

ZBIGNIEW DŁUGOSZ

PEDAGOGICAL UNIVERSITY OF CRACOW

POPULATION MOVEMENTS IN LARGE POLISH CITIES IN 1988-2002

ABSTRACT. The objective of this study was to demonstrate the level of changes in population movement which have had an impact on large cities and how they fluctuate, in conurbations and rural areas, using Poland as an example. The analysis covered 40 Polish cities with populations exceeding 100,000 people in 2002. The main analysis was based on data regarding the period between the censuses in 1988-2002. The analysis confirmed a permanently decreasing trend in the number of births in an increasing number of large localities, the decreasing mobility of large conurbations, where the inflow has clearly been blocked and the relative higher outflow has led to a negative migration balance, previously positive. All these tendencies have resulted in a permanent slowing in the dynamics of population growth, leading even to depopulation in a number of some large cities.

KEY WORDS: population growth, depopulation, natural increase, migration balance

Recent population changes in Poland are often attributed to processes accompanying European integration. Undoubtedly the quality of these changes is in some extent a result of pan-european social trends. However, specific considerations occurring in the post-war period and which have persisted until now underpin the demographic situation in Poland and corresponding transformation in this regard. The specificity of this transformation is reflected especially in spatial patterns, as well as in the layout of the settlement units. In particular, the mass population movement from rural areas to towns and the wave-like tendencies of trends in the population size are a matter of the history. The post-

-war demographic boom in the 50-s and consequent effects at the turn 70- and 80-s have been controlled, and among others, significant changes in employment dynamics (Długosz, 2003 a) or population aging have been observed (Długosz, 1999, 2002, 2003 b) which affects worldwide social changes and the consequent demographic changes in specific countries.

Table 1. Quantitative increase in the number of cities with a population above 100,000 in 1950–2002

YEAR	NUMBER	CITIES
1950	16	Bydgoszcz, Bytom, Chorzów, Częstochowa, Gdańsk, Gdynia, Gliwice, Katowice, Kraków, Lublin, Łódź, Poznań, Szczecin, Warszawa, Wrocław, Zabrze
1954	18 (+2)	Radom, Wałbrzych
1956	20 (+2)	Białystok, Sosnowiec
1958	21 (+1)	Toruń
1959	22 (+1)	Ruda Śląska
1965	23 (+1)	Kielce
1969	24 (+1)	Bielsko-Biała
1973	25 (+1)	Olsztyn
1975	27 (+2)	Tychy, Wodzisław Śląski
1976	31 (+4)	Opole, Rzeszów, Rybnik, Tarnów
1977	33 (+2)	Dąbrowa Górnicza, Elbląg
1979	35 (+2)	Gorzów Wielkopolski, Włocławek
1980	37 (+2)	Płock, Zielona Góra
1981	38 (+1)	Kalisz
1984	39 (+1)	Jastrzębie Zdrój
1985	41 (+2)	Legnica, Koszalin
1989	42 (+1)	Grudziądz
1990	43 (+1)	Słupsk
1992	42 (- 1)	Wodzisław Śląski
2002	40 (- 2)	Jastrzębie Zdrój, Słupsk

Source: Author's elaboration based on Statistical Yearbooks of Central Statistical Office

Consequently, this study has been streamlined to demonstrate the level of changes in population movement which have had an impact on large cities and how they fluctuate, in conurbations and rural areas, using Poland as an example. The analysis covered 40 Polish cities with populations exceeding 100,000 people in 2002. The main analysis was based on data regarding the period between the censuses in 1988-2002, which covered a period of relative quantitative stabilisation on one hand (Table 1), and the period of social and economic

transformation on the other one, also affecting the consequent demographic trends. In the period between 50s and 80s the general dynamics of the population increase in large Polish cities was dictated by the increase in the number of cities with a population of at least 100,000 and the administrative reform (delisting of settlements in 1973, permanent changes of city boundaries, and the integration of rural areas with cities), and their immigration nature which had some impact on the demographic situation in remaining localities and rural areas. The situation stabilised relatively as late as the 90-s and rate of migration into large cities has dropped, and a clear fall in population occurred twice, when Wodzisław Śląski in 1992 and Jastrzębie Zdrój and Słupsk in 2002 were erased from the census list (Fig. 1).

