

## MEDIUM SIZE TOWNS IN COMPLEX SETTLEMENT SYSTEMS (EXEMPLIFIED BY KATOWICE CONURBATION)

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### INTRODUCTION

Complex settlement systems of agglomeration or conurbation types are perceived only due to the largest city centres which determine trends of social-economic changes of a given system. Their metropolitan importance usually overrides positions of the centres placed lower on the hierarchy ladder, both the current and the potential ones. Generally it is assumed that small towns play the role of local service centres for agriculture and the large ones are identified in many cases as metropolis gathering numerous governing, financial functions and high-order services. The typical division of the roles depending on the size class has been modified due to complexity of the settlement system or the time criterion. The purpose of this paper is to show similarities and differences in formation of trends of socio-economic changes in the medium-size towns in Katowice conurbation compared to the towns from the other size groups. Particular attention has been paid to the dynamics of population changes and selected characteristics of the labor market. Such goal results from the insufficient knowledge of the role of medium size cities in the period after the political system transformation. Medium size towns rarely become the object of research and their role in the complex settlement systems has not been studied yet (Runge A., 2002).

### STAGES OF FORMATION OF THE KATOWICE CONURBATION

The Katowice conurbation comprises 33 towns concentrating half of the population of the whole Silesia voivodeship (50.9% in 2008), covering 16% of its surface. The spatial structure of the conurbation allows to distinguish three zones differing in intensity and compactness of urban development and population density. They are: the core, the inner and the outer zone of the conurbation (Runge, Zadrożny 1989, Rykiel 1997, Krzysztófik 2008). The core of the conurbation includes nine large towns and seven medium-size ones. Large towns do not occur in the inner zone. There are four medium size towns and eight small ones there. The outer zone is less urbanized, as there are only four small towns there. The medium size towns

build the core of the conurbation and also play the leading role in the outer zone. The medium-size towns do not occur in the outer zone. Rural areas, which occur in majority in the outer zone, have been disregarded in the current analysis.

Generally three stages of formation of the Katowice conurbation can be distinguished (Fig. 1):

1. Preindustrial development of towns in the outer and the inner zone of the conurbations. Most of the centers that remained after the feudal formation are now small or medium size towns.

2. 19<sup>th</sup> century industrialisation accelerating foundation and development of towns in the core part and in the outer one. Those towns are large and medium size being the crucial elements of the settlement system. However, some of them were granted town privileges significantly later (Sosnowiec, Dąbrowa Górnicza, Jaworzno);

3. 20<sup>th</sup> century – the system was dominated by Katowice and final formation of the conurbation occurred.

Hence, we are dealing with a reverse of the classical model of urbanization running centripetally as formation of the conurbation started from the outside zones and ran towards the center of the system. Feudal towns located in the outer and the border zones of the current conurbation core became the starting point of the analyzed settlement system. The whole conurbation center did not have a single city with population over three thousand inhabitants at the end of the 18<sup>th</sup> century (Rajman, 1977). Until the first half of the 19<sup>th</sup> century, as a result of capitalist industrialization, loose concentration of small mining and metallurgical centers were formed there, which in the second half of the 19<sup>th</sup> century, influenced by development of railway transport and technical progress in industry, started to transform into a huge urban-industrial complex (Rajman, 1977). Bytom, Gliwice, Królewska Huta, were the fastest growing centres, Katowice was a bit slower, which appeared there as a “late arrival” (Gwozdź, 2005). The town privileges granted in 1865 allowed Katowice to develop gradually sub-regional functions and becoming the main administrative center of the province in 1922 helped it to achieve the highest potential of the population. This was the final process of the formation of the conurbation.

Historical development of the settlement system of the analysed conurbations not only had the centripetal nature, but its specific character mainly resulted from:

a) Cross-border location of the developing settlement system (partition of Poland, then the Polish-German borderland);

b) Great similarity of the functional structure of many centers in the system;

c) Significant influence of central decisions on the direction of the economic development during the period of central planning period (especially in the 1960s and 1970s).

