turistů došlo ke změnám, které zasahují do nejrůznějších sfér života města. Jmenovat můžeme složení populace podle občanství, majetkovou strukturu nemovitostí, jejich fyzický stav a využití, či návštěvnost lokality a s ní spjaté zaměření místní ekonomiky. Dosavadní stav byl výrazně ovlivněn dvěma zásadními událostmi nedávné doby – ekonomickou krizí (2008) a ruskou agresí vůči Ukrajině (2014). Příspěvek si klade za cíl nastínit vývoj fenoménů internacionalizace, investičních strategií cizinců a cestovního ruchu ve městě s časovým odstupem od zmíněných událostí. Je založen na analýze dat ze statistických registrů a dlouhodobém terénním výzkumu v lokalitě. Výsledky ukazují, že ve zkoumaném období došlo k významným změnám trendů, konkrétně úbytku počtů ruskojazyčných rezidentů, turistů i investorů.

Abstract:

In the last three decades, Karlovy Vary has been the main destination for Russians in Czechia (besides Prague) in terms of residential, investment and tourist attractiveness. This has affected many aspects of its life. Presence of foreign inhabitants, businessmen and tourists change the composition of the population according to citizenship, property structure of real estates, their physical condition and use, or international tourism and the related orientation of local economic activities. However, the current situation may have been significantly affected by two important events – the world economic crisis (2008) and the Russian aggression against Ukraine (2014). The paper aims to investigate the development of internationalization, investment strategies of foreigners and international tourism in the city with a time distance from the mentioned events. It is based on the analysis of statistical data and long-term field research. The results suggest that significant changes have been happening during the studied period, e. g. the decline in the number of Russian-speaking residents, tourists and investors.

Úvod

Karlovy Vary, jakožto světoznámé středisko lázeňské péče, byly po většinu své historie otevřené návštěvníkům z celého světa. Rozmanité bylo vždy také obyvatelstvo města, zasažené několika vynucenými proměnami národnostní struktury. Z nich nejvýraznější bylo poválečné vysídlení do té doby většinových Němců. Zásadní zlom po období relativní etnické homogenity a uzavřenosti v období socialismu přinesla Sametová revoluce a s ní spojené společenské, politické a ekonomické změny. Karlovy Vary se v průběhu posledních tří desetiletí dostaly do popředí zájmu investorů i rezidentů ze zahraničí v míře, která neměla v historii města obdoby. Cizinci¹, mezi nimiž postupně převládli zástupci zemí bývalého Sovětského svazu, se brzy stali klíčovými aktéry řady sfér místního dění. V souvislosti s tím se začal objevovat mezi veřejností rozšířený obraz „ruského města“. Zejména v posledním desetiletí došlo hned k několika světově významným událostem, které procesy a trendy spojené s přítomností cizinců výrazně ovlivnily – zejména světová ekonomická krize v roce 2008 a ruská agrese vůči Ukrajině v roce 2014. Nyní se k nim přidává také krize koronavirová.

Za procesy, které jsou spojené s přítomností cizinců, a zároveň znamenají zásadní proměnné pro trajektorie vývoje města v porevolučním období, můžeme označit (1) internacionalizaci a s ní spjatý růst etnické diverzity obyvatelstva, (2) příliv zahraničních investic a (transnacionální) gentrifikaci především lázeňského centra, a (3) intenzivní turistifikaci téže lokality (Klsák, 2017). Cílem předkládané práce je přiblížení vývoje těchto procesů s ohledem na výše zmíněné události a se zaměřením na klíčové role cizinců v nich – tedy role obyvatel, investorů a turistů. Časovým horizontem jsou poslední jedna až dvě dekády s ohledem na dostupnost datových zdrojů. Text hledá odpovědi na následující výzkumné otázky:

- Jakým vývojem prochází složení cizinecké populace města podle občanství?
- Mění se vlastnická struktura v objektech nejvíce charakteristických jako investiční cíle ruskojozačných cizinců (novostavby bytových domů)?
- Jak se vyvíjí návštěvnost Karlových Varů a okolí z hlediska zdrojových zemí?

1. Teoretická východiska

Postupná proměna Česka z emigrační na migračně atraktivní zemi je důsledkem transformace společenských, politických i ekonomických podmínek po pádu socialistického režimu a znovunavázání globálních vazeb, a koresponduje s posunem země v rámci takzvaného migračního cyklu (Drbohlav, 2011). V návaznosti na tento vývoj se cizinci stávají stále běžnější součástí společnosti a také aktéry procesů nové sociálně prostorové diferenciaci (Ouředníček, Temelová, 2011; Přidalová, Ouředníček, 2017). Přidalová a Ouředníček (2017) na příkladu Prahy dokumentují, že témata typicky spjatá s migrací cizinců, jako jsou nejrůznější formy segregace, či sociálně prostorová polarizace, jsou v metropolitním kontextu spíše než sociálním vylučováním důsledkem gentrifikace, suburbanizace a revitalizace stávající, či lokalizace nové výstavby. Za typický prostorový projev takových procesů můžeme považovat vznik „gated communities“, separovaných lokalit luxusního bydlení v postsocialistickém prostředí nezřídka obývaných právě movitými cizinci (Brabec, 2014).

¹ Cizincem se v tomto textu v souladu s definicí MVČR i ČSÚ rozumí fyzická osoba, která není státním občanem Česka (občany zemí EU nevyjímaje).

Postihnout přítomnost a působení cizinců v Karlových Varech jedním vysvětlujícím konceptem či teorií je obtížné vzhledem k rozmanitosti jejich aktivit, původu, motivací, i socioekonomických charakteristik. Koncept transnacionální gentrifikace, kterým je označována mezinárodní mobilita osob s nadprůměrnými příjmy spjatá s investicemi do nemovitostí v zahraničí a „kolonizací“ atraktivních městských oblastí (Sequera, Nofre, 2019), může být částečně užitečným nástrojem pro pochopení chování zejména ruskojazyčných investorů. Je důležité zmínit, že tento koncept vychází z odlišného kontextu jihozápadní Evropy, kde hlavní aktéři pocházejí zejména z ekonomicky silných západoevropských zemí. Specificky jde například o movité důchodce z Německa či Velké Británie, kteří v lokalitách pobývají jak sezónně, tak i trvale (Jover, Díaz-Parra, 2019).

Dalším procesem, kterým Karlovy Vary v posledních desetiletích prošly, je intenzivní turistifikace. Tu definujeme jako výraznou transformaci prostředí města a jeho přizpůsobování se expandujícímu cestovnímu ruchu (Jover, Díaz-Parra, 2019; Ojeda, Kieffer, 2020). V Karlových Varech lze turistifikaci vysvětlovat například proměnu zaměření, ale také internacionalizaci komerčních aktivit a služeb v centru města. Transnacionální gentrifikace a turistifikace jsou koncepty, které se do určité míry se prolínají (Jover, Díaz-Parra, 2019). Společným průnikem může být jev nazývaný „Airbnbizace“ – tedy vytlačování obytné funkce lokality transformací kapacit v dočasné komerční ubytování (Sequera, Nofre, 2019). Paralelou z Karlových Varů je situace, kdy zahraniční investoři kupují nemovitosti, které využívají omezeně, a ve zbytku roku je dále pronajímají pro potřeby turistického ruchu, zpravidla však ne pomocí platformy Airbnb (Klsák, 2014; 2017).

2. Data a metody

Tento článek vychází z několika zdrojů statistických dat a předchozích analýz autora (Klsák, 2014; 2017). Informace o počtech a základních charakteristikách v Česku legálně pobývajících cizinců a návštěvníků jsou čerpány z dat Českého statistického úřadu, a především Ministerstva vnitra České republiky – konkrétně z unikátní interní databáze Ředitelství služby cizinecké policie (MVČR, 2020b). Právě databázi cizinecké policie lze považovat za vůbec nejkvalitnější a nejucelenější zdroj dat o cizích státních příslušnících v zemi.² Další data pocházejí z otevřených zdrojů RSO (ČSÚ, 2020b) a RUIAN (ČÚZK, 2020b), katastru nemovitostí (ČÚZK, 2020a) a veřejného rejstříku podnikatelských subjektů (MFČR, 2020). Ty byly využity pro identifikaci cílových objektů³ a odhad vlastnické struktury nemovitostí podle původu vlastníků. Vlastnická struktura nemovitostí byla posuzována na základě jmen fyzických osob a země původu osob zainteresovaných v podnikatelských subjektech.⁴ Zaměřena byla vzhledem ke kontextu specificky na osoby ze zemí bývalého Sovětského svazu ve vztahu k ostatním vlastníků. Data byla analyzována metodami základní deskriptivní statistiky a vizualizována v podobě grafů, mapy a tabulek.

² Přínosy i limity tohoto zdroje diskutujeme podrobněji např. v Šimon a kol., 2020.

³ Pracováno bylo s objekty postavenými v posledních 20 letech, přičemž za bytové domy jsou zde považovány objekty určené k bydlení s alespoň 4 samostatně užívanými bytovými jednotkami. Komplexy bytových domů byly posuzovány hromadně. Z analýzy byly vyřazeny objekty družstevního bydlení.

⁴ Metodika vychází z předchozích analýz provedených autorem, viz Klsák 2017.

3. Cizinci jako rezidenti

V Karlových Varech, stejně jako v řadě dalších regionálních center Česka, dochází k úbytku obyvatelstva. Částečně se jedná o projev suburbanizace, kdy obyvatelé města odcházejí do jeho zázemí – Karlovarsko však ztrácí také jako celek.⁵ Negativní bilanci obyvatelstva nicméně významně kompenzují přicházející cizinci. Za posledních 15 let roste jejich počet i podíl na celkové populaci Karlových Varů. Počet ve městě legálně dlouhodobě či trvale pobývajících občanů cizích zemí k 31. 12. 2019 přesáhl 6 tisíc a podíl se přiblížil k 13 % (ČSÚ, 2020a; MVČR, 2020b). Díky tomu se Karlovy Vary řadí mezi města s nejvyššími relativními, ale i absolutními počty cizinců v Česku.⁶

Složení karlovarské cizinecké populace je ve skutečnosti velmi rozmanité (obrázek 1). V Karlových varech žijí zástupci naprosté většiny světových občanství. Rusové byli sice dlouhou dobu největší cizineckou skupinou ve městě, jejich počet se ale minimálně od roku 2012 zmenšuje. To může souviset jak s důsledky ekonomické krize v roce 2008, tak i s ochlazením vzájemných vztahů Západu a Ruska po ruské agresi na východní Ukrajině. Právý opak platí o Ukrajincích a Vietnamcích – první jmenovaní dokonce v roce 2019 předstihli Rusy a stali se tak nejpočetnější skupinou cizinců v Karlových Varech.

Počet občanů Německa v posledních letech klesal podobně, jako tomu bylo u Rusů. Němci nicméně, jakožto občané EU, disponují právem volného pohybu a pobytu, a jejich evidence je tudíž v mnoha ohledech problematičtější, než je tomu u občanů třetích zemí (Čermák, Janská, 2011). Problematicnost objasnění migračních trendů mezi německými občany přítomnými v Karlových Varech dále prohlubuje možnost, že nezanedbatelné procento z nich by mohlo být ve skutečnosti osobami ruského původu. Praxe získávání občanství některé ze západoevropských zemí je mezi Rusy poměrně běžná, a právě v Německu jich žije velké množství (Golova, 2020). Skupinou, která podtrhuje vnímanou „ruskojazyčnost“ Karlových Varů, jsou pak občané dalších postsovětských zemí. Jejich počet ve městě v posledních letech zjevně stagnuje.

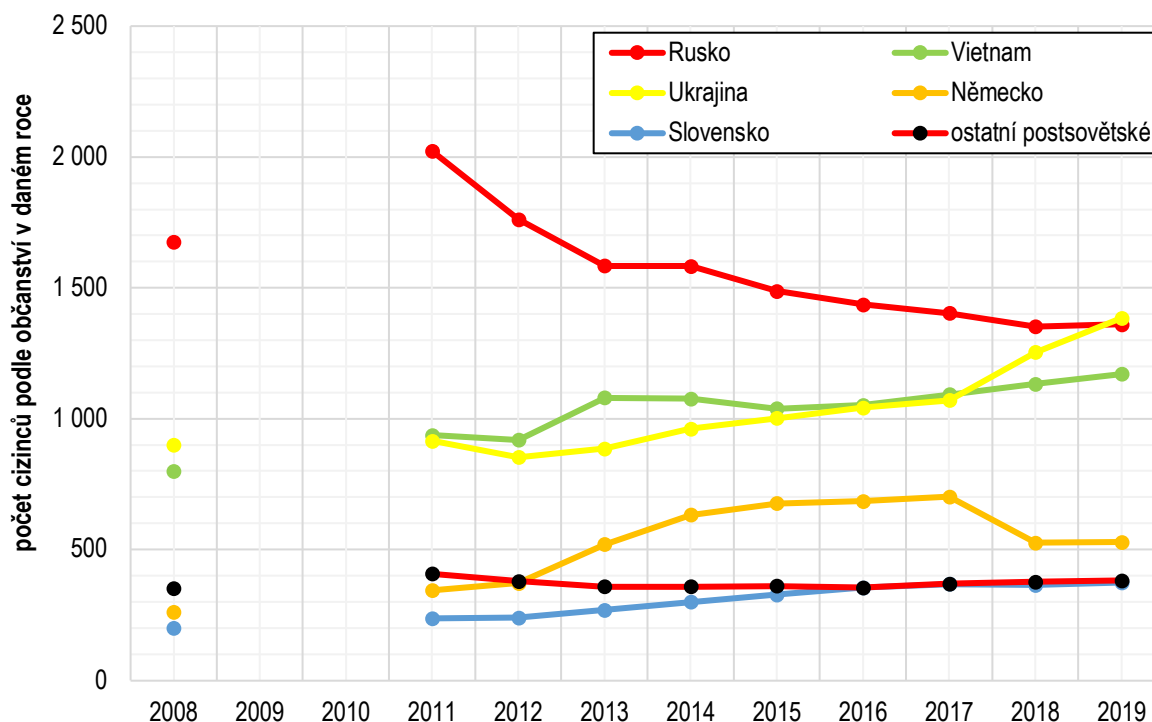
Vývoj prostorových vzorců rozmístění populace v postsocialistickém období výrazně formuje suburbanizace, jejíž součástí se postupně stávají také cizinci (Křížková, Ouředníček, 2020). Starší analýzy migračních dat ukazují, že ve specifických lokalitách zkoumané oblasti skutečně také k suburbanizaci cizinců dochází (Klsák, 2017). Nabízející se myšlenku, zda za úbytkem stavů ruské populace Karlových Varů nestojí jejich pouhý přesun do zázemí města, ovšem vyvracejí klesající počty Rusů v celém okrese⁷ (MVČR, 2020b).

⁵ Okres Karlovy Vary patří mezi vůbec nejztrátovější v Česku, jak dokazují hodnoty salda migrace i jeho hrubé míry v letech 2005–2017 (ČSÚ, 2018).

