



DEMOGRAPHIC CHANGES IN THE FUNCTIONAL URBAN AREAS IN POLAND, 2000-2010

Przemysław Śleszyński

Institute of Geography and Spatial Organization
Polish Academy of Sciences
e-mail address: psleszyn@twarda.pan.pl

Delimitation of Functional Urban Areas (FUAs)¹ was among the objectives of the ESPON project 1.4.3, Study on Urban Functions, pursued in the period 2005-2007. This objective caused a host of methodological problems due to the difficulty in comparing data required in a detailed procedure and for delimitation criteria. Indirect measures had to substitute work-commuting data, regarded as the best type of data for identifying the extent of the impact of and the connectedness between the suburban and urban core zones, which were unavailable in Poland at the time.

This study draws on said delimitation exercise, but leads to a somewhat different outcome. The difference lies in presenting in full the original idea of delimiting 151 towns and cities with a population of more than 20,000 in 2004. The ESPON project eventually narrowed that sample down to populations of 50,000 or more and added on top of that a higher tier of groupings, includ-

ing the Upper Silesian Polycentric Metropolitan Area (*Górnośląski Policentryczny Obszar Metropolitalny*, which encompasses Katowice, Rybnik, Bielsko-Biała, Jastrzębie-Zdrój, etc.) and two cross-border urban areas (Görlitz-Zgorzelec and Frankfurt (Oder)).

The delimitation exercise was based on Poland's administrative division into *gminy* (municipalities), but it also parsed what were known as urban-rural *gminy* into their urban cores and countryside peripheries, thus bringing the total count of administrative units to 3,057 in 2004. In defining a Functional Urban Area the 20,000-plus inhabitants core-size criterion was accompanied by two principles: i.e. spatial-topological continuity and disjointed sets.

These criteria were used to identify 151 areas, whose cores were then delimited. Of this number 134 were individual towns or cities and 17 were aggregates (either urban agglomerations or conurbations). The core boundaries were identified using the density criterion of more than 650 people per 1 km². The periphery was identified using indirect features related to the urban impact based on statistics. While these features were not relationships by nature, they resulted from certain

¹ The Polish part of the project was headed by Professor Piotr Korcelli, who initiated the delimitation effort. The map with its outcome was first published in: P. Korcelli et al., 2010, *Ekspercki Projekt Koncepcji Przestrzennego Zagospodarowania Kraju do roku 2033* [Polish Spatial Development Concept 2033: An Experts' Approach], Studia KPZK PAN, 128, Warszawa, p. 127 (authors: P. Korcelli and P. Śleszyński).

relationships and dependencies existing within the FUA, including (data from 2002 and 2004):

- employment of permanent residents in the services sector;
- employment of permanent residents outside agriculture;
- economic entities to population ratio;
- local higher-level service economic entities to population ratio;
- J and K section economic entities in the total businesses.

The delimited Functional Urban Areas are shown on the map in Figure 1 and the main details of their cores and peripheries in Table 1 (broken down into categories of cores). The FUAs identified covered an area of 81,700 km² (including

The map and the accompanying Table 2 present a population change in the FUAs during the period 2000-2010. The Warsaw Area recorded the biggest gain, in both the core and periphery, but elsewhere the picture was mixed. A general pattern was that the lower in the hierarchy a FUA was the greater was its demographic loss, especially in the core. In the category of Metropolitan European Growth Areas (MEGAs), Katowice and Łódź recorded the greatest losses, while other areas typically lost numbers in the core, but gained substantially in the periphery. On the whole, the change in both the absolute numbers and percentages observed suggests a considerable differentiation process going on among Polish urban areas in terms of their trends and sizes during the last decade.

Table 1. Essential characteristics of Functional Urban Areas in Poland (FUAs), 2004.

Category of FUAs*	Number of separate centres	Number of administrative divisions		Area (km ²)		Population (thousand)		Population density (inhabitants km ²)	
		total	core	total	core (%)	total	core (%)	core	external zone
Capital state	1	75	20	4,548	20.9	2,785	77.9	2,282	171
Other MEGAs	7	240	48	19,221	20.0	8,812	76.4	1,753	135
Other regional centres	14	170	22	14,955	12.5	4,782	68.4	1,751	115
Other subregional centres	55	269	61	23,213	12.8	5,692	70.8	1,352	82
Local centres A	30	71	30	8,276	9.6	1,464	71.8	1,321	55
Local centres B	44	98	44	11,496	7.6	1,525	68.7	1,198	45
Total	151	923	225	81,709	13.8	25,060	73.0	1,618	96

* Categories of FUAs: capital state – Warsaw Metropolitan Area; other MEGAs – Cracow, Gdańsk/Tri-city, Katowice, Łódź, Poznań, Szczecin, Wrocław; other regional centres – other capital of voivodeships and Bielsko-Biała, Częstochowa, Radom and Rybnik; other subregional centres – cities with powiat status and other cities above population of 50,000; local centres A – other towns above population of 30,000; local centres B – other towns (above population of 20,000).

