

# MIGRATORY OUTFLOW FROM WROCLAW: DIRECTIONS OF POPULATION FLOWS WITHIN THE FRAMEWORK OF INTERNAL MIGRATION IN THE PERIOD 2002–2018

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**ABSTRACT:** In the majority of large cities in Poland there is a migration outflow, resulting mainly from suburbanisation processes. However, it should be noted that the inhabitants of large cities do not move exclusively to the suburban zone. The study below focuses on the migratory outflow of Wrocław residents. The authors characterise it by presenting the directions of population movements and determining their sustainability. The authors conclude that the target area of immigrants from Wrocław is mostly a suburban area, but there are also permanent migration flows to other rural communities in the voivodeship and other large cities in the country. The area of emigration itself goes beyond the scope of the voivodeship of which Wrocław is the capital.

**KEYWORDS:** migratory outflow, internal migration, counter-urbanisation, persistence of migration, Wrocław

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## Introduction

In times of massive international population flows taking place worldwide, relatively little attention is paid to population movements within countries, even though the scale of this phenomenon is incomparably greater. It is also worth noting that the size of internal migrations has a significant impact on the population redistribution in the country (De Jong, Sell 1977; Kupiszewski et al. 1998; Rees et al. 2017; Chow et al. 2018). On the one hand, it contributes to a decline in the population of some localities, but on the other hand, it is leading to an increase in the number

of inhabitants elsewhere. Especially in countries where the second demographic transition is underway, internal migration often determines the population size in the cities (Śleszyński 2016; Rowe et al. 2019). However, internal migration – at least in comparison with international population movements – is the subject of only a small fraction of published research (King, Skeldon 2010), although its significant impact on social, economic and political processes (Ellis 2012) is uncontested. It is also worth noting how cities are perceived and represented in the system of internal migrations. As it turns out, cities are designated as the destination point for residents of

rural areas and/or the source areas for migrants (Tamaru et al. 2004). These directions differ depending on the degree of economic development. The inflow of people to cities is evident in many developing countries (Bell et al. 2015; Cattaneo, Robinson 2020), which many researchers identify as rapid urbanisation (Farrell 2017). On the other hand, the developed countries witness population outflows from cities to suburban zones (Zhang et al. 2020), which is attributed to the processes of suburbanisation (Šašek et al. 2019). It is worth noting, however, that internal migration does not only take place between a large city and its suburban area. There is a scarcity of research concerning internal migrations examined in an aspect different than the suburban area, involving cities ranked at a specific level in the territorial division of the country.

In this context, it is remarkable that the destination areas of urban migrants are not only the suburbs but also other rural areas and other cities or towns across the region and nationwide. This study analyses internal migrations from Wrocław, which is one of the largest cities in Poland. The primary aim of the study was to present the size of migratory outflow from this territorial unit, with particular focus on migrant destinations located outside the suburban area. In this context, the authors put forward the following research questions: (1) what types of areas the inhabitants of Wrocław choose when moving from this city, (2) what the size of migration from Wrocław is to the suburban area and beyond, (3) what size the emigration zone of Wrocław is and whether it coincides with the existing territorial division of the country. It should of course be borne in mind that, in the case of large cities, most migrants move only a short distance, and migrations within the urban agglomeration are at the forefront. However, other areas of migration from the urban centre are also noteworthy. The research hypothesis adopted by the authors at the beginning of the research posits that the population outflow from Wrocław has a limited range and mainly covers the suburban area and other cities in Poland ranked at the same or higher level in the settlement system. This paper discusses the size of population outflow from Wrocław to specific types of municipalities, categories of areas (urban, rural) and zones determined by the distance from the city (the first and second ring of

municipalities in the suburban area of Wrocław, other municipalities in the voivodeship and other municipalities in the country). The final aspect of the analysis is to delineate the destination area for migrants from Wrocław by determining the area of the emigration zone of Wrocław (Jagielski 1974). The emigration zone of a city is understood as an area where people are moving from the city (or town).

## Theoretical background

Although researchers were keenly interested in the issue of contemporary migrations, migration studies date back much earlier. Ernst Ravenstein, the author of pioneering research on migration, published the 11 Laws of Migration (1889) and initiated studies of the various types of population movements. He also distinguished between population movements taking place between countries and internal migrations, whose spatial scope is limited to migratory traffic within countries. By creating this dichotomous division, Ravenstein laid the foundations for a new direction of research, which was later taken up by other researchers (Pisarevskaya et al. 2020).

Globalisation affects many aspects of human activity and leaves a mark on many processes taking place in the geographic space. The shrinking of the world to a 'global village' has various consequences: economic, political or cultural, but it can also lead to an increasing number of population movements around the world (Czerny 2005). Owing to the complexity and international range of the phenomenon and its consequences and the global nature of migration flows, researchers representing various scientific disciplines are preoccupied with these issues today (Etzo 2008; Brettell, Hollifield 2014).

Nowadays, because of the numerous interdependencies between states emerging from globalisation, foreign migration is in the spotlight. Some researchers argue that we are living in an age of international migrations, as postulated by Castles and Miller (1998), due to the large number of people involved in these population movements, as pointed out by King (2012). In his research, King invokes United Nations data on the growing number of international migrants, which amounted to 214 million individuals in

2010. Still, the scale of population movements within countries is much higher, hence it should also attract the attention of researchers (King, Skeldon 2010).

In addition, the growing scale of forced migrations from the Middle East and North Africa is another field of research for scientists from various disciplines who analyse the migration crisis. Particularly interesting in this context is research on foreign migrants in large European cities – these migrants account for a considerable share of the city population on the one hand, but on the other, their presence also creates specific problems from the point of view of a local policy (Monno, Serelli 2020).