⁶ Z hlediska absolutních počtů cizinců je v Česku hegemonem Praha, která jako hlavní město plní roli vstupní brány a města s nejvíce multikulturním prostředím (Přidalová, Ouředníček, 2017). V Praze žije více než třetina všech cizinců v Česku. Nejvyšší podíl cizinců na obyvatelstvu ze sídel nad 10 000 obyvatel vykazuje Mladá Boleslav s více než 18 %. Nejvyšší relativní počty celkově pak nacházíme ve vybraných menších obcích v zázemí Prahy a v pohraničí (MVČR, 2020b).

⁷ V okrese Karlovy Vary žilo 2 430 občanů Ruska k 31. 12. 2011, v roce 2019 pak již jen 1 645, z nichž naprostá většina žije v samotných Karlových Varech (ŘSCP, 2020).

Obrázek 1: Nejpočetnější skupiny cizinců v Karlových Varech podle občanství v letech 2008 až 2019.



Zdroj: ČSÚ 2020a; MVČR 2020a, 2020b. Vlastní zpracování.

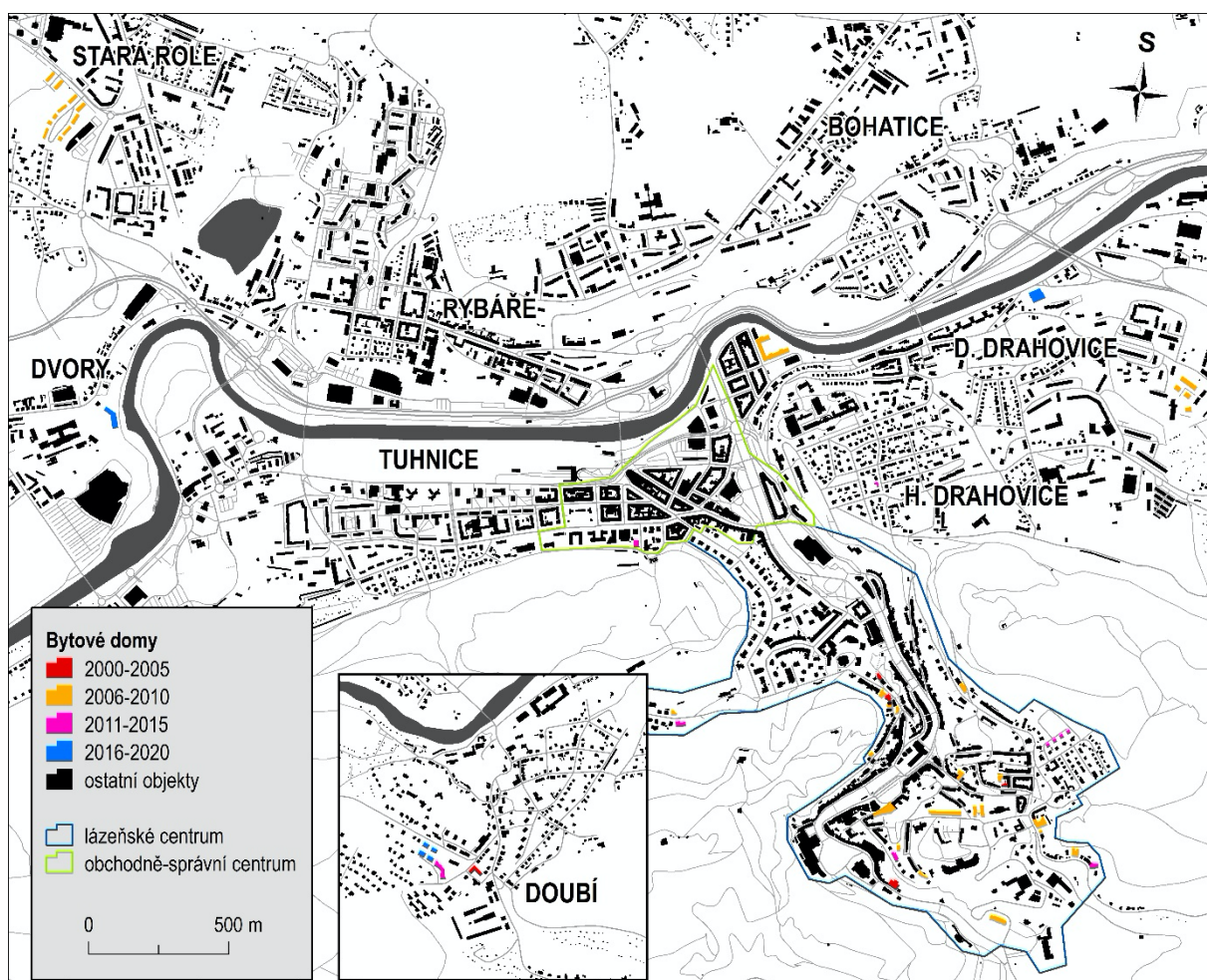
Poznámka: V letech 2010 a 2011 nebyla k dispozici podrobná data. Ostatní postsovětské = všechny ostatní země býv. SSSR kromě Ruska a Ukrajiny. Data k 31. 12. každého roku.

4. Cizinci jako investoři

Zřejmě nejvýznamnějším sektorem, do kterého cizinci v Karlových Varech investovali, jsou nemovitosti. Nakupování nemovitostí v západních zemích je charakteristickým rysem ruskojazyčných investorů. Tyto investice jsou nejčastěji vnímány jako výhodná alternativa uložení a zhodnocení finančních prostředků, pojistka pro případ emigrace, sezónní bydlení pro dovolené a svátky, či jako reprezentativní prostory pro obchodní schůzky a jednání. Nemovitosti často nejsou využívány pro trvalý pobyt, což s sebou může přinášet řadu komplikací pro město a jeho obyvatele (Bittnerová, 2012; Přidalová, 2013; Klsák, 2014; 2017).

Nejviditelnějším důsledkem investiční aktivity cizinců byl stavební boom, kterým Karlovy Vary prošly v posledních dvaceti letech. Za tuto dobu ve městě vyrostlo přes třicet bytových domů a komplexů (obrázek 2), řada stojících objektů pak prošla přestavbou či rekonstrukcí. Byty v nových objektech byly s ohledem na cenovou deformaci místního trhu s nemovitostmi skupovány téměř výhradně movitými cizinci, tedy v souladu s předpoklady konceptu transnacionální gentrifkace (Sequera, Nofre, 2019). Změny ve struktuře vlastnictví těchto objektů mohou proto být považovány za důležitý indikátor nastávajících změn (Klsák, 2017). Pohled na mapu (obrázek 2) jasně dokumentuje, že nejvíce bytových domů bylo postaveno do roku 2010, tedy v období před, v průběhu, nebo těsně po světové ekonomické krizi, která sektor stavebnictví velmi ovlivnila (Kildiené a kol., 2011).

Obrázek 2: Bytové domy postavené v Karlových Varech v letech 2000 až 2020.



Zdroj: ARCDATA PRAHA 2018; ČSÚ 2020b; ČÚZK 2020b; Geofabrik 2020. Vlastní zpracování.

Z předchozího výzkumu vyplynulo, že novostavby postavené v lázeňském centru Karlových Varů vykazují nejvyšší podíly ruskojazyčných majitelů (v řadě z nich i 100 %), ale nízký počet skutečně bydlících (Klsák, 2017). To odpovídá předpokladu malého reálného využití těchto nemovitostí k trvalému bydlení spojeného s intenzivní turistifikací lokality (Jover, Díaz-Parra, 2019). Naopak nové komplexy ležící mimo lázeňské centrum byly charakteristické nižším podílem ruskojazyčných vlastníků, ale vyššími počty reálně bydlících cizinců. Revize analýzy z roku 2017 v případě 26 objektů/komplexů bytových domů ukázala, že v téměř polovině z nich se k roku 2020 podíl ruskojazyčných vlastníků snížil (tabulka 1). Stejně tak i celkový průměr i medián těchto podílů. Na významnější změnu trendu ukazuje analýza vlastnické struktury dvou bytových komplexů zkolaudovaných v letech 2016 a 2018 (oba mimo lázeňské centrum města). Ve starším z komplexů je ruskojazyčných vlastníků přibližně čtvrtina, v novějším je to pouze 13 %. Zdá se tedy, že zatímco u stávajících nemovitostí probíhá proměna majetkové struktury relativně pomalu, do nových nemovitostí proudí již podstatně méně „ruského“ kapitálu. K tomu pravděpodobně dochází jak z důvodu poklesu zájmu ze strany ruskojazyčných investorů, tak i úrovně jejich finančních možností.

Tabulka 1: Vývoj podílů ruskojazyčných vlastníků ve vybraných objektech a areálech bytové výstavby v Karlových Varech.

lokalizace	pokles	stagnace	nárůst	průměr/medián 2017	průměr/medián 2020
Lázeňské centrum	9	9	3	93,4 / 96,4	89,3 / 93,3
Mimo lázeňské centrum	3	0	2	61,3 / 57,6	58,3 / 47,5

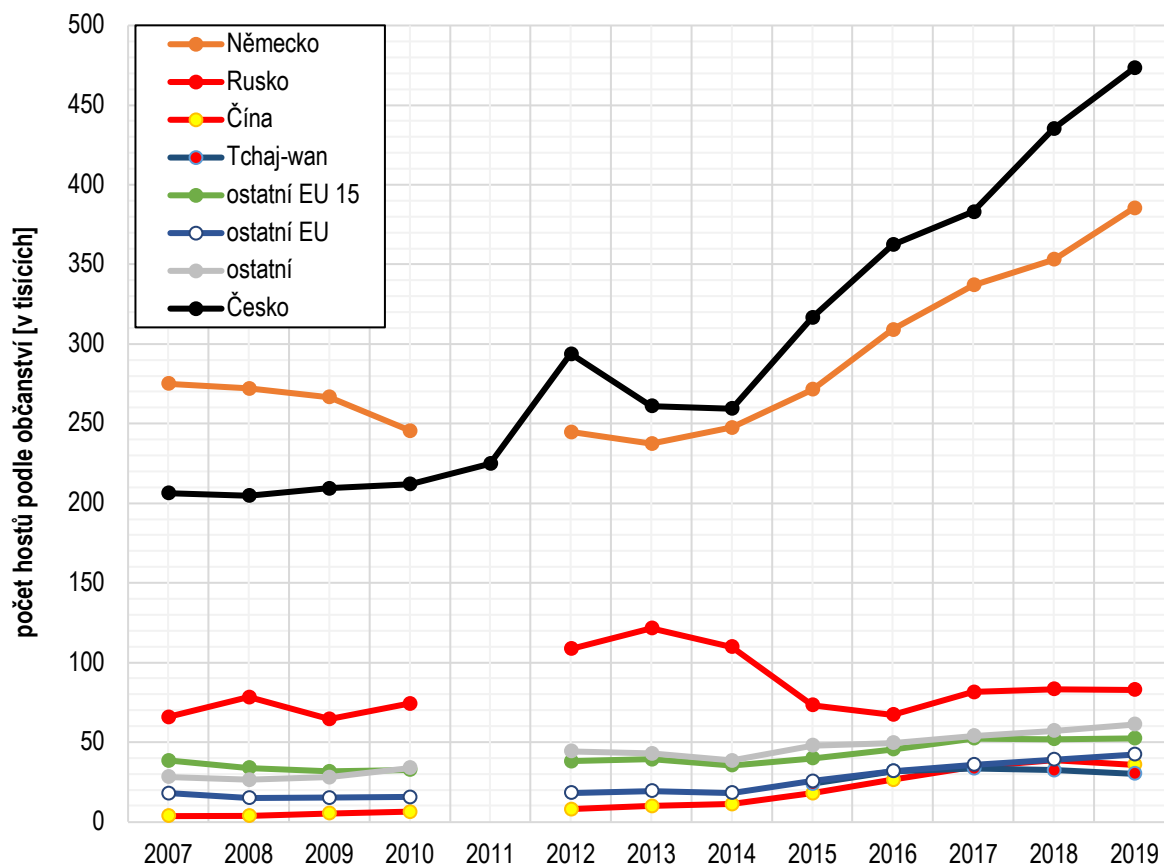
Zdroje: Klsák, 2017; ČÚZK, 2020a, MFČR, 2020.

Poznámky: pokles/stagnace/nárůst = počet objektů, v nichž se ve sledovaném období počet ruskojazyčných vlastníků snížil/zůstal stejný/zvýšil.

5. Cizinci jako návštěvníci

Dlouhodobě nejvýznamnějšími skupinami, které v rámci cestovního ruchu navštěvují Karlovarský kraj, jsou z hlediska občanství Češi a Němci – ostatní skupiny za nimi řádově zaostávají (viz obrázek 3). U obou těchto skupin lze ovšem předpokládat, že ve větší míře navštěvují širší region, než je tomu u Rusů, pro něž jsou Karlovy Vary (respektive Lázeňský trojúhelník) výrazně preferovanou destinací (Čermák, Janská 2011; Klsák, 2014; Kostková, Pellešová, 2017).

Obrázek 3: Návštěvnost Karlovarského kraje podle občanství v letech 2007 až 2019 (nejvýznamnější skupiny).



Zdroj: ČSÚ 2020c. Vlastní zpracování.

Poznámka: za rok 2011 nejsou dostupná data o počtu nerezidentů, občané Tchaj-wanu jsou evidováni až od roku 2015. Data k 31. 12.

Zatímco u Němců a návštěvníků ze zemí EU po ekonomické krizi docházelo k poklesu, respektive stagnaci návštěvnosti, počty ruských návštěvníků naopak rostly až do roku 2013. Od roku 2014 – tedy roku ruské anexe Krymu a napadení východní Ukrajiny – pak začaly velmi výrazně klesat. V domácím prostředí zatím nepříliš početné studie naznačují souvislost s dlouhodobějším poklesem hodnoty Rublu a s přehodnocováním dovolenkových destinací Rusů vlivem zhoršování vzájemných vztahů se Západem. Významnou komplikací může být také česká vízová politika (Kostková, Pellešová, 2017). Vliv geopolitického dění na preference i možnosti ruských turistů potvrzuje i zahraniční literatura, a to nejen na příkladu ochlazení vztahů mezi Ruskem a EU po ukrajinské krizi (Álvarez-Díaz a kol., 2019), ale také vztahů rusko-tureckých po incidentu se sestřelením ruského bombardéru v blízkosti tureckého vzdušného prostoru v roce 2015 (Cengizci a kol., 2020). Byť v Karlovarském kraji došlo v posledních letech k opětovnému mírnému nárůstu počtů ruských turistů, návrat k nejvyšším hodnotám je nepravděpodobný i vzhledem k současné pandemii koronaviru COVID-19. Od roku 2014 do roku 2019 pak můžeme pozorovat výraznější nárůst nejen u dvou nejpočetnějších skupin (Česko, Německo), ale také do té doby méně významných skupin zbytku Evropy i světa.

