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## MIGRATION PROCESSES IN POLISH SELECTED METROPOLITAN AREAS IN THE YEARS 2000–2005

**ABSTRACT.** Research which concern delimitation, the function, and the competitiveness of Polish metropolitan areas has developed on a grand scale over the past few years. Relatively small portion of it has been devoted to the subject of migration processes in Polish metropolises. This article presents an analysis of structures, intensity and the directions of migration in the following metropolitan areas: Warszawa, Kraków, Katowice, Lublin and Bydgoszcz-Toruń, in the years 2000–2005. A typology of migration in powiat districts constituting respective areas has been carried out. The analysis has shown that the processes of suburbanization in the researched areas are at different stages of development. The most advanced ones are noticed in the Warszawa Metropolitan Area, while in Lublin they are not visible yet.

**KEY WORDS:** metropolitan area, migration, suburbanization, typology.

In American literature, the first mention concerning metropolises appeared at the beginning of the 20<sup>th</sup> century (Kosiński, 1967). The development of foreign research on the subject had its peak in 1960's and 70's, while in Poland only preposition the turn of the 20<sup>th</sup> century brought a number of sources describing theoretical premises, delimitations of metropolitan areas in the country and the processes occurring in them.

Basic definitions were compiled by American statistics in 1940's (Standards of Defining Metropolitan and Micropolitan Statistical Areas, 2000). A Metropolitan Area was defined as a municipal center connected with at least one urban area amounting to 50,000 citizens. American Metropolitan Area consists of a county or a group of counties containing major municipal center and its neighboring areas

connected to the central city by economic and social bounds which are measured by commuting distance. In Polish literature, a Metropolitan Area was defined by Gontarski (1973) as a spatially continuous urban settlement structure consisting of autonomous administrative units, including a city (over 50,000 citizens) or a dense municipal area as the center of the structure, and an urban zone functionally connected with it. The population of a Metropolitan Area has to exceed 100,000 citizens. In a similar way, the discussed term is defined by Liszewski (2005) as a spatially continuous urban settlement structure consisting of autonomous administrative units, including at least one city or a dense municipal area, and a municipal zone functionally connected with it. In Poland, research on metropolization processes and the typology of metropolises are in the initial phase. A number of sources mention the largest Polish cities as metropolises (Table 1).

Table 1. Polish metropolises according to various sources

CITY/ AUTHOR	THE UNION OF POLISH METROPOLISES (2006)	JAŁOWIECKI (2000)	STRAHL, OBREBAŁSKI (2002)	PARYSEK (2003)	ILNICKI (2003)	DRZAZGA (2005)	ZBOROWSKI (2005)	MARKOWSKI, MARSZAŁ (EDS), (2006)	METREX (2000)	ESPON (2006)
Warszawa	M	M	M	M	M	M	M	M	M	M
Łódź	M	M	M			M	P	M		M
Kraków	M	M	M	M	M	M	M	M	M	M
Wrocław	M	M	M	M	M	M	M	M	M	M
Poznań	M	M	M	M	M	M	M	M	M	M
Trójmiasto	M	M	M	M	M	M	M	M	M	M
Szczecin	M					M	P	P	M	M
Bydgoszcz – Toruń	M							P		
Lublin	M						P	P		
Katowice	M		M			M	P	M	M	M
Białystok	M						P	P		
Rzeszów	M							P		

M – metropolises, P – potential metropolises

Source: compiled by the author.

Polish metropolitan areas for the twelve cities were delimited on the level of poviats by The Union of Polish Metropolises (2006). It is worth noticing that the poviats were adopted as the basic unit, while the primary measure was the population of a given area that should exceed 500,000 people.

Migrations in metropolitan areas are the subject of numerous research. Research on migration in London Metropolitan Area and its causes was carried out by Gordon and Vickerman (1981) and Boyle (1993). According to the authors, the translocation of the middle class from the central city to its metropolitan area is influenced by, among others, the location of industrial plants, lower prices of land and accommodation, and environmental values. They also claimed that migrations within the London Metropolitan Area exceed translocation of people from outside of the area. Similar results were presented by Newman and Wyly (2006) who analyzed New York Metropolitan Area and Domene and Sauri (2006) for Barcelona metropolis. Knox (1994) analyzed migration patterns in the largest American metropolitan areas. He concluded that younger people change their place of residence more often than older ones; and that people who had migrated in the past are more receptive to further migration. He also noticed that the attitude to property has influence on decision making; people who rent apartments migrate more often than people who own their houses or apartments.