The migration laws proposed by Ravenstein to some extent go beyond the time frame and are thus repeatedly reproduced in many scientific papers concerning this area of research (Rees, Lomax 2019), but they cannot be considered uncritically and unequivocally valid in the contemporary diverse world. It appears that some of Ravenstein's laws of migration are out of date today. Some researchers even wonder whether we can refer to external and internal migrations in the context of open borders of the European countries belonging to the Schengen area and in the absence of physical barriers between states (Janicki 2006; Ellis 2012; King 2012). Therefore, many researchers attempt to combine and integrate research approaches relating to internal and international migrations (e.g. Wright et al. 1997; Skeldon 2006; Impicciatore, Stronza 2016).

When analysing the problem of migration in the relevant literature, another direction of research becomes apparent, focused on the conceptual explanation of the phenomenon, particularly international migrations (Zlotnik 2006). It mainly seeks to present theoretical explanations for the migratory movements, holistically addressed by Arango (2000) who described theories on the causes of migration and models explaining the courses of migrations. Many studies of migratory movements turn their attention to and discuss the most prominent theories explaining the origin of migration (Grigg 1977; Cohen 1996; Janicki 2006; Kumpikaite, Zickute 2012; Brettell, Hollifield 2014; Gurieva, Dzhihev 2015), but there is a scarcity of studies describing the migration phenomenon itself, predominantly internal migrations, as referred to by Zhang et al. (2020).

The most recent scientific publications on this matter mainly attempt to describe internal migrations and the scale of movements taking place between specific regions within countries, for example, China (Zhang et al. 2020), Germany (Glorius 2010; Pastuszka, Szczepanik 2019), the United States (Treyz et al. 1993; Frey 1995; Molloy et al. 2011; Cooke 2013); Italy (Bonifazi, Heins 2000), Albania (Vullnetari 2012), Estonia (Kulu, Billari 2004); and also Poland (Matusik et al. 2012; Winiarczyk-Rażniak, Raźniak 2012; Śleszyński 2016). Internal migrations are also often used to test models and research approaches (Garcia et al. 2015).

There is also a separate category of studies discussing the issues of internal migration in the context of urbanisation processes, in particular suburbanisation (e.g. Kupiszewski et al. 1998; Szymańska, Biegańska 2011; Winiarczyk-Rażniak, Raźniak 2012; Pytel 2017; Gałka, Warych-Juras 2018; Popjakova et al. 2018) and counter-urbanisation (e.g. Grzeszczak 2000; Bijker, Haartsen 2012; Crankshaw, Borel-Saladin 2019). In this context, large cities in the post-socialist countries of Central and Eastern Europe that underwent a political transformation in the 1990s constitute a special case, including the ensuing socio-economic changes (market-oriented growth) that drove the second phase of urban sprawl in the region. This paved the way for the dynamic and uncontrolled spatial growth of cities and the development of suburban zones, accompanied by a decline in the population in city centres and migration to suburban areas (Lowe, Tsenkova 2003; Hamilton et al. 2005; Hirt, Stanilov 2007; Kubeš 2013).

Displacements of a population, understood not only as a collection of individuals but also mainly as human capital, contribute to a number of processes taking place both in specific territorial units and in the surrounding regions. It is also worth noting that migrations are an important factor that drives population-related processes in a given country at both national and local levels. Population redistribution contributes to the flow of innovation between regions (King 2012). Population flows can be the driving force of regional development as they shape local labour markets (Borjas 2006; Pietrzak et al. 2013; Karwart-Woźniak, Chmieliński 2013). Moreover, it is notable that displacements occurring between

cities create specific ties and interconnections in the settlement system (Bell et al. 2015; Rodriguez-Vignoli, Rowe 2018). Very often, they determine to a large extent the number of people inhabiting a given city and its surroundings (Śleszyński 2016). This is mainly the case in regions where a negative birth rate prevails, and new inhabitants can be distributed primarily from the outside, as pointed out by Ravenstein as early as in the 19th century (1889). Population movements, both international and internal, are one of the factors that shape regional development (Garcia et al. 2015). Therefore, the volume of migratory traffic in a particular city should be examined, especially where it can contribute to a change in the size of the population in a given city.

It should be pointed out, that the above issues are also analysed in relation to Wrocław itself, as well as other cities in Poland. Internal migrations in the literature on this city, analyse it as a place of educational drainage (e.g. Jończy, Dolińska 2016; Dolińska et al. 2020) or as a catchment or area of origin of internal movement migrants (e.g. Pytel 2017; Śleszyński 2016, 2019). In relation to functional areas of other large cities in Poland, they have so far been undertaken, among others, by Szymańska and Biegańska (2011), Kałuża-Kopias (2010, 2014), Winiarczyk-Rażniak and Raźniak (2012), Kurek et al. (2015) or Gałka and Warych-Juras (2018).

## Data and methods

Data used in this study are derived from a matrix of migration flows published by Statistics Poland in the database 'Demography'. It presents the size of persistent internal migrations broken down into communes that represent the previous and current place of residence of migrants. These data are published for all communes (i.e. units of the lowest administrative division level) in Poland, classified as NTS Level 5. The data refer to various categories of communes: urban, rural and urban-rural. It is worth noting that the data available for urban-rural communes contain information on the size of migration flows separately for the urban and rural areas in a given commune. This makes room for a detailed analysis of migrations between rural and urban areas. The matrix of migration flows additionally

presents the size of migrations taking place in specific directions and allows determining their variability over time. As a result, the most common destinations for migrants leaving particular communes can be established.

However, the analysed database has several shortcomings that should be highlighted. Latent data constitute a major problem as they make it difficult to identify the exact number of migrants between some communes in Poland. In the data matrix, these data are marked with '#'. They refer to migration flows consisting of one or two persons, which, under the Act on public statistics, must be covered by statistical confidentiality. However, it is possible to estimate the values behind this latent information through appropriate analytical procedures. Nevertheless, no reliable information about the size of the total population flows can be obtained from approximate values. By replacing # with real values of 1 or 2, the size of migration for a given territorial unit can be either underestimated or overestimated. If this is the case, the solution would be to calculate the value # as a rational number that translates into a total score for a specific territorial unit, although individually it is not rendered as an integer.