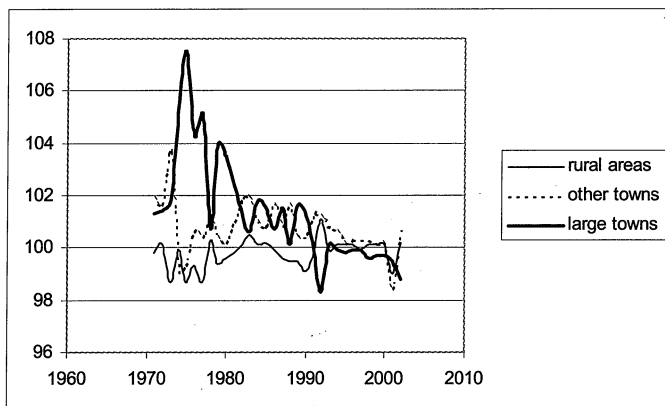
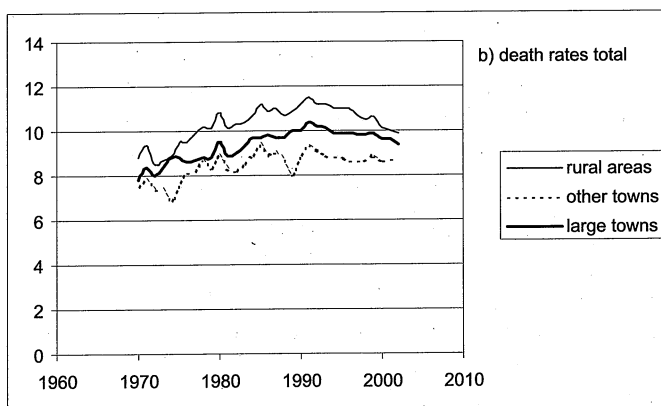
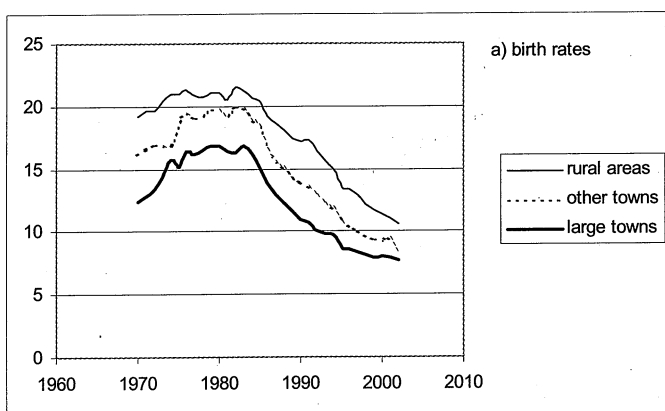


Fig. 1. Population dynamics

Depopulation of large cities in Poland is not a new phenomenon. A decrease in population size, whether periodical or even constant, has been recorded in most large cities for a long time. Not to mention the territorial changes, the population size was recorded (the mean of 97.9) in 1988 – 2002 in Silesian cities: Tychy (70.7), Bytom (84.2), Chorzów (88.0), Katowice (88.8), Ruda Śląska (89.3), Gliwice (91.0), Zabrze (97.0) and Dąbrowa Górnicza (99.2). In addition, it was also observed in Wałbrzych (92.2), Gdynia (97.7), Bydgoszcz (98.4), Częstochowa (98.4), Poznań (98.5) and Bielsko (99.4). At the same time an increase in the population size was recorded in Białystok (the highest increase at 110.6), Olsztyn (108.2), Płock (107.6), Rzeszów (107.4) and Toruń (107.1). It is reflected by the fact that three cities ceased to have the status of a city with a population in excess 100,000 since the 50s (Table 1).