Zcela zásadní dopad na zahraniční cestovní ruch jako celek bude mít nepochybně již zmíněná koronavirová krize. Průběžná data za tento rok naznačují, že ve druhém čtvrtletí roku 2020 v lázeňských ubytovacích zařízeních v Česku došlo k meziročnímu snížení počtu zahraničních návštěvníků o 94 % a v Karlovarském kraji chybělo ubytovatelům více než milion přenocování (Vančura, 2020). První „koronavirová“ sezóna naznačila, že může dojít k částečnému nahrazení zahraniční klientely domácí, to však zřejmě není dlouhodobě udržitelná situace. Budoucí vývoj v celém sektoru služeb je v současné chvíli velkou neznámou.

Závěr

Cizinci v Karlových Varech tvoří skupinu s významným vlivem na řadu procesů. Snížení jejich počtů, případně utlumení činností a kapitálu v různých sférách může znamenat do budoucna velkou výzvu pro místní ekonomiku i veřejnou správu. Ačkoliv stále roste celkový počet i podíl cizinců ve městě, zejména Rusové intenzitu svých karlovarských aktivit postupně utlumují – a to vlivem ekonomických i geopolitických aspektů. Přibývá naopak především Ukrajinců a Vietnamců, kteří se vyznačují jinými socioekonomickými charakteristikami. Dřívější enormní investiční aktivita ruskojazyčných cizinců do značné míry deformovala místní trh s nemovitostmi, který se může opět dostat na cenovou hladinu dostupnou širšímu spektru obyvatel, a tím otevřít pro město nový potenciál. Otázkou dále je, jak do místního dění zasáhne globální pandemie koronaviru COVID-19, u které je však již nyní jasné, že bude mít zásadní celospolečenské dopady v celém světě. V případě Karlových Varů, jakožto města se silnými globálními vazbami v oblasti ekonomiky i cestovního ruchu, lze předpokládat ještě výraznější důsledky, než tomu bylo u událostí zde šířeji diskutovaných.

Ambicí tohoto textu bylo nastínění nedávného vývoje Karlových Varů s ohledem na roli cizinců jako obyvatel, investorů a turistů pro potřeby iniciace odborné i veřejné diskuze, případně navazujících analýz. Prostřednictvím zde využitých metod lze usuzovat na souvislosti mezi zmiňovanými celosvětovými událostmi a analyzovanými procesy mezinárodní gentrifikace a turistifikace. Pro zjištění hlubších souvislostí bude nutné prozkoumat nejrůznější aspekty procesů spjatých s přítomností cizinců ve městě (změny v jeho rozmístění v mikroměřítku, kompletní vlastnická struktura, přesnější a rozsáhlejší analýza cestovního ruchu; rozhovory

s klíčovými aktéry). Právě důkladná a kvalifikovaná znalost vývoje a pochopení souvislostí mohou pomoci klíčovým místním aktérům zvládat efektivně výzvy, které je blízké době čekají.

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Poděkování

Tento výzkum byl podpořen Grantovou agenturou Univerzity Karlovy v rámci projektu č. 1574319 „Role cizinců v klíčových (post)transformačních procesech v českých městech.“ Je také součástí projektu č. 19-03211S „Rezidenční segregace a mobilita cizinců: analýza sousedství, rezidenčních drah a sousedských efektů“ financovaného Grantovou agenturou České republiky.

PUBLIKACE 6:

ŠIMON, M., KŘÍŽKOVÁ, I., KLSÁK, A. (2020): Migranti ve vybraných městech
Česka 2008–2015: Analýza změny prostorového rozmístění s využitím populačního
rastru. *Geografie*, 125, 3, 343–374.

Autorský podíl 30 %.

Migranti ve vybraných městech Česka 2008–2015: analýza změny prostorového rozmístění s využitím populačního rastru

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ABSTRACT **Immigrants in large Czech cities 2008–2015: the analysis of changing residential patterns using population grid data** – This article contributes to the discussion of the segregation of immigrants by presenting evidence from a new destination country of international migration. It explores residential patterns of immigrants, defined by citizenship, and their development in selected large Czech cities. The analysis is focused on six main immigrant groups. New register data provided by Alien Police of the Czech Republic are utilized for the computation of geospatial grid data. The changes in population distribution are measured by the dissimilarity index, which is commonly used in segregation research. The main result indicates a major trend of decreasing spatial dissimilarity between the Czech majority and immigrant groups. The steady and slow inflow of immigrants does not lead to distinct patterns of segregation in the country – with a few specific exceptions.

KEY WORDS segregation – immigrants – international migration – population grid data – Czechia

ŠIMON, M., KRÍŽKOVÁ, I., KLSÁK, A. (2020): Migranti ve vybraných městech Česka 2008–2015: analýza změny prostorového rozmístění s využitím populačního rastru. *Geografie*, 125, 3, 343–374. <https://doi.org/10.37040/geografie2020125030343>

Do redakce došlo v květnu 2019, přijato do tisku v únoru 2020.

Úvod

Přítomnosti migrantů a jejich aktivitám je věnována značná pozornost veřejnosti, médií i politických subjektů. Počet migrantů a jejich význam na trhu práce v posledních desetiletích v Česku skutečně roste. Nikoli ale v souvislosti s migrační vlnou z Blízkého východu a Afriky, která kulminovala v roce 2015, ale spíše v důsledku vysoké poptávky po pracovní síle. Migrantů přibývá především ve velkých městech, doposud ale česká odborná literatura jen v malé míře reflektovala problematiku rozmístění migrantů na vnitroměstské úrovni. To bylo způsobeno především absencí dat o počtech migrantů v dostatečném detailu v období mezi sčítáními lidu (Bernard, Leontiyeva 2013; Leontiyeva, Vojtková 2006).

Cílem textu je proto poskytnout nový longitudinální pohled na lokalizaci bydlení (trvalá bydliště) migrantů ve 14 velkých českých městech. Zvolili jsme pro tyto účely krajská města a Kladno jako zástupce Středočeského kraje. Naše studie je založena na porovnání měst mezi sebou a vývojových změn v jednotlivých městech v období 2008–2015. Z hlediska datových zdrojů vychází z analýzy geolokalizovaných anonymizovaných dat poskytnutých Ministerstvem vnitra České republiky, která byla doposud v akademickém výzkumu využita jen minimálně (Šimon a kol. 2020, Šimon 2020). Pohled na segment populace migrantů registrovaných k dlouhodobému a trvalému pobytu v Česku nám umožňuje zachytit základní vzorce a trendy v jejich prostorovém rozmístění.

Za klíčové faktory rozhodující o stavu a vývoji prostorových vzorců rezidenční segregace je ve městech tradičních imigračních zemí považováno mimo jiné etnické složení populace, migrační historie oblasti, podoba migračních sítí, kulturní a ekonomické rozdíly mezi majoritou a migranty a velikost města (podrobněji o faktorech ovlivňujících prostorové rozmístění a segregaci imigrantů např. Hasman, Novotný 2017; Křížková, Ouředníček 2020; Murdie, Borgegård 1998). Česko ale patří mezi země, které se mezi výrazně přistěhovalecké zařadily teprve nedávno (Drbohlav 2011). Nabízí se tak možnost provést srovnání, nakolik jsou předpoklady a poznatky známé ze západního světa aplikovatelné u nás. Studií, které by se o podobný výzkum pokoušely mimo tradiční imigrační země, je totiž doposud jen málo (viz např. Hasman, Novotný 2017; Přidalová, Hasman 2018; Přidalová, Ouředníček 2017; Tammaru a kol. 2015; Van Kempen 2007). Poptávka po nich však velmi pravděpodobně dále poroste v souvislosti s vývojem mezinárodní migrace ve světě.

Pro potřeby explorační analýzy vzorců rozmístění migrantů ve velkých městech Česka jsme navrhli tři základní vývojové scénáře, které dávají do souvislosti procesy segregace migrantů a velikostní hierarchii sídel, a které nám umožňují srovnání velikostně heterogenního souboru měst s různě početnými minoritami. Tyto scénáře jsme nazvali (1) jednotným, (2) duálním a (3) individualizovaným. V případě jednotného scénáře (1) předpokládáme, že trendy v rozmístění bydlišť

migrantů pozorované v hlavním městě se budou analogicky vyvíjet i v dalších městech s určitým časovým odstupem. Ostatní města tak budou vykazovat totožné či velmi podobné trendy v rezidenční segregaci. Předpoklad platnosti tohoto scénáře vychází z poznatků z tradičních imigračních zemí, které ukazují, že segregace migrantů se napříč studovanými městy v čase vyvíjí podobně (Peach 2009). Spolu s tendencí k postupnému šíření imigrace z hlavních center do dalších měst (viz např. Walton-Roberts 2011) lze proto očekávat také podobné změny rozmístění uvnitř těchto sídel. Duální scénář (2) očekává, že trendy v rozmístění bydlišť migrantů v hlavním městě se budou výrazně lišit od situace v menších městech. Při porovnání menších měst mezi sebou pak budeme pozorovat totožné či obdobné trendy. V takovém případě by bylo oprávněné předpokládat, že nejen důsledky, ale i klíčové faktory a hybné síly segregace se budou v těchto dvou kategoriích vzájemně lišit (Bolt, van Kempen, van Ham 2008). Třetí scénář, individualizovaný (3), vychází z předpokladu, že mezi městy nelze vypořádat žádný jasný trend, a že se z hlediska rozmístění migrantů vzájemně nepodobají. Na každé z měst je třeba nahlížet jako na individuální, unikátní případ, který se vyvinul v konkrétním historickém a regionálním kontextu, a který má specifickou strukturu obyvatelstva a podléhá specifické kombinaci působení lokálních i globálních sil. Rozmístění bydlení migrantů bude v závislosti na kombinaci těchto vstupů produkovat velmi odlišné vzorce prostorové segregace v různých lokalitách či kategoriích lokalit (Aldén, Hammarstedt, Neuman 2015).

V článku chápeme segregaci jako míru odlišnosti prostorového rozmístění různých populací, v našem případě majority a migrantů ve vybraných velkých českých městech. Ačkoli se jedná o multidimenzionální jev, k jehož hodnocení existuje řada indikátorů (Massey, Denton 1988; Reardon, Sullivan 2004; Yao a kol. 2019), v příspěvku se – vzhledem k jeho ambici představit vývoj segregace v dosud neřešeném územním detailu a období – věnujeme pouze dimenzi územní nerovnoměrnosti. Ta prostřednictvím tradičního ukazatele, indexu odlišnosti, srovnává prostorové vzorce rozmístění vybrané minoritní skupiny oproti zbytku populace. Za více segregovanou je tedy považována taková skupina, jejíž členové jsou rozmístěni méně rovnoměrně než ostatní obyvatelstvo. K rozlišení minoritní a majoritní populace využíváme státní občanství obyvatel z důvodu datové dostupnosti. Využití těchto dat je založeno na premise, že státní občanství postihuje relevantní rozdíl mezi majoritou a minoritami. Využitím legálně-právní definice abstrahujeme od otázek sebe-identifikace, vnitřní skupinové heterogenity a naturalizace migrantů.

První část článku poskytuje základní informace o populaci migrantů v Česku a možnostech a limitech jejího dosavadního poznání. Ve druhé části Data a metody představujeme analytické možnosti nového datového zdroje pro výzkum populačních změn. Data registrového typu z Cizineckého informačního systému Ministerstva vnitra České republiky nabízí nové analytické možnosti a zároveň

přinášejí nové metodologické a etické výzvy. Třetí empirická část rozebírá vzorce a trendy v rozmístění bydlišť migrantů v období 2008–2015. Dokládá dominantní trend poklesu prostorové odlišnosti majoritní společnosti a minoritních populací. Článek uzavírá diskuze přínosů této studie pro výzkum, jejích limitů a potenciálních důsledků pro praxi veřejných politik.

Prostorové rozmístění migrantů v hlavních a sekundárních městech: rozdíly a podmíněnosti

Hlavní města a jejich regiony jsou zpravidla politickými, ekonomickými a kulturními centry celého státu, váží na sebe řadu typicky městských funkcí a jsou výrazně integrovány do globálních sítí (Connolly 2008; Cardoso, Meijers 2016). Slouží jako brány vstupu do země a bývají tudíž nejintenzivněji vystaveny mezinárodní migraci. S ohledem na koncentraci specifických funkcí se může také struktura v hlavním městě bydlicích a pracujících migrantů lišit od ostatních měst. Jako typickou uveďme například větší přítomnost mladých a vysoce kvalifikovaných pracovníků obsazujících pozice v managementu firem, případně vědě a výzkumu (Champion, Coombes, Gordon 2014).

Některé studie, pocházející například z USA, Švédska či Nizozemska, přichází se zjištěním, že hlavní a velká města mají tendenci vykazovat vyšší míru rezidenční segregace, což lze připisovat typicky vyšším úrovním socio-ekonomické polarizace, než jaké nacházíme v sekundárních centrech (Massey, Denton 1989; Krupka 2007; Haase a kol. 2011; Östh, Malmberg, Andersson 2015). Tyto studie ukazují, že čím větší je diverzita obyvatelstva města, tím více lze předpokládat promítání této rozmanitosti do jeho prostoru. Jiné výzkumy naopak tvrdí, že porovnání úrovně segregace v hlavním městě a v sekundárních centrech ukazuje na podobnost vzorců v obou kategoriích měst (Bolt, van Kempen, van Ham 2008; Peach 2009; Aldén, Hammarstedt, Neuman 2015). Na příkladu metropolitních oblastí USA pak Hall (2013) demonstruje, že města s dlouhodobě vyšší fluktuací obyvatelstva a nové imigrační lokality mají nižší úroveň segregace, než je tomu u měst migrací spíše nezasažených.

Procesy spojené s rozmístěním migrantů v městském prostoru se snaží podchytit a vysvětlit řada teorií a disciplinárních přístupů. Podle teorie prostorové asimilace je klíčovým faktorem stavu segregace především sociokulturní vzdálenost mezi etniky, respektive mezi hostitelskou a menšinovou populací. Daří-li se jejich sociální a ekonomická integrace do společnosti, dochází v průběhu času k disperzi menšinové populace napříč prostorem, a tudíž vzorce jejich socio-prostorové diferenciaci konvergují ke vzorcům majority (Massey 1985; Alba, Nee 2003). Behaviorální přístupy zdůrazňují, že výsledná segregace nebo její absence je ovlivněna zejména rozhodováním a rezidenčními preferencemi jednotlivých

domácností a skupin (Van Kempen, Özüekren 1998). Odlišujícími faktory mezi městy jsou z tohoto pohledu především rozdílná struktura populace migrantů a z ní vyplývající specifické požadavky na lokalizaci v rámci města. Koncept trhem řízeného pluralismu (*market-led pluralism*) staví do popředí fungování lokálního trhu s nemovitostmi (Chung, Brown 2007). Nabídka a struktura trhu s bydlením, která je stimulována a omezována institucionálními aktéry jako je stát, místní samospráva, developeři či realitní agenti, ovlivňuje rozložení obyvatelstva ve městě skrze přístup jednotlivých skupin k bydlení (Van Kempen, Özüekren 1998; Arbací 2007). Nakonec je to přístup takzvané kontextuální diverzity, který zdůrazňuje důležitost lokálních specifik a odlišných počátečních podmínek, které vedou k rozdílným vzorcům prostorové segregace v rozdílných prostředích a měřítkách (Van Kempen, Özüekren 1998; Maloutas, Fujita, eds. 2012). Jako příklad může posloužit odlišný vliv deindustrializace na heterogenní a ekonomicky více diverzifikovanou populaci hlavního města, kde ústup průmyslu zřejmě bude mít menší vliv na rezidenční mobilitu, než je tomu v případech menších měst s vyšším podílem zaměstnanosti v sekundéru.

