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ECONOMIC SUBURBANISATION IN THE WROCLAW AGGLOMERATION

Dominik Sikorski • Dariusz Ilnicki

Institute of Geography and Regional Development
University of Wrocław
Pl. Uniwersytecki 1, 50-137 Wrocław: Poland
e-mails: dominik.sikorski@uwr.edu.pl (corresponding author) • dariusz.ilnicki@uwr.edu.pl

Abstract

The aim of this article is to empirically identify and measure economic suburbanisation in the Wrocław agglomeration area between 2008 and 2024. The analysis, based on REGON data, captured the physical relocation of business headquarters from the city of Wrocław to the suburban zone and examined the scale and structure of this migration. During the study period, 24.1% of the increase in the number of firms in the suburban zone resulted from migration from the city, with a total of 4096 such cases identified (11.4% of all entities in the zone). The process primarily involved micro-enterprises (94.9%) owned by private individuals, with a predominance of the service sector (90.0%), particularly professional, scientific and technical activities, trade, and construction. The study confirms that economic suburbanisation constitutes a significant component of the contemporary spatial and economic transformation of Central and Eastern European metropolitan areas, exemplified by Wrocław and its suburban zone.

Keywords

economic suburbanization • business relocation • Wrocław agglomeration area • REGON data • descriptive statistics • Poland

Introduction

Contemporary socio-economic processes around the world are characterized by significant diversity in terms of their location, scale, and dynamics (Castells, 2010). These processes are often shaped by numerous interrelated factors operating at global, national, regional, and local levels (Hall & Pfeiffer, 2000). Their nature is also shaped by

the prevailing political and economic system (Stanilov, 2007).

As demonstrated by research conducted by P. Kryczka and colleagues (2025), suburbanisation has become a leading topic in economic, social, and spatial sciences in Central and Eastern Europe (CEE) countries. A key feature of this research is its predominant focus on residential suburbanisation. According to the analyses, as many as 80% of studies

on suburbanisation in CEE countries focus on its residential dimension, while less than 20% concern other types, including economic suburbanisation, understood as the relocation of economic activity outside the city limits. When defining the process of suburbanisation, the authors also refer mainly to the movement of population from city centers to suburban areas. Moreover, only about 10% of definitions of suburbanisation explicitly refer to its economic dimension (Kryczka et al., 2025).

Despite the dominance of research on residential suburbanisation, the development of studies focusing on economic suburbanisation is becoming increasingly evident and well-documented. For instance, in Poland, the relocation of enterprises within metropolitan areas – particularly medium-sized and large firms – has become a widespread phenomenon, as demonstrated by the study conducted by Dej and colleagues (2018), which encompassed over 500 companies across the five largest metropolitan areas. Economic suburbanisation also affects the advanced business services (ABS) sector, which increasingly opts for locations outside traditional business districts (Smętkowski et al., 2021). At the same time, in the case of technology startups, this process is accompanied by a tendency toward the ‘revalorisation’ of city centres (Smętkowski, 2022). According to Kuciński (2018), enterprise relocation is not only a spatial process but also a cognitive and institutional one, requiring an interdisciplinary approach. Furthermore, Śleszyński (2007, 2008, 2018) highlights the strong sectoral differentiation within urban space – higher-order services tend to concentrate in city centres, while industry and lower-order services dominate peripheral zones.

Despite growing interest in economic suburbanisation, there remains a lack of research encompassing the full spectrum of enterprises. Existing studies have primarily focused on medium-sized and large firms, overlooking micro and small businesses, which constitute the majority. As a result, the mechanisms of economic suburbanisation are only partially understood, underscoring the need for further, more comprehensive research.

The aim of this article is to empirically identify and measure the process of economic suburbanisation in the Wrocław metropolitan area between 2008 and 2024. The Wrocław agglomeration area is defined as the city of Wrocław (the core) and a belt of nine surrounding municipalities (the suburban zone). The study is based on data from the national REGON register, which enables quantitative tracking of changes in the distribution and migration of business entities within the urban core and suburban zone of the agglomeration area. This article addresses the need for a more in-depth understanding of economic suburbanisation, which, in the authors’ view, remains underexplored in research on spatial transformation in CEE cities.

This study was guided by the following research questions, which were addressed through the empirical investigation:

- How has the spatial distribution of business entities in the Wrocław agglomeration area changed between 2008 and 2024?
- What proportion of the increase in the number of business entities in the suburban zone results from their relocation from the city of Wrocław?
- Which types of economic activity are most frequently relocated from the agglomeration core?
- Which areas of the suburban zone are the main beneficiaries of economic suburbanisation?
- How does the spatial and sectoral structure of business entities change as a result of relocation?

Theoretical background

Economic suburbanisation, as one of the dimensions of the broader suburbanisation process, is most commonly defined in the international literature as the relocation of economic functions – retail trade, services, and manufacturing activities – from city centers to their peripheries (Phelps et al., 2010; Stanilov & Sýkora, 2014). In this study, however, a narrower approach has been adopted consistent with the nature of the data and the research

procedure: economic suburbanisation is understood as the physical relocation of a business entity's headquarters from the central city area to the suburban zone, identified on the basis of an address change in the REGON register. This approach enables the identification of actual firm migrations rather than merely functional shifts in economic activity.

Although economic suburbanisation is often conceptualized more broadly in the literature as a process of economic activity deconcentration at the metropolitan scale, the adopted definition reflects the specificity of the research and allows for an unambiguous identification of the phenomenon based on empirical data. In this sense, economic suburbanisation in the present study is treated as a measurable process of business relocation, which under post-socialist conditions occurs dynamically and leads to lasting functional and spatial changes in metropolitan structures (Stanilov & Sýkora, 2014).

In the international literature, particularly in the Anglo-Saxon context, economic suburbanisation is associated with the relocation of commercial, service, and manufacturing functions from central urban areas to their peripheries (Phelps et al., 2010; Dunham-Jones & Williamson, 2011). On a larger scale, suburbanisation in Western Europe began to emerge after World War II and initially took the form of residential suburbanisation (Champion, 2001; Hall, 2002). Economic suburbanisation, in turn, appeared in the late 1970s and early 1980s as a result of a synergy of factors: technological progress (motorization), structural changes in the economy (deindustrialization, growth of the service sector), economic incentives (lower costs in suburban areas), and local development policies (Hall, 2002; Phelps et al., 2006).

In Central and Eastern Europe, large-scale suburbanisation intensified in many countries after 1989, following the systemic transformation from a communist to a democratic system and from a centrally planned to a market economy. However, it should be emphasized that urbanization and suburbanisation processes in the region had varied

chronologies. In some countries, especially in the Balkans and post-Soviet areas, urbanization was delayed, whereas in the Czech Republic, Silesia, and eastern Germany, intensive suburbanisation was described in the literature even before World War II (Stanilov & Sýkora, 2014; Kubeš, 2015). Consequently, the statement that large-scale suburbanisation in CEE countries emerged only after 1989 requires clarification – the systemic transformation was a key factor accelerating the process, but not its sole source (Kryczka et al., 2025).