The presumptions presented here prove the need to pay attention to the problem of the role of medium size towns in complex settlement systems, according to research on the Katowice conurbation.

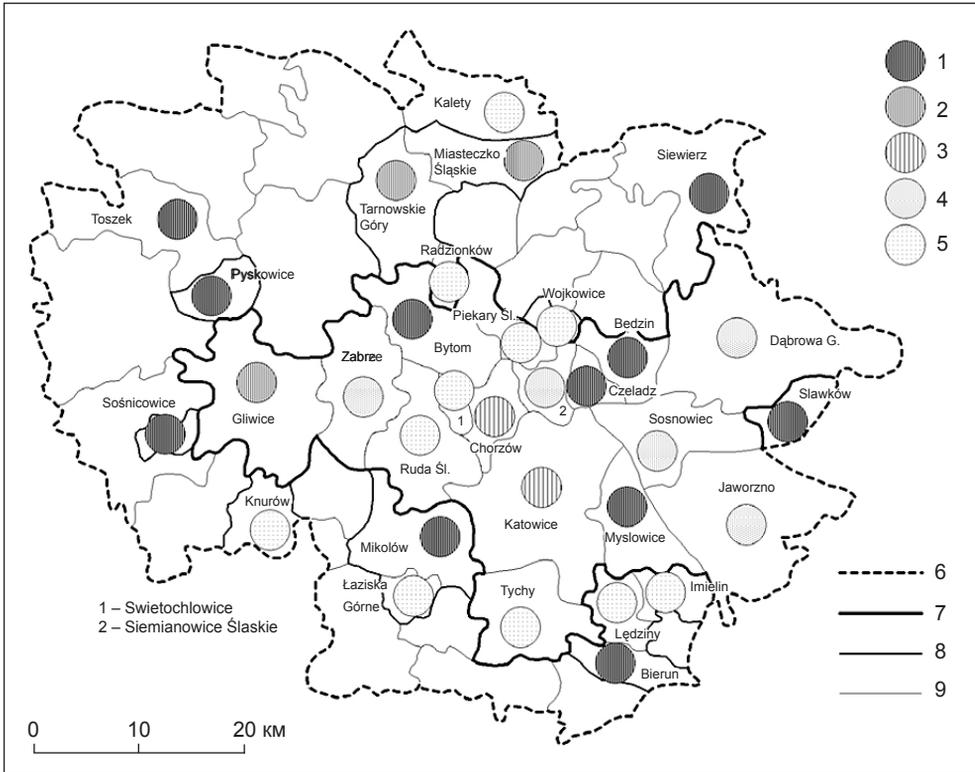


Fig. 1. Stages of the Katowice conurbation formation (according to the periods of obtaining town privileges) (according to Rajman, 1977; Krzysztolik, 2007; Krzysztolik, 2008). Preindustrial: 1. the feudal period the 13<sup>th</sup>-14<sup>th</sup> centuries; 2. Renaissance period the 15<sup>th</sup>-16<sup>th</sup> centuries. Industrial: 3. industrialisation in the 19<sup>th</sup> century; 4. the first half of the 20<sup>th</sup> century; 5. the second half of the 20<sup>th</sup> century. Territorial range: 6. Katowice conurbation; 7. the conurbation core; 8. inner zones of the conurbation; 9. administrative borders of towns and rural communes

### MEDIUM SIZE TOWNS IN THE FORMATION OF THE CONURBATION

There are 11 medium town centres within the conurbation which is different from other settlement systems of such type both in Poland and Central Europe. There are the following medium-size towns belonging to the conurbation core: Piekary Śląskie, Siemianowice Śląskie, Świętochłowice, Będzin, Czeladź, Jaworzno, Mysłowice; while Tarnowskie Góry, Łaziska Górne, Mikołów and Knurów belong to the inner zone. Their population is in the range of 20-100K of inhabitants as the smallest one – Łaziska Górne is inhabited by 22.1K of people and the largest one – Jaworzno by 95K. Generally medium size towns form the northern border of the Katowice conurbation, beginning from Tarnowskie Góry, through Siemianowice