This status is a result of trends in natural population movements on one side, and the changes in the local migratory tendencies of people migration. If the group of largest cities is analysed in the period beginning since the 70s,

it can be concluded that while the birth rate values were related to some extent to decreasing trends in Poland in the 80s, but their figures were always lower than the level in remaining cities and in rural areas (Fig. 2a). The overall mortality rate was somewhat different in this period (Fig. 2b). While one can assume that large cities and other towns has showed growing stability since the 80-s and a drop in rural areas, the lowest ratios occurred in smaller towns, with lowest: and recently the lowest ratio occurred in smaller towns and there was a higher mortality rate in rural areas versus large cities. This state of affairs in tendencies and natural relations has been reflected by the population rate (Fig. 2c). As regards dynamics, the pattern was similar to the birth rate: thereby a positive natural growth was recorded, but in the group of largest cities, where a drop in the a population size has been recorded in rural areas since 1990, a similar tendency was noted in the remaining localities.



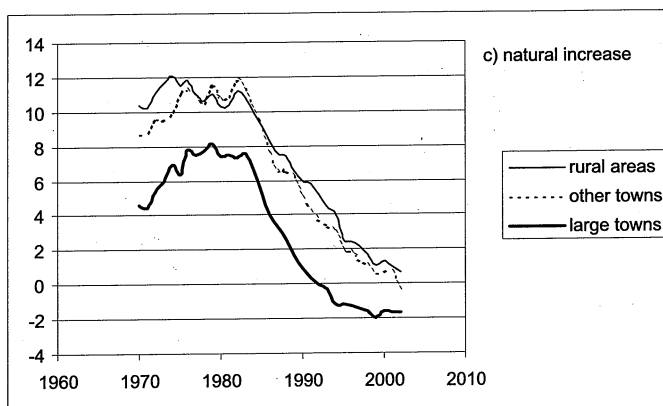


Fig. 2. Vital statistics in Poland (in ‰).

As regards the birth rate in cities with a population above 100,000 the highest rate (fluctuating between 9.8-16.4‰) was recorded in Rybnik, Radom, Białystok, Tarnów and Tychy (above 15‰) in 1988, while the lowest figure (below 12‰) occurred in Dąbrowa Górnicza, Warszawa, Łódź, Wrocław, Sosnowiec, Szczecin and Gliwice; in 2002 (when the extreme values were 4.0-9.4‰) the highest birth ratio (above 9‰) was recorded only in Radom, Włocławek and Rybnik, and the lowest one (below 7‰) in Poznań, Wrocław, Opole, Sosnowiec, Gliwice and Łódź. This means that when the birth rate was lower (fluctuation between 2.3 and 8.1‰ points) and for all the large cities the highest decrease in this period (more than 7‰ points) was recorded in Poznań, Białystok and Rybnik, the lowest (below 4‰) was recorded in Dąbrowa Górnicza, Warszawa, Łódź, Gdynia and Olsztyn.

In 1988 the total mortality rate in large cities (fluctuating between 4.3-14.8‰), exceeding 10‰, was recorded mainly in the largest localities, i.e. Chorzów, Łódź, Warszawa, Poznań and Katowice, and the lowest (below 7‰) – Koszalin, Tychy, Olsztyn and Rzeszów, while in 2002 (when the extreme values were 6.8-13.2‰) the highest mortality rate (above 10‰) was noted in as many as 9 localities: Łódź, Chorzów, Wałbrzych, Katowice, Kalisz, Częstochowa, Warszawa, Ruda Śląska and Sosnowiec, and the lowest (below 7‰) only in Olsztyn. It means that if the average value for large cities is maintained, the highest decrease in mortality rates (above 1‰ point) was recorded in Chorzów, Zabrze, Poznań, Bytom and Włocławek, and the highest increase (above 1‰ point) was noted in Wałbrzych, Koszalin, Tychy and Szczecin.