A distinctive feature of suburbanisation in Central and Eastern Europe has been, and continues to be, its rapid pace, spontaneity, and lack of planning control, which leads to spatial chaos in the suburban zones of urban agglomerations (Sýkora & Ouředníček, 2007; Hirt, 2012). Although the authors primarily focus on residential suburbanisation, their conclusions are also relevant for understanding the conditions conducive to economic suburbanisation (Stanilov, 2007). As the literature review indicates, suburbanisation – including its economic dimension – has been driven by a variety of conditions and factors. These include, above all, such advantages of the suburban zone as lower land and rental costs (Kalm et al., 2023), greater availability of building plots combined with the absence of restrictive planning regulations (Sýkora & Bouzarovski, 2012), more convenient transport accessibility (proximity to national roads, bypasses, and motorways) (Cervero & Kockelman, 1997), demographic deconcentration (Champion & Hugo, 2004), and the growing local demand for services in suburban areas (Lang & Knox, 2009).

In the Wrocław agglomeration area, the large-scale suburbanisation process began – similarly to other large CEE cities – after the political transformation of 1989. Initially, it was primarily residential, involving the relocation of population and housing functions from central urban areas to the suburbs (Szmytkie, 2020). Over time, suburbanisation in Wrocław evolved. First, it increasingly took the form of intra-urban suburbanisation

(Szmytkie, 2021). Second, other forms of suburbanisation began to emerge, including economic suburbanisation (Brezdeń & Szmytkie, 2019; Sikorski & Szmytkie, 2021; Kunc et al., 2023; Sikorski & Kryczka, 2023).

While residential suburbanisation in Wrocław and similar CEE agglomeration areas has been relatively well studied and documented, economic suburbanisation has rarely been the subject of academic inquiry. This is largely due to the limited availability and quality of statistical data necessary to describe and analyse this dimension of suburbanisation.

Materials and Methods

Study area

The study area encompasses the Wrocław agglomeration region, consisting of the agglomeration core – the city of Wrocław – and its surrounding suburban zone, formed by adjacent municipalities (see *Supplementary Materials*). It is located in south-western Poland, within Central and Eastern Europe. The region has a total population of 899,711 of which 672,882 (74.8%) reside in Wrocław itself (BDL 2024). The total area of the agglomeration region is 1391.8 km², including 292.8 km² occupied by the city of Wrocław.

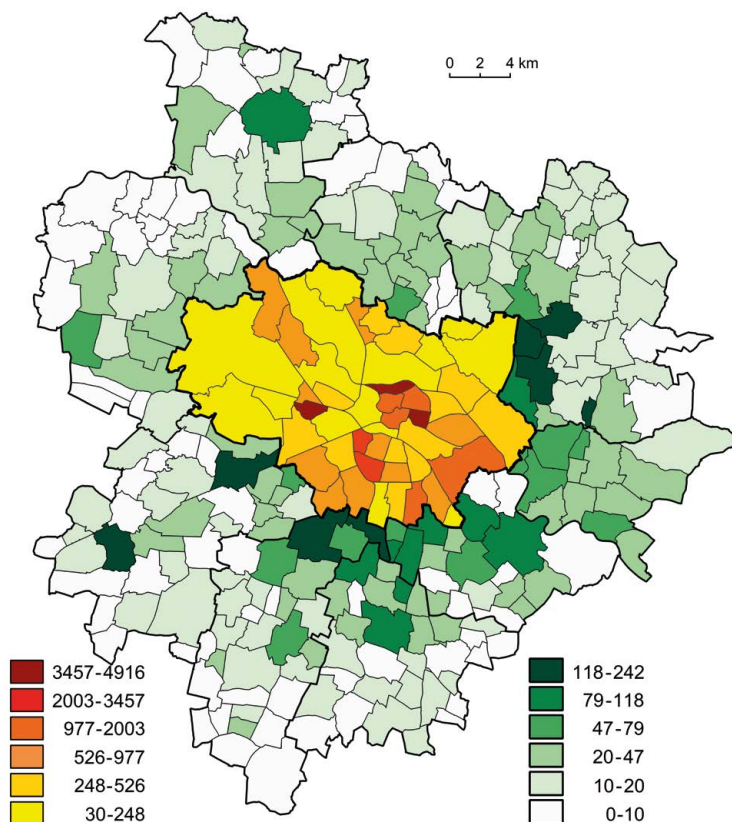
The origins of the Wrocław agglomeration area are distinctly urban and closely tied to the historical development of the city itself. Wrocław's growth has been shaped by systemic transformations, changes in national affiliation, and its strategic location at the intersection of Poland, Germany, and the Czech Republic (Kulak, 2001). The formation of the agglomeration area was also influenced by the natural resources of the Sudetes, the extensive destruction during World War II (approximately 70% of the city was destroyed), and the functioning of a centrally planned economy between 1945 and 1989 (Książek & Suszczewicz, 2017).

Large-scale suburbanisation in the study area began after 1989, initially taking the form of residential suburbanisation – i.e., the migration of population and housing functions to

suburban areas (Szmytkie, 2020). In recent years, intra-urban suburbanisation has become increasingly visible, involving the relocation of residents from the city centre to peripheral neighbourhoods (Szmytkie, 2021), along with the emergence of economic suburbanisation (Sikorski & Szmytkie, 2021).

Today, the Wrocław agglomeration area is recognized as a regional growth pole, with a business entity density of 148.0 entities per km² in 2024 (473.0 in Wrocław vs. 114.6 in the suburban zone), which significantly exceeds the average for the entire voivodeship (22.6) and the country (9.0) (REGON 2024; BDL 2024). Within Wrocław, the highest level of entrepreneurship was observed in the Śródmieście district (1,793.7) and Krzyki (743.1), while in the suburban zone the leading municipalities were Siechnice (45.9), Długołęka (35.7), and Kobierzyce (34.3) (Fig. 1).

In the study area, service-oriented entities predominated, accounting for 87.6% of all entities in the Wrocław metropolitan area in 2024 (90.5% in Wrocław vs. 76.4% in the suburban zone). In Wrocław, the most significant were entities from section N (administrative and support service activities), which represented 13.3% of all city entities, section H (transportation and storage) – 12.7%, section G (wholesale and retail trade; repair of motor vehicles and motorcycles) – 10.3%, and section M (professional, scientific and technical activities) – 9.9%. In contrast, in the suburban zone, section A (agriculture, forestry and fishing) was particularly important – 16.7%, followed by section G – 14.8%, section M – 12.5%, and section F (construction) – 11.3%. Similar to many cities in Central and Eastern Europe, the Wrocław metropolitan area was heavily industrialized during its period of belonging to the communist bloc (Slenczek, 1994, 1996), but after 1989 it began to shift toward the service sector. These transformations have led to significant functional and spatial changes in both the urban core and its hinterland, consistent with trends observed in other CEE urban centres (Ondoś & Korec, 2008; Szczyrba et al., 2022; Kunc et al., 2023).