This database contains information only on the number of people moving between municipalities; without any further information, such as gender and age of migrants, spatial mobility could not be examined according to various demographic features of the population. The inability to show the return flows between municipalities is a major drawback due to an aggregate approach to migrants, and thus, the same migrant can emerge twice in a retrospective analysis. The spatial extent and intensity of migration from a particular commune can be determined on the basis of a population outflow.

At this point, it is worth noting another problem related to public statistics on migration. This results in significant problems of the population over- or underestimation in specific regions (Śleszyński 2005). Both censuses and public databases do not contain information on unregistered migration, which refers to movements of people who do not register this fact in the relevant office (Korcelli 1997; Gołata 2012).

This study focuses on presenting the size of migration from Wrocław. The analysis was carried out for the period 2002–2018. The first year

of the analysis is marked by a reversed trend in the growth of urban population: from the 'from-rural-to-urban' direction of migration – which was predominant throughout the post-war period – to the 'from-urban-to-rural' direction of migration. It can be reasonably assumed that that year 2002 marked the beginning of a new era in internal migrations in Poland and was the starting point in the development of suburbanisation as the dominant phase of urbanisation processes. Based on the analysis of this phenomenon between 2002 and 2018, its intensity can be determined against the backdrop of Poland's accession to the European Union in 2004, to find out if the latter had any impact on the size of internal migrations. The year 2018, which is the closing year of the analysis, marks the maximum availability of data published in the database, thereby enabling exploration of the most recent trends in the spatial mobility of the residents of Wrocław.

This paper presents population movements between Wrocław and other communes in Poland. In its material dimension, this analysis refers to the smallest units of administrative division in Poland. Thus, the studied phenomenon can be analysed at the lowest level of statistical data aggregation.

In this study, standard methods of research typically employed to explore phenomena occurring in the socio-economic space were used (Runge 2006). The core part of the paper is based on the analysis of statistical data; the essential issues are illustrated with graphs. Statistical description presents the studied phenomenon in a synthetic manner. First, the data were used to comprehensively capture the population outflow from Wrocław by presenting the size of the population leaving the city broken down into predefined categories. A systematic approach was thus adopted and the migration was studied according to the distance of movements, the category of the destination commune, the category of areas (urban versus rural), as well as the administrative status of the city as far as migration cross regions (voivodeships) were concerned. The index method was used to characterise the emigration zone of Wrocław, and therefore the relative size of migration was determined from the relationship between the size of migration to a specific administrative unit and the number of its inhabitants; it also made it easier to analyse

this phenomenon. This study also examined the share of migrants from Wrocław concerning the incoming population in a given commune and the degree of persistence of migration ties.

Cartographic methods of data display were also used, including area charts drawn up in MS Excel to illustrate migration data according to specific categories, and cartographic analyses, mainly based on the choropleth method, as well as a map of population flows plotted with the use of ribbon charts. All maps were drawn up with the use of Geographic Information Systems tools in the ArcMap software.

## Study area

This paper discusses the size of migration from Wrocław, which is the fourth largest city in Poland in terms of the population. Wrocław belongs to the so-called 'Big Five' most developed urban agglomerations in Poland and is an important landmark in the state settlement system (Śleszyński 2016). This also makes it an important migration centre in southwestern Poland (Dolińska et al. 2020). According to the national development concepts, Wrocław meets the criteria of a metropolitan centre according to the 2030 National Spatial Development Concept; however, according to the ESPON program of Metropolitan European Growth Areas (MEGA), Wrocław is classified as a poorly developed Rank 4 European metropolitan area (Książek, Suszczewicz 2017). In 2019, Wrocław had 642.9 thousand inhabitants within its administrative borders and occupied an area of 292.8 km<sup>2</sup> (the population density was 2,195 people per km<sup>2</sup>). Wrocław is the main labour market in the region, hence it has an extensive impact zone, including two rings of communes encircling the city (Fig. 1). 59.7 thousand people commute to work in the city – 18.9 thousand people from communes of the first ring and 11.2 thousand from communes belonging to the second ring. The Wrocław agglomeration comprises a total of 29 communes (three urban, 11 urban-rural and 15 rural). The agglomeration covers an area of 4,275.2 km<sup>2</sup> and is inhabited by 1,073.9 thousand people (the average population density is 251 people per km<sup>2</sup>), of which 808.3 thousand people (75.3%) live in urban areas. A low urbanisation rate in the first



Fig. 1. Municipalities forming the Wrocław agglomeration.

Source: author's own work.

ring of communes surrounding Wrocław is a specific feature of the suburban zone which comprises only three towns with 22.9 thousand inhabitants (14.1%). Most of the satellite cities (10) are located in the second ring of communes, approx. 20–25 km away from the city, hence the second ring is characterised by a higher level of urbanisation (54.0%) (Brezdeń, Szmytkie 2019).

## Results

The population size of many cities in Poland is largely determined by the redistribution of the population taking place within the framework of internal migrations. In the analysed period, the share of people leaving the city area increased at the expense of the decreasing inner-city migration (Fig. 2). The total volume of internal migration ranged from 10,000 to 12,000 people a year. Initially, in the period 2002–2006, migrations between particular city districts of Wrocław accounted for more than a half of all departures, and the share of migrations from Wrocław began to rise in 2007 to up to nearly 60%. Inner-city

migrations have different characteristics, mainly due to local factors, a detailed analysis of which was undertaken by Koziel in his publication on migrations within Wrocław (1989). However, without an in-depth analysis, it is difficult to understand this phenomenon and it is not extensively discussed in this paper. The total number of migrants from Wrocław increased by about 2,375 persons in the analysed period. This migration outflow has not been systematic; instead, it was marked by alternating increasing and decreasing trends in the number of migrants. Poland's accession to the European Union did not leave any lasting mark on the size of the population movements. The number of internal migrants did not change significantly before and after 2004.