Similar subject was raised by Liszewski (2005) who analyzed the directions, structures, and intensity of migration in Łódź Metropolitan Area. At present, this is the only research work of that kind in Polish literature, apart from several studies of migration in Polish urban agglomerations. Zborowski (1996) discussed particular stages of human life in the context of migration. He also carried out an analysis of migration in Kraków urban region accounting for particular phases of human life. A tendency to short-distance migration was confirmed by Marcinowicz (2000) on the example of the Poznań agglomeration and by Potrykowska and Śleszyński (2001) on the example of the Warszawa agglomeration, whereas, a study by Runge and Kłosowski (2000) points out to a change of migration tendencies in the Silesian voivodeship. The authors showed that the beginning of 1980's was marked by a shift from inter-voivodeship to intra-voivodeship migrations, and 1990's brought negative balance of migration in cities and a growth in counter-urbanization.

A number of measurements determining migrations on a given area were used in the analysis. They are as follows: intensity, balance, directions of migration according to age and voivodeship. Moreover, on the basis of net migration and migration turnover, a typology of poviats located in the researched area was carried out. Five metropolitan areas, diversified with respect to their development, whose extent was delimited by the Union of Polish Metropolises, were selected for

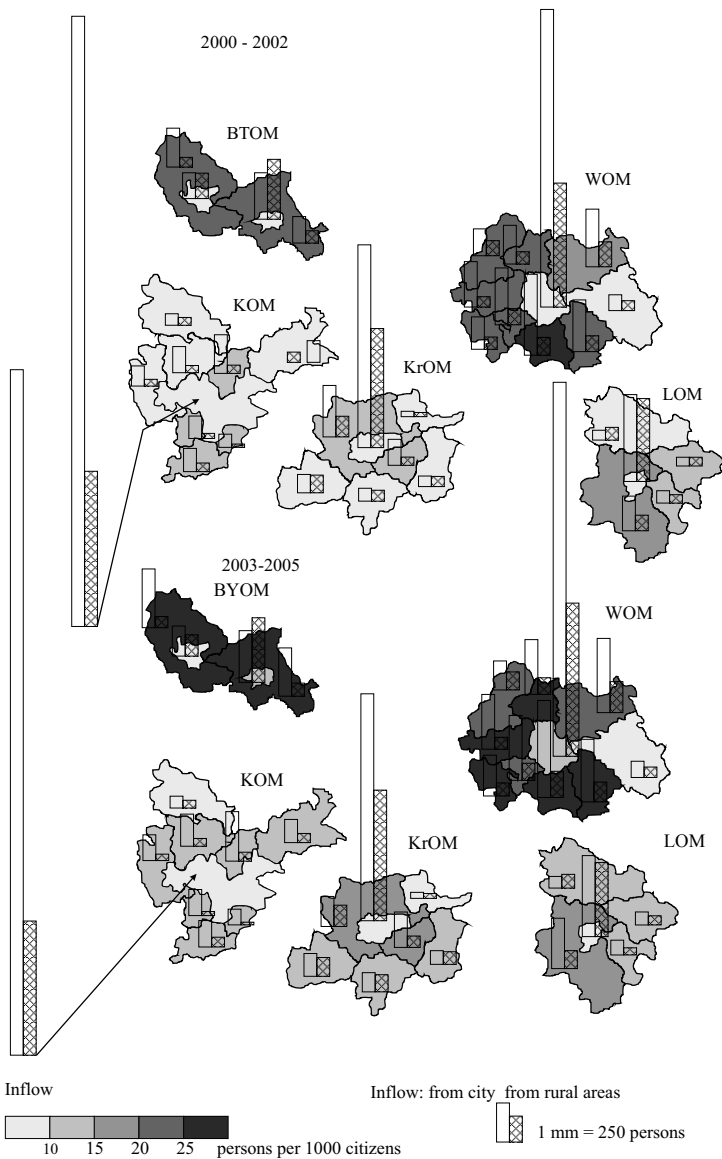


Fig. 1. Inflow per 1,000 citizens in 2000–2002 and 2003–2005 periods in selected metropolitan areas