*the Jenks natural breaks method was used to classify the data.

Figure 1. Density of economic entities in the Wrocław agglomeration in 2024

Source: author's own study based on REGON data.

Data and research design

This study is based primarily on the analysis of data obtained from the REGON database (National Official Business Register) provided by Statistics Poland for the Wrocław agglomeration area for the years 2008, 2016, and 2024. The register includes the following information:

- Entity identification data: REGON number, company name, legal form, tax identification number (NIP), and National Court Register number (KRS), if applicable;
- Address data: registered office address (voivodeship, county, municipality, locality, street, building/unit number), and business

activity address (if different from the registered office);

- Classification data: PKD (Polish Classification of Activities) codes – main and additional business activity codes, ownership sector (e.g., public, private);
- Entity status information: operational status (active, suspended, removed), start date, suspension date, or termination date of activity;
- Type of unit: legal entity (e.g., company, foundation, partnership) or local unit (e.g., branch, service point, shop) (Statistics Poland, 2025).

The REGON database contains only the address of a business entity's registered

headquarters, not the actual location of its operations or the location of its branches. Consequently, the migration analysis is based exclusively on changes in the headquarters address.

The spatial scope of the analysis was limited to the city of Wrocław and the municipalities directly adjacent to its borders, for two reasons: first, complete address data in the REGON register were available only for this area, enabling precise identification of business entity migrations; second, the definition proposed by Straszewicz (1985) was adopted, conceptualizing the suburban zone as the area directly adjoining a large city. This approach provided a coherent analytical framework and avoided ambiguities associated with varying definitions of functional areas of urban agglomerations (cf. Śleszyński, 2015).

The initial stage of the research involved assigning each business entity to a specific neighbourhood and district within the city of Wrocław (the agglomeration core), or to a municipality and locality within the suburban zone, based on address data from the REGON database.

To identify business entities that relocated within Wrocław or between the city and its suburban zone (in both directions), address data were compared using REGON numbers – unique statistical identifiers assigned to each firm that remain unchanged over time. A change in address during the study period was interpreted as a relocation (Tab. 1 and Fig. 3).

Additionally, to determine the structure of economic entity migration within the Wrocław metropolitan area, classification data and information on the type of units from the REGON database were utilized. This enabled the identification of migrating entities by type of activity, legal form, ownership structure, and employment structure (Tabs. 3-6 and Fig. 4).

The identification of relocations of economic entities within the city of Wrocław and between the city and its suburban zone was based on an analysis of changes in address data linked to REGON numbers. REGON

is a unique identification number assigned to each economic entity, which remains unchanged regardless of the company's relocation. By comparing company addresses across successive years of the study, it was possible to identify cases of relocation – i.e., instances where a company changed its registered office (Tab. 1 and Fig. 2).

It is important to note that not every relocation of economic entities constitutes evidence of economic suburbanisation. The nature of the relocation often depended on the size, type of company, and its original location.

In the case of larger enterprises, relocation typically involved changing the headquarters, for example, by moving to a different office building (often rented), and most frequently occurred within the city. Such changes were usually driven by organizational and economic considerations – such as cost optimization, availability of office space, or proximity to clients and business partners – and were not directly related to suburbanisation processes.

Conversely, relocations of micro and small enterprises, particularly sole proprietorships, were often personally linked to their owners. In such cases, the change of company address frequently resulted from the owner's residential relocation, aligning with the process of residential suburbanisation. Thus, the relocation of the business was a consequence of a change in residence rather than a strictly business-driven decision. However, this type of relocation – i.e., the transfer of business activity from the city to the suburban zone due to the owner's change of residence – was classified in this study as a manifestation of economic suburbanisation.

It is also possible that some individuals conducting business activity relocated to the suburban zone during the study period as part of residential suburbanisation, simultaneously updating the registered address of their business to reflect their new place of residence. In such cases, the formal business address may have changed, even though the actual location of business operations remained unchanged – still situated within the city. This is feasible due to Polish regulations, which do

not require the registered business address to coincide with the actual place of business activity. Unfortunately, it was not possible to verify such cases within the scope of this study, as the REGON database contains only the registered office address and not the actual location of business operations.

The study area includes the Wrocław agglomeration region, consisting of the city of Wrocław (divided into five administrative districts and 48 neighbourhoods), and a suburban zone comprising nine municipalities and 239 localities (see *Supplementary Materials*).

It is important to note that the REGON database provides the registered office address of a company, which may not reflect the actual location of its operations. Moreover, the database does not include information on the location of branches or subsidiaries. This limitation has been cited as a potential source of inaccuracy in spatial analyses (Celińska-Janowicz, 2016; Kłosowski, 2017). Nevertheless, REGON remains the only database of its kind capable of providing relatively reliable information on a wide range of characteristics of business entities operating in a given area.

Results

Spatial migration of business entities

Between 2008 and 2024, a total of 33,731 business entities (19.2%) out of 175,340 registered in the Wrocław agglomeration area underwent relocation. Of these, 29,635 relocations (16.9% of all entities; 87.9% of all relocations) were internal, occurring within the city of Wrocław, while 4,096 relocations (2.3% of all entities; 12.1% of all relocations) were external, involving movement from Wrocław to the suburban zone. The scale of migration was relatively similar across the two sub-periods: 15,039 entities relocated between 2008 and 2016, and 18,686 between 2016 and 2024. However, it is noteworthy that the number of relocations from Wrocław to the suburban zone increased significantly in the latter period (1,619 in 2008-2016 vs. 2,477 in 2016-2024) (Tab. 1).

