

Socio-economic changes in the Rybnik conurbation (Poland) as a result of economic restructuring – a case study

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ABSTRACT

The Rybnik conurbation is an example of a traditional industrial area, where, due to economic restructuring, social and economic transformations are taking place. It is located in the Silesian voivodeship (southern Poland) and its development is mostly based on intensive coal mining after the Second World War. The article presents selected aspects of social and economic transformation happening in the area of the Rybnik conurbation after 1945 and connected with its rapid economic development in the 1960s and 70s, as well as with the systematic and economic transformation in Poland after 1989. The article was prepared on the base of subject literature, statistics and own studies. Population transformations have been analysed for the period 1980-2010, in each case, in relation to selected administrative units and three zones of the conurbation – the core, the inner and the outer areas. In order to evaluate and compare the demographic situation in the Rybnik conurbation in the years 1988 and 2008, a rank method has been applied. Community classification has been based on the total value of ranks for particular communities for the following variables: birth rate, population growth, net migration rate and the participation of the population in the pre-working and post-working age. The results of population transformation indicate that until 1991, the population of the Rybnik conurbation had been increasing (up to 197.7 thousand people). In the period 1991-2012, it decreased by 26.4 thousand (i.e. by 3.8%). In the same period of time, depopulation took place in the largest mining cities of the conurbation core (Wodzisław Śląski, 56.1%, connected with its administrative division into 4 towns and 1 rural community; Jastrzębie-Zdrój – 12.3%, Żory – 7.8% and Rybnik, to a lesser degree – 2.7%). The rank method that was applied has revealed the worsened demographic condition in the western communes of the conurbation (a shift from weak to bad). Simultaneously, in the period 1990-2012, the population gradually increased in the outer zone of the conurbation, by 6.8%. This indicates the process of suburbanisation taking place in the area. Demographic and economic changes in the Rybnik conurbation after 1989, in comparison to other mining areas in Poland and in Europe, seem to be less intensive.

KEY WORDS: old industrial region, mining region, socio-demographic changes, migrations, Rybnik Coal Area, Upper Silesia

1. Introduction

A large number of traditional industrial regions in the world, including mining regions, make it difficult to present the process of their socio-economic transformations in a model way (RUNGE, 2008). It is mostly dictated by differences in their economic and urban development, as well as in their political systems. It is also crucial that the process of traditional regions restructuring did not happen in the same period – it was initiated in the 1960s and 70s in Western Europe (HASSINK & SHIN, 2005; SCHRADER, 1998), while in the Central and Eastern Europe it did not start until after 1990 (ECKART, 2003; MÜLLER ET AL., 2004; MYKHENKO

ET AL., 2010; RILEY & TKOCZ, 1998). The process of the restructuring of traditional industrial regions is difficult and long-lasting (HAMILTON, 1984).

In the area of Poland, including the former Katowice voivodeship, it did not start until 1989. It was connected with the reduction in employment, the closing down of obsolete factories and consequently, with the increase of unemployment (practically non-existent in the socialist economy) as well as with emigration. The land areas of the liquidated industrial plants serve as new locations for new industries and services. In the case of the Silesian voivodeship, the Katowice Special Economic Zone, created in 1997, has had a considerable impact on the restructuring of its economy.

The article presents selected aspects of socio-economic transformations that have taken place in the area of the Rybnik conurbation after 1945 and connected with its rapid economic development in the 1960s and 70s as well as with the system and economic transformation in Poland after 1989. The article is a review – it is a case study on the area of the Silesian voivodeship (Southern Poland).

2. Research area

The research area is located in the southwestern part of the Silesian voivodeship and it covers the settlement complex of Rybnik. It borders the Czech Republic on the south, including the Ostrava-Karvina agglomeration, the Opole voivodeship on the west, and the Katowice conurbation in the north and the northeast (Fig. 1).