This state of affairs led to radical changes in the increase in the natural growth. Insofar as in 1988 (when the extreme limits were -2.9 and 8.7‰ respectively), and the highest rate (above 8‰) was in Tychy, Rybnik and Białystok, while a decline was recorded in Łódź (-2.9‰), Chorzów (-1.7‰) and War-

szawa (-1.2‰), in 2002 (extreme limits between -6.3 and 1.6‰) values above 1‰ were recorded only in Olsztyn, Tychy and Rybnik. The natural highest decrease (below -3‰) was found in 28 large cities, the highest being noted in Łódź, Poznań, Chorzów, Wałbrzych, Katowice, Sosnowiec and Warszawa. It means that in 1988-2002 the natural growth decrease occurring in all large cities (above 7‰ points) was distinct in Wałbrzych, Białystok, Tychy and Rybnik, and the least (below 4‰ points) in Warszawa, Dąbrowa Górnicza, Gdynia, Włocławek, Chorzów, Łódź, Ruda Śląska and Kraków.

The internal flows have been even more dynamic, not only in the period under study. If the group of large cities is reviewed in terms of type and rural areas just like large cities, the influxes (Fig. 3a) and outflows (Fig. 3b) showed some fluctuations by the 80-s and later they started falling, stabilising at the turn of 20th and 21st centuries. It should be noted that by the early 90s the ratio for large cities immigration rate into rural areas was higher and even higher for groups of remaining urban localities. After then, the relative prevalence of population spread from rural areas was higher than immigration to larger cities. In the case of emigration, rural areas showed the highest ratio throughout the whole period under study, and the lowest one occurred in the group of large cities. The relative outflow level in rural areas and small towns was offset at the turn of 19th and 20th century. As the consequence, the negative migration balance (Fig. 3c) in rural areas has tended to decrease since the mid-80s, reaching a positive value after 2000. In the case of the two town groups in last 30 years, positive, but decreasing net migration balance, was generally lower in larger towns. The situation has changed in recent years because the positive internal migration balance in large cities decreased to almost zero, but in the group of remaining localities negative internal flow has been recorded since 1998.

In 1988, as far as detailed situation in cities with population higher than 100,000 is concerned, the highest immigration rate (fluctuating between 6.9-30.4‰) - above 20‰ - was recorded in Dąbrowa Górnicza, Opole, Olszyn, Koszalin and Legnica, and the lowest (below 10‰) in Gliwice, Łódź, Warszawa, Kraków, Wrocław and Kalisz. In 2002 there was a considerable decrease in the outflow from large cities (fluctuating between 4.9 and 14.5‰), while more than 10‰ was noted for Olsztyn, Koszalin, Gdynia, Zielona Góra, Chorzów Białystok, Warszawa and Dąbrowa Górnicza. The lowest ratio (below 6‰) was recorded for Łódź, Wałbrzych, Radom, Ruda Śląska, Włocławek, Kalisz, Tarnów - mostly cities which lost the status of the capital of voivodeships in 1999. The analysis of the situation in large cities indicates that the population influx increased only in Warszawa (by 2.8‰ points) and Gliwice (by 0.7‰ points), while in the case of remaining cities a decrease was noted, fluctuating between 0.3 and 20.3‰ points. This tendency was most distinctive (above 10‰ points) in Dąbrowa Górnicza, Tarnów, Opole, Legnica, Zabrze, Włocławek, Lublin, Rybnik and in Płock, and having the lowest values (below 2‰ points) in the largest cities: Kraków, Wrocław, Poznań and Łódź.