The analysis of business entity migration in the Wrocław agglomeration area confirms earlier observations. Most relocations occurred within the agglomeration core; however, there was a noticeable concentration of migration in the southern and western parts

Table 1. Business entity relocations in the Wrocław agglomeration area, 2008-2024

Area		Migration of business entities		
		2008-2016	2016-2024	2008-2024
Suburban zone	Czernica	159	304	463
	Długołęka	331	564	895
	Kąty Wrocławskie	185	290	475
	Kobierzyce	253	353	606
	Miękinia	135	198	333
	Oborniki Śląskie	95	97	192
	Siechnice	237	353	590
	Wisznia Mała	103	143	246
	Żórawina	121	175	296
	total	1,619	2,477	4,096
City of Wrocław	Fabryczna	3,116	4,414	7,530
	Krzyki	3,755	5,015	8,770
	Psie Pole	1,546	2,348	4,006
	Stare Miasto	2,140	2,599	4,739
	Śródmieście	2,863	1,839	4,584
	total	13,420	16,215	29,635
All in the agglomeration		15,039	18,692	33,731

Source: author's own elaboration based on REGON data

of the city, as well as along the axis from the city to the suburban zone. In particular, significant numbers of relocations were directed toward the following municipalities: Długołęka (896 relocations), Kobierzyce (606), Siechnice (590), Kąty Wrocławskie (475), and Czernica (463) (Fig. 2).

the dynamics of the number of enterprises in the studied agglomeration. Between 2008 and 2024, the Wrocław agglomeration area saw an overall increase of 57,144 business entities, of which 33,725 were due to migration – representing as much as 59.0% of the total growth. Migrations were particularly

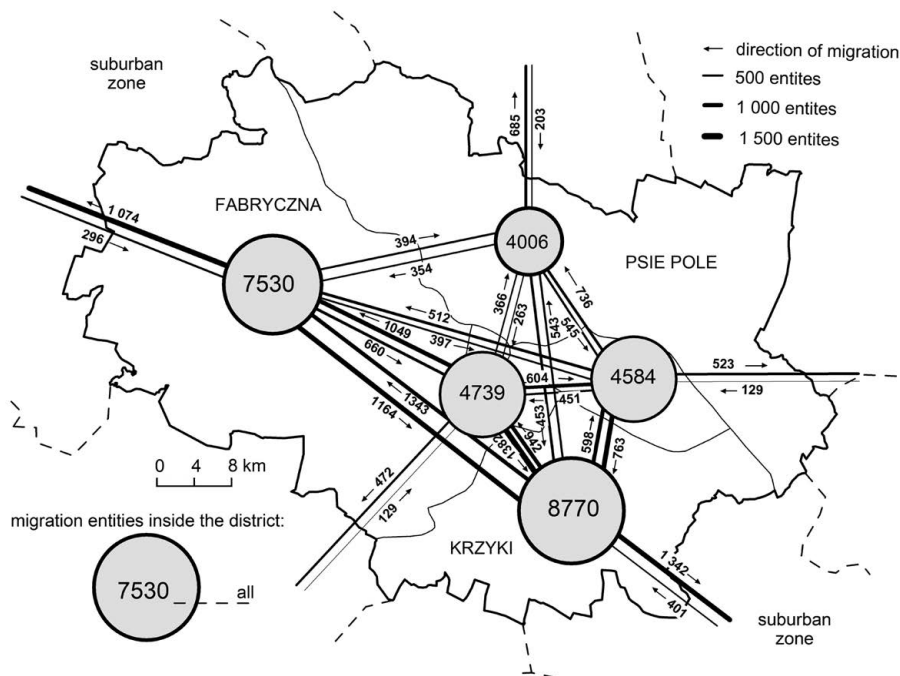


Figure 2. Main directions of business entity migration in the Wrocław agglomeration area, 2008-2024

Source: author's own elaboration based on REGON data

The importance of migration in the number and growth of business entities

During the study period, migrating business entities accounted for a total of 19.2% of all enterprises in the Wrocław agglomeration area. These migrations played a more significant role in the core of the agglomeration – namely, the city of Wrocław – where they constituted 21.2% of all business entities in 2024, compared to only 11.4% in the suburban zone (Tab. 2).

However, the migration of business entities played the most significant role in shaping

significant in the core of the agglomeration, where they accounted for 73.8% of the newly established entities, in contrast to the suburban zone, where their share in growth was only 24.1% (Tab. 2).

The spatial distribution of the rate of migrating business entities in the total number of enterprises in the Wrocław agglomeration area in 2024 is not entirely straightforward to interpret. In the case of the city of Wrocław, migration plays a significant role in shaping the economic base of both central neighborhoods (e.g., Ołbin – where migrating entities accounted for 27.8% of all businesses; Tarnogaj – 25.6%; Przedmieście Oławskie –

Table 2. Internal and external migration rate* in the number and growth of business entities in the Wrocław agglomeration area, 2008-2024

Area		Business entities	Migrations of entities	Rate	Growth of entities	Migrations of entities	Share
		2024			2008-2024		
Suburban zone	Czernica	3,324	463	13.9%	+2,019	463	22.9%
	Długoleka	7,130	895	12.6%	+3,766	895	23.8%
	Kąty Wrocławskie	4,771	475	10.0%	+2,053	475	23.1%
	Kobierzyce	5,154	606	11.8%	+2,900	606	20.9%
	Miękinia	2,955	333	11.3%	+1,327	333	25.1%
	Oborniki Śląskie	3,442	192	5.6%	+703	192	27.3%
	Siechnice	4,538	590	13.0%	+2,468	590	23.9%
	Wisznia Mała	2,125	246	11.6%	+724	246	34.0%
	Żórawina	2,376	296	12.5%	+1,046	296	28.3%
	no data	1	-	-	+1	-	-
total		35,816	4,096	11.4%	+17,007	4,096	24.1%
City of Wrocław	Fabryczna	36,359	7,530	20.7%	+7,977	7,530	94.4%
	Krzyki	40,578	8,770	21.6%	+15,007	8,770	58.4%
	Psie Pole	19,458	4,006	20.6%	+5,950	4,006	67.3%
	Stare Miasto	22,118	4,739	21.4%	+7,802	4,739	60.7%
	Śródmieście	19,966	4,584	22.9%	+2,412	4,584	189.8%
	no data	1,018	-	-	+989	-	-
	total	139,524	29,635	21.2%	+40,137	29,635	73.8%
All in the agglomeration		175,340	33,731	19.2%	+57,144	33,731	59.0%

*The analysis distinguishes between internal migration (e.g., within districts of Wrocław or municipalities) and external migration (e.g., from Wrocław to suburban municipalities or between municipalities).

Source: author's own elaboration based on REGON data.

23.6%) and peripheral ones (e.g., Kowale – 24.1%; Ołtaszyn – 21.8%; Polanowice-Poświętne-Ligota – 21.6%). In contrast, in the suburban zone, the spatial concentration of migration's role in building the economic base shows only limited tendencies toward clustering near the city boundary (Fig. 3A).