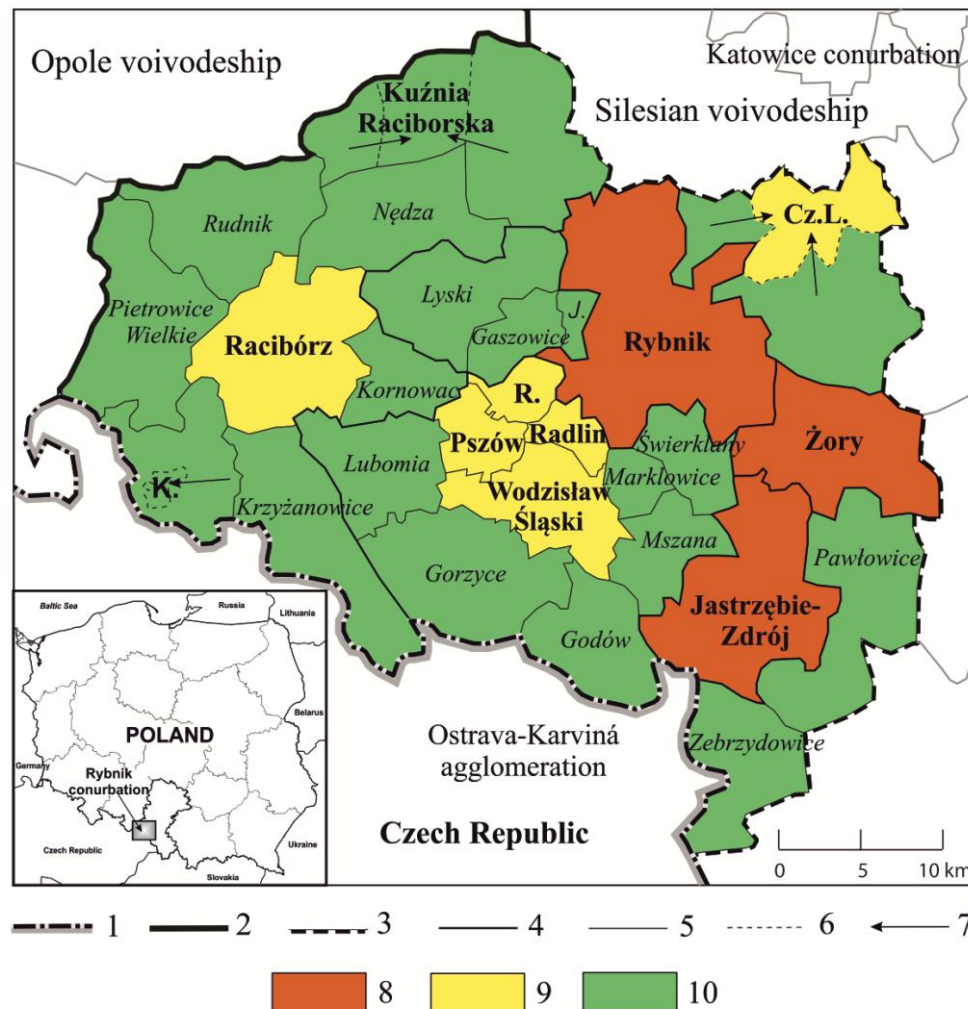


Fig. 1. The area of the Rybnik conurbation (authors elaboration based on the Krzysztofik, 2007, 2008)

1 – border of country; 2 – border of voivodeship (province); 3 – border of the Rybnik conurbation; 4 – border of district; 5 – border of administrative unit (community); 6 – border of towns localized inside of urban-rural unit; 7 – directions of administrative hierarchy inside administrative units; 8 – core of the Rybnik conurbation; 9 – internal zone of conurbation; 10 – external zone of conurbation; **Racibórz** – urban unit (town); *Gorzyce* – rural unit; Cz.L. – Czerwionka-Leszczyny; K. – Krzanowice; R. – Rydułtowy; J. – Jejkowice

Despite the differences in the nomenclature of the researched area in literature, the authors refer to it as the Rybnik conurbation (following KRZYSZTOFIK, 2007, 2008). This area was, for instance, called the Rybnik Coal Area, after 1945, and its range was frequently changed, but the very name referred to the economic structure rather than to the settlement structure of the region. Difficulties in establishing the name (type of settlement form) and the range of the research areas are

connected with the rapid settlement changes that have taken place here, in this part of the Silesian voivodeship, since the mid-20th century.

According to RUNGE'S research (2008), in the 1920s and 30s, the settlement complex of Rybnik reflected a type of a monocentric agglomeration, with the population dominating in Rybnik (70%). Until 1950, the area had been characterized by a scattered network of cities with their own impact areas. The main cities, in the first half of the 20th

century, included: Racibórz, Rybnik and Żory (cities with their genesis in the Middle Ages).

The development of the settlement form in the Rybnik conurbation was started in the 1950s and was connected with the development of mining. Until 1975, the process of citification had happened in the area. Apart from the previously existing Middle Age cities, municipal rights were granted to Rydułtowy (1951), Niedobczyce, Pszów, Radlin (1954), Boguszowice, Czerwionka, Leszczyny (1962), Jastrzębie-Zdrój (1963), and Chwałowice and Kuźnia Raciborska (1967).

Altogether, there were 14 towns in this area in 1970. A characteristic polycentric structure was created in the region, with the features of an evolving urban conurbation. The settlement system that was established may be included in the mining and industrial type of conurbation (KIEŁCZEWSKA-ZALESKA, 1972) and the technical conurbation (GEORGE, 1956) created in the area of mineral resources extraction, as a result of settlement development concentrated directly in proximity to industrial plants.