The total number of migrants leaving Wrocław between 2002 and 2018 amounted to 99,755. The vast majority of migrants moved from Wrocław to communes that are characterised by persistent migration ties with this city, with a degree of durability of 17 (Fig. 3). This population accounted for 81.1% of the total migration (80,932 individuals). Most of migrants (68,330) left Wrocław to live in communes located in Dolnośląskie

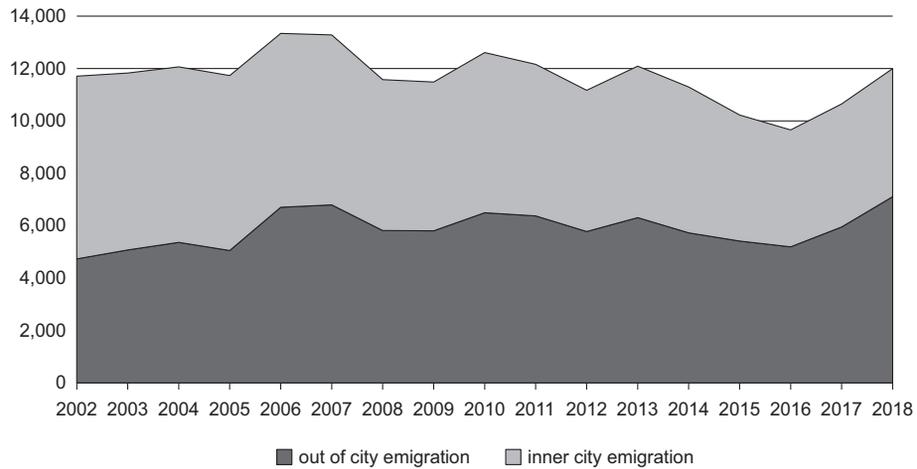


Fig. 2. Number of emigrants from Wrocław in the years 2002–2018 within and out of the city.  
Source: author's own work based on the Demography database.

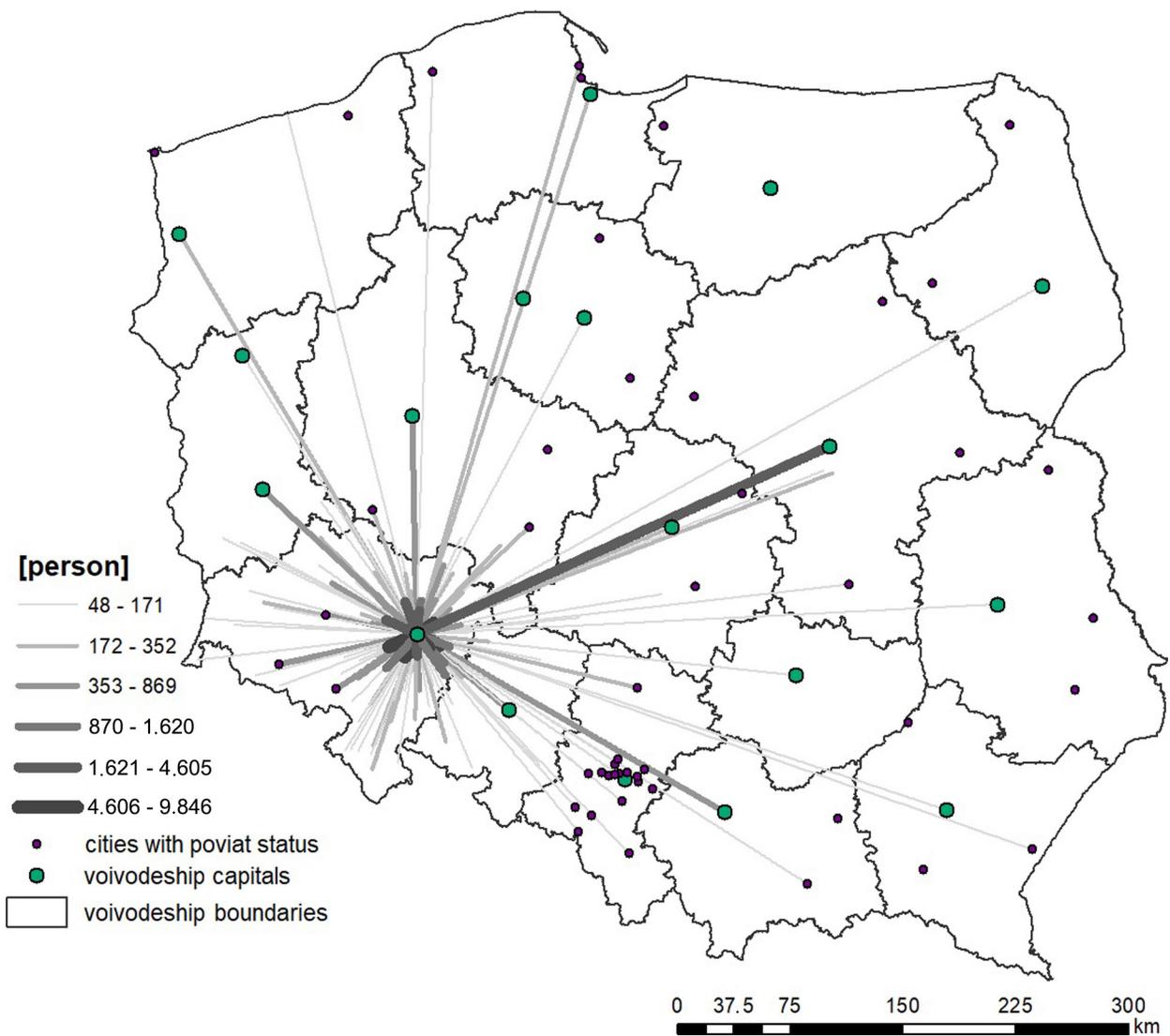


Fig 3. The size of emigration from Wrocław in the years 2002–2018 to municipalities with permanent migration flows.  
Source: author's own work based on the Demography database.