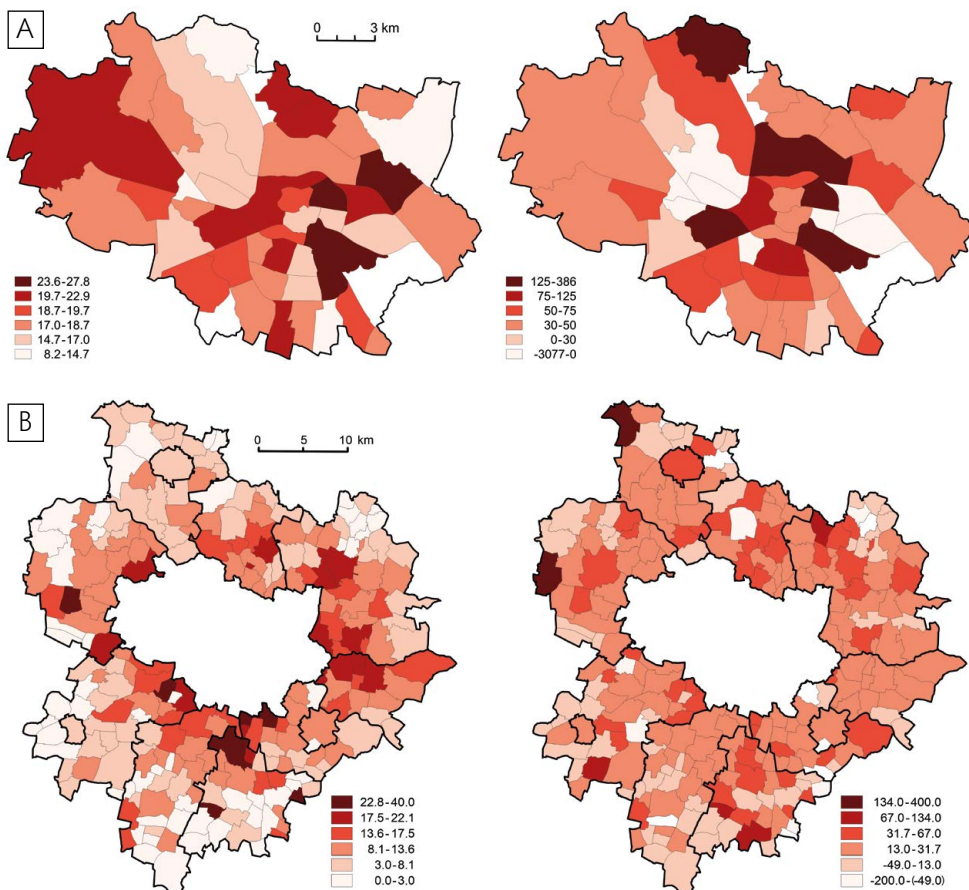
Similarly, the spatial distribution of the rate of business migrations in the overall growth of enterprises in the Wrocław agglomeration area between 2008 and 2024 is also ambiguous (Fig. 3B). In Wrocław, the role of migration in enterprise growth is particularly pronounced in central neighborhoods (e.g., Ołbin – where migration accounted for 385.0% of the net increase in businesses; Karłowice-Różanka – 283.5%) rather than in peripheral ones (e.g., Świnia – 180.0%; Bieńkowice – 68.2%). In the suburban zone, however, it is difficult to identify any clear spatial pattern.

The structure of economic suburbanisation

Structure of business activity

In the studied agglomeration area, service-oriented business entities dominate, with a total of 155,171 such entities recorded in 2024, accounting for 89.3% of all enterprises. Due to the specific character of the suburban zone, a relatively high share of agricultural entities is observed there – 5984 in total in 2024 – representing 16.7% of all businesses in that zone (Tab. 3).

The functional structure of business entity migrations closely mirrors the overall functional composition of the agglomeration area. Service-oriented entities also dominate among migrants, with a total of 27,832, constituting 89.3% of all migrations. A notable deviation from the general functional structure is the significantly lower number



*the Jenks natural breaks method was used to classify the data.

Figure 3. Spatial distribution of the migration rate of economic entities in terms of total number (A) and increase in number (B) in the Wrocław agglomeration in 2008-2024

Source: author's own elaboration based on REGON data.

of agricultural entities migrating to the suburban zone – only 85, which accounts for just 2.1% of all migrations (Tab. 3).

Detailed insights into the structure of business entities that migrated from the city of Wrocław to the suburban zone between 2008 and 2024 are provided by the cumulative Sankey diagram (Fig. 4). It reveals that the majority of migrations from Wrocław to the suburban area originated from the districts of Wrocław-Krzyki (1342 entities; 32.8% of all migrations) and Wrocław-Fabryczna (1074 entities;

26.2%), with the main destinations being the municipalities of Długołęka (896 entities; 21.9%) and Kobierzyce (606 entities; 14.8%). Furthermore, the diagram shows that service-oriented entities dominated among the migrating businesses (3668 entities; 90.0%). In particular, these included enterprises engaged in professional, scientific, and technical activities (M) (804 entities; 19.6% of migrations), wholesale and retail trade (G) (733; 17.9%), construction (F) (391; 9.5%), information and communication (J) (382; 9.2%), healthcare and social