POPULATION MOVEMENTS IN LARGE POLISH CITIES IN 1988-2002

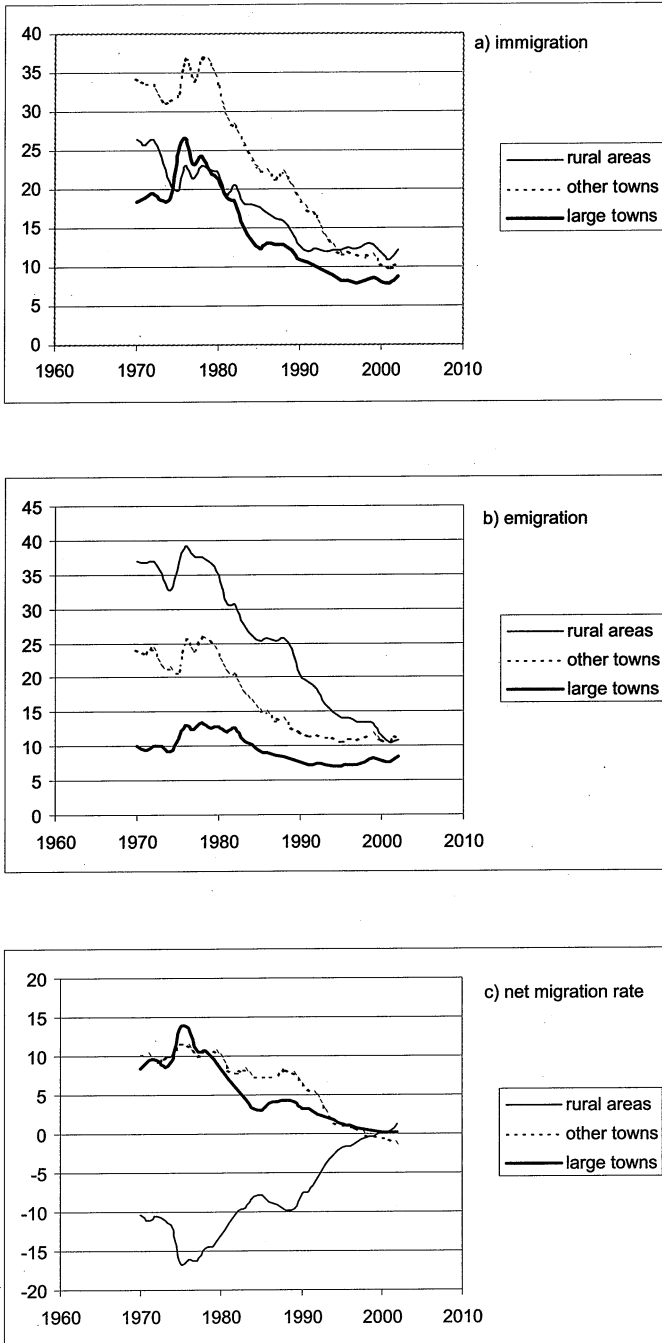


Fig. 3. Population migration in Poland (in %)

In 1988, population outflows from large cities fluctuated between 4.4 and 23.2%. At that time the highest rate (above 1.2%) was recorded in Chorzów, Dąbrowa Górnicza, Opole, Sosnowiec and Koszalin, while the lowest one in (below 7%) – Warszawa, Łódź and Kraków. In 2002 emigration from these localities decreased, fluctuating between 5.9 and 12.7%: the highest outflows (above 11%) were recorded in Koszalin, Rzeszów and Toruń; the lowest (below 7%) were in Łódź, Kraków and Zabrze. These figures indicate that the rate of inflow of people into a majority of cities decreased, from 0.1 and 12.9% points, reaching the lowest value in Chorzów where the emigration growth rates were between 0.2 and 3.7. This tendency was clearest (above 2%) in Rzeszów, Warszawa, Poznań, Toruń and Kielce.

Table 2. Distribution of cities with population above 100,000, broken down by voivodeship and the numbers of their residents (state in 2002)

VOIVODESHIP	CITIES	THE PERCENTAGE OF POPULATION ACCORDING TO INHABITANTS OF:	
		THE VOIVODESHIP	THE CITIES TOTAL
Dolnośląskie	Legnica, Wałbrzych, Wrocław	42	30
Kujawsko-Pomorskie	Bydgoszcz, Grudziądz, Toruń, Włocławek	63	39
Lubelskie	Lublin	35	16
Lubuskie	Gorzów Wlkp., Zielona Góra	46	30
Łódzkie	Łódź	54	27
Małopolskie	Kraków, Tarnów	54	27
Mazowieckie	Płock, Radom, Warszawa,	62	40
Opolskie	Opole	23	12
Podkarpackie	Rzeszów	19	8
Podlaskie	Białystok	41	24
Pomorskie	Gdańsk, Gdynia	48	33
Śląskie	Bielsko, Bytom, Chorzów, Częstochowa, Dąbrowa G., Gliwice, Katowice, Ruda Śl., Rybnik, Sosnowiec, Tychy, Zabrze	60	48
Świętokrzyskie	Kielce	36	16
Warmińsko-Mazurskie	Elbląg, Olsztyn	35	21
Wielkopolskie	Kalisz, Poznań	35	20
Zachodnio-Pomorskie	Koszalin, Szczecin	44	31