BTOM – Bydgosko-Toruński Metropolitan Area, WOM – Warszawski Metropolitan Area, KOM – Katowicki Metropolitan Area, KrOM – Krakowski Metropolitan Area, LOM – Lubelski Metropolitan Area.

Source: Compiled by the author based on Główny Urząd Statystyczny, Central Statistical Office data.

the analysis. They are Warszawa, Kraków, Upper Silesia, Lublin and Bydgoszcz–Toruń. According to different typologies, Warszawa is considered as a metropolis of continental range (Beaverstock, Smith, Taylor, 1999; METREX, 2000; Taylor, Walker, 2001), while Kraków and Katowice are generally regarded as domestic metropolises, whereas Lublin and Bydgoszcz–Toruń agglomeration are recognized as potential metropolises according to the latest typology (Markowski, Marszał, 2006). Statistical data gathered from Regional Data Bank and Demographic Data Base of the Central Statistical Office ([www.stat.gov.pl](http://www.stat.gov.pl)) were sorted and averaged for two periods: 2000–2002 and 2003–2005.

Inflow of people to the studied metropolitan areas shows considerable spatial diversification. Large intensity of migration to suburban poviats, especially those located to the west and south of the capital, was noticed in the Warszawa Metropolitan Area (Fig. 1). The powiat of Piaseczno, neighboring with the central city, is marked by the largest intensity of inflow where 31.4 persons per 1,000 citizens arrived in 2002. High indices were reached by poviats of Grodzisko, Legionów, Nowy Dwór, Otwock, Pruszków and west Warszawa. It is worth noticing that the inflow to Warszawa was considerably lower (9.7 persons/1,000 citizens), which may be caused by higher prices of land and apartments, and higher rent in the metropolitan city. This view is supported by studies carried out by Boyle (1993), and Gordon and Vickerman (1981). Another analysis showed that in the years 2003–2005 the discussed processes were escalating in the area and as many as five poviats exceeded the 25 persons per 1,000 citizens inflow ratio. At the same time, a far larger inflow of people from towns and cities than rural areas was noticed in the areas mentioned above.

Increased inflow was also noticed in the Kraków Metropolitan Area. Yet, the intensity was a little lower. Also here, the suburban zone, constituted by the poviats of Kraków and Wieliczka, has been developing slower than in Warszawa Metropolitan area. In the years 2000–2002, the intensity of inflow reached 11.9‰ in the powiat of Kraków and 13.9‰ in the powiat of Wieliczka. In the following period, 2003–2005, an increase in the intensity of inflow in the poviats of Kraków and Wieliczka reached 15.1‰ and 17.6‰ respectively. An increasing tendency occurred also in other suburban poviats of the Kraków Metropolitan Area: Wadowice, Myślenice, and Bochnia.

Attention should be paid to the Bydgoszcz–Toruń Metropolitan Area, where the intensity of the studied phenomenon was similar to the intensity noticed in Warszawa. Yet, it may be assumed that high rates of the inflow were connected with sparse population of the suburban areas rather than with the processes of suburbanization.

The intensity of inflow in Katowice conurbation was very low despite high absolute values. It is related to the population exceeding 2 million citizens with