11,300 km² of cores, i.e. 13.8%) and had a population of 25.1 million (including 18.3 million or 73.0% in the cores). This accounted for 26.1% of the area and 65.7% of the population of Poland. The FUAs comprised 1,148 administrative units (including urban or rural gminas and the urban and rural portions of urban-rural municipalities). Of this number 222 towns and cities constituted the cores and 166 were included in the external areas.

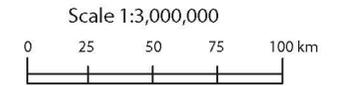
The most populous of the FUAs included: Katowice (total population of 3,028 thousand), Warsaw (2,785 thousand), Cracow (1,236 thousand), Łódź (1,165 thousand) and Gdańsk (993 thousand). Looking at large categories, four FUAs exceeded 1 million inhabitants, 12 had 300,000 to 1 million, 31 had 100,000-300,000 and 104 had less than 100,000.

Table 2. Population changes in Functional Urban Areas in Poland (FUAs), 2000-2010.

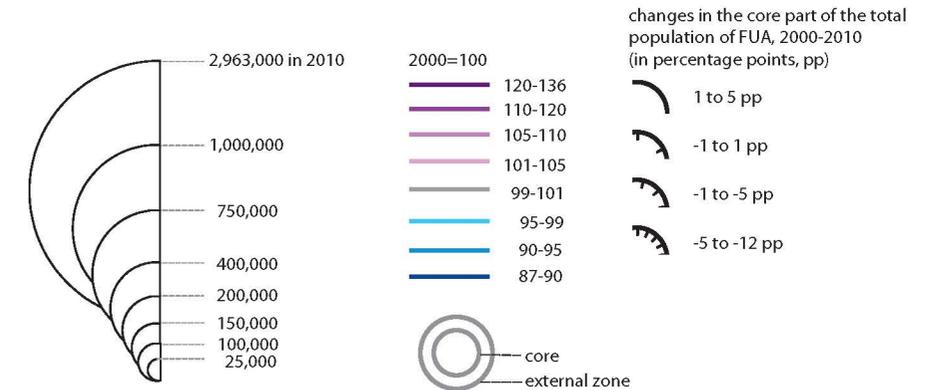
Category of FUAs (see Tab. 1)	Total		Core		External zone	
	in thousand	%	in thousand	%	in thousand	%
Capital state	263.3	10.0	174.4	8.5	88.9	15.5
Other MEGAs	-81.2	-0.9	-243.8	-3.6	162.6	8.0
Other regional centres	6.5	0.1	-71.1	-2.1	77.7	5.2
Other subregional centres	-160.9	-2.8	-208.0	-5.0	47.1	2.8
Local centres A	-43.4	-2.9	-61.1	-5.6	17.7	4.3
Local centres B	-47.9	-3.1	-53.1	-4.9	5.2	1.1
Total	-63.5	-0.3	-462.7	-2.5	399.2	6.0

DEMOGRAPHIC CHANGES IN THE FUNCTIONAL URBAN AREAS IN POLAND, 2000-2010

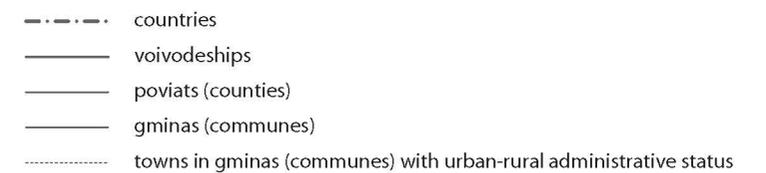
Przemysław Ślązyński



Number of population and their changes, 2000-2010



Administrative borders



TRICITY

Gdańsk, Gdynia, Sopot

KATOWICE (conurbation)

Cities with poviat rights: Bytom, Chorzów, Dąbrowa Górnicza, Gliwice, Jaworzno, Katowice, Mysłowice, Piekary Śląskie, Ruda Śląska, Siemianowice Śląskie, Sosnowiec, Świętochłowice, Tychy, Zabrze and other towns: Będzin, Chelmek, Chrzanów, Czeladź, Czerwionka-Leszczyny, Knurów, Łaziska Górne, Mikołów, Pyskowice, Radzionków, Tarnowskie Góry, Wojkowice