Voivodeship, in addition to those located near the city. Therefore, it can be assumed that the vast majority of migrations can be attributed to suburbanisation. This confirms one of Ravenstein’s laws of migration (1889), claiming that most migrants move only a short distance. However, nearly 1/3 of migrants settle in other communes (outside the suburban area) which share more or less persistent migration flows with Wrocław. Accordingly, the largest migration flows were

observed for communes located in the immediate vicinity of the city and for Warsaw.

Not all of the communes (and there are 2,489 territorial units of this rank in Poland) were chosen as the new place of residence by those who left Wrocław. The emigration zone of Wrocław in the years 2002–2018 included 1,998 communes, which constituted 80.2% of all territorial units of this kind in Poland. The emigration zone of the city was determined according to migrations that occurred at least once in the analysed period.

People moving to the 1st and 2nd ring of the communes surrounding Wrocław constituted a significant share in the total population outflow from Wrocław from 2002 to 2018 (Fig. 4). Overall, they accounted for approximately 57.6% of all migrants. It can therefore be assumed that this is the share of suburbanisation in internal migrations from Wrocław. Destination areas for migrants from Wrocław located within Dolnośląskie Voivodeship, but outside the suburban zone accounted for only 14.7% of the migratory traffic. Still, other areas in Poland, located outside Dolnośląskie Voivodeship accounted for 27.7% of the emigration zone. It can be presumed that the spatial extent of migration coincides with the borders of the administrative region (voivodeship) of which Wrocław is the capital only in 72.3%, and in the remaining part it consists of communes located outside the region.

Rural areas prevail among the destination areas for migrants from Wrocław (Fig. 5). This has to do primarily with the suburbanisation taking place around Wrocław. In the context of the decreasing

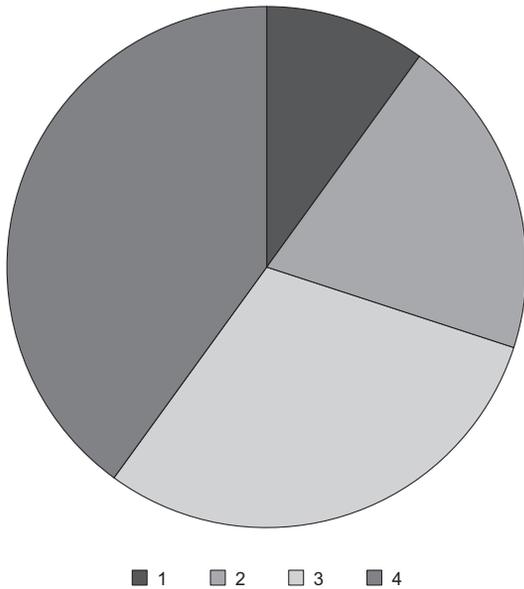


Fig. 4. Target areas of the emigrants from Wrocław (1 – the first ring of the suburban municipalities, 2 – the second ring of the suburban municipalities, 3 – other municipalities in Dolnośląskie Voivodeship, 4 – other municipalities in the country).

Source: author’s own work based on the Demography database.

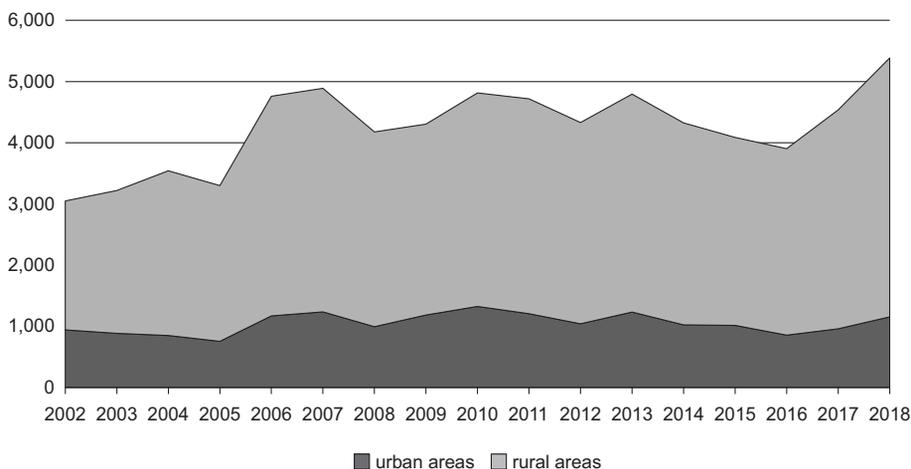


Fig. 5. The size of emigration from Wrocław in years 2002–2018 to urban and rural areas in Dolnośląskie Voivodeship.

Source: author’s own work based on the Demography database.

share of the urban population, the ongoing migrations may, in part, point to counter-urbanisation. It is interesting to note that the areas where Wrocław residents migrate beyond the first and second ring of communes of the suburban zone of this city include rural areas located in different parts of the voivodeship. They constitute the suburban zones of smaller towns in the region, such as the rural communes of Bolesławiec or Świdnica, as well as rural areas of mountain and foothill communes in the Sudety Mountains. Rural areas located in the Kłodzko Land are specific as they are a persistent place of migration for the inhabitants of Wrocław according to Huk (2004) and Latocha et al. (2018). These directions may indicate that counter-urbanisation is occurring.