Uvedené teoretické přístupy identifikují významné faktory ovlivňující rezidenční segregaci v tradičních imigračních zemích a poskytují relevantní vodítka pro hledání příčin rozdílného stavu a vývoje prostorového rozmístění migrantů též v Česku. Vzhledem k explorační povaze tohoto článku se dále soustředíme především na tradiční teorii prostorové asimilace, jejíž hlavní předpoklad – pokles segregace v čase – lze přehledně empiricky ověřit pomocí nám dostupných dat. Dosavadní poznatky prostorového rozmístění cizinců v Česku zároveň naznačují, že faktory považované touto teorií za klíčové – kulturní a ekonomická blízkost majority a migrantů – hrají významnou roli také zde, byť do různé míry u odlišných migračních skupin (Janská, Bernard 2018; Přidalová, Ouředníček 2017).

Vývoj a rozmístění populace migrantů v Česku

V dlouhém období mezi druhou světovou válkou a rokem 1989 bylo Česko (resp. Československo) migračně ztrátovou zemí s etnicky homogenní strukturou¹. S výjimkou pobytu občanů z takzvané spřátelených zemí východního bloku neměla česká populace výraznější zkušenost s migranty. Po Sametové revoluci se situace začala postupně měnit. Nejprve směrem k tranzitnímu charakteru země, kdy Česko sloužilo jako brána do západní Evropy, až k dnešnímu stavu, kdy Česko z hlediska intenzity imigrace ze zahraničí dosahuje hodnot srovnatelných s některými západoevropskými zeměmi (Čermák, Janská 2011; Drbohlav 2011; Drbohlav,

¹ Odlišné migrační a národnostní poměry v Česku v tomto období a před ním diskutují např. Přidalová, Pospíšilová, Nemeškal (2015) či Přidalová, Ouředníček, Nemeškal (2015).

Tab. 1 – Počet a podíl migrantů ve vybraných městech Česka v letech 2008 a 2015

	2008		2015	
	Počet migrantů	Podíl migrantů na obyvatelstvu města (%)	Počet migrantů	Podíl migrantů na obyvatelstvu města (%)
Praha	148 730	12,1	186 334	14,4
Brno	20 672	5,6	28 028	7,4
Ostrava	10 592	3,4	10 601	3,6
Plzeň	13 401	7,9	14 610	8,5
Liberec	7 154	7,1	7 136	6,9
Olomouc	3 214	3,2	3 711	3,7
Ústí nad Labem	4 636	4,9	4 424	4,8
Hradec Králové	3 982	4,2	3 899	4,2
České Budějovice	3 299	3,5	4 462	4,8
Pardubice	3 488	3,9	5 769	6,4
Zlín	1 676	2,2	1 951	2,6
Kladno	3 370	4,8	4 558	6,6
Karlovy Vary	4 975	9,7	5 884	12,1
Jihlava	1 791	3,5	2 089	4,1

Zdroj: MVČR 2008, 2015, ČSÚ 2018

Lesińska 2014). Počet migrantů dlouhodobě rostl i přes mírné poklesy způsobené zpřísněním migrační politiky kolem roku 1999 a obdobím ekonomické krize po roce 2008 (Baršová, Barša 2005; Kušniráková, Čížinský 2011). Data o rostoucím počtu udělených trvalých pobytů pro občany cizích zemí svědčí o tom, že migranti se v Česku etabloují (Přidalová, Hasman 2018). K roku 2017 podle ČSÚ (2003, 2018) pobývá v Česku legálně 525 tisíc migrantů z cizích zemí, v roce 2000 to bylo jen asi 200 tisíc. Nejvíce migrantů pochází ze zemí střední a východní Evropy a bývalého Sovětského svazu. Mezi ně můžeme řadit dvě největší skupiny – Ukrajince (117 tisíc), následované Slováky² (110 tisíc) – a dále také Rusy (37 tisíc). Nejpočetnější skupinou migrantů pocházejících z kulturně odlišného prostředí jsou Vietnamci, jejichž populace v Česku (60 tisíc) je vlivem velmi specifického historického vývoje vztahů obou zemí třetí největší na světě mimo Vietnam a USA (Kušniráková, Plačková, Tran Vu 2013). Občanů zbývajících zemí Evropské unie je 110 tisíc.

Historický vývoj a struktura mezinárodní migrace do Česka jsou i přes některé výše zmíněné průniky odlišné od tradičních imigračních zemí. Ačkoliv jsme si vědomi limitů teorie prostorové asimilace při objasňování dnešní prostorové mobility migrantů v tradičních migračních zemích (Alba, Nee 2003; Zelinsky, Lee 1998), v současném českém kontextu se podle našeho názoru jeví tento model jako

² Přestože se jedná o skupinu obyvatel často zcela neodlišitelnou od majoritní populace, z hlediska statistiky je nutno na občany Slovenska pohlížet jako na cizince. Vzhledem k povaze využitých dat proto Slováci zahrnujeme do množiny migrantů.

relevantní pro vysvětlení vzorců rezidenční segregace migrantů.³ Jedním z klíčových faktorů rozhodujících o formě této rezidenční segregace u nás je sociokulturní blízkost migrantů k majoritě, jak naznačuje příklad Ukrajinců (Uherek 2003, Ouředníček 2016). Většina populace migrantů v Česku je koncentrována do měst a příhraničních oblastí, přičemž prostorové rozmístění má západovýchodní gradient (Čermák, Janská 2011; Drbohlav 2011; Janská, Čermák, Wright 2014). Přes 60 % zahraničních migrantů žije ve čtrnácti největších městech (tab. 1), třetina pak v samotné Praze, která vykazuje největší diverzitu cizinecké populace.

Prostorová distribuce migrantů se liší podle jednotlivých skupin občanství. Například Ukrajinci mají tendence vyhledávat větší města, což souvisí s jejich zaměřením na pracovním trhu – nejčastěji nacházejí uplatnění ve stavebnictví. Vietnamská populace je více rozprostřena mezi větší i menší města a pohraničí kvůli typické orientaci na maloobchod (Janská, Bernard 2015). V Praze je koncentrována většina občanů západních zemí, kteří zde obvykle působí jako kvalifikovaná pracovní síla. Tomu také odpovídají jejich rezidenční preference na mikroúrovni (Přidalová, Ouředníček 2017).

V oboru geografie obyvatelstva v Česku existuje řada prací, které se tématy rezidenční mobility a rozmístění migrantů zabývaly. Tyto výzkumy se ale potýkaly s dvěma podstatnými omezeními. Prvním z nich jsou samotné zdroje dat o cizincích – jejich dostupnost, kvalita a detail. Neúplné pokrytí daty v desetiletém období mezi sčítáními lidu neumožňovalo longitudinální pohled na rozmístění migrantů v dostatečném detailu. Cenzová data poskytla detailní vzhled do situace, nicméně pouze pro jeden časový řez, jehož validita s časem klesala. Také samotná evidence migrantů v průběhu sčítání je obtížná (Leontiyeva, Chytil 2012). Výzkumníci proto volili alternativní analytické strategie zaměřené na poznání různých aspektů života migrantů v Česku s výjimkou systematického poznání jejich prostorového rozmístění a pohybu. Realizovány byly výzkumy na základě dotazníkových šetření mezi migranty (Drbohlav, Džurová 2017; Janská, Bernard 2018), případové studie konkrétních lokalit (Vašát, Bernard 2015; Sýkora a kol. 2016) či zaměřené na konkrétní skupiny (Šnajdr, Drbohlav 2016; Janíčko 2012; Janská, Pauknerová, Koropecská 2017), nebo dále práce zaměřené na rozdíly mezi skupinami (Hasman, Novotný 2017), či dokonce ještě úžeji vymezené části populací (Hasman, Kostecká, Hána 2016; Kostecká a kol. 2013). Dalším problematickým aspektem dosavadního výzkumu je využívání administrativních jednotek jako referenčních území pro hodnocení populačního vývoje v území. Rozdíly ve velikosti

³ Model byl formulován na příkladu amerického Chicaga konce 19. a počátku 20. století, kdy do města přicházeli zejména migranti z evropských zemí. Jejich prostorová asimilace byla umožněna kulturní a vizuální podobností s majoritní společností (Zelinsky, Lee 1998). V tomto ohledu se specifický mix migrantů v Česku, kde převažují osoby ze střední a východní Evropy, blíží výše popsání situaci migrace do Chicaga.

a tvaru jednotek mají negativní vliv na měření úrovně segregace. Srovnatelnost zjištěných výsledků tak ztěžuje problém proměnlivé prostorové jednotky známý jako MAUP – Modifiable Area Unit Problem (Openshaw 1984).

Z těchto důvodů zůstávají rozmístění bydlení a mobilita migrantů uvnitř českých měst doposud méně probádanými tématy. Výjimkou jsou analýzy a publikace založené na průběžné statistice v detailu okresů (Novotný, Janská, Čermáková 2007) a na sčítáních lidu 2001 a 2011, která ale neumožňují sledovat do detailu vývojovou dynamiku. Analýzy rozmístění migrantů v letech sčítání lidu v podrobnosti základních sídelních jednotek byly publikovány za obce s rozšířenou působností a Prahu (Ouředníček, Novák 2007; Sýkora 2009; Přidalová, Ouředníček 2017). Podrobnější analýza rozmístění migrantů ve velkých městech v Česku doposud chybí, přestože regionální centra hrají v tomto ohledu významnou roli (Čermák, Janská 2011; Janská, Bernard 2015).

Data a metody

Tento výzkum využívá data o cizinecké populaci z databáze Ministerstva vnitra, konkrétně pak Ředitelství služby cizinecké policie (ŘSCP), z let 2008, 2011 a 2015. Databáze ŘSCP obsahuje informace o kompletní populaci migrantů (definovaných jako cizinci – osoby s jiným než českým občanstvím) registrovaných k přechodnému či trvalému pobytu na území Česka.⁴ Databáze obsahuje adresu pobytu a další údaje o osobách podle potřeb správce dat. Tato data jsou primárně určena pro vnitřní účely Ministerstva vnitra a Policie České republiky a v surové podobě nejsou vhodná ani standardně dostupná pro výzkumné účely. V našem výzkumu využíváme data o státní příslušnosti migrantů k 31. 12. v letech 2008, 2011 a 2015 ve vybraných velkých městech Česka, přičemž analyzujeme všechna krajská města a Kladno jako největší město Středočeského kraje.

Abychom tato data mohli využít pro výzkumné účely, pracovat s nimi a provádět geografické analýzy, bylo nutné je transformovat. Pro získání takového formátu dat, který by umožnil zajistit adekvátní míru anonymity a zároveň zachoval dostatečnou míru prostorového detailu, jsme se inspirovali u zahraničních kolegů. Využili jsme k tomu zkušenosti a konkrétní praxe, které běžně aplikují pro tento typ výzkumu statistické úřady v zemích s populačními registry (např. Švédsko,

⁴ Databáze nedisponuje informacemi o pobytu cizích státních příslušníků, jejichž pobyt na území Česka není podmíněn udělením povolení k pobytu, ani těch, kteří v Česku pobývají neoprávněně. První skupina představuje především občany států EU pobývajících v Česku méně než tři měsíce. Druhá skupina zahrnuje zejména osoby, které na území Česka vstoupily bez platného povolení k pobytu, a osoby, které do země vstoupily oprávněně, ale platnost jejich povolení k pobytu již vypršela.

Nizozemsko, Belgie). Vhodně zvolené nastavení prostorového detailu analýzy umožní získat nové poznatky o trendech rozmístění migrantů v Česku při zajištění dostatečné úrovně anonymity. Adresná data jsme v prvním kroku geolokalizovali a ověřili jejich validitu vůči datové vrstvě adres ČÚZK. Automatizovaným a polo-automatizovaným párováním dat jsme našli shodu u více než 99,5 % záznamů v jednotlivých letech, což ukazuje vysokou spolehlivost datového zdroje.⁵ Záznamy, které obsahovaly nekompletní údaje zabraňující jednoznačné geolokalizaci dat, jsme proto z analýzy vyřadili.

V druhém kroku jsme data prostorově anonymizovali tak, že jsme adresný atribut nahradili identifikátorem konkrétního čtverce prostorového rastru, do kterého územně spadá. Zvolili jsme detailní rastr o velikosti hrany čtverce 250 metrů, který je vhodný pro městské prostory a který využívala studie Malmberg a kol. (2018; podobnou metodiku viz též v pracích Andersson, Lyngstad, Sleutjes 2018; Hennerdal, Nielsen 2017). Největší město Praha má tak 9 328 jednotek a nejmenší Kladno 928. Provedli jsme i agregaci do hrubšího rastru o velikosti hrany 1 000 metrů, jejíž výhodou je menší počet řídce zalidněných územních jednotek, nevýhodou však nižší počet územních jednotek vstupujících do analýzy a větší riziko MAUP. Porovnání výsledků na dvou úrovních velikosti rastru umožňuje posoudit vliv velikosti prostorové jednotky na naměřené indexy. Konkrétní parametry převodu dat do populačního rastru jsme nastavili tak, aby byly shodné se současnými předními výzkumy rezidenční segregace v Evropě. Získané výsledky jsou tudíž srovnatelné na evropské úrovni (Andersson a kol. 2018; Andersson, Lyngstad, Sleutjes 2018).

Ve třetím kroku jsme populaci migrantů rozdělili pro potřeby analýzy do šesti skupin podle státního občanství. První tři soubory tvoří největší skupiny migrantů v Česku – Ukrajinci (23 %), Slováci (22 %) a nakonec Vietnamci (12 %). Tyto skupiny jsou analyzovány samostatně. Zbýlé tři skupiny jsou vytvořeny jako agregáty na základě makro-regionálního členění zemí světa. První agregovaná skupina je tvořena obyvateli středo- a východoevropských zemí a zemí bývalého Sovětského svazu (bez Slovenska a Ukrajiny) a reprezentuje 24 % migrantů registrovaných v Česku. Pátá skupina západní Evropy (10 %) se skládá z občanů zemí EU-15 a Islandu, Lichtenštejnska, Norska a Švýcarska. Poslední skupina zahrnuje zbytek

⁵ Problematické aspekty databáze lze členit do dvou skupin. Zaprvé se jedná o určitou míru chybovosti záznamů ze strany zpracovatele. Ta může vzniknout chybou při vkládání záznamů do systému. Druhým problematickým aspektem je rozdíl mezi hlášeným bydlištěm a skutečným místem pobytu. Migrantí, stejně jako majoritní populace, mohou pobývat na jiné adrese, než na jaké jsou oficiálně hlášeni (problematická je evidence zejména u občanů EU, obdobně jako u majoritní populace). V některých ojedinělých případech se migranti také registrují na místních registračních odděleních cizinecké policie, nicméně tato oddělení mohou sdílet adresu s běžným bytovým fondem.

zemí světa (9 %). Takto vymezené skupiny migrantů byly následně agregovány do výše definovaných prostorových rastrů. Výsledná geodatabáze obsahuje agregovaná a anonymizovaná data o populaci v detailní úrovni prostorových rastrů pro roky 2008, 2011 a 2015.