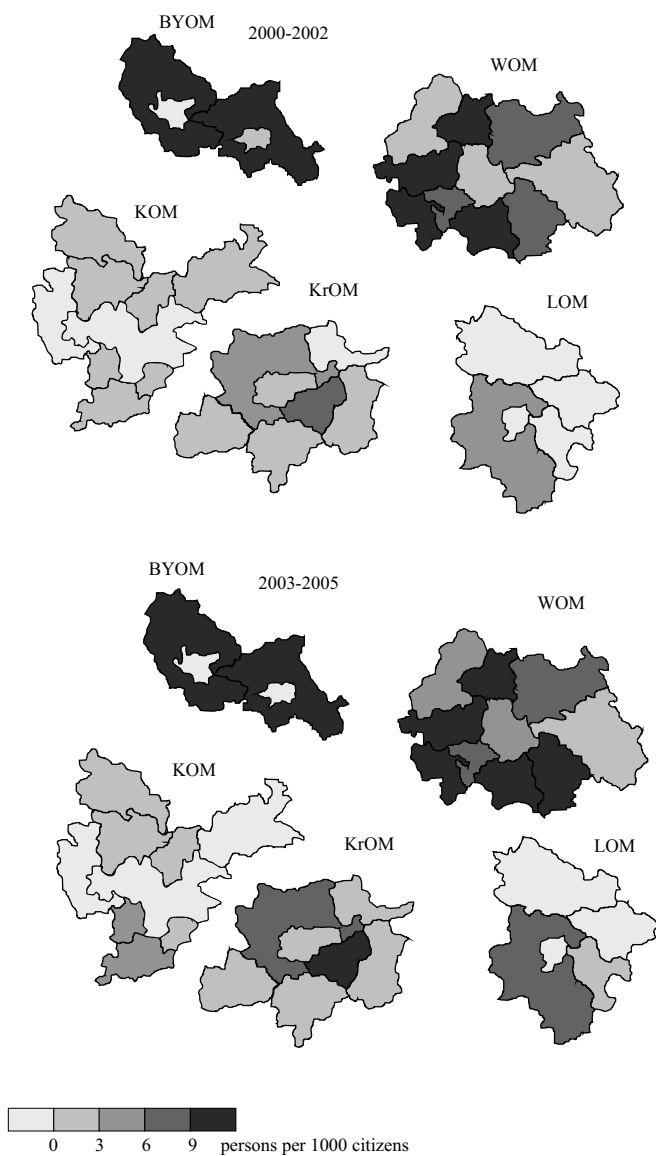


Fig. 2. Migration balance per 1,000 citizens in 2000–2002 and 2003–2005 periods in selected metropolitan areas

BTOM – Bydgosko-Toruński Metropolitan Area, WOM – Warszawski Metropolitan Area, KOM – Katowicki Metropolitan Area, KrOM – Krakowski Metropolitan Area, LOM – Lubelski Metropolitan Area.

Source: Compiled by the author based on Główny Urząd Statystyczny, Central Statistical Office data.

which the distribution of even high inflow gives only 7.3 persons per 1,000 citizens in the first of the discussed periods and 7.9 in the second. A slight increase in interests in areas to the north of the conurbation (the poviats of Gliwice, Tarnowskie Góry, and Zawiercie) is noticeable.

In Lublin Metropolitan Area, a slight increase in the intensity of migration was noticed in all rural poviats. The highest increase of inflow occurred in the poviat of Lublin (15.0 persons per 1,000 citizens in the years 2000–2002 and 18.9 persons in the years 2003–2005).

In regard to spatial differentiation of net migration, the Bydgoszcz–Toruń Metropolitan Area stands out; rural poviats were marked by high relative values in both periods (Fig. 2). In Bydgoszcz alone, the negative balance of migration decreased from -0.6 person per 1,000 citizens in the first period to -2.1 persons per 1,000 citizens in the second period. Decreasing tendencies are also visible in Toruń, where the migration balance reached 0.3 and -0.1 in the respective periods.

Increasing tendency in the intensity of inflow was noticed in all researched metropolitan areas. The highest intensity of inflow was marked in Warszawa area which may prove of the most advanced suburbanization processes, whereas the Silesian Metropolitan Area was the least attractive for migrants in both periods.

The attractiveness of suburban areas of Warszawa has been increasing and the migration net increased considerably over the years 2000–2005 in all poviats except for the poviat of Prószków. In the capital itself, the ratio of migration balance also increased slightly and reached 4.2%.