Śląskie, Świętochłowice and expanding the zone towards E to Jaworzno. Population exceeds 50K in all centres of the zone (only except Czeladź). Łaziska Górne and Mikołów, located in the inner zone of the conurbation, have become an isolated, small representation of the medium-size towns in the southern part of the investigated settlement system. Apart from that their population is significantly lower (Łaziska Górne – 22.1K, Mikołów – 39.0K).

From the historic point of view the medium size towns in the Katowice conurbation may be divided into three groups (fig. 1):

a. Centres founded in Middle Ages located in: the inner zone (Mikołów – town privileges in 1276); in the border zone of the conurbation core: Czeladź (town privileges in 1325); Będzin (in 1358), Mysłowice (in 1360). The towns were founded as seats of governors of bishop or prince properties (Czeladź, Będzin), castellany towns (Mikołów) and towns located on trade routes (Mikołów).

b. The centres which obtained town privileges in the Renaissance period – Tarnowskie Góry (1526) – located in the inner zone of the conurbation. The economy of Medieval towns was based on mining of non-ferrous metal ores and location on trade routes. Further development was possible due to industrialisation and diversification of the process industry and railways which changed Tarnowskie Góry into an important communication centre.

c. The 20<sup>th</sup> century centres developing due to intensive urbanisation resulting from industrialisation, which are located: in the core of the conurbation and at its border: Jaworzno (town privileges in 1901), Siemianowice Śląskie (1932), Świętochłowice (1947), Piekary Śląskie (1947); in the inner zone of the conurbation: Łaziska Górne (1951), Knurów (1951).

The economic base of towns was strengthened by mining and metallurgic industry which developed in almost every centre in the 19<sup>th</sup> century. They especially conducted economic mono-function of Piekary Śląskie, Siemianowice Śląskie, Świętochłowice, or Mysłowice. Only few towns managed to vary the structure of industry developing apart from coal mining other branches of industry, mainly electric-machinery industry – however, it took place only in older towns (Tarnowskie Góry, Mikołów). Railway connections significantly influenced development of several centres (Mysłowice, Świętochłowice, Tarnowskie Góry).

Medium-size towns are located in the centre, within the core of the conurbation (Siemianowice Śląskie, Świętochłowice), as well as in more or less outer zones – Tarnowskie Góry, Mikołów, Łaziska Górne, Knurów (fig. 1). In the latter case, they are mostly located in the northern and the eastern parts of the conurbation (Tarnowskie Góry, Mysłowice, Jaworzno). Outward location of the majority of the medium size towns in the conurbation reflected historic courses of the trade routes of the Early Middle Ages running from Western Europe through Wrocław, Kraków towards east and it became the base of their further development. It concerned Tarnowskie Góry, Czeladź and Będzin. Mikołów was similarly important, being located on the route running towards Żory, Rybnik and next to the Czech land.

Occurrence of industry was accompanied by fast increase of population in the future large towns of the conurbation, hence, the situation of the investigated towns started to change. One of the first symptoms of changes were restraints in their territorial development resulting from expansion of faster developing neighbouring towns. Such situation occurred in Świętochłowice surrounded by larger and more populated

towns (Bytom, Chorzów, Ruda Śląska). The other medium size towns had a chance to develop territorially at least in one direction (Siemianowice Śląskie).

There was also one more factor which had significant influence on formation of the town net in the Katowice conurbation – post-war administrative changes. During the period of central planned economy, there was a trend to form large towns by administrative merging of different size centres. This way, for example, Tychy and Mysłowice “grew up”. During the first part of the political and economic system transformation (1988-1998), as a result of implementation of the territorial self-government act, administrative units which had been previously merged could separate and become administratively independent units again.