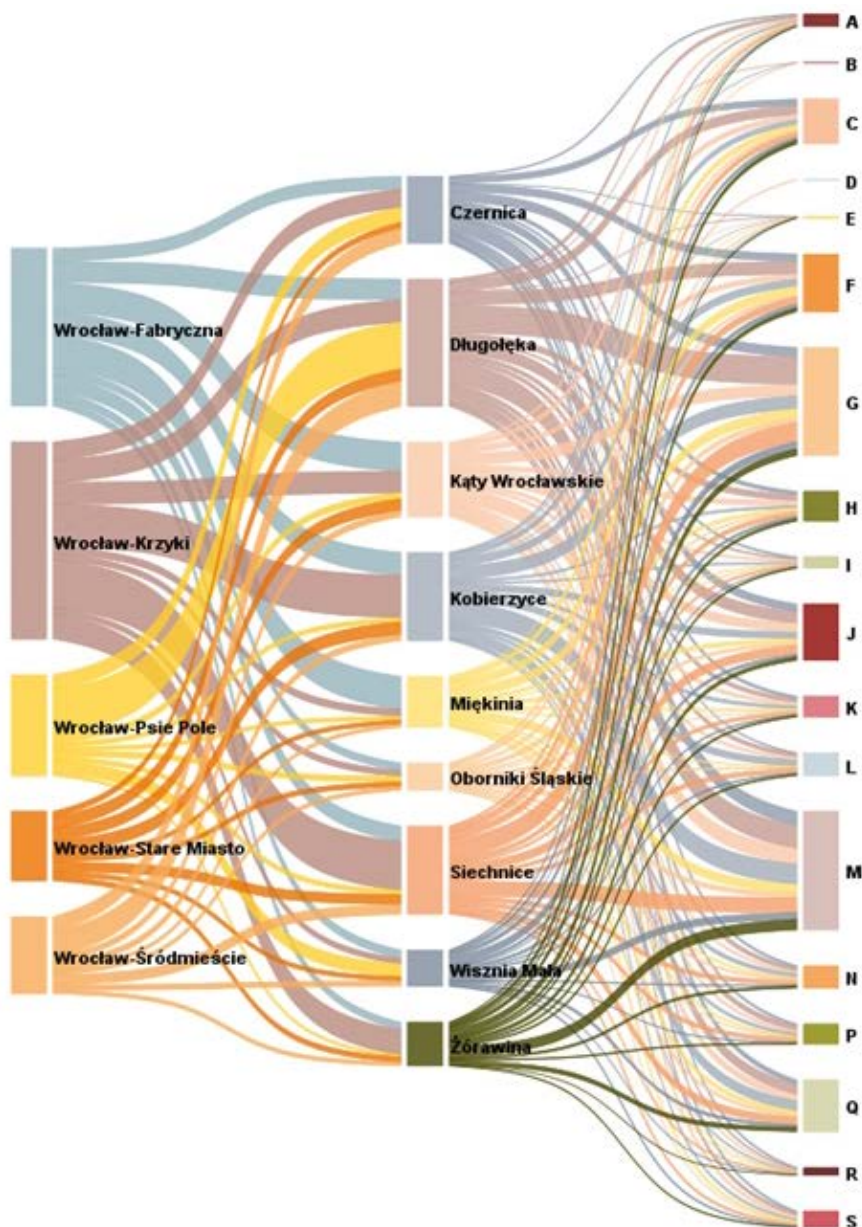


Figure 4. Structure of business entity migrations by PKD sections from the city of Wrocław to the suburban zone, 2008-2024

(A) Agriculture, forestry and fishing; (B) Mining and quarrying; (C) Manufacturing, (D) Electricity, gas, steam and air conditioning supply; (E) Water supply; sewerage, waste management and remediation activities, (F) Construction, (G) Wholesale and retail trade; repair of motor vehicles and motorcycles, (H) Transportation and storage, (I) Accommodation and food service activities, (J) Information and communication, (K) Financial and insurance activities, (L) Real estate activities, (M) Professional, scientific and technical activities, (N) Administrative and support service activities, (O) Public administration and defence; compulsory social security, (P) Education, (Q) Human health and social work activities, (R) Arts, entertainment and recreation, (S) Other service activities, (T) Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use, (U) Activities of extraterritorial organizations and bodies.

Source: author's own elaboration based on REGON data.

Table 3. Functional structure of business entities in the Wrocław agglomeration area in 2024 and of migrations within the area between 2008 and 2024

Area		Business entities				Migration of business entities			
		(A)*	(I)	(S)	no data	(A)	(I)	(S)	no data
		2024				2008-2024			
Suburban zone	Czernica	386	237	2,701	-	7	44	412	-
	Długołęka	1,352	484	5,294	-	23	71	801	-
	Kąty Wrocławskie	833	255	3,683	-	11	29	435	-
	Kobierzyce	665	316	4,173	-	13	37	556	-
	Miękinia	517	265	2,173	-	1	37	295	-
	Oborniki Śląskie	704	246	2,492	-	10	18	164	-
	Siechnice	500	327	3,711	-	11	35	544	-
	Wisznia Mała	468	157	1,500	-	6	21	219	-
	Żórawina	559	167	1,650	-	3	31	262	-
	no data	-	-	-	1	-	-	-	-
	total	5,984	2,454	27,377	1	85	323	3,688	-
City of Wrocław	Fabryczna	1,220	2,223	32,425	491	103	449	6,978	-
	Krzyki	1,088	2,036	37,019	436	77	372	8,321	-
	Psie Pole	744	1,261	17,261	221	58	296	3,652	-
	Stare Miasto	324	1,264	20,240	289	41	211	4,487	-
	Śródmieście	557	974	18,313	120	51	139	4,394	-
	no data	6	63	945	4	-	-	-	6
	total	3,939	7,821	126,203	1,561	330	1,467	27,832	6
All in the agglomeration		9,923	10,275	153,580	1,562	415	1,790	31,520	6

*(A)griculture, (I)ndustry, (S)ervices

Source: author's own elaboration based on REGON data.

assistance (Q) (351; 8.6%), and manufacturing (C) (304; 7.4%).

Legal structure

In terms of legal structure, the Wrocław agglomeration area is dominated by sole proprietorships (natural persons conducting business activity), which totaled 107,637 in 2024, accounting for 61.4% of all business entities. Legal persons also played a significant role, with 43,325 entities (24.7% of the total). The differences in the legal structure of entities between the core city and the suburban zone of the agglomeration area were relatively minor (Tab. 4).

As for the legal structure of migrating entities, sole proprietorships also prevailed, mirroring the overall structure of the agglomeration area. These accounted for 18,986 migrations, representing 56.3% of all migrating entities. Notably, migrations to the suburban zone

were overwhelmingly dominated by sole proprietorships, with 3434 such cases recorded between 2008 and 2024 – constituting as much as 83.8% of all migrations to that zone (see Tab. 4).

Ownership structure

In terms of ownership structure, individually owned private enterprises dominate in the Wrocław agglomeration area. In 2024, there were a total of 140,888 such entities, accounting for 80.4% of all business entities in the region. This form of ownership was more prevalent in the suburban zone, where 31,753 entities (88.7% of all businesses) were individually owned, compared to 109,135 in the city of Wrocław (78.2%) (Tab. 5).

Individually owned private enterprises also constituted the largest group among migrating entities. Between 2008 and 2024, a total of 28,009 such entities migrated, representing

Table 4. Legal structure of business entities in the Wrocław agglomeration area in 2024 and of migrations within the area between 2008 and 2024

Area		Business entities			Migration of business entities		
		I*	II	III	I	II	III
		2024			2008-2024		
Suburban zone	Czernica	438	198	2,688	28	7	428
	Długołęka	979	436	5,715	93	36	766
	Kąty Wrocławskie	688	475	3,608	43	20	412
	Kobierzyce	1,091	476	3,587	123	48	435
	Miękinia	359	217	2,379	37	13	283
	Oborniki Śląskie	410	345	2,687	19	5	168
	Siechnice	693	404	3,441	63	38	489
	Wisznia Mała	287	134	1,704	29	11	206
	Żórawina	326	151	1,899	36	13	247
	no data	1	-	-	-	-	-
City of Wrocław	total	5,272	2,836	27,708	471	191	3,434
	Fabryczna	7,851	5,177	23,331	1,511	1,441	4,578
	Krzyki	10,749	5,780	24,049	1,974	2,219	4,577
	Psie Pole	4,370	2,240	12,875	842	686	2,478
	Stare Miasto	9,928	3,617	8,573	1,597	1,120	2,022
	Śródmieście	4,230	4,669	11,067	615	2,072	1,897
	no data	925	59	34	-	-	6
	total	38,053	21,542	79,929	6,539	7,538	15,558
All in the agglomeration		43,325	24,378	107,637	7,010	7,729	18,992

*I – legal person, II – organizational unit without legal personality, III – natural person conducting business activity

Source: author’s own elaboration based on REGON data.