Migrations from Wrocław outside Dolnośląskie Voivodeship are quite different. The vast majority of migrants here are those who chose urban areas as their destination. Migrants more often choose cities that are urban communes or those located in urban-rural communes rather than rural areas. According to Ravenstein (1889), migrants generally move only short distances, but when they decide to move farther, they prefer major trade and service centres which are important territorial units in the national settlement system. About half of the urban areas to which the inhabitants of Wrocław migrated are city counties (cities with the status of a *poviat*), i.e., territorial units of a certain size and rank due to its administrative functions now or in the past. Thus, a conclusion can be drawn from the analysis of Figure 6 that Ravenstein was partly wrong, as evidenced by the fact that the inter-voivodeship

population movements are dominated by urban communes encompassing cities with the status of a *poviat* rather than rural communes. However, we are not able to determine whether the indicated migration flows were persistent, whether migrations to smaller territorial units were significant or occurred only occasionally.

When analysing the diversity of destination areas for migrants from Wrocław, attention should be given to the permanence of the investigated migration ties. This is how the persistent range of migration for the former inhabitants of Wrocław can be determined. Not every migration flow continued throughout the entire analysed period. Apparently, not all of the 1,998 communes to which the Wrocław residents migrate are persistently tied with this city through migrations. The degree of migration persistence is a useful indicator when determining the emigration zone of Wrocław and the spatial range of migration. This concept is to be understood as the frequency with which migrants choose a specific commune as their destination over a specific period. The persistence of migration is expressed as the number of years during which departures to a specific territorial unit were recorded (Huk 2004). However, this parameter should not be confused with the concept of migration permanence understood as an indicator of the duration of the movement as described by Jagielski (1974). The degree of migration persistence makes it possible to distinguish between continuing migration and migrations that occur sporadically. Therefore, it is possible to designate the migration region precisely through the prism of the

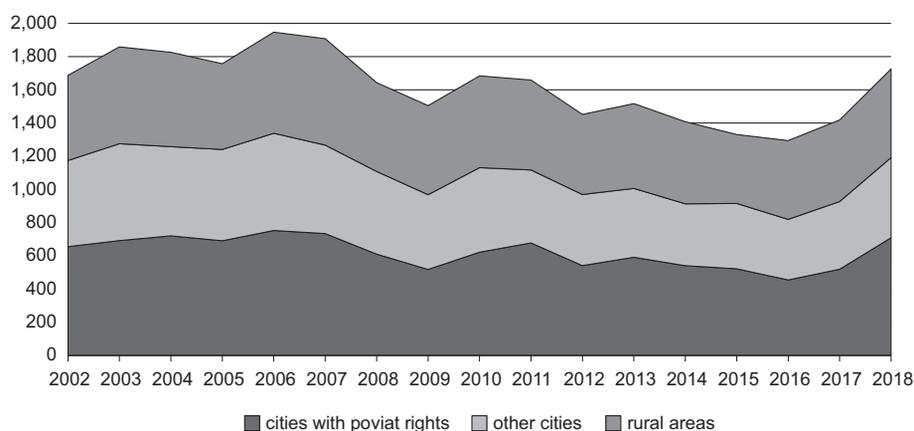


Fig. 6. The size of emigration from Wrocław in years 2002–2018 outside Dolnośląskie Voivodeship. Source: author's own work based on the Demography database.

stability (or persistence) of migration flows. This is how the most common places to which the population migrates can be distinguished from those that occur sporadically and are attributed to highly subjective reasons to which behaviourist theories primarily mainly apply.

The majority of communes in Poland (1,601 from among 1,998), being the destination for migrants from Wrocław, were characterised by

episodic arrivals (Table 1) that occurred no more than nine times throughout a given period. The remaining population movements with a degree of persistence between 10 and 16 can be considered as relatively persistent migration flows as they continue for more than half of the analysed period.

The degree of persistence of migration from Wrocław is highly diversified (Fig. 7). Migrations

Table 1. The number of emigrants from Wrocław in the years 2002–2018 in municipalities according to the persistence of migration flows.

The degree of persistence of migration	0	1–4	5–8	9–12	13	14	15	16	17
Number of municipalities	491	1193	340	180	28	37	32	44	132
Number of emigrants	0	4,951	3,978	5,949	1,101	1,807	1,497	2,615	80,932
Percentage of emigrants	0%	4.9%	4.0%	6.0%	1.1%	1.8%	1.5%	2.6%	78.1%

Source: author's own work based on the Demography database.