The administrative reform of the 1970s brought about crucial changes in the structure of the Rybnik conurbation. In the beginning of the 1980s, the Rybnik conurbation integrated three cities of 100 thousand inhabitants (Rybnik, Jastrzębie-Zdrój, Wodzisław Śląski), three medium-sized towns (Racibórz, Żory, Czerwionka-Leszczyny) and one small town (Kuźnia Raciborska). The region still had the settlement form of a conurbation.

The transformations in the settlement structure of the region that have been taking place in the recent years, indicate that it is an intermediary form between a conurbation and a monocentric agglomeration, i.e. a polycentric agglomeration (RUNGE, 2008; KRZYSZTOFIK, 2007, 2008). The premise of a change in the settlement form from an urban conurbation to a polycentric urban agglomeration was caused by such factors as (KRZYSZTOFIK, in press): 1) the administrative break-up of Wodzisław Śląski into 2 medium-sized and 2 small towns; 2) the "shifting" of Jastrzębie-Zdrój to the group of medium-sized towns and its anticipated depopulation in the nearest future; 3) the remaining of Racibórz and Żory in the group of medium-sized towns; 4) the existence of only one city of Rybnik, whose superiority in terms of demographic potential over the three following centres (Jastrzębie-Zdrój, Żory, Racibórz) is increasing every year; 5) the location of high-end services in four cities and towns: Rybnik, Racibórz, Jastrzębie-Zdrój and Żory, with a particular focus on Rybnik, where institutionalized actions of a metropolitan type are present.

The name adapted for this study, as well as the delimitation of the researched settlement system

of the Rybnik conurbation (following KRZYSZTOFIK, 2007, 2008, Fig. 1), may raise doubt, especially in relation to establishing the inner and the external zone, which are not spatially continuous. The authors have accepted the division of the Rybnik conurbation into the core zone, internal and external zone. The conurbation is composed of 27 communities, including 8 urban communities, 3 urban-rural communities and 16 rural communities (in total, 11 towns). The area of the conurbation is 1,470 km² (i.e. 11.9% of the area of the Silesian voivodeship) populated by 670,928 inhabitants in 2012 (i.e. 14.5% of the population of the Silesian voivodeship).

3. Primary sources and methods of research

The article was based on subject literature, statistics and own study. Data was obtained from the following primary sources: Local Data Bank of the Central Statistical Office, Statistical Yearbook for the Katowice voivodeship, The Voivodeship Statistical Office in Katowice and the National Census in 1988.

Changes in population in the Rybnik conurbation were analysed for the period 1970-2012 and the birth rate and net migration rate for the period 1980-2010, in each case, in reference to selected administrative units and three zones of the conurbation – the core, the internal and external zone.

In order to evaluate and compare the demographic situation in the Rybnik conurbation in 1988 and 2008, a rank method was applied. Communities were classified, based on the total value of ranks of particular communities for these variables: birth rate, population growth, net migration rate and the participation of population 0-17 years of age and above 60. Due to numerous changes in the administrative division that took place in the period 1975-2001, the administrative division of 1978 was applied.

4. The beginnings of industrialisation in the Rybnik conurbation

Until the 18th century, agriculture was the main economic activity of the population of the contemporary Rybnik conurbation. Fertile and easily farmable less soil covering the area west of the Oder River was the main natural resource of this land. An important impact in the development of this area was done by the policies of the rulers who expanded the network of fortified castles and imported friars to these lands, including the Cistercians, who worked in the fish industry.

The settlement was developing, among many, the town of Racibórz, the capital of the Duchy of Racibórz and simultaneously the oldest town of the present Silesian voivodeship (municipal rights in 1217). The impulses for the origin of new settlements or development of the already existing ones included a convenient location along important trade routes (e.g. the route across the Moravian Gate, the route from Wrocław to Kraków), its trans-border location, and administration functions. In the 18th century, coal or iron ore extraction was small scale.

The beginnings of economic development of the contemporary Rybnik conurbation were connected with industry, especially metallurgy. The most important ironworks at the time were located in: Żory, Gotartowice, Paruszwice, Czerwionka, Rybnicka Kuźnia. At the end of the 18th century, the largest foundries belonged to the Prussia state and were managed by the Royal Metallurgical Office in Rybnik (MROWIEC, 1970).

In the second half of the 19th century, a decline of metallurgy was observed due to the lack of local resources and, simultaneously, its non-economic import from the Bytom and Tarnowskie Góry region. The number of metallurgical works systematically decreased and just before the first world war, only a few smelters worked, such as "Silesia" in Rybnik-Paruszwice.