Source: Author's elaboration

Such a state of affairs means a rapid change in the balance of internal population movements in cities with a population above 100,000. In 1988 negative

migration balance was noted only for Chorzów (9.3‰) and Gliwice (1.3‰). In remaining localities it was positive and fluctuated between 0.9 and 16.7‰, with the highest ratios (above 8‰) recorded in Dąbrowa Górnicza, Olsztyn, Lublin and Białystok, and the lowest (below 2‰) in Kalisz, Gdańsk, Wrocław, Tychy and Łódź. In 2002 the migration balance was positive only for Olsztyn, Warszawa, Białystok, Gdynia, Zielona Góra, Kraków, Koszalin, Chorzów, Szczecin and Wrocław, fluctuating between 4 and 1.4‰. In other cities a decrease in population size was recorded, between 4.2 and 0.1‰, with the highest population migration ratios (below -2‰) noted in Kielce, Tarnów, Radom, Tychy, Włocławek, Sosnowiec, Wałbrzych, Bytom, Bydgoszcz and Katowice. Thus, in 1988-2002 there was a substantial drop in migration rate, fluctuating between 0.2 and 16.8‰ points in most cities, with the highest figures (more than 9‰ points) in Dąbrowa Górnicza, Tarnów, Włocławek, Rzeszów, Lublin, Legnica and Toruń. An increase in the population migration balance was recorded only in Chorzów, Gliwice and Wrocław, between 10.8 and 0.1 point ‰.

The situation in larger cities significantly affects the regional pattern of population movements, especially where such localities are numerous or within the largest localities. The relevant spatial diversification confirms the picture representing 2002 according the parameters of natural movements (Fig. 4) and for internal migrations (Fig. 5), but the various population sizes of cities with population above 100,000 people and the contribution of residents in the structure of the whole voivodeships as well as referred to the total number of the city population should be accounted for (Table 2).

To summarize, the following should be stated:

- in recent years the situation in population movements has become, affecting the spatial diversification of parameters in specific voivodeships in contrast to the history;
- a permanently decreasing trend in the number of births against the relative mortality rate increased the natural reduction in an increasing number of large localities;
- the decreasing mobility of our society has especially affected large conurbations, where the inflow has clearly been blocked and the relative higher outflow has led to a negative migration balance, previously positive;
- all these tendencies have resulted in a permanent slowing in the dynamics of population growth, leading even to depopulation in a number of some large cities.

In the end it should be underlined that basic parameters of natural migration are a result of the long-term tendencies in Poland and affected by worldwide trends and follow the example of developed countries. The post-war tendencies in Poland were overlapped by a social and economic transformation in the restructuring period.