In the Kraków Metropolitan area, the domination of the poviat of Wieliczka was noticed, where the migration balance increased by 3.6 persons per 1,000 citizens in the first period and reached 10.0 persons per 1,000 citizens in the years 2003–2005. In the whole metropolitan area, active balance of migration was noticed, except for the poviat of Proszowice.

Also in the Lublin Metropolitan Area the intensity of migration net increased in the second period. In the poviat of Świdnica, negative balance of migration was noticed in the years 2000–2002, but in the second period, the balance increased to 0.4 person per 1,000 citizens. The poviat of Lublin also showed increasing dynamics, while the poviats of Lubartów and Łęczyca were marked by negative balance of migration over both periods.

Negative balance of migration occurred in the Katowice conurbation and in the poviat of Gliwice. In the conurbation, emigration increased from 1.2 persons to 2.2 persons per 1,000 citizens (in the years 2003–2005) which confirms the tendencies observed by Runge and Kłosowski (2000). This can be related to reluctance towards settling in an area of highly devastated natural environment in the most industrialized parts of Katowice Metropolitan Area. In poviats

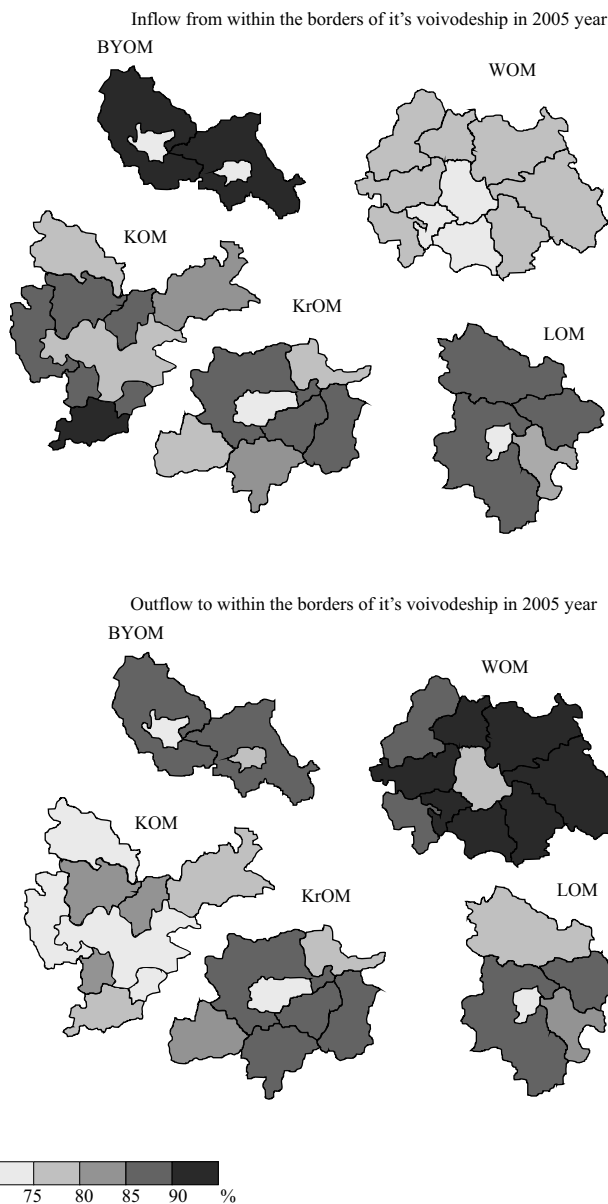


Fig. 3. Migration in selected metropolitan areas in 2005 year in %.

BTOM – Bydgosko-Toruński Metropolitan Area, WOM – Warszawski Metropolitan Area, KOM – Katowicki Metropolitan Area, KrOM – Krakowski Metropolitan Area, LOM – Lubelski Metropolitan Area.

*Source:* Compiled by the author based on Główny Urząd Statystyczny, Central Statistical Office data.



located in the northern part of the area, a slight positive balance of migration was noticed in both periods, while southern poviats showed positive dynamics of migration balance which did not occur in the north.

An increase in migration balance was noticed in Warszawa and Kraków Metropolitan Areas which proved developing suburbanization processes, while a negative balance of migration in suburban zone of the Lublin area and high positive balance in its central city is characteristic of areas where suburbanization does not occur.