The turn of the 18th and 19th centuries marked the beginning of the period of development of the Rybnik coal industry. Coal mines were built in small settlements adjacent to towns. The oldest coal mine in the Rybnik conurbation is "Hoym" (Ignacy) coal mine in Rybnik, which has been working since 1792 – that was where the first steam engine was imported to in the Rybnik conurbation. In the following years, other coal mines were constructed – "Dębieńsko" in 1792 – contemporary Czerwionka-Leszczyzna town, "Charlotte" in Rydułtowy (exploited since 1806), "Anna" in Pszów (1842), "Marcel" in Radlin (1884), and "Rymer" in Niedobczyce (now a part of Rybnik) which worked since 1896 and which was then joined with the "Chwałowice" coal mine.

During coal prospecting works in 1859, iodine-bromic brine was found south of Wodzisław Śląski. The Prussian authorities approved its exploitation. This way the health resort in Jastrzębie-Zdrój developed. Subsequent industrial development in the area of the Rybnik conurbation occurred until the beginning of the First World War. In 1889, the engine construction factory and iron-foundry (then the Factory of Mining Machines) was opened in Rybnik, and, at the beginning of the 20th century the coking plant in Radlin was built, which was the largest at that time in Upper

Silesia. Further development of mining in this area was disrupted by the Second World War (DYBA, 1998).

5. Economic development of the Rybnik conurbation in the second half of the 20th century

The rapid process of industrialisation, which caused intensive urbanisation of the Rybnik conurbation, started in the 1950s. The results of broader geological research contributed to it since they indicated that the resources of coal in the Rybnik Coal Area amounted to 3 billion tonnes and, according to the research of 1970 – 13 billion tonnes (LITEWKA, 1971). Development of mining in the area was connected with the development of metallurgy in Poland that showed a high demand for coke to be used in the blast-furnace process and in the Rybnik Coal Area there are resourceful deposits of coal that may be processed into metallurgy coke. Despite the complicated tectonics of deposits and strongly gassed layers, this area was the most developed area in post-war Poland (WRZOSEK, 1972). The exploitation of coke coal was very profitable, resulting in the construction of new coal mines and the modernisation of the old ones. The importance of this area is illustrated by the fact that the first new hard coal mine which was built after the Second World War in Poland, was "Mszana" (later on "1 Maja") in Wodzisław Śląski in 1960 (LIGEZA, 1970). In the western part of the Rybnik conurbation the following coal mines were built: "Jastrzębie", "Moszczenica", "Zofiówka", "Borynia", "Pniówek", "Świerklany" and "Suszec" (BYTNAR-SUBOCZOWA, 1969; KANIA, 1978).

The process of post-war urbanisation in the Rybnik conurbation was connected with 4 main centres: dynamically developing Jastrzębie-Zdrój (JANUŁA & WINNICKI, 1988), and also towns – Żory, Wodzisław Śląski and the capital of the region, Rybnik. Apart from building new coal mines, other investments started. However, the industrialisation of the conurbation was irregular. Most factories were located in Rybnik, Wodzisław Śląski and Radlin. Based on coal resources, three large coking plants were built: "Knurów", "Dębieńsko" and "Radlin", and in 1972, the first power units of the "Rybnik" power plant started working. As a result of this investment, near Stodoły – the part of Rybnik, on the Ruda river, the Rybnik Basin was created. Economic development of the Rybnik conurbation in the beginning of the 21st century.

In 2012, in the area of the Rybnik conurbation, nine mines were operating, which is seven fewer

than in the 1980s. "Dębieńsko" coal mine, in Czerwionka-Leszczyny is planned to start working again in 2015. It is also assumed that in 2017 the first carriage of coal will come to the surface from the new shaft which will be ready in 2014 in the "Borynia-Zofiówka" coal mine in Jastrzębie-Zdrój.

This shaft is the largest investment in the Polish mining of hard coal since 1989. The previously mentioned Rybnik power plant, which is one of the largest in Poland (production power 1775 MW) is one of the industrial plants based on coal which is exploited in the surrounding mines. There are also some plants of the machine and electrical engineering industry, like the mining engine construction and repair company RYFAMA, based in Rybnik, the boiler construction company Rafako S.A. in Racibórz, and the machine tool factory Rafamet S.A. in Kuźnia Raciborska.

The Rybnik conurbation is partly included in the Katowice Special Economic Zone – the Jastrzębie-Żory subzone – which particularly comprises companies in the automotive and building industries. The first of the mentioned industries is represented by Dynamic Technologies in Czerwionka-Leszczyny, and JP Foam Manufacturing in Żory, which produces foam components for car seats.