Pro podchycení změn v rozmístění migrantů jako celku a jednotlivých skupin v čase používáme standardně využívaný index prostorové odlišnosti (Massey, Denton 1988). Výhodou tohoto indexu je jeho relativní výpočetní jednoduchost, která nám v kombinaci s využitím dat za prostorový rastr dává možnost srovnat vývoj rozmístění bydlíšť migrantů mezi městy. Index prostorové odlišnosti měří podobnost prostorového rozmístění dvou populací v prostoru na základě jejich vzájemného podílu v jednotlivých územních jednotkách a vypočte se podle níže uvedeného vzorce. V něm N_a značí počet obyvatel majority ve sledovaném městě a N_{ia} počet obyvatel majority v jednotlivé územní jednotce města. Dále pak N_b reprezentuje počet obyvatel zvolené minority ve sledovaném městě a N_{ib} počet obyvatel zvolené minority v jednotlivé územní jednotce města. Do výpočtu vstupují všechny územní jednotky města s nenulovými počty obyvatel. Absolutní hodnota rozdílu mezi minoritní a majoritní populací je spočtena pro každou jednotlivou územní jednotku města a vyjádřena formou jednoho čísla. Index dosahuje hodnot 0 až 100, přičemž vyšší hodnoty reprezentují větší prostorovou odlišnost zkoumané skupiny od zbytku populace.

$$D = 50 \sum \left| \frac{N_{ia}}{N_a} - \frac{N_{ib}}{N_b} \right|$$

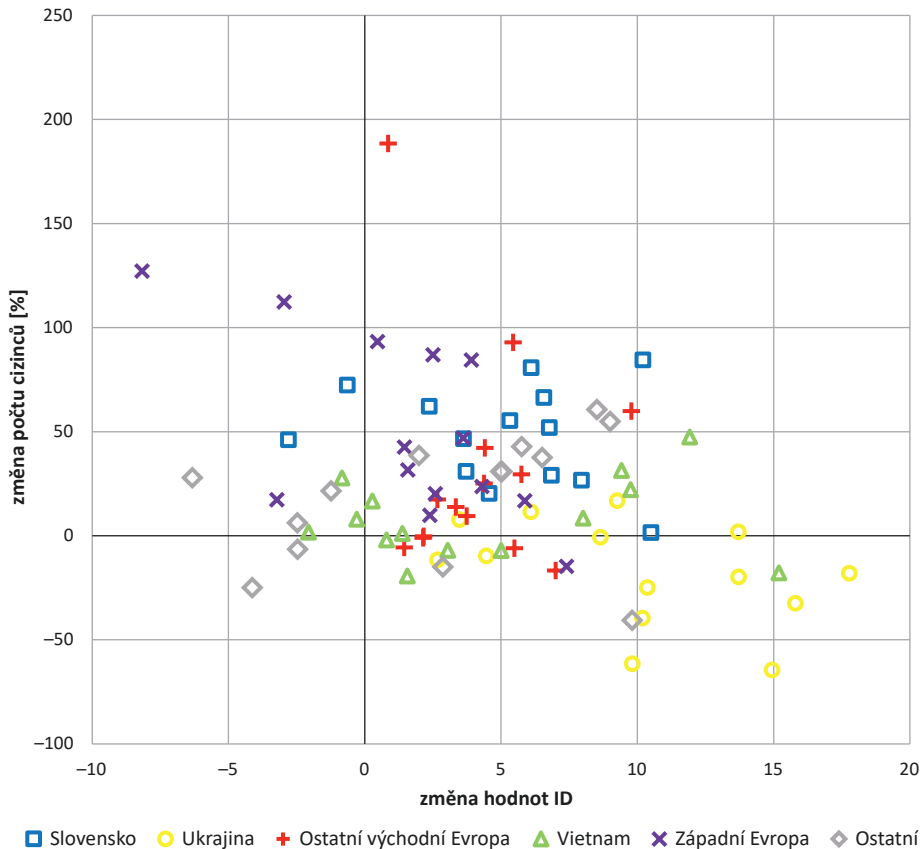
Využitý index odlišnosti má svoje interpretační limity, které byly podrobně rozebírány v metodologicky zaměřených studiích a navazujících diskuzích (Johnston, Jones 2010; Gorard 2011; Allen a kol. 2015). Z hlediska této studie se jedná především o problematiku volby prostorové jednotky (administrativní versus rastrová) a její měřítkové úrovně a problematiku citlivosti indexu odlišnosti na velikost zkoumaných skupin. Využití rastrových jednotek je v principu jedna z forem regionalizace, která stejně jako regionalizace administrativní může svým specifickým vymezením zkreslovat výsledky měření. Rastrové jednotky nerespektují administrativní jednotky a jejich možné podmiňující faktory (velikost, urbanistická struktura, spádovost jednotek, politicky motivované vymezení apod.), ale sjednocují prostorovou velikost těchto jednotek napříč zkoumanými územími. Naopak, rastrové jednotky oproti administrativním rozrůzňují velikost jednotek z hlediska jejich populační velikosti. Velikost jednotek rastru, a tedy i měřítková úroveň, jsou pak zvoleny arbitrárně na základě účelu dané regionalizace – v našem případě pro účely hodnocení rezidenční segregace v městském prostoru. Tato zkreslení mohou být v teoretické rovině výrazná, nicméně podle našeho názoru se jejich role projev v českých městech spíše omezeně. Zdrojová data totiž ukazují, že výrazné vysoké koncentrace migrantů na úrovni čtvrtí se ve sledovaných českých

městech de facto nevyskytují. Za závažnější, avšak stále jen částečný interpretační limit této studie považujeme citlivost indexu odlišnosti na velikost zkoumaných skupin. V případě menších měst a také v případě menších skupin migrantů jsou hodnoty indexu odlišnosti ovlivňovány malými počty, změny hodnot indexu odlišnosti tak mají vyšší pravděpodobnost být ovlivněny nástroji měření a ukazovat vyšší segregaci, než se reálně vyskytuje (Allen a kol. 2015). Proto je vhodné vyšší hodnoty indexu odlišnosti u malých skupin vnímat s rezervou a sledovat spíše trendy koncentrace/dekoncentrace než absolutní výši indexu odlišnosti. Naopak, větší města a větší skupiny migrantů vykazují konzistentní výsledky v případech obou úrovní prostorové agregace a považujeme je tudíž za spolehlivé.⁶

Tendence prostorového rozmístění migrantů ve velkých městech Česka v letech 2008–2015

Pro populaci migrantů registrovaných ve sledovaných městech v Česku platí, že v čase dochází k poklesu prostorové odlišnosti jejich bydlišť od bydlišť majority (obr. 4). Na agregované úrovni dochází ke sblížování obou prostorových vzorců a je proto na místě začít hovořit o desegregaci (poklesu úrovně prostorové nerovnoměrnosti) migrantů v Česku. Z hlediska intenzity změn dochází nejrychleji ke snižování indexu odlišnosti v největších městech. V Brně, Ostravě a Plzni je tento proces dokonce rychlejší než v Praze. Naopak nejpomaleji klesá index odlišnosti ve Zlíně či Ústí nad Labem, které mají ovšem celkový počet migrantů relativně nízký. Nejvýraznější výjimku v tomto ohledu tvoří Karlovy Vary, kde se úroveň indexu odlišnosti výrazně nemění. Karlovy Vary mají jeden z nejvyšších podílů migrantů na obyvatelstvu mezi českými městy (12 % v roce 2017) a jsou specifické co do struktury cizinecké populace. Do tohoto města se tradičně koncentruje podstatná část Rusů, kteří v něm tvoří nejpočetnější skupinu migrantů. Kromě Rusů zde nalezneme zástupce i dalších zemí bývalého Sovětského svazu a významnou vietnamskou komunitu. Nejnižší hodnoty indexu odlišnosti pozorujeme v případech hlavního města Prahy a Kladna, které považujeme za součást širšího metropolitního regionu Prahy. Tento výsledek zřejmě souvisí s dříve zmíněným faktem, že Praha, respektive Pražský metropolitní region, slouží jako vstupní brána do země pro značnou část migrantů (Janská, Čermák, Wright 2014) a nárůst počtu migrantů zde snižuje hodnoty indexu odlišnosti. Nejvyšší hodnota indexu odlišnosti k roku 2015 je zaznamenána v Ostravě, kde vidíme trend rychlého poklesu hodnot, obdobně jako u Hradce Králové. Poměrně vysoká úroveň

⁶ Získané výsledky dokumentující pokles rezidenční segregace jsou konzistentní s výsledky autorů využívající stejná vstupní data, ale odlišnou metodu a více různých měřítek sledování pro zachycení rozdílů mezi minoritními a majoritní populací (Šimon a kol. 2020).

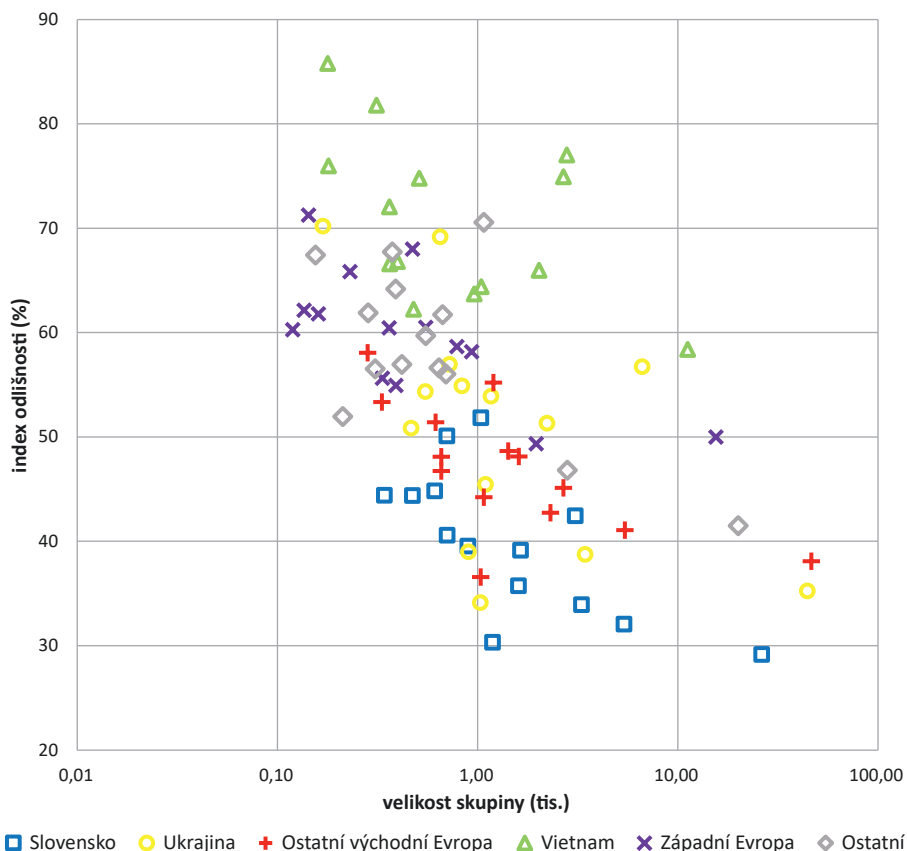


Obr. 1 – Vztah mezi změnou počtu cizinců a změnou hodnot indexu odlišnosti ve zkoumaných městech mezi lety 2008 a 2015

segregace v Ústí nad Labem spíše stagnuje, podobný vzorec platí i pro Zlín. Tato zjištění naznačují, že větší krajská města a města v geografické blízkosti Prahy mají tendence se jejím vzorcům vývoje více podobat, zatímco menší a vzdálenější vykazují vyšší hodnoty indexu odlišnosti. Uplatňuje se tak efekt velikosti, kdy méně početné skupiny mají vyšší pravděpodobnost prostorové nerovnoměrnosti měřené indexem odlišnosti než více početné.

Jak dokládá náš kontrolní výpočet, efekt velikosti skupiny pro naměřené hodnoty indexu odlišnosti v našich analýzách hraje pouze omezenou roli (obr. 1, 2). K poklesu hodnot indexu odlišnosti docházelo i u skupin, jejichž počet se snižoval, například u Ukrajinců (tab. 2, obr. 3).

Hodnoty indexu odlišnosti (obr. 4) se ve většině měst snižovaly rychleji v období bezprostředně následujícím po roce 2008. Výjimkou byly Karlovy Vary, Kladno,



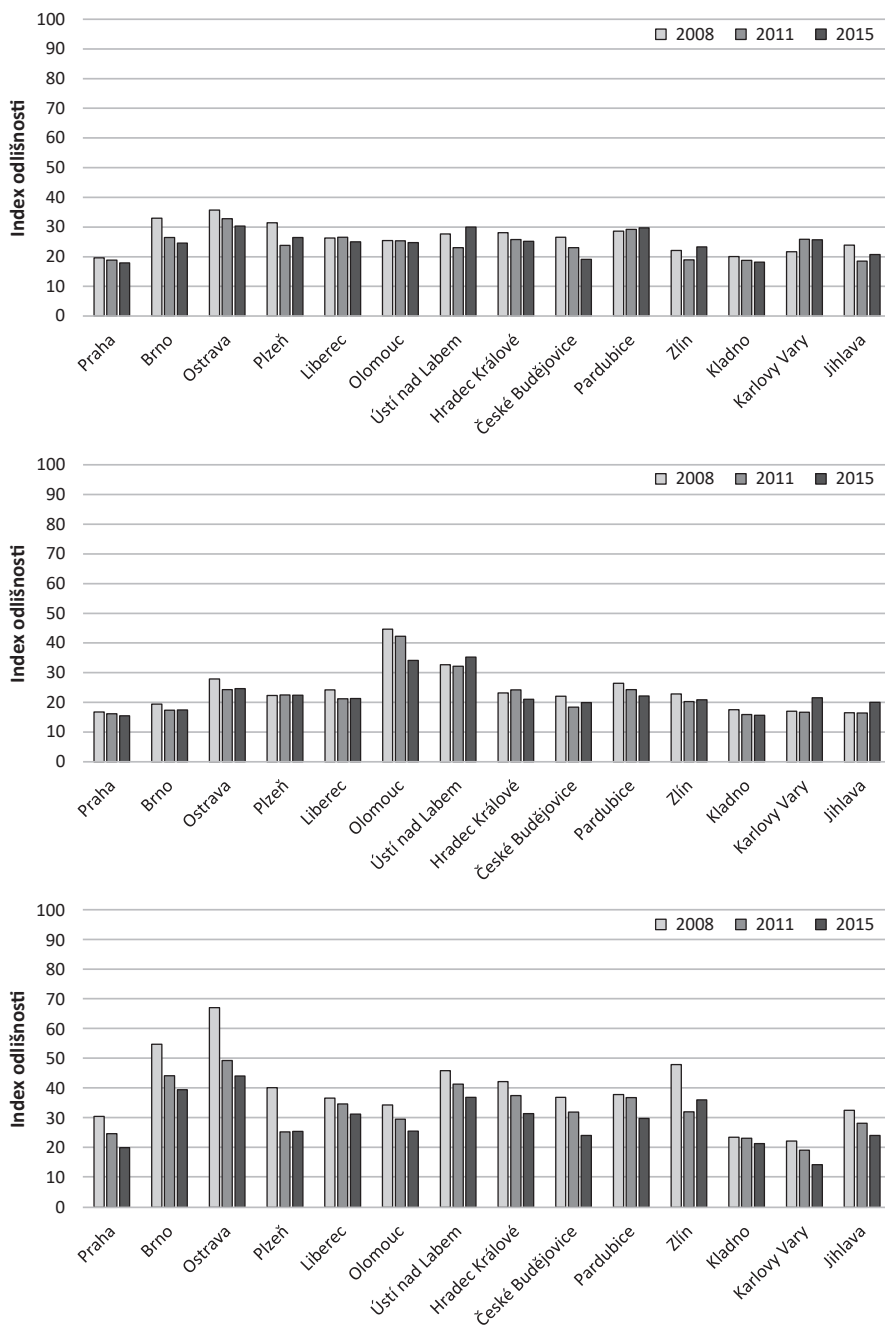
Obr. 2 – Vztah populační velikosti skupin cizinců a indexu odlišnosti ve zkoumaných městech v roce 2015

Olomouc a Pardubice, kde k rychlejšímu poklesu indexu odlišnosti došlo v letech 2011–2015. Tato města během celého sledovaného období zaznamenávala nárůst celkového počtu migrantů. V dílčích obdobích byl zaznamenán růst prostorové nerovnoměrnosti pouze u Karlových Varů (v období 2008–2011) a v Plzni a Ústí nad Labem (2011–2015). Ve všech uvedených městech se nicméně jednalo o velmi nízký nárůst prostorové odlišnosti.