Therefore, within the group of large towns Radzionków separated from Bytom and Tychy “was left” by Bieruń and Łędziny and also 3 rural communes (Bojszowy, Kobiór, Wiry). The process also occurred in medium size towns: Imielin and the rural commune Chełm Śląski became independent from Mysłowice; Miasteczko Śląskie separated from Tarnowskie Góry and Wojkowice from Będzin. Hence, the area of towns in the Katowice conurbation decreased from 2071 km<sup>2</sup> to 1970 km<sup>2</sup> in 1988-2008. The area covered by large and medium towns decreased significantly from 1795 km<sup>2</sup> to 1488 km<sup>2</sup>. Currently the largest area – 921 km<sup>2</sup>, i.e. 46,8% of the area of all the conurbation towns is occupied by large towns and medium towns occupy 567 km<sup>2</sup>, i.e. 28.8% of the area. The changes mostly influenced small towns as in the period of 1988-2008 7 small towns appeared in the Katowice conurbation and their total area was equal to 205 km<sup>2</sup> while the rural areas increased by over 100 km<sup>2</sup>. The administrative changes were terminated by the new administrative division of the country of 1<sup>st</sup> January 1999. On one hand they proved adaptation of local economic management to new reality (Runge J., 2005). But, on the other hand retrospection and estimation of current social-demographic and economic processes in the spatial approach has become more difficult as during administrative integration of the areas information was collected for the whole area not its separate parts.

#### CURRENT AND FUTURE PROBLEMS IN CHANGES OF THE INVESTIGATED TOWNS

**Population changes.** Adverse trends in population changes, not only in the group of the investigated towns, but generally in most of the towns in the Katowice conurbation become the first crucial problem. Depopulation resulting from natural diminution and negative balance of migration which have been lasting since the beginning of 1990's is the main reason of so called town “shrinking” (Krzysztofik et. al., 2011).

In the period of 1988-2008 the towns in the Katowice conurbation lost totally 274.5K of inhabitants and in both of the investigated decades the loss was similar: it was equal to 140.4K in the period of 1988-1998 and 134.1K in the period of 1998-2008. In other agglomerations in Katowice voivodeship the decrease became intensive in the second of the discussed periods.

In the period of 1988-2008, the largest decrease of population occurred in big towns where it dropped down from 1898.3K of inhabitants to 1614.8K i.e. to 85.1%

(tab. 1). However, the decrease had even been bigger, by 172.9K, in the first period – 1988-1998, which was influenced, apart from other factors, by administrative changes. In the period of 1998-2008 population increased in large towns (cities) by 110.6K of inhabitants. Population potential of that group of towns decreased by the volume of a large town.

Table 1

*Population changes in the towns in the Katowice conurbation in the period of 1988-2008*

Specification	Years	Katowice conurbation	Large towns	Medium towns	Small towns
Number of towns	1988	27	9	11	6
	1998	33	9	11	13
	2008	33	9	11	13
Population share in various size classes of the conurbation towns	1988	100.0	71.9	25.6	2.5
	1998	100.0	69.0	25.2	5.7
	2008	100.0	68.3	25.7	6.0
Dynamics of employment	1988-1998	94.7	90.9	93.3	219.6
	1998-2008	94.6	93.6	96.4	99.3
	1988-2008	89.6	85.1	90.0	218.0
Webb's type	1988-1998	F	F	A	C
	1998-2008	G	G	G	G
	1988-2008	G	G	G	E

Source: the author's study based on Local Data Bank of Central Statistical Office (Banku Danych Lokalnych GUS) and Statistical Year Book of Katowice voivodeship 1989, WUS (Katowice Voivodeship Statistical Office) 1989, WUS Katowice.