Another company worth mentioning is Tenneco Automotive Polska, which produces car parts. It is one of the largest employers in Rybnik, employing 1244 people (as of 2012). The model of the multiplier factor, analysed by WIEDERMANN (2008), which informs us about newly generated work places, in this case, generated by automotive companies, shall not be forgotten. These companies are connected with transport, servicing, tool production, cleaning and facility security.

Among construction companies operating in the area of the above mentioned sub-zone, several are worth mentioning: two plants, in Żory – Libet – a producer of cobblestone and Printex Lapot – a producer of window sills, and also ZPSM Piotrowice III in Rybnik and Gomar in Jastrzębie-Zdrój. Also, ELOROS, producer of Liquefied Gas in Rybnik and Elplast – producer of plastics belong to the sub-zone. Rettig Heating – the producer of PURMO radiators – is an important employer as well.

Individual towns of the Rybnik conurbation coped differently with the stage of industry restructuring. Rybnik, the largest town of the conurbation managed the best as it transformed into a shopping-service centre of the region and became the leader of the conurbation. Since 2000, the city has enriched its academic offer with a Higher Education School Complex, incorporating the University of Economy and the Silesian University of Technology, previously operating in this area.

According to the research conducted under the academic supervision of SOBALA-GWOSDZ (2010), Rybnik is a potential sub-regional centre of development. However, similarly to the area of the Katowice conurbation, in the period of economic transformation, the structure of the employed in the Rybnik conurbation underwent changes. In 2002, the percentage of people employed in services amounted to 51% with 44% employed in industry. This tendency changed further and in 2010, the numbers were 56% and 41%, respectively. There are still areas with a predominance of employment in the industry, such as Radlin – 64.7%, Pawłowice – 63.3% and Jastrzębie-Zdrój – 56.8% (KŁOSOWSKI ET AL., 2013).

6. Socio-demographic transformations in the period 1970-2012

The on-going industrialisation caused a considerable increase in the population of the Rybnik conurbation (Tab. 1). In one decade alone, 1970-1980, the population increased by over 134 thousand inhabitants. The largest increase occurred in the conurbation core, i.e. in Jastrzębie-Zdrój and Żory.

At the beginning, these two towns served a dwelling function in the Rybnik Coal Region. In Jastrzębie-Zdrój 15,263 flats were built in the period 1960-1987, and in Żory, 4,381 (KWAŚNIEWICZ, 1988). The population of the Rybnik conurbation generally increased until 1991 (697.3 thousand inhabitants). The period 1991-1998 was a time of population stability, whereas in 1997-2007, a drop in the population of the Rybnik conurbation, by 30.3 thousand, was observed (i.e. by 4.3%). An analysis of population changes for particular zones of the conurbation indicate a systematic increase of inhabitants in its external zone. In the period 2007-2012, this increase was influenced by a slight increase of the population in the whole conurbation (increase of 0.5%).

Mainly young males immigrated to the area of the Rybnik conurbation, as they were employed in coal mines. This considerably influenced the age and sex structure of the inhabitants. In the 1970s the process of masculinisation was especially visible in the age group 15-39. During one decade, the number of females per 100 males in the age group 25-39 decreased from 100 in 1960 to 85 in 1970. The most common reason for migration was not a job, but the possibility of getting a flat (FRĄCKIEWICZ, 1982). In 1978 in Jastrzębie-Zdrój, people up to 19 years old represented 41.3% of the inhabitants, whereas people over 60, only 3.8%. In Żory, it was a similar situation, as the

percentage of people up to 19 was 38.4% and those over 60, 6.0% (FRĄCKIEWICZ, 1988). Therefore, it was an area showing demographic youth. The analysis of statistical data from Rybnik, Wodzisław Śląski, Żory and Leszczyny showed that in the 1970s, 90% of the immigrants were represented by people under 40 (RAJMAN, 1988). In 2010, in Jastrzębie-Zdrój, only 18.9% of the population

represented the people of pre-working age, whereas people of post-working age were represented by 16.9% of the population. The towns of the Rybnik conurbation, in 2010, showed a positive natural increase (2.4%), with two exceptions, Rydułtowy (-1.1%) and Racibórz (-0.5%), where a negative natural increase occurred.