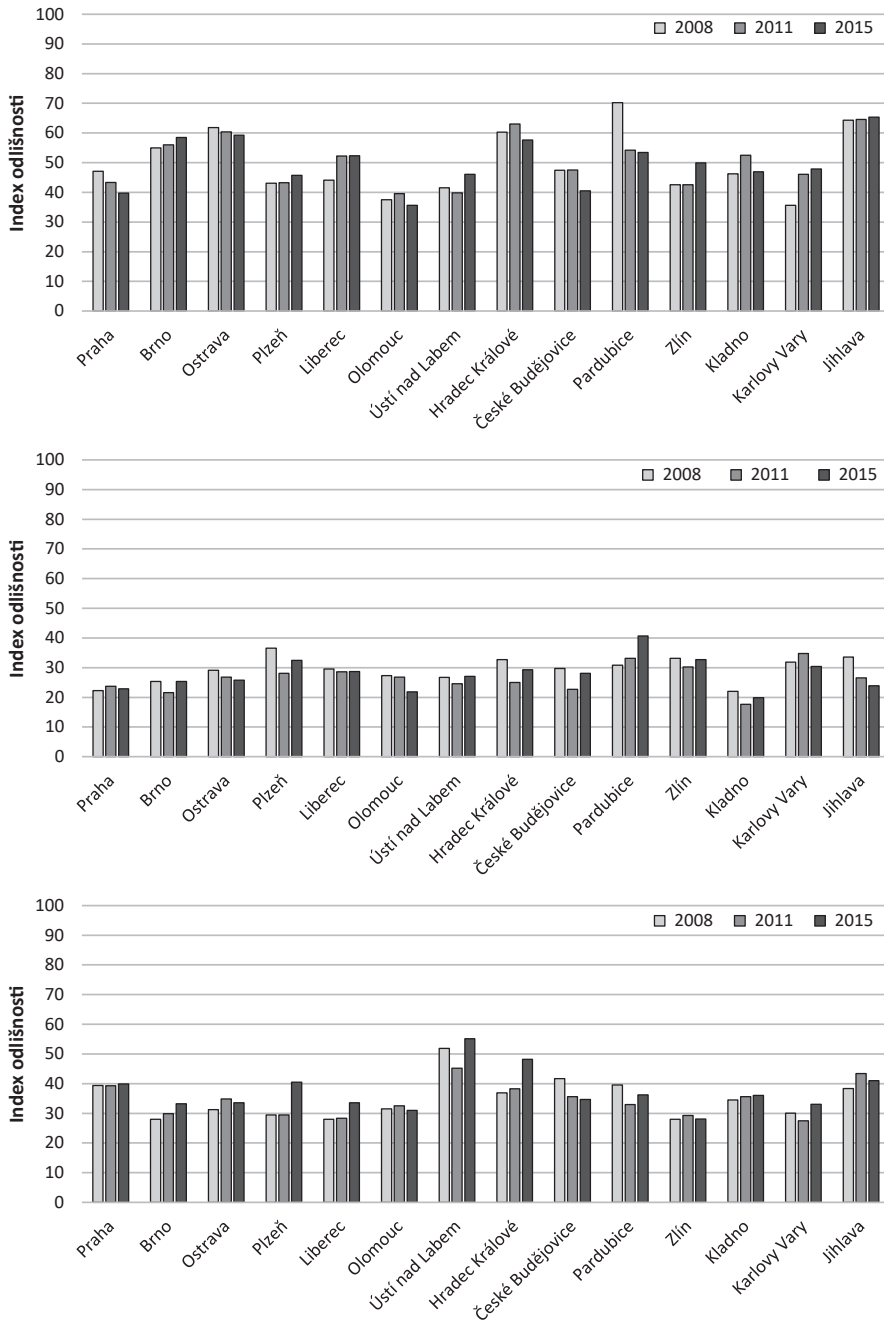
Při hodnocení výsledků využívajících hrubšího rastru (1 000 m) jsou tyto výsledky v podstatě konzistentní s výsledky analýz provedených pomocí jemnějšího rastru (250 m). Valná většina měst kopíruje trendy v grafech a vykazuje pokles indexu odlišnosti ve sledovaném období (viz tab. 2, obr. 3A–G). Hodnoty indexu odlišnosti pro tento hrubší rastr je nutné vnímat opatrně, protože v případě menších měst je výpočet založen na malých číslech a malém počtu prostorových

Tab. 2 – Změna indexu odlišnosti migračních skupin mezi lety 2008 a 2015 ve vybraných velkých městech Česka podle velikosti čtverce rastru

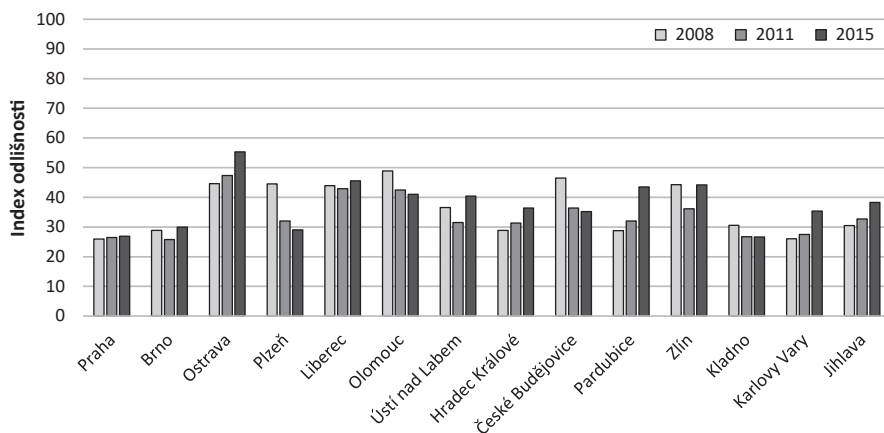
	Cizinci celkem		Slovensko		Ukrajina		Vietnam		Východní Evropa		Západní Evropa		Ostatní	
	250	1000	250	1000	250	1000	250	1000	250	1000	250	1000	250	1000
Praha	-6	-1,7	-3,6	-1,3	-13,7	-10,6	-9,8	-7,3	-4,4	0,6	-1,5	0,5	-2	0,9
Brno	-11,4	-8,4	-6,1	-1,9	-17,8	-15,3	0,3	3,5	-5,4	0	-2,5	5,3	-6,5	1,1
Ostrava	-9,3	-5,4	-6,8	-3,2	-14,9	-23	-3	-2,6	-5,5	-3,4	-1,6	2,3	1,2	10,8
Plzeň	-9,9	-4,9	-6,6	0,1	-15,8	-14,7	-0,8	2,6	-9,8	-4	3	11	-9,8	-15,5
Liberec	-6,6	-1,3	-4,6	-3	-10,4	-5,4	-1,6	8,2	-3,7	-0,8	-2,4	5,5	-5,8	1,6
Olomouc	-5,1	-0,7	-10,5	-10,5	-2,7	-8,9	-8	-1,9	-5,7	-5,4	-2,6	-0,6	-8,5	-7,9
Ústí nad Labem	-2,1	2,3	0,6	2,5	-9,8	-9	-0,3	4,6	-1,4	0,3	-3,9	3,3	-9	3,8
Hradec Králové	-7,7	-3	-5,3	-2,1	-10,2	-10,8	-5	-2,7	-4,4	-3,4	-0,5	11,3	2,5	7,5
České Budějovice	-6,2	-7,4	-3,7	-2,1	-8,6	-12,9	-11,9	-6,9	-3,3	-1,7	-7,4	-7	-5	-11,4
Pardubice	-6,8	1,1	-10,2	-4,3	-4,5	-8,1	-15,2	-16,7	-0,9	9,8	-5,9	-3,3	4,1	14,7
Zlín	-2,1	1,2	-6,8	-2	-3,5	-11,8	-1,4	7,4	-2,1	-0,4	-4,3	0,1	-2,9	-0,1
Kladno	-4,6	-1,9	-7,9	-1,8	-9,3	-2,1	-9,4	0,7	-2,7	-2,1	-3,6	1,5	-5	-3,9
Karlovy Vary	0,2	4,1	-2,4	4,5	-6,1	-8	0,8	12,2	-2,2	-1,4	8,2	3	6,3	9,4
Jihlava	-6,9	-3,1	2,8	3,5	-13,7	-8,5	2,1	1,1	-7	-9,7	3,2	2,7	2,5	7,7



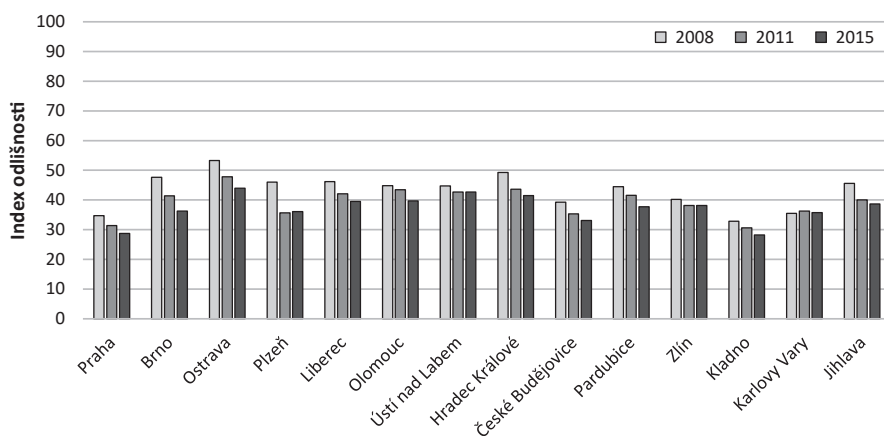
Obř. 3A-C – Porovnání hodnot indexu odlišnosti migrantů ve vybraných městech Česka v letech 2008, 2011 a 2015. Index odlišnosti: A – migrantů jako celku, B – Slováků, C – Ukrajinců. Zdroj: vlastní výpočty, rastr 1 000 m.



Obř. 3D-F – Porovnání hodnot indexu odlišnosti migrantů ve vybraných městech Česka v letech 2008, 2011 a 2015. Index odlišnosti: D – Vietnamců, E – východoevropských zemí, F – občanů zemí západní Evropy. Zdroj: vlastní výpočty, rastr 1 000 m.



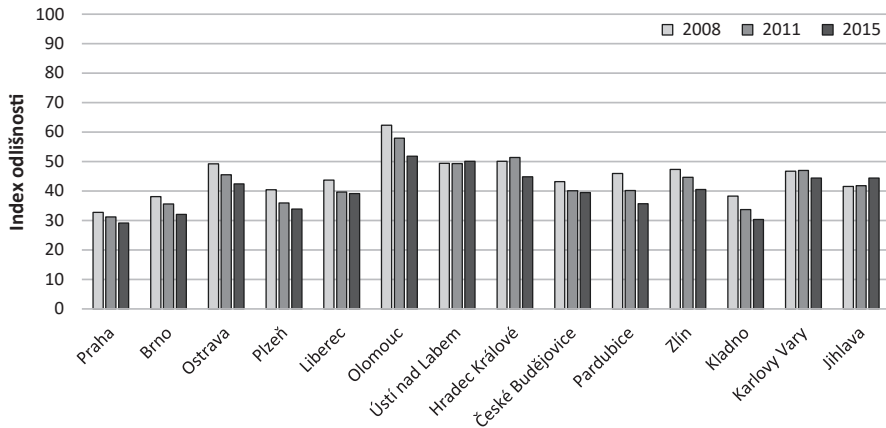
Obr. 3G – Porovnání hodnot indexu odlišnosti migrantů ve vybraných městech Česka v letech 2008, 2011 a 2015. Index odlišnosti: G – občanů ostatních zemí světa. Zdroj: vlastní výpočty, rastr 1 000 m.



Obr. 4 – Index odlišnosti migrantů jako celku ve vybraných městech Česka v letech 2008, 2011 a 2015. Zdroj: vlastní výpočty, rastr 250 m.

jednotek. Výjimkou z pravidla, a zároveň ilustrací problému proměnlivé prostorové jednotky jsou Pardubice, kde pouhý posun v úrovni rastru otáčí trend ve vývoji indexu odlišnosti. Obecně platí, že riziko tohoto efektu je větší u menších měst s méně migranty a méně čtverci rastru. Analogicky, v případech větších měst je toto riziko nízké. Při interpretaci grafů je proto vhodné tento vliv velikosti zkoumaných měst na naměřené hodnoty indexu odlišnosti zohlednit.