Table 5. Ownership structure of business entities in the Wrocław agglomeration area in 2024 and of migrations within the area between 2008 and 2024

Area		Business entities					Migration of business entities				
		a*	b	c	d	e	a	b	c	d	e
		2024					2008-2024				
Suburban zone	Czernica	19	130	3,007	64	104	1	12	441	6	3
	Długołęka	30	255	6,431	173	241	1	16	858	15	5
	Kąty Wrocławskie	36	218	4,207	140	170	-	6	450	14	5
	Kobierzyce	47	327	4,291	287	202	2	17	542	37	8
	Miękinia	19	126	2,717	55	38	-	6	319	7	1
	Oborniki Śląskie	46	242	3,068	44	42	-	2	189	1	-
	Siechnice	20	209	3,999	149	161	1	5	569	10	5
	Wisznia Mała	16	110	1,907	46	46	-	12	227	7	-
	Żórawina	13	112	2,125	61	65	-	6	279	10	1
	no data	-	-	1	-	-	-	-	-	-	-
City of Wrocław	total	246	1,729	31,753	1,019	1,069	5	82	3874	107	28
	Fabryczna	479	2,169	30,182	1,393	2,136	236	231	6539	202	322
	Krzyki	604	2,703	32,014	2,504	2,754	561	300	7180	302	427
	Psie Pole	180	1,165	16,750	748	644	166	105	3471	89	175
	Stare Miasto	414	2,545	14,611	2,173	2,374	265	277	3484	378	335
	Śródmieście	872	1,421	15,089	1,314	1,268	727	166	3461	83	147
	no data	7	140	489	1,93	189	-	-	-	-	6
	total	2,556	10,143	109,135	8,325	9,365	1,955	1,079	24,135	1,054	1,412
All in the agglomeration		2,802	11,872	140,888	9,344	10,434	1,960	1,161	28,009	1,161	1,440

*a – public ownership, b – private ownership, c – individual private ownership, d – foreign ownership, e – no information available

Source: author’s own elaboration based on REGON data.

85.8% of all migrations. Notably, entities migrating from Wrocław to the suburban zone were predominantly individually owned private businesses – 3874 in total – accounting for as much as 94.6% of all such migrations (see Tab. 5).

Structure of employment

In the studied agglomeration area, business entities employing up to 9 persons predominated. In 2024, there were a total of 144,001 such entities, accounting for 82.1% of all enterprises. In the suburban zone, these entities numbered 31,950 (89.2%), while in the city of Wrocław, there were 112,051 (80.3%). It is also worth noting that as many as 27,059 entities (15.4%) either did not report or officially withheld information regarding the number of employees from the Central Statistical Office (Tab. 6).

Similarly, among migrating entities, those employing up to 9 persons were also dominant. Between 2008 and 2024, there were 31,069 such entities, representing 92.1% of all migrations. In the suburban zone, 3887 micro-enterprises migrated (94.9%), while in the core of the agglomeration, the number was 27,182 (91.7%). Only 3.7% of migrating entities did not provide data on employment structure, and these were primarily enterprises relocating within the city of Wrocław (Tab. 6).

Discussion

Between 2008 and 2024, a noticeable increase in the number of economic entities was observed in the peripheral housing estates of the city of Wrocław, as well as in localities within the suburban zone situated directly adjacent to the city's administrative

Table 6. Structure of employed persons in business entities in the Wrocław agglomeration area in 2024 and migration within the area in the years 2008-2024

Area		Business entities						Migration of business entities					
		(1)*	(2)	(3)	(4)	(5)	(6)	(1)	(2)	(3)	(4)	(5)	(6)
		2024						2008-2024					
Suburban zone	Czernica	2,996	38	4	-	-	286	447	8	-	-	-	8
	Długołęka	6,390	119	23	1	-	597	856	25	-	-	-	14
	Kąty Wrocławskie	4,214	84	22	2	1	448	458	6	2	1	-	8
	Kobierzyce	4,377	112	29	7	2	627	552	25	5	2	-	22
	Miękinia	2,699	61	10	3	-	182	310	17	2	-	-	4
	Oborniki Śląskie	3,186	67	15	1	-	173	186	3	-	-	-	3
	Siechnice	4,030	79	12	1	-	416	568	9	3	-	-	10
	Wisznia Mała	1,913	32	2	-	-	178	233	6	1	-	-	6
	Żórawina	2,144	42	-	-	-	190	277	12	-	-	-	7
	no data	1	-	-	-	-	-	-	-	-	-	-	-
	total	31,950	634	117	15	3	3,097	3,887	111	13	3	-	82
City of Wrocław	Fabryczna	30,630	720	150	21	4	4,834	6,897	272	70	5	2	284
	Krzyki	32,776	727	171	33	4	6,868	8,033	284	72	15	4	362
	Psie Pole	16,226	460	69	23	5	2,704	3,670	132	34	11	3	156
	Stare Miasto	15,118	566	127	33	7	6,266	4,201	201	47	14	7	269
	Śródmieście	16,758	262	72	9	6	2,857	4,381	76	25	1	-	101
	no data	543	39	2	1	-	433	-	-	-	-	-	6
	total	112,051	2,774	591	120	26	23,962	27,182	965	248	46	16	1,178
All in the agglomeration		144,001	3,408	708	135	29	27,059	31,069	1,076	261	49	16	1,260

*I – 0-9 employed persons; II – 10-49 employed persons; III – 50-249 employed persons; IV – 250-999 employed persons; V – 1000 or more employed persons; VI – no information provided

Source: author's own elaboration based on REGON data.

boundaries. The growth rate of business entities in Wrocław's peripheral neighbourhoods reached 98.0%, compared to only 26.3% in central neighbourhoods. In the suburban zone, the number of business entities increased by 90.3% over the same period. Although the analysis of changes in the spatial distribution of business entities alone does not constitute definitive evidence of economic suburbanisation, it is widely recognised in the literature as a significant indicator of such a process (Sýkora & Ouředníček, 2007; Săgeată et al., 2023).

A much stronger indication of economic suburbanisation in the studied agglomeration area is provided by the analysis of business entity migration. Between 2008 and 2024, a total of 33,731 business entities relocated within the Wrocław agglomeration area, of which 4096 (12.1% of all migrations) moved from Wrocław to its suburban zone (Tab. 1 and Fig. 2). While some of these migrations may have been incidental or driven by other mechanisms or processes (e.g. deglomeration policies), a significant proportion clearly exemplifies the process of suburbanisation. As a result, between 2008 and 2024, the migration rate of business entities accounted for 11.4% of all entities in the suburban zone and contributed to 24.1% of the total increase in business entities in that area.

Furthermore, the fact that business entities relocating from Wrocław to the suburban zone tended to settle in localities directly adjacent to the city provides additional evidence that these movements were part of the suburbanisation process (see Fig. 4B).

To confirm that the observed relocations align with the process of suburbanisation, additional analyses were conducted on the structure of migrating business entities (see *The structure of economic suburbanisation*). These analyses revealed that of the 4096 entities that moved to the suburban zone, 3688 (90.0%) were service-oriented, 3434 (83.8%) were sole proprietorships, 3874 (94.6%) were privately owned by individuals, and 3887 (94.9%) employed up to 9 persons.