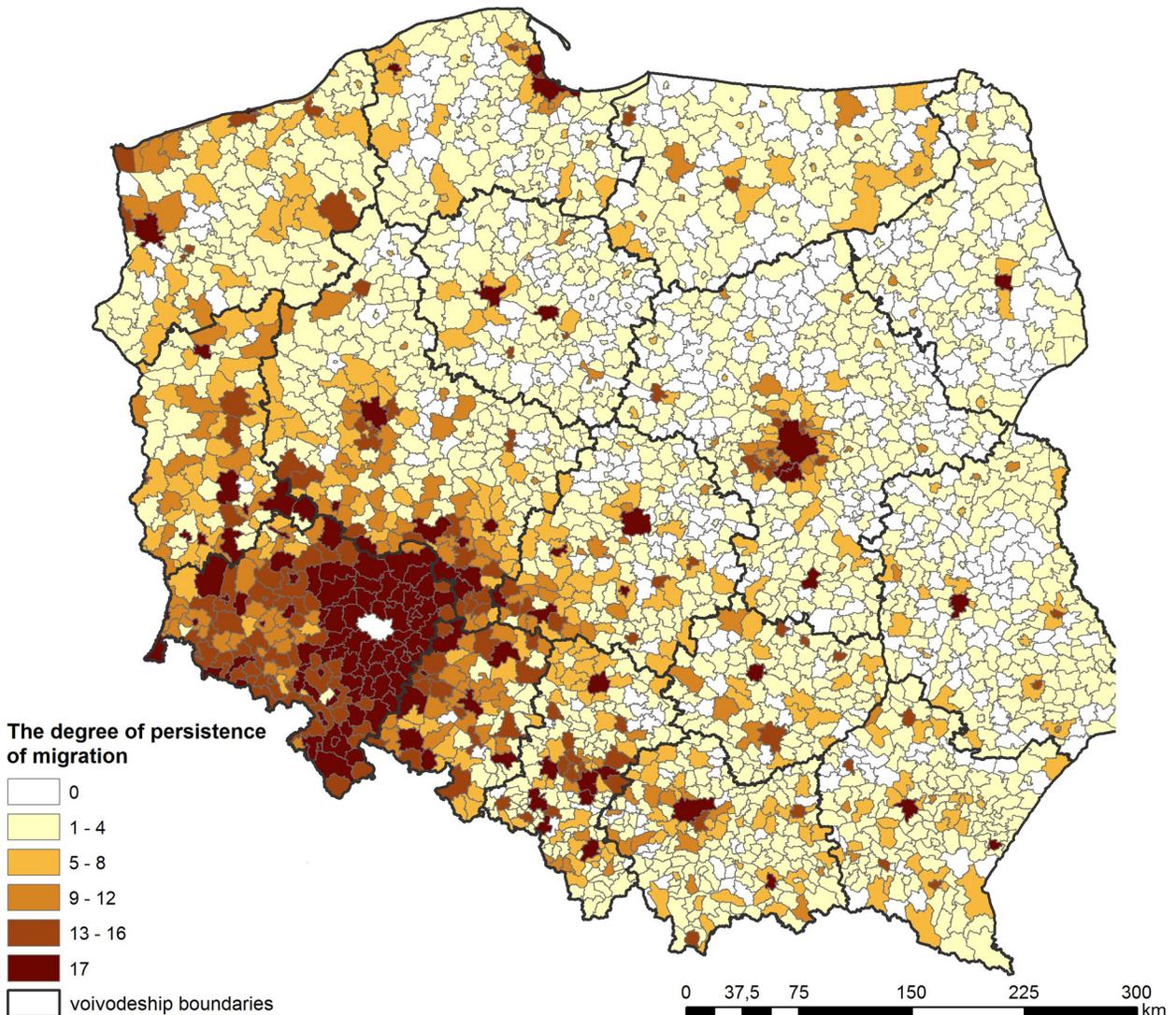


Fig. 7. The persistence of migration from Wrocław in the years 2002–2018 per municipalities.  
Source: author's own work based on the Demography database.

from Wrocław include both persistent migration flows with a persistence score of 17 and lower values. There were 132 communes with a persistence score of 17 in the analysed period, accounting for 5% of all communes in the country. Figure 7 indicates that most of these territorial units are located in the immediate vicinity of or within a short distance from Wrocław, but they also include municipalities of the largest Polish cities, such as Warsaw, Łódź, Krakow, some cities of the Katowice conurbation or Poznań. It can therefore be concluded that the zone of persistent migration, which essentially constitutes the core of migration from Wrocław, includes territorial

units located near Wrocław and the largest cities in Poland. The further away from the city, the lower the spatial density of the persistence of migration flows and the more it resembles a porphyric pattern.

The emigration zone of Wrocław is in its immediate vicinity, as can be determined from Figure 5. However, one cannot fail to notice that it does not overlap with the borders of the administrative region (voivodeship) as it also encompasses communes in the neighbouring voivodeships, mainly Opolskie and Wielkopolskie. The spatial range of the migration from Wrocław mainly covers the western part of Poland and is