Table 1. Population changes in the Rybnik conurbation, 1970–2012 (authors elaboration based on Bank Danych Lokalnych GUS; Rocznik Statystyczny Województwa Katowickiego, 1979, 1981, 1991, WUS, Katowice)

Rybnik Conurbation	Main administrative units	Population				
		1970	1980	1990	2000	2012
Core	Jastrzębie-Zdrój	42 368	98 462	103 734	97 537	91 723
	Rybnik	103 916	122 732	143 980	143 218	140 789
	Żory	16 238	47 484	67 031	63 533	62 052
	Total – core	162 522	268 678	314 745	304 288	294 564
Internal Zone	Racibórz	47 365	55 532	64 394	60 132	56 084
	Wodzisław Śląski*	92 388	105 548	111 741	49 949	49 238
	Total – internal zone	164 579	187 265	206 357	198 310	193 651
External Zone	Total – external zone	151 001	156 443	171 393	175 165	182 379
Total	Rybnik conurbation	478 102	612 386	692 495	677 763	670 594

* – in the 1990s, administrative division into 4 towns and 1 rural community

This situation seems to be quite positive, as the average for the towns of the Silesian voivodeship, in 2010, was -0.2‰. The highest natural increase occurred in Żory (5.2‰), Rybnik (3.1‰) and Jastrzębie-Zdrój (3.0‰) (Tab. 2). Because of the large number of people who settled in the Rybnik conurbation, the population there was referred to as an immigrant community (KRAWCZYK & KRÓLIKOWSKI, 1975). In the period 1961–1970, over 43.3% of the inhabitants in this area represented people who moved there from beyond the Katowice voivodeship. Almost half of them

changed the dwelling-place from village to town (PAŹDZIÓR & STACHOŃ, 1975).

The area of the Rybnik conurbation became a meeting point for people from different parts of Poland, often showing large cultural differences. The process of assimilation was made difficult because of the fact that there were no social facilities in newly built housing estates. This resulted from the haste accompanying the construction and the changing development plans of the Rybnik Coal Area.

Table 2. Rate of natural increase and rate of net migration in the Rybnik conurbation, 1980–2010 (authors elaboration based on Bank Danych Lokalnych GUS; Rocznik Statystyczny Województwa Katowickiego 1981, 1991, WUS, Katowice)

Main administrative units		Natural increase				Net migration			
		(per 1 000 population)				(per 1 000 population)			
		1980	1990	2000	2010	1980	1990	2000	2010
Jastrzębie-Zdrój		15.7	9.7	4.2	3.0	-9.4	0.7	-8.6	-8.7
Racibórz		11.0	4.8	0.0	-0.5	36.2	19.5	-9.8	-1.1
Rybnik		11.5	5.6	1.3	3.1	25.4	4.0	-2.7	-2.8
Wodzisław Śląski*		10.9	5.5	0.4	1.4	-0.8	-1.9	-6.0	-2.1
Żory		22.4	8.9	5.3	5.2	63.7	4.7	-9.3	-6.7
Rybnik conurbation	Core	15.0	7.6	3.0	3.5	19.4	3.1	-5.9	-5.5
	Internal zone	11.0	5.1	-0.4	0.8	12.4	6.1	-5.6	-1.2
	External zone	9.5	3.2	0.9	1.9	-5.7	0.1	0.7	3.6
	Total	12.4	5.8	1.5	2.3	10.9	3.2	-4.1	-1.8

* – according to administration boundaries of the town in a given time interval

In the past, large migration inflow recorded in the area of the Rybnik Coal Region was accompanied by large population outflow. In the period 1955-1965, the residence of 152.7 thousand people was registered in this area, whereas departure was registered as a level of 114.5 thousand people (SUBOCZOWA, 1969). In the period 1972-1973, the number of immigrants was 44.6 thousand whereas the number of emigrants amounted to 20.7 thousand people (PAŹDZIOR & STACHOŃ, 1975). The net migration rate for the Rybnik conurbation remained positive until 1991, reaching a value exceeding 10‰ in the 1980s. Since 1992, the towns of the Rybnik conurbation have shown negative migration balance. Simultaneously, the towns of the highest natural increase (Jastrzębie-Zdrój and Żory) have shown the highest population outflow. In the period 1991-2012, the population of the cities in the Rybnik conurbation decreased by 40.2 thousand people (i.e. by 7.6%). It was influenced by the negative migration

balance, particularly in the conurbation core. When making a decision regarding leaving a given city, an important factor was the attachment to the place of living, which is a crucial element of regional identity (KURPANIK, 2010).

The dynamics of demographic transformations in the area of the Rybnik conurbation came as a result of industrial investments and, consequently, housing investments. The classification of communities in the Rybnik conurbation was done with the application of the rank method. It is based on the total value of ranks of particular communities for the following variables: birth rate, population growth, net migration rate and the participation of the population 0-17 years of age and above 60. The analysis revealed a clear diversity in the demographic potential of the conurbation communities and also the rapid changes that took place in this area in the period of system and economic transformation (1988-2008) (Fig. 2).