Also, large differences in the direction of migration by voivodeships in 2005 (Fig. 3) were noticed. In general, most of migrations in the researched areas occurred within the borders of a given voivodeship (Fig. 3), which is confirmed by previous research carried out by Marcinowicz (2000), and by Potrykowska and Śleszyński (2001).

Warszawa shows the smallest share of inflow from within the borders of its voivodeship; the index reached 38%. This can be related to the role of the capital city which attracts citizens from all over the country and not only from the mazowieckie voivodeship. Similar conditions may be taken into consideration for the whole Warszawa Metropolitan Area. The share of migrants moving from mazowieckie voivodeship to the suburban area was higher than from Warszawa; however, in comparison with other Polish metropolitan areas, the share of migrants coming from the same voivodeship was relatively small. Undoubtedly, this index proves the metropolitan character of the capital whose influence exceeds regional extent.

In Kraków area, similar tendencies as in the capital area can be noticed, but they are not as intensive. Bydgoszcz–Toruń Metropolitan Area was characterized by high rate of migration to and from within the borders of kujawsko-pomorskie voivodeship which, as mentioned above, is conditioned by low urbanization level. It can also show relatively small exchange of human resources with other regions which, in turn, proves poorly developed metropolitan function. In rural poviats of the Lublin Metropolitan Area, similarly high rates of immigration and emigration within the same voivodeship were noticed. Katowice Metroplitan Area is a region of large migration outside of the voivodeship which may be influenced by the return of part of the miners to their homeneighbourhoods from which they arrived to Silesia in 1960's and 70's, as well as developing counter-urbanization processes.

Generally, it should be noticed that central cities are characterized by lower immigration and emigration their voivodeships than their neighboring metropolitan areas. Therefore, they are distinguished by smaller migration closure which proves their supra-regional influence.

Age is also a factor that diversifies the immigrants (Fig. 4). The highest mobility is characteristic for people in younger productive age (20–39 years).