It can therefore be concluded that economic suburbanisation accompanied residential suburbanisation in the studied area to a significant extent. This is evidenced by the fact that the migrating entities were predominantly micro-enterprises owned by private individuals and operating as sole proprietorships, whose business address often coincides with the owner's place of residence. Such relocations are not solely business decisions but largely the result of residential moves, which blurs the boundary between population suburbanisation and the suburbanisation of economic activity. This phenomenon requires explicit emphasis, as it highlights the need to include micro-enterprises in analyses of economic suburbanisation, despite their single-person nature and the specific registration practices. Omitting them in research significantly underestimates the actual level of economic suburbanisation, as micro-enterprises constitute the dominant share of migrating entities and substantially shape the spatial structure of economic activity in the suburban zone.

Similar conclusions – indicating a link between residential and economic suburbanisation – were reached by Sýkora and Ouředníček (2007) in their analysis of processes occurring in Prague and Brno, Czech Republic. Although most studies on suburbanisation focus primarily on its residential dimension, observations regarding the relocation of economic functions presented in the literature (Trembošová et al., 2002; Coheci, 2023) are essential for understanding the mechanisms of economic suburbanisation.

Interestingly, the analysis of business entity flows from the agglomeration core to the suburban zone partially confirms existing knowledge on the subject and adds detailed insights, particularly regarding the business profiles of migrating entities. Many studies identify the most common types of migrating businesses as those involved in trade and logistics (Săgeată et al., 2023), commerce and services, warehousing (Sýkora & Ouředníček, 2007), or business services such as IT and finance (Kanó et al., 2025).

The analysis of the REGON database indicates that some entities classified as migrating during the study period did not conduct active business operations. Among the firms identified as migrating were both active entities and those suspended or removed from the register, which may indicate business closure or relocation outside the region. The lack of information on the actual place of business activity and company branches in the REGON database makes it impossible to determine unequivocally whether the relocation was complete or partial (e.g., transfer of only certain functions). It should also be noted that some entities may have moved their operations to the virtual space, which cannot be captured through headquarters address analysis. These limitations do not undermine the value of the applied method but point to the need for cautious interpretation of the results and further qualitative research.

It is also worth noting that spatial planning policies significantly influenced the observed transformations, playing a key role in shaping conditions conducive to the suburbanisation of economic activity in the Wrocław agglomeration area. In the 1990s and early 2000s, many suburban municipalities adopted a liberal approach to land use planning, offering favourable conditions for investors, including access to land for commercial and industrial purposes (Ślodziak, 2001; Kaczmarek & Miłuta, 2007). The lack of coordinated agglomeration-level planning and limited integration of local policies contributed to the uncontrolled sprawl of economic functions beyond the city limits (Stanilov, 2007; Kunc et al., 2023).

Meanwhile, in Wrocław itself, revitalisation policies and a focus on high-quality services in the city centre (e.g. offices, housing, creative functions) led to the displacement of warehousing, industrial, and small-scale service activities from central areas (Sikorski & Kryczka, 2023). As a result, suburban areas began to serve as a buffer zone for activities with greater spatial requirements, thereby intensifying economic suburbanisation (Sikorski, 2019).

When comparing the findings of this study with previous analyses of business relocation and economic suburbanisation in Poland, it is worth emphasizing their consistency with the existing body of knowledge. The phenomenon of economic suburbanisation in Polish metropolitan areas has already been described, among others, by Dej and co-authors (2018), who demonstrated that over one-third of medium and large enterprises in five metropolitan areas had changed their location, most often migrating from the metropolitan core to its periphery (Dej et al., 2018). Similar conclusions were presented by Smętkowski and his team (2021, 2022), who analyzed the flows of APS and technology firms between central cities and suburban zones (Smętkowski et al., 2021; Smętkowski, 2022), as well as by Śleszyński (2007, 2008), who examined the economic development of Warsaw and, more broadly, the Warsaw metropolitan area (Śleszyński, 2007, 2008).

In terms of selected characteristics of the analyzed phenomenon of economic suburbanisation, the results obtained in this study also align with previous research findings. For instance, in their study, Rossi and Dej (2020) showed that most business relocations occur over short distances, typically within the same metropolitan area. This is confirmed by observations from Wrocław, where migrating economic entities from the central city predominantly relocated to border localities (Rossi & Dej, 2020).

In this context, one of the key achievements of the present study is not only the confirmation of the occurrence of economic suburbanisation in the Wrocław metropolitan area, but above all, the detailed identification of its structure and scale. To a significant extent, this research has, for the first time on such a scale, documented actual flows of economic entities between the metropolitan core and the suburban zone, indicating that these migrations primarily concern micro-service enterprises operated by individuals. The study also provides evidence of a strong link between economic and residential suburbanisation and demonstrates how local

spatial policies have facilitated the outward spread of economic functions beyond the city boundaries. Thus, the findings make a substantial contribution to the national and CEE debate on the nature and dynamics of contemporary suburbanisation processes.

Conclusion

This study has demonstrated that economic suburbanisation constitutes a significant and measurable process shaping the contemporary spatial structure of agglomeration areas in Central and Eastern Europe (CEE). Based on REGON registry data from 2008, 2016, and 2024, a clear shift in economic activity from the city of Wrocław to the municipalities within its suburban zone has been identified. Approximately one-quarter of the increase in the number of firms in this zone can be attributed to the relocation of entities previously registered within the city limits. This indicates that the economic development of suburban areas is not solely the result of endogenous growth, but also of the influx of business activity from the agglomeration core.

This process primarily involves micro- and small enterprises, particularly in the service sector, which are characterised by high flexibility and sensitivity to land availability, rental costs, and transport accessibility. In particular, it encompasses micro-enterprises operated by sole proprietors, whose business address often coincides with the owner's

place of residence, thereby creating a strong link between economic and residential suburbanisation (excluding these firms from analyses significantly underestimates the actual scale of the process). The main beneficiaries of these transformations are suburban municipalities, especially those located in the southern and southeastern parts of the Wrocław agglomeration area, which are evolving into new functional and economic centres.

The findings confirm that economic suburbanisation in CEE cities is not a random phenomenon but a systemic component of the post-socialist transformation. This calls for greater attention in planning practice and development policy design. Integrated agglomeration planning is essential to manage functional and spatial transformations and to prevent the uncontrolled dispersion of economic activity, which leads to fragmentation, spatial inequalities, and inefficiencies in the provision of public services.

Future research should be extended to other agglomeration areas in the region and incorporate qualitative aspects of firm relocation – such as motivations, operational barriers, and the long-term effects of operating in a new location.

Editors' note:

Unless otherwise stated, the sources of tables and figures are the authors', on the basis of their own research.

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