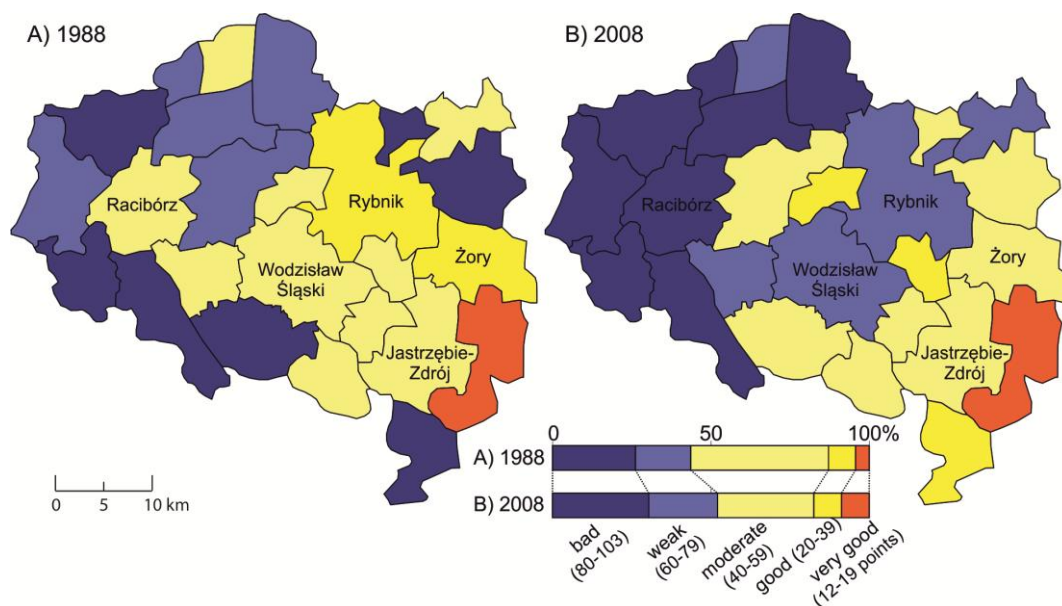


Fig. 2. The demographic situation in the area of Rybnik conurbation in 1988 and 2008, in administration boundaries from 1978* (authors elaboration based on *Ludność. Warunki mieszkaniowe. Narodowy Spis Powszechny z dn. 6 XII 1988 r.*, 1990, GUS, Warszawa; Bank Danych Lokalnych GUS)

* – in order to compare the demographic situation the authors selected administration division from 1978 because in the period 1975–2001 many changes in the administration division took place in the area of Rybnik conurbation

In 1988, the Pawłowice commune showed a very favourable demographic situation (ranks total – 12), which is now the largest village, and simultaneously a block of flats estate in Poland. Its development was connected with a dwelling function – the owners of flats in Pawłowice were employed in Żory and Jastrzębie-Zdrój. Żory and Rybnik showed a good demographic situation, with a high natural increase and low percentage of population over 60 (Żory – 35.5, Rybnik – 36.0). On the other hand, Jastrzębie-Zdrój, as a result of

intensive population outflow (in 1988 the net migration rate amounted to -9.0‰) and, despite the post-war population growth until the mid-1980s, showed a moderate demographic situation (ranks total – 43.5). Rural communes, including those located at the Czech Republic border and in the western part of the conurbation, showed, in 1988, an unfavourable demographic situation (Fig. 2A). The period of 20 years of economic transformations in the Rybnik conurbation intensified the differences between individual

communes and resulted in essential changes in the demographic situation. The most unfavourable situation occurs in the communes in the western part of the conurbation – Racibórz district. The best situation occurs in the communities of Gaszowice (ranks total 15) and Pawłowice (ranks total 19). These are rural communities, where the process of suburbanisation occurs. On the other hand, all the towns of the conurbation core and the internal zone (except Wodzisław Śląski) show negative migration balance (Fig. 2B). This is connected with the migration of wealthy inhabitants to more attractive areas of the Silesian voivodeship (suburbanisation process in the southern part of the voivodeship), social-economic problems of the conurbation, and the return of coal miners and their families to their homeland. The results of the investigations carried out in the period 1978-1980 in the area of new dwelling estates revealed that the most severe, for the inhabitants, were hardships connected with medical service, social services, schools and educational institutions, cultural institutions, shops and restaurants (FRĄCKIEWICZ, 1988). This negative situation was intensified by the fact of an insufficient public transport service, which would have helped in using the infrastructure of better developed areas.