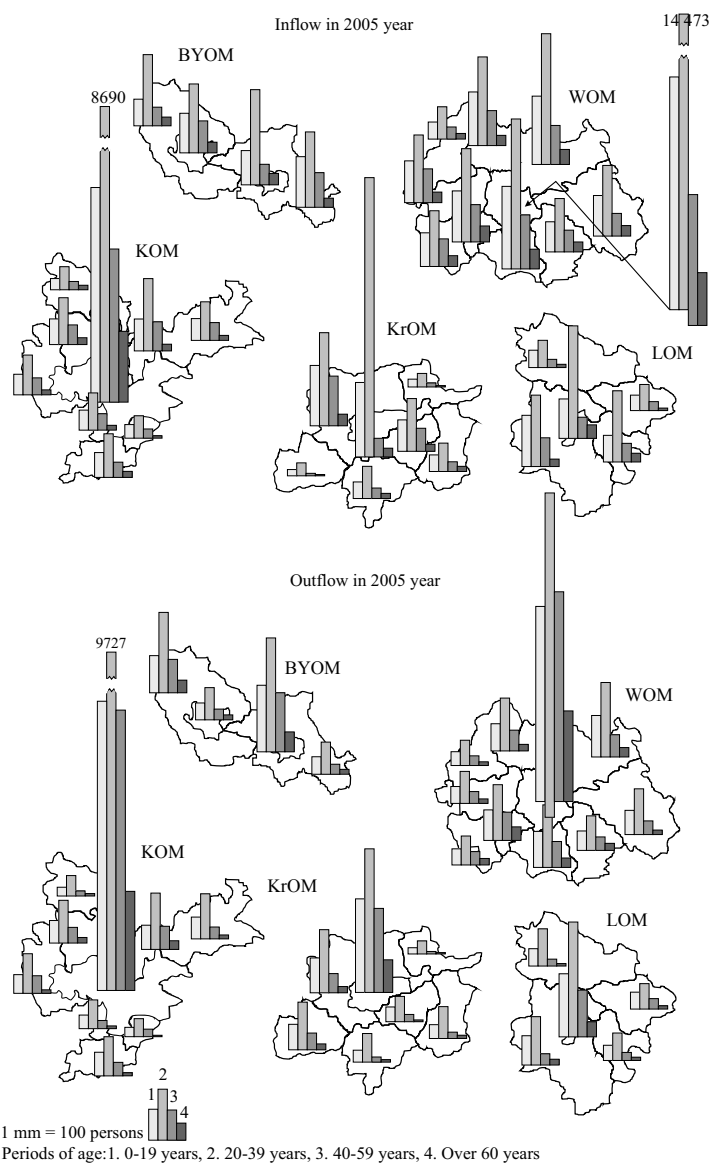


Fig. 4. Migration according to age in selected metropolitan areas in 2005 year

BTOM – Bydgosko-Toruński Metropolitan Area, WOM – Warszawski Metropolitan Area, KOM – Katowicki Metropolitan Area, KrOM – Krakowski Metropolitan Area, LOM – Lubelski Metropolitan Area.

Source: Compiled by the author based on Główny Urząd Statystyczny, Central Statistical Office data.

The reasons for changing the place of living are marriage or job (Zborowski, 1996). The domination of Warszawa and Kraków can be seen for they are large academic cities and centers producing a lot of jobs which attracts migrants from all over the country. Proportionally high value is shown by Lublin which is the largest educational and economic center of eastern part of Poland, and Bydgoszcz and Toruń which are the only large cities in their voivodeship. It should be noticed that migration ratio of people under the age of 20 slightly exceeds 40–59 year olds, which is related to translocation of parents in older productive age along with their children.

Whereas Warszawa is distinguished in regard to emigration, proportionally large outflow occurs in the age group of 40–59 year olds. This is a group of well-off citizens moving to the outskirts in search of more advantageous housing conditions and favorable natural environment (Grochowski, 2004), which is a symptom of suburbanization processes. Similar processes were noticed in the central city of the Kraków Metropolitan Area. In turn, a large emigration of people in the age group of 40–59 year olds occurred in the Katowice conurbation, which may influenced by re-migration of miners which was mentioned above. Conversely, in Lublin, emigration of people in the age group of 20–39 year olds slightly exceeds the next older group (40–59 years) which indicates a lack of advanced suburbanization processes. In rural poviats, a majority of emigrants fall in the younger age groups; they usually migrate to the metropolis to settle near their work places. The least mobile group is that of people over 60 who rarely change their places of living because of their age.

The largest mobility in the investigated area was shown by people in younger productive age; the least – by the elderly ones. A relatively large emigration of people from the group of 40–59 year olds was noticed in Warszawa and Kraków; they possess sufficient financial means allowing them to move to more attractive suburban areas.

A typology of poviats located in the researched metropolitan areas was carried out on the basis of the value of migration net and migration turnover (Fig. 5). Seven types of poviats were defined. Type 1 – was marked by negative net of migration and migration turnover; type 2 – was characterized by negative balance of migration and medium migration turnover; type 3 – had low positive balance of migration and low migration turnover; type 4 – was distinguished by low positive balance of migration and medium migration turnover; type 5 – was marked by low positive balance of migration and high migration turnover; type 6 – was characterized by high positive balance of migration and medium migration turnover; type 7 – had high positive balance of migration and high migration turnover. Type 7 deserves particular attention, for it shows both high migration net and high migration turnover. It includes poviats surrounding