Charakter vzorců rezidenční segregace ve městech obvykle souvisí se socio-kulturní blízkostí dané skupiny vůči majoritě (Massey 1985; Hasman, Novotný

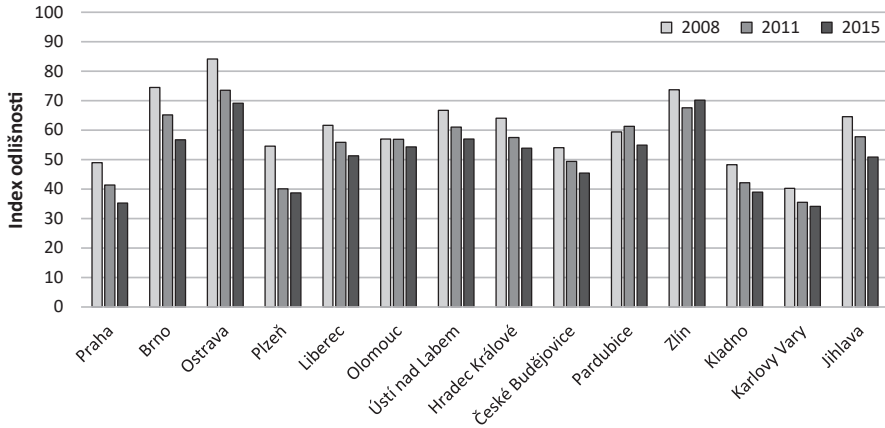


Obr. 5 – Index odlišnosti Slováků ve vybraných městech Česka v letech 2008, 2011 a 2015. Zdroj: vlastní výpočty, rastr 250 m.

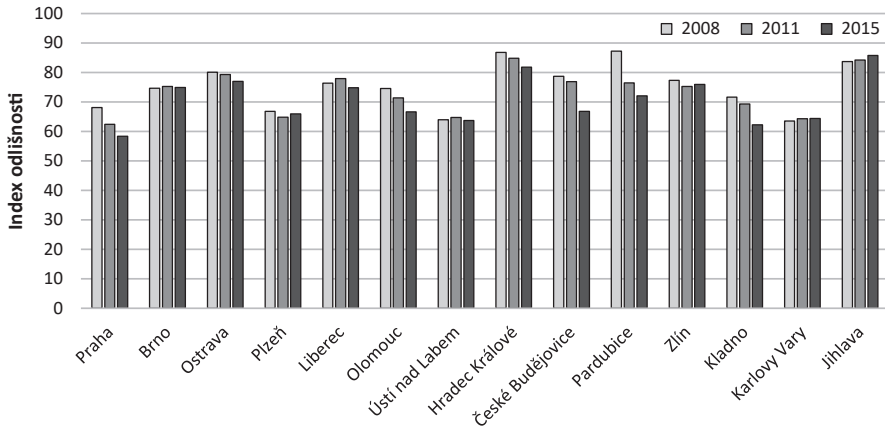
2017). Je proto opodstatněné předpokládat, že hodnoty indexu odlišnosti se budou lišit mezi šesti jednotlivými skupinami migrantů, které jsme vymezili. Zatímco kulturně bližší skupiny mají v krajských městech při hodnocení rastru 250 metrů hodnoty indexu odlišnosti v průměru okolo 30–50, u kulturně vzdálenějších skupin je dosahováno hodnot kolem 70–80⁷. Podíváme-li se v detailu na vybrané skupiny migrantů ve městech, pak výrazná sociokulturní blízkost Slovenska je zřejmě hlavní příčinou toho, že úroveň indexu odlišnosti Slováků je obecně nízká a v průběhu času se ještě snižuje, a to jak v Praze, tak i v ostatních městech (obr. 5). K prostorové disperzi bydlišť dochází také u Ukrajinců, nejpočetnější skupiny migrantů v celém Česku (obr. 6). Původně vysoké hodnoty indexu souvisí s manuálně-pracovní orientací ukrajinských migrantů a jejich soustředováním do oblastí intenzivní výstavby a průmyslových areálů. V průběhu času se tato nerovnoměrnost zřetelně oslabuje, a to jak v období bezprostředně po roce 2008, kdy docházelo ke koncentraci migrantů do velkých českých měst, tak i v letech 2011–2015, kdy se zde jejich počty snižovaly. Předpokládáme, že lépe etablovaní Ukrajinci upřednostňují stále častěji bydlení po boku majoritní populace, mimo dělnické ubytovny (Janská, Bernard 2015).

U vietnamské populace je dosahováno vůbec nejvyšších hodnot indexu odlišnosti a také vývojové variability napříč zkoumanými městy (obr. 7). Ačkoliv

⁷ Index odlišnosti je citlivý na velikost sledovaných minorit. Hodnoty indexu odlišnosti tak může ovlivňovat jak stěhování a přirozená měna stávajících migrantů v rámci města, tak nárůst či pokles jejich počtu z důvodů stěhování odjinud. Podrobné rozlišení demografických komponentů hybných sil segregace je předmětem dalšího výzkumu autorů.

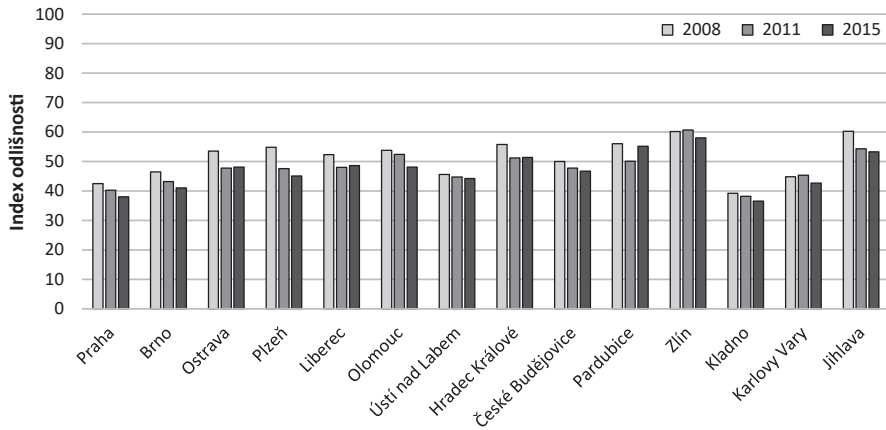


Obr. 6 – Index odlišnosti Ukrajinců ve vybraných městech Česka v letech 2008, 2011 a 2015. Zdroj: vlastní výpočty, rastr 250 m.

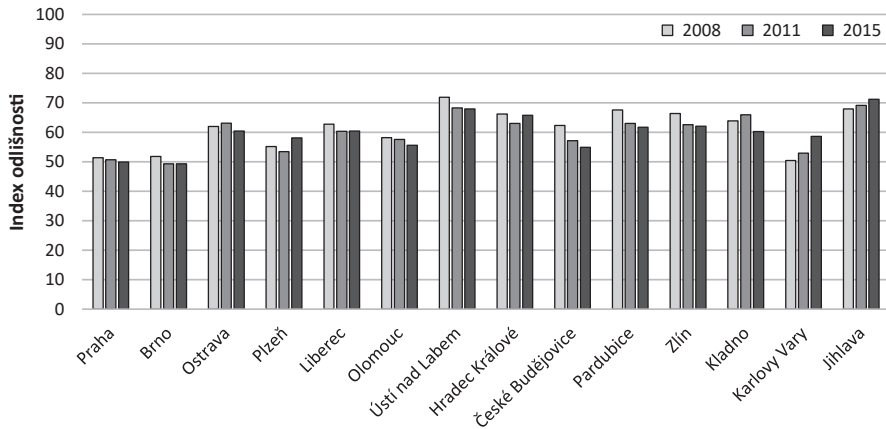


Obr. 7 – Index odlišnosti Vietnamců ve vybraných městech Česka v letech 2008, 2011 a 2015. Zdroj: vlastní výpočty, rastr 250 m.

v Praze dochází k poklesu hodnot indexu odlišnosti Vietnamců, v případě ostatních měst tomu tak není vždy – narážíme zde na případy stagnace, ale i růstu (Jihlava). Vietnamce považujeme za socio-kulturně nejvíce vzdálené vůči majoritní populaci mezi početně významnými skupinami migrantů v Česku. Hodnoty indexu odlišnosti potvrzují, že i přes viditelné integrační úspěchy druhé generace Vietnamců v Česku (Kocourek 2006) je úroveň jejich rezidenční segregace v českých městech relativně stabilní a příliš neklesá.



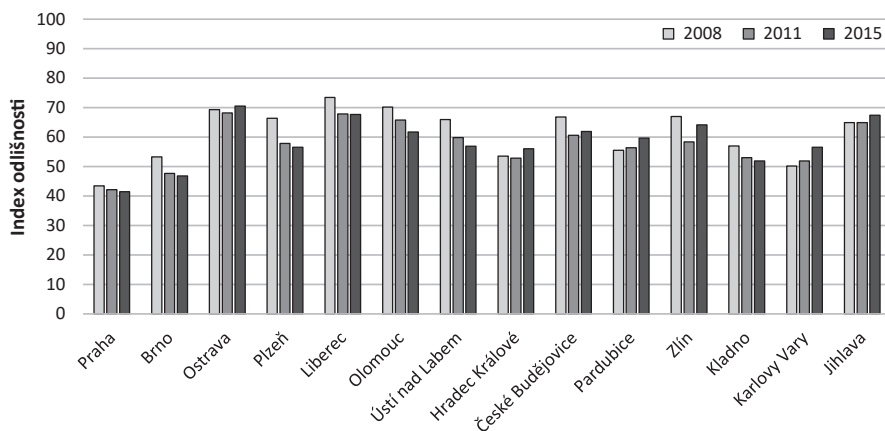
Obr. 8 – Index odlišnosti občanů východoevropských a postsovětských zemí (bez Slováků a Ukrajinců) ve vybraných městech Česka v letech 2008, 2011 a 2015. Zdroj: vlastní výpočty, rastr 250 m.



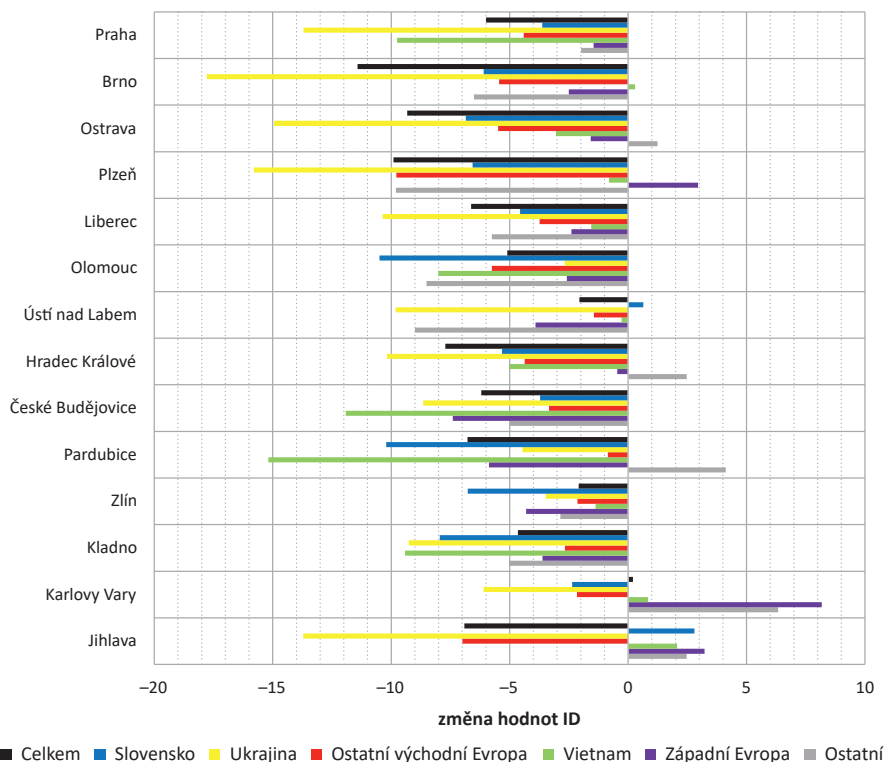
Obr. 9 – Index odlišnosti občanů zemí západní Evropy ve vybraných městech Česka v letech 2008, 2011 a 2015. Zdroj: vlastní výpočty, rastr 250 m.

V případě migrantů ze zemí východní Evropy ve většině měst dochází k poklesu hodnot indexu odlišnosti, byť pomaleji než u Ukrajinců a Slováků (obr. 8). Celkové hodnoty indexů jsou však nižší než u Vietnamců. Situace je ve všech městech přibližně srovnatelná.

Předposlední zkoumanou skupinou jsou občané zemí západní Evropy. Ve větších městech u této kategorie pozorujeme stagnaci, zatímco v menších mírný pokles hodnot indexu odlišnosti (obr. 9). Výjimku v tomto ohledu tvoří dvě nejmenší



Obr. 10 – Index odlišnosti občanů ostatních zemí světa ve vybraných městech Česka v letech 2008, 2011 a 2015. Zdroj: vlastní výpočty, rastr 250 m.



Obr. 11 – Absolutní změna indexu odlišnosti skupin migrantů ve 14 vybraných českých městech mezi lety 2008 a 2015. Zdroj: vlastní výpočty, rastr 250 m.

města, Karlovy Vary a Jihlava, kde dochází pro skupinu západní Evropy k nárůstu hodnot.

U kategorie ostatních zemí světa se situace mezi městy různí nejvíce, což je způsobeno výraznou vnitřní heterogenitou skupiny a její relativně malou velikostí v některých městech (obr. 10). Například v případě Pardubic budou zřejmě skupinou s velkým vlivem na rozložení populace relativně početní Mongolové zaměstnaní v místním průmyslovém komplexu (Martínková a kol. 2010).

S ohledem na zemi původu nacházíme rozdíly v trendu vývoje indexu odlišnosti u jednotlivých skupin. Obdobně jako při výzkumech prováděných ve Francii mezi lety 1968 a 2007, kde Pan Ké Shon a Verdugo (2015) zaznamenali rychlejší pokles úrovně segregace u imigrantů z jižní Evropy ve srovnání s ostatními, také v případě Česka pozorujeme u indexu odlišnosti nižší hodnoty a rychlejší pokles u těch skupin, které považujeme za kulturně bližší.

Celkový pohled na změnu míry prostorové nerovnoměrnosti u migrantů mezi lety 2008 a 2015 (obr. 11) potvrzuje, že u zkoumaných skupin dochází v průběhu času k disperzi, tedy, že se snižuje rezidenční odlišnost mezi majoritou a minoritami. I přes heterogenitu zkoumaných měst a rizika vyplývající z použitých nástrojů měření považujeme tato zjištění za robustní. V případě Prahy jsou u všech skupin hodnoty indexu odlišnosti nízké a dochází k dalšímu poklesu, byť ne již tak patrnému, jako v případě Brna, Plzně či Ostravy. Menší města mají vyšší výchozí hodnoty indexu odlišnosti a míra poklesu rezidenční segregace je u nich nižší.

Diskuze

Ve většině sledovaných měst dochází k postupnému snižování úrovně nerovnoměrnosti v rozmístění migrantů, což se výrazně nezměnilo ani v důsledku zpřísnění podmínek pro vstup a pobyt cizinců na území Česka. Výjimkou z tohoto trendu je pouze několik lokálně specifických anomálií. Téměř univerzální pokles hodnot indexu odlišnosti podporuje vývojový scénář, který jsme v úvodu definovali jako *jednotný*. Nižší hodnoty indexu odlišnosti pro Prahu tento scénář potvrzují, protože z nich lze usuzovat, že další města se vyvíjejí podobným směrem jako Praha, byť se zpožděním. Analogicky, vyšší úroveň indexu odlišnosti migrantů v ostatních městech je způsobena primárně nízkým počtem migrantů, nicméně jeho hodnoty stejně jako v Praze klesají. V případě rozdílů ve vývoji prostorového rozmístění migrantů mezi jednotlivými městy se podle našeho názoru jedná o odchylky způsobované specifickými lokálními podmínkami.