Due to the considerable immigration from various parts of Poland, the area of the conurbation was a cultural melting-pot. There was a lack of common ground for social contacts between the immigrants and the native population. This resulted in conflicts between the groups, suspicion, and even hostility. The approach to work between the natives and the immigrants differed. The Silesian population was strongly attached to a coal mine, which was the traditional support for a family and influenced the rhythm of their days and weeks. The appearance of a large number of immigrants loosened these bonds (ŚWIĄTKIEWICZ, 1993).

Industrial plants were the only institutions which created areas of social space. At the end of the 1980s, these institutions contributed to the process of integration of the immigrants with the native population. Thanks to large financial measures, they run cultural institutions which were very attractive for the inhabitants. They also subsidized sport and recreation activities. Moreover, they complemented public transport shortages and run it at 90%. They also took care of schools which educated future workers for industry. They assisted in repairs, contributed in gaining facilities for cultural institutions, and organised summer camps for children (PILNY, 1988).

7. Population transformation in the Rybnik conurbation compared to other industrial regions in Europe

Demographic development of the Rybnik conurbation since the 1960s and through further demographic transformations that happened after 1990, fits into a general trend of city development in Central and Eastern Europe. In the period 1945-1989, depending on the area, it was reflected in the initiation or further strong industrialisation, urban and demographic development and in the period of restructuring – in socioeconomic problems.

The analysis of demographic transformations in the period 1960-2005, performed by TUROK & MYKHENKO (2007), for 310 urban centres (cities) in Europe (inhabited by over 200 thousand people) allowed for a statement that in the period 1985-2000, a systematic increase of the number of cities with a declining number of inhabitants took place. Moreover, a difference in the demographic development of European cities became apparent – in Central and Eastern Europe, population in cities had increased until the 1980s and declined since the 1990s.

The old industrial regions in Germany and France, including the Ruhr District Conurbation (Greater Essen; W. Germany) and Nord-Pas de Calais in France – Greater Lens, are characterized by depopulation that started in the late 1960s (TUROK & MYKHENKO, 2007). It was connected with the process of their restructuring (VAN DIJK, 2002). The regions of industrial genesis, where the population has increased since 2000, following a period of depopulation, include: West Midlands (Greater Birmingham; UK), South Yorkshire (Greater Sheffield; UK), and Pays Noir in Belgium – Greater Charleroi (Belgium).

According to the typology presented by TUROK & MYKHENKO (2007), the Rybnik conurbation is in its initial stage of depopulation. The observed demographic transformations are similar to those that take place in other regions of traditional industry in Poland, the Czech Republic and Ukraine. They are less intense, though. They are reflected in lower depopulation and milder effects of industry restructuring. Depopulation of the cities is confirmed by researched on demographic transformations in the area of the Katowice (Upper Silesian) conurbation and the Donetsk conurbation (KRZYSZTOFIK ET AL., 2011; MYKHENKO ET AL., 2010; RECHŁOWICZ & TKOCZ, 2012, 2013; RUNGE ET AL., 2003). The forecast for population in the Rybnik conurbation reveals the depopulation of its core to the number of 245.2 thousand in 2035 (that is by 16.9%) and the aging process of big

city inhabitants (KŁOSOWSKI ET AL., 2013).

The Ostrava-Karvina agglomeration, located south of the Rybnik conurbation, is also undergoing the process of restructuring, connected with depopulation, particularly in its main cities – Ostrava and Karvina (SUCHARČEK, 2005; VAISHAR, 2002, 2006). In the area of both agglomerations, the process of suburbanization is apparent. In the case of the Rybnik conurbation, the suburbanization is shifted towards southeastern areas of the Silesian voivodeship (RUNGE ET AL., 2011).

8. Conclusions

The Rybnik conurbation constitutes an example of an old industrial region, where socioeconomic transformations are taking place due to industrial restructuring. An analysis of the demographic and economic state of this region reveals the necessity of constant monitoring in order to prevent the negative effects of changes that are happening.

The most important tasks which authorities have to cope with include: 1) alleviation of the effects of the Rybnik conurbation depopulation, which started in 1991 and which has been intensely happening since 1997 (especially in the core after 1997); 2) solution of many demographic problems connected with the ageing of the population; 3) prevention of the increase of emigration (also abroad) and natural loss; 4) mitigation in the future of the consequences of industry restructuring and supporting the investments generating new jobs in the production sector; 5) solution of the problems of revitalisation of post-industrial areas; 6) improvement of the conditions of dwelling infrastructure (especially the housing estates which developed in the 1970s and 1980s) and the rate of its development; 7) increase of cooperation between individual towns and increase of their importance in regional and extra-regional scales. Finding solutions to the above mentioned problems in the Rybnik conurbation requires a comprehensive outlook on the whole urban complex and planning integrated actions.

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