Significant population decrease was also observed among medium towns which population diminished from 675.9K to 608.1K i.e. 90.0%. Medium-size towns lost 45.4K of inhabitants in the period of 1988-1998 due to the above mentioned adverse changes, while in the period of 1998-2008 the loss was “only” 22.5K of inhabitants, i.e. 3.6% of the population. The population potential of that group of towns decreased by the volume of one medium town.

The administration changes favoured small towns which number increased from 6 to 13 and the population increased by 77.9K of people in the period of 1988-1998. During the next period it decreased by 1.1K of people (0.7% of the population). The population potential of that group of towns decreased by the volume of 1 small town. There was a continuous decrease of employment reaching 96.1% in the comparable group of 6 towns which existed in 1998 and in 2008.

At the beginning, i.e. in the period of 1988-1998, the decrease of population in large towns was mostly generated by natural loss of population (- 6.8K). During the next decade the decrease became more significant (-32.5K), however, bigger decrease occurred due to increasing migration outflow of people (totally – 70.5K, i.e. 4.1% of the population) (fig. 2).

The medium towns showed decrease of population in the period of 1988-1998 only due to migration outflow (-1.5K of people), which significantly increased in the

next period reaching 13.2K i.e. 2.1% of the population, with significant negative population growth (-8.7%). Proportions of constituents of the real increase in the period of 1988-1998 showed demographic changes of A type, acc. to J. Webb, but significant administrative changes had disadvantageous influence on population in medium towns.

The small towns reacted with significant delay to the changing conditions. They showed small birth rate and migration increase in the first of the investigated periods and in further years both constituents showed decrease of population (R u n g e A., 2002).

Outflow of people from the towns in the Katowice conurbation resulted from traditional transformation of an industrial region which had to face challenges of post-industrial market economy in 1990's (R u n g e J. 1996). Obsolete industrial branch structure in the conurbation had been retained, due to political reasons, since the war till 1980's. Hence, reduction of employment and bankruptcy of companies accompanied by salary freeze and growing costs of living became very common in the first period of the transformation. Shrinking of the labour market mostly influenced two groups of employees at that stage (R u n g e A., 2008a, R u n g e J. 2010). First, the group of commuters who had to reduce costs and on the other hand the group of the oldest employees (earlier retirement, retirement compensations for miners). Many people who had moved there seeking for work in the previous years returned to their home places (e.g. villages in Silesia voivodeship or outside the voivodeship). During the second stage of transformation, the youngest work sources bore the cost of it as increasing employment problems do not allow them to enter the shrinking labour market. Emigration from the Katowice conurbation, mostly abroad to Germany, the UK and Ireland, already started in the second half of 1990's. The group of those inhabitants of towns who improved their economic situation due to the transformation and were able to move to the suburbs had the lowest share in the outflow.

Unfavourable tendencies in the natural migration conditions resulted from unfavourable cumulation of many factors, such as the baby bust echo, system changes of the fertility pattern and economic problems such as increasing unemployment rate occurring especially in the first stage of the political-economic transformation (R u n g e A. 2008b, R u n g e A. 2010).

Due to the above mentioned changes, the share of the Katowice conurbation towns in the population of the whole voivodeship decreased from 53.9% in 1988 to 50.9% in 2008 and in population of all towns in the voivodeship from 66.5% to 65.1% respectively. It proves a great role of the towns from the Katowice conurbation in the population potential of the voivodeship (half of the population is concentrated in 16% of the voivodeship area). On the other hand it also shows that rural areas gained more from the outflow of people from the Katowice conurbation than the towns in the area. Decrease of population was lower within the other settlement systems, such as Rybnik, Bielsko and Częstochowa agglomerations than in the Katowice conurbation, hence, their share in the population slightly increased. On the other hand, population in rural areas was constantly increasing (from 933.7 K in 1988 to 1012.8 K in 2008 i.e. up to 108.5