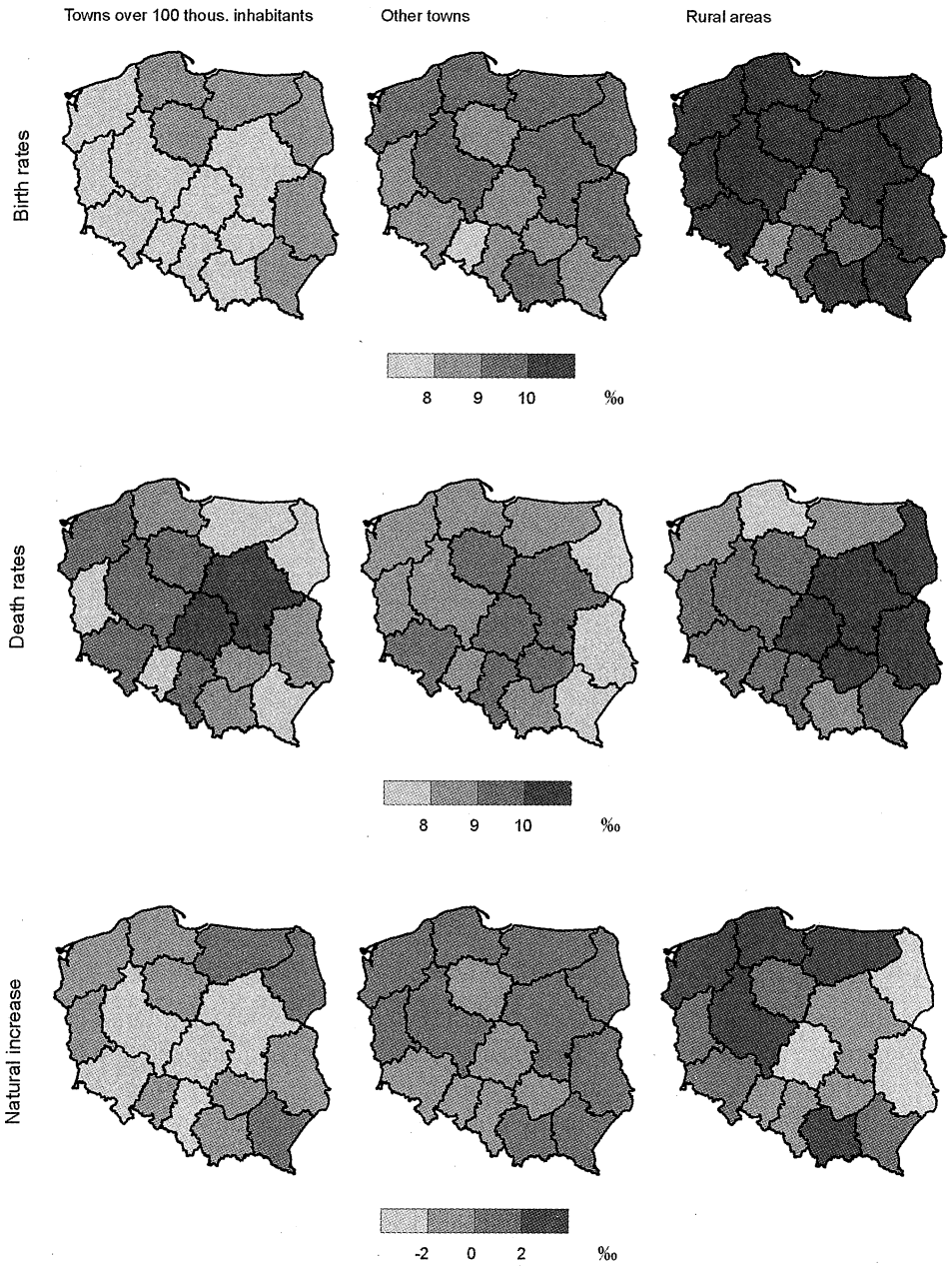


Fig. 4. Vital statistics in 2002

POPULATION MOVEMENTS IN LARGE POLISH CITIES IN 1988-2002

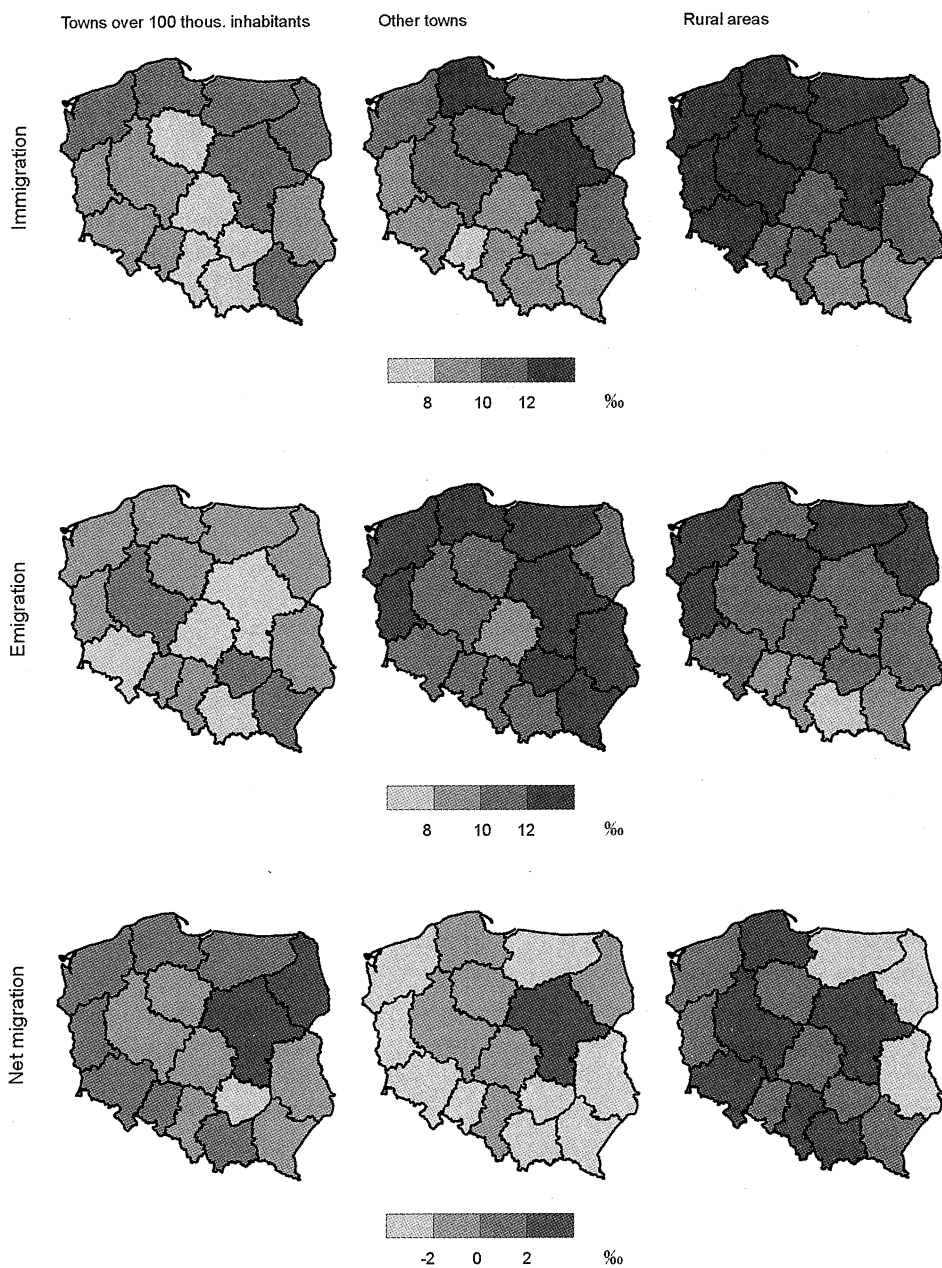


Fig. 5. Population migration in 2002

REFERENCES

- Długosz, Z.** 1999: Sytuacja demograficzna w dużych miastach Polski na tle kraju w świetle procesu starzenia się ludności. In Kaczmarek, J., editor, *Przestrzeń miejska jej organizacja i przemiany, XII Konwersatorium wiedzy o mieście*, Katedra Geografii Miast i Turyzmu UŁ, ŁTN, Łódź.
- Długosz, Z.** 2002: Stan i tendencje procesu starzenia się ludności miast Polski w świetle wybranych mierników. *Demograficzne i społeczne aspekty rozwoju miast*, Opole: Uniwersytet Opolski.
- Długosz, Z.** 2003 a: Przestrzenne zmiany w zaludnieniu Polski i krajów Unii Europejskiej na tle pozostałych państw kontynentu w świetle wybranych parametrów ruchu ludności. *Procesy demograficzne w krajach Unii Europejskiej – porównania z Polską*, I Kongres Demograficzny w Polsce, PTD i GWSH, Gdańsk.
- Długosz, Z.** 2003 b: The Level and Dynamics of Population Ageing Process on the Example of Demographic Situation in Europe. *Bulletin of Geography* (socio-economic series), Toruń: Nicolaus Copernicus University.

CORRESPONDENCE TO:

Zbigniew Długosz
Pedagogical University of Cracow
Geography Institute
ul. Podchorążych 2. 30-084 Kraków, Poland
[e-mail: zdługosz@ap.krakow.pl]