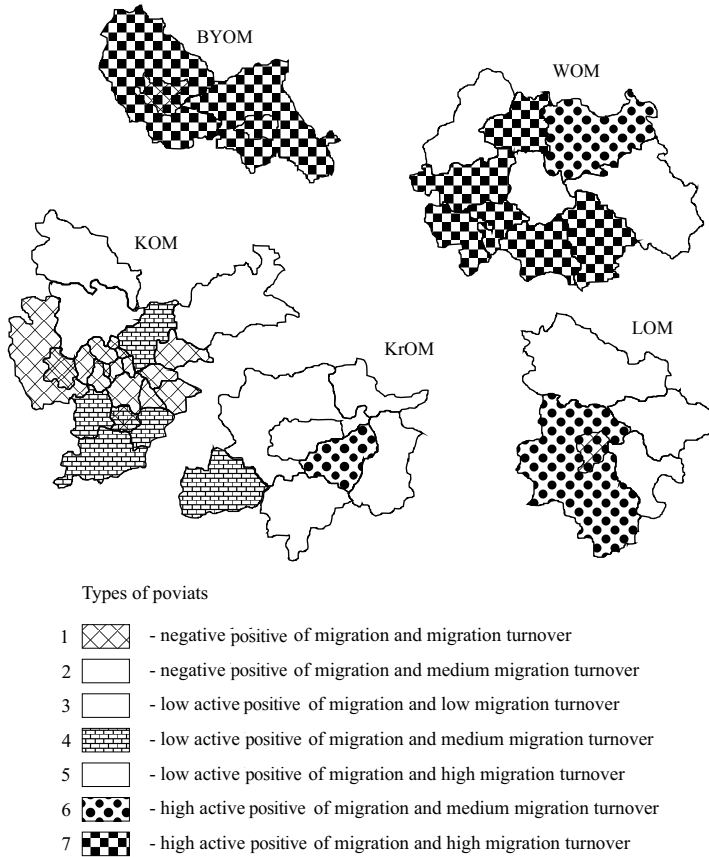


Fig. 5. Typology of migration in in selected metropolitan areas in 2003–2005 period

BTOM – Bydgosko-Toruński Metropolitan Area, WOM – Warszawski Metropolitan Area, KOM – Katowicki Metropolitan Area, KrOM – Krakowski Metropolitan Area, LOM – Lubelski Metropolitan Area.

*Source:* Compiled by the author based on Główny Urząd Statystyczny, Central Statistical Office data.

Warszawa (poviats of Legionowo, West Warszawa, Grodzisko, Paseczno, Pruszków and Otwock) where the suburbanization processes were the most advanced. The Poviats of Bydgoszcz and Toruń also belong to the same type. In Kraków Metropolitan Area, type 3 was domineering (the city of Kraków, the poviats of Kraków, Myślenice, Bochnia and Proszowice). Spatial diversification of the discussed phenomenon was noticed in Katowice Metropolitan Area. The area can be divided into the central and north-eastern part which is undergoing

depopulation processes (type 1), northern part which shows slightly higher mobility (type 3 and 4), and southern part which can be classified as type 4. In turn, type 2 dominates in the Lublin Metropolitan Area (the poviats of Lubartów, Łęczyca and Świdnica). The poviat of Lublin has higher rate of migration net and migration turnover and therefore represents type 6. It is worth noticing that central cities of metropolitan areas with the most advanced suburbanization processes, i.e. Warszawa and Kraków, belong to type 3.

It is clear that areas where suburbanization processes are most visible belonged to types with positive net of migration and high migration turnover (the Warszawa area), while the poviats in the Katowice conurbation, where the processes are not visible, belong to types 1, 2 and 3.

The analysis proved that the researched metropolitan areas are strongly diversified in regard to migration processes. They are more advanced in the Warszawa area where the processes of suburbanization and metropolisation had been visible for some time (Potrykowska, Śleszyński, 2001). This is confirmed by the analysis of all the processes and phenomena such as high active balance of migration, low share of immigrants within a single voivodeship, high rates of emigrants aged 40–49 moving to suburban areas. Advanced suburbanization processes were also observed in Kraków Metropolitan Area (Zborowski, 2005) which is indicated by large inflow to suburban areas and high rates of migration within the voivodeship. The analysis showed that the Bydgoszcz–Toruń Metropolitan Area had favorable indices, but they could have resulted from low population density of suburban areas. The Katowice Metropolitan Area was characterized by loss of population which indicates gradual depopulation and slow development of suburbanization processes. Finally, in the Lublin Metropolitan Area, suburbanization processes are in their initial stage. It is worth noticing that differences in intensity, directions, and structures of migration occurred between metropolitan cities and their peripheral areas. It means that each of the researched metropolitan areas is at present in a different phase of urban development.

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