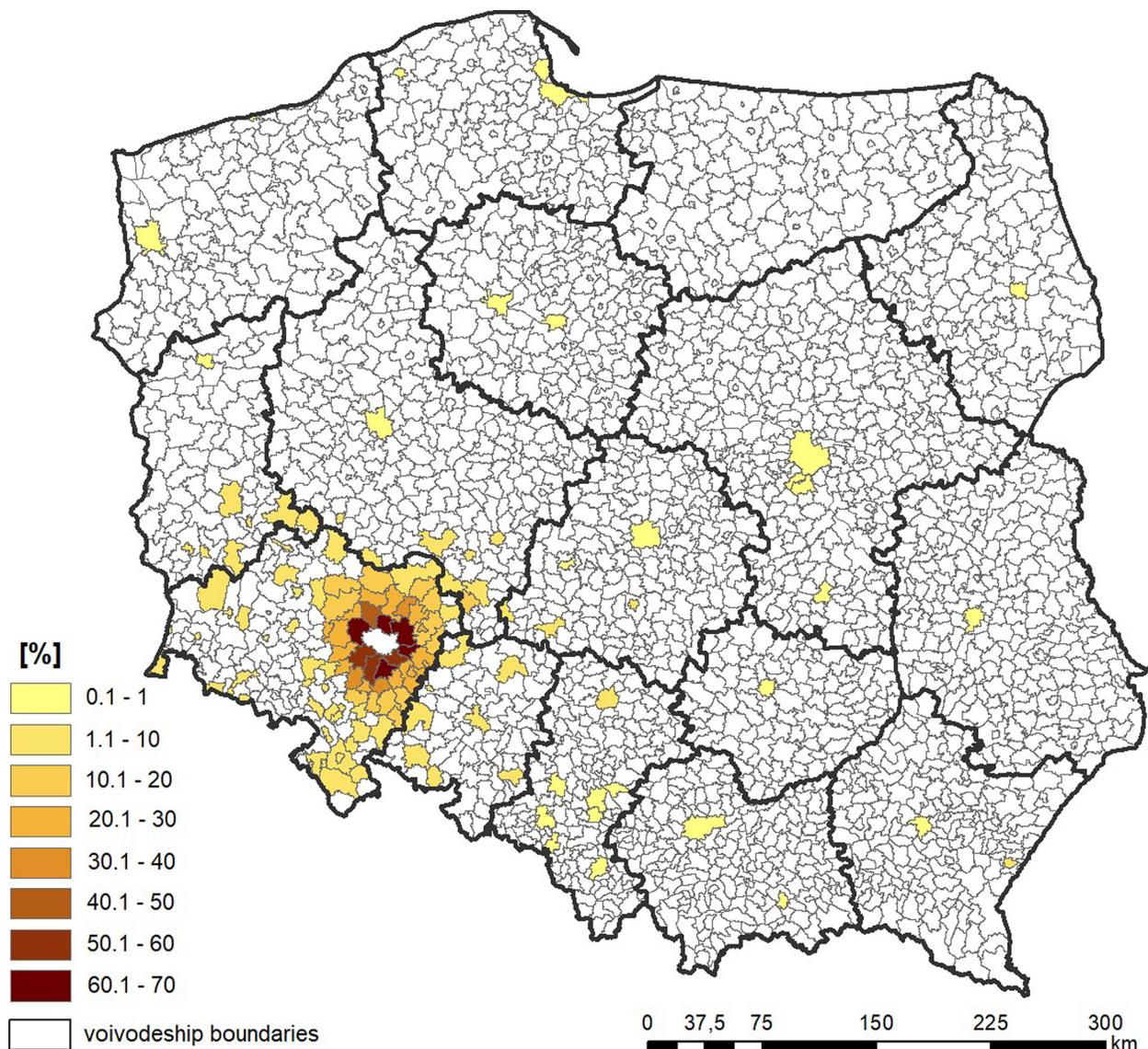


Fig. 8. Share of migrants from Wrocław in total number of immigrants in municipalities (only with persistent migratory flows).

Source: author's own work based on the Demography database.

clearly less pronounced eastwards, especially in Mazowieckie, Lubelskie and Podlaskie voivodships, which are the area of migration mainly for the residents of Warsaw (Śleszyński 2016). It is also apparent that the persistence of migration ties in Dolnośląskie Voivodeship does not cover all communes. The degree of migration persistence for territorial units located in the central-western part of the region is less than 14. The range of persistent migrations southwards towards the Kłodzko Land is extending.

The emigration zone of Wrocław is characterised by a certain spatial density and is restricted mainly to the municipalities surrounding the city. At the same time, however, it must be pointed out that the communes form a type of porphyric pattern which consists of cities with the status of a powiat, i.e., cities ranked at a specific level in the state territorial division. It should be noted that the migration range of Wrocław is independent of the existing territorial division into voivodeships (NTS-2 units). The emigration zone reflected in the persistence of migration ties with Wrocław is not limited by regional borders.

At this point, we should attempt to narrow down the characteristics of the emigration zone to communes with only persistent ties to the city. The size of migration to these units (Fig. 8) is highly diversified, as expressed by the different percentage of migrants from Wrocław concerning the total incoming population. Although there is a persisting migration inflow in 132 communes, migrants from Wrocław constitute a diversified share of the incoming population. The largest share of migrants from Wrocław is recorded among the inhabitants of communes located near Wrocław. The share here ranges from 46.9% to 69.5%. The share of migrants from Wrocław in the second ring of communes surrounding Wrocław ranges from 16.3% to 39%. Hence, the share of migrants from Wrocław in the incoming population decreases with an increasing distance from the city. The lowest share of migrants from Wrocław is reported among the population influx to large cities in Poland or in towns close to them. In these territorial units, the share of migrants from Wrocław accounts for less than 10% of the total number of the incoming population. The spatial pattern reflecting the declining share of Wrocław inhabitants in the

structure of the incoming population to specific communes provides reasonable grounds to believe that these people maintain their ties with the city they abandon.

## Conclusion

As in every other large city in Poland or in Europe, suburbanisation processes are taking place in Wrocław. Most notably, this results in the displacement of the population, which is followed by different types of entities, mainly businesses from the industrial sector, as explained by Brezdeń and Szmytkie (2019). Research indicates that suburbanisation processes have intensified in recent years, which is evidenced by the increasing number of people moving outside the city, as demonstrated in this analysis and in other studies (Winiarczyk-Rażniak, Rażniak 2012; Gałka, Warych-Juras 2018). Whilst most of the outgoing population moves to the vicinity of Wrocław (72.6%), other directions of migration from the city are also noteworthy. Migrations to rural areas which are not located close to the city are prominent. Against the background of the general decrease in the urbanisation index for Poland and Dolnośląskie Voivodeship, this may indicate that there are counter-urbanisation processes taking place in the country and the region. Moreover, this phenomenon involves not only the redistribution of the population between the city and its suburbs, but also the population outflow from the city to the peripheral areas (e.g. the Kłodzko Land). It should be pointed out that even in the face of an intense population outflow, there are no signs of the depopulation of Wrocław. In recent years, the population of the city has been increasing (Szmytkie, Sikorski 2020). This may seem paradoxical due to the increased volume of construction traffic in the suburban area of Wrocław and the fact that migration from the city remains at a similar level. This may be explained by the so-called intra-urban suburbanisation (Spórna, Krzysztofik 2020). The range of the population outflow from Wrocław does not fully correspond to the state territorial division. The impact of the voivodeship city (Wrocław) should coincide with the borders of this region, but migration is not limited to the administrative region borders. Migrants from

Wrocław also move to communes located in neighbouring regions, which contributes to the extended range of impact of Wrocław in the southern part of Wielkopolskie Voivodeship and in the western part of Opolskie Voivodeship. The emigration zone of Wrocław, because of the persistence of migration ties, covers areas in the immediate vicinity of Wrocław, particularly in the suburban zone, which includes two rings of communes surrounding the city. It is also worth taking notice of the specific migration ties between Wrocław and other cities with powiat status. However, this issue requires more in-depth research.

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