V největších krajských městech se hodnoty indexu odlišnosti snižují rychleji než v Praze, zůstávají však stále na vyšší úrovni. Tato situace, kdy Praha vykazuje ve srovnání s menšími městy relativně nižší hodnoty indexů odlišnosti, představuje protiklad k poznatkům ze západoevropských zemí a USA, kde jsou

zpravidla větší města více segregovaná než ta menší (Massey, Denton 1989; Bolt, van Kempen, van Ham 2008; Östh, Malmberg, Andersson 2015). Za hlavní příčiny tohoto stavu považujeme poměrně krátkou historii Česka jako imigrační země a specifickou strukturu imigračních proudů. Z populace migrantů v Česku jich většina pochází z kulturně blízkého prostředí. Zaprvé, Praha, jakožto hlavní brána pro vstup do země, má s přítomností migrantů dlouhodobější zkušenost než ostatní města, a tudíž v ní bylo více času na disperzi jejich populace. Zadruhé, vyšší podíl migrantů v Praze oproti ostatním městům pravděpodobně snižuje hodnoty indexu odlišnosti, který je citlivý na velikost zkoumané populace. Vyšší hodnoty indexu odlišnosti v ostatních sledovaných městech souvisí s jejich krátkodobější zkušeností s mezinárodní migrací. Tento poznatek je pak v souladu s výzkumem Halla (2013) který v nověji internacionalizovaných městech v USA pozoroval podobný jev.

Dalším podstatným faktorem rezidenční diferenciaci migrantů je ve srovnání s řadou tradičně imigračních zemí omezený vliv lokálních samospráv na rezidenční segregaci (Arbaci 2007; Bolt, van Kempen, van Ham 2008). Na základě rešerše dokumentů⁸ jednotlivých měst jsme zjišťovali, nakolik samosprávy zohledňují problematiku přítomnosti migrantů ve svých veřejných politikách. V případech Prahy, Brna, Karlových Varů a Plzně jsme zaznamenali existenci širších integračních projektů, u Liberce, Olomouce a Pardubic pak menší a jednorázové projekty, například na podporu konkrétních činností či kulturních akcí. U ostatních měst nebyla nalezena žádná aktivita či veřejná politika, která by explicitně souvisela s migranty. Je tedy evidentní, že problematiku přítomnosti migrantů reflektují právě samosprávy největších měst a měst s vyšším podílem migrantů na populaci, zatímco menší města doposud toto téma nepovažovala za tak důležité, aby mu věnovala více pozornosti nad rámec běžné sociální politiky. Města, která konkrétní politiky či menší projekty akcentující přítomnost migrantů realizují, se zaměřují zejména na jejich integraci do společnosti, uplatnění na pracovním trhu a podporu kultury menšin. Městské bytové politiky jsou zpravidla zaměřeny na sociálně znevýhodněné občany, což je kategorie, do které migranti v Česku obvykle nespádají. I proto, že migranti mají v Česku malou šanci získat obecní byty, nedochází k jejich koncentraci v sociálně problematických lokalitách (Přidalová, Hasman 2018).

Ačkoliv řada studií zabývajících se tématem (etnické) rezidenční segregace je založena na zkoumání situace v hlavních městech (Johnston, Forrest, Poulsen 2002; Musterd a kol. 2015; Skifter Andersen a kol. 2015, Ouředníček, Špačková,

⁸ Rešerše dokumentů se zaměřila na veřejné politiky orientované na cizince, prováděné obecními samosprávami ve sledovaných městech. Cílem rešerše byly weby jednotlivých měst, kde byly politiky, programy a projekty vyhledávány pomocí variant a kombinací klíčových slov „cizinci“ a „integrace“. Výsledky odpovídající vyhledávaným spojením byly následně po manuální kontrole zaznamenány do interního dokumentu.

Pospíšilová 2018; Přidalová, Ouředníček 2017), stále větší význam je nutno přikládat pohledu na problematiku na různých hierarchických úrovních a optikou lokálních specifik, protože jednotlivá města různých velikostí a odlišných charakteristik mohou vykazovat výrazně odlišné trendy od fyzicky či socio-ekonomicky vzdálených metropolí i od sebe navzájem. Zatímco v západní Evropě či USA nacházíme největší míru rezidenční segregace zpravidla ve velkých městech, v případě Česka a Prahy tomu tak není. Praha, která má ze zkoumaných měst nejdelší a nejintenzivnější zkušenost s mezinárodní migrací, vykazuje naopak v případech téměř všech skupin nejnižší hodnoty indexů odlišnosti. V Praze i ve většině krajských měst index odlišnosti dále klesá, což Česko odlišuje od řady dalších imigračních zemí, v nichž je naopak problémem stagnace či nárůst míry segregace. Tyto závěry poukazují na potřebu tvořit lokální politiky „na míru“ místnímu kontextu, s ohledem na specifika a trajektorie vývoje rezidenční diferenciacie populace (nejen) migrantů v dané zemi.

Pomalý a setrvalý nárůst populace migrantů v Česku až na specifické výjimky nevede k vytváření vyhraněných vzorců rezidenční segregace. V českých městech, na rozdíl například od USA (ale i některých západoevropských zemí), v podstatě neexistují žádné čtvrti či sousedství s ostrými prostorovými hranicemi a vysokou koncentrací migrantů. Současné tendence vývoje prostorové odlišnosti migrantů a majoritní společnosti však nezaručují, že se tyto trendy nemohou do budoucna změnit. Za podstatné faktory, které by mohly popsaný trend klesající prostorové odlišnosti zvrátit, považujeme zejména mediální a politický diskurs o imigraci a imigrantech ovlivňující postoje veřejnosti (Přidalová, Klsák 2019), úspěšnost integrace současných a budoucích generací migrantů a strukturu nových migračních proudů do českých měst. Je proto na místě rezidenční diferenciaci migrantů v Česku nadále sledovat tak, aby mohla místní administrativa včas předcházet potenciálně vznikajícím negativním důsledkům rezidenční nerovnoměrnosti minorit a majority.

Závěr

Dosavadní znalosti o rozmístění bydlení migrantů v Česku vycházely především ze sčítání lidu, domů a bytů v letech 2001 a 2011. Proto v textu nabízíme čtenářům podrobnější a aktuálnější pohled na vývoj rozmístění migrantů v českých městech. Cílem článku bylo popsat rozmístění bydlíšť migrantů ve vybraných městech Česka a jeho vývoj mezi lety 2008 a 2015. Jako referenční jsme zvolili tři idealizované scénáře možného vývoje a migranty v Česku jsme pro potřeby výzkumu agregovali do šesti skupin podle státního občanství. Empirická část potvrdila u většiny měst i skupin migrantů trend s časem klesajícího indexu odlišnosti, a to i přesto, že v jednotlivých městech nacházíme odlišné počáteční podmínky, unikátní místní

specifika i určité anomálie ve vývoji prostorových vzorců. Postup vývoje se nejvíce přiblížil *jednotnému scénáři*, který předpokládá, že vývoj ve městech druhého řádu bude analogický (byť s možným zpožděním či odlišnou intenzitou) k dění v hlavním městě. To se potvrdilo v případě Prahy a ostatních zkoumaných měst, kdy k poklesu hodnot indexu odlišnosti došlo na obou sledovaných úrovních populačního rastru. Za hlavní faktor umožňující postupnou prostorovou asimilaci migrantů považujeme relativní kulturní blízkost charakteristickou pro většinu imigračních skupin, což naznačuje možnou platnost teorie prostorové asimilace pro dnešní Česko.⁹ Důležitou roli hrají také další strukturální faktory či nastavení celostátních i městských politik.

Nové poznatky, které náš výzkum rozmístění bydlíšť migrantů v českém prostředí přináší, považujeme za přínosné pro praktickou činnost městských samospráv. Konkrétní politiku či alespoň menší projekty zohledňující přítomnost migrantů ve městě má v současnosti jen menší část krajských měst. Lze však očekávat, že v budoucnu vyvstane s narůstajícím počtem migrantů větší poptávka po ucelených integračních politikách také právě na komunální úrovni.

Zájem o poznání vývoje rezidenční segregace migrantů v Česku bude pravděpodobně vzrůstat také ze strany ostatních zemí střední a východní Evropy, které s Českem sdílejí podobnou historickou zkušenost, ale dosahovaly dosud výrazně menší atraktivitu pro mezinárodní migranty (Drbohlav, Lesińska 2014). Vzhledem k rostoucí intenzitě imigrace do dalších zemí středoevropského regionu, jako například Maďarska či Polska (Drbohlav 2012), lze očekávat, že se pro tyto státy Česko stane referenčním příkladem. Zdejší vývoj a ukázky dobré a špatné praxe pro ně budou relevantnější a do jejich prostředí přenositelnější než poznatky z tradičních imigračních zemí s rozdílným historickým vývojem a odlišnou strukturou migrantů, případně z postsovětských států s výraznou etnickou diverzitou, avšak relativně nevýraznou současnou mezinárodní migrací (viz např. Leetmaa, Tammaru, Hess 2015; Burneika, Ubarevičienė 2016).

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⁹ Za druhý klíčový faktor prostorové asimilace je tradičně považována ekonomická vzdálenost, která je však mezi migranty a majoritou v Česku ve srovnání s tradičními imigračními zeměmi nízká (Ouředníček 2016). Relevanci asimilační teorie pro české prostředí proto diskutují Křížková a Ouředníček (2020).

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SUMMARY

Immigrants in large Czech cities 2008–2015: the analysis of changing residential patterns using population grid data

The public, the media, and political entities are paying considerable attention to the presence of immigrants and their activities. The immigrant population has been growing in large cities. Nevertheless, Czech academic literature has so far only elaborated on the issue of their spatial distribution at the inner-city level to a limited extent. This article fills the gap by introducing findings from Czechia as a new destination for international migration that are directly comparable to international research, thus contributing to the widespread debate on immigrant segregation in Western literature.

The article examines the development of the spatial residential distribution of six major groups of immigrants (defined by country of citizenship) in Czech regional cities in 2008–2015. It presents three basic developmental scenarios that relate the processes of immigrant segregation and city size. These scenarios are called (1) uniform, (2) dual and (3) individualized. The study is based on geocoded anonymized data provided by the Ministry of the Interior of the Czech Republic that have not been used in academic research yet. In line with the current international research, the data are aggregated to a population grid that ensures anonymity and sufficient analytical detail – and partially mitigates the risk of possible errors caused by the Modifiable Area Unit Problem (MAUP).

The main result indicates a general trend of decreasing spatial dissimilarity between the Czech majority and immigrant groups. At the aggregate level, the spatial patterns of the two populations converge; it is, therefore, pertinent to start talking about the deconcentration of immigrants in Czechia. The almost universal decline in the values of the dissimilarity index supports the uniform development scenario. Its validity is confirmed by lower values of the dissimilarity index for Prague; other cities evolve analogically but with a delay. Therefore, second-tier cities experience a higher level of dissimilarity in immigrants, although its values are decreasing there as well as in Prague. The figures also indicate that cities immediately following Prague in the settlement hierarchy (Brno, Ostrava, Pilsen) take over these trends more quickly – similar to geographically closer locations (Kladno). We believe that the differences in the development of immigrant spatial distribution between individual cities are caused by specific local conditions.

The slow and steady increase in immigrant population in Czechia, with specific exceptions, does not lead to an emergence of distinct segregation patterns known from abroad. It is important to stress the specific structure of immigrant population in Czechia, where most come from a culturally close environment. Another important factor in the residential differentiation of immigrants is the limited influence of local governments on the residential segregation of immigrants compared to other established immigrant countries.

The paper concludes by discussing the theoretical and methodological implications of this new type of research, including possible recommendations for public policies. While in Western

Europe and the USA the greatest degree of residential segregation can be found in large cities, this is not the case in Czechia. On the contrary, the Czech capital city of Prague, which has the longest and most intense experience of international migration, has the lowest values of dissimilarity index in almost all groups. In Prague and most regional cities, the index of dissimilarity continues to decline, distinguishing Czechia from a number of other immigration countries, where a stagnation or an increase in segregation predominate. These conclusions point to a need to tailor local policies to the local context, considering the specificities and developmental trajectories of the residential differentiation of (not only) immigrants in the country. Given the “pioneering” role of Czechia as the main immigration country in the region, it is also possible to expect a rise of interest in the development of immigrant residential segregation in Czechia by other Central and East European countries that share a similar historical experience with Czechia, but have so far been significantly less attractive for international migration.

- Fig. 1 The relationship between the change in number of immigrants and the change in dissimilarity index in selected cities, 2008–2015.
- Fig. 2 The relationship between the population size of immigrant groups and the index of dissimilarity in selected cities in 2015.
- Fig. 3 Comparison of dissimilarity index values for immigrants in selected Czech cities in 2008, 2011 and 2015 (raster 1,000 m). The dissimilarity index of: A – total migrants, B – Slovaks, C – Ukrainians, D – Vietnamese, E – Eastern European countries, F – Western European countries, G – other countries.
- Fig. 4 Index of dissimilarity for all immigrants in selected Czech cities in 2008, 2011, and 2015.
- Fig. 5 Index of dissimilarity for Slovaks in selected Czech cities in 2008, 2011, and 2015.
- Fig. 6 Index of dissimilarity for Ukrainians in selected Czech cities in 2008, 2011, and 2015.
- Fig. 7 Index of dissimilarity for Vietnamese in selected Czech cities in 2008, 2011, and 2015.
- Fig. 8 Index of dissimilarity for Eastern European (except Slovakia) and former USSR countries (except Ukraine) citizens in selected Czech cities in 2008, 2011, and 2015.
- Fig. 9 Index of dissimilarity for Western European countries citizens in selected Czech cities in 2008, 2011, and 2015.
- Fig. 10 Index of dissimilarity for other countries citizens in selected Czech cities in 2008, 2011, and 2015.
- Fig. 11 Change in the index of dissimilarity among immigrant groups in selected Czech cities in 2008, 2011, and 2015.

PODĚKOVÁNÍ / ACKNOWLEDGEMENT

Příspěvek vznikl s podporou Grantové agentury České republiky v rámci projektu č. 19-03211S: „Rezidenční segregace a mobilita cizinců: analýza sousedství, rezidenčních drah a sousedských efektů“ a Grantové agentury Univerzity Karlovy díky projektu č. 1574319: „Role cizinců v klíčových (post)transformačních procesech v českých městech“.

This research was supported by the Czech Science Foundation within the project No. 19-03211S “Residential segregation and mobility of foreign citizens: analysis of neighbourhoods, housing trajectories, and neighbourhood context” and the Charles University Grant Agency in the project No. 1574319: “The role of foreigners in fundamental (post)transformation processes in Czech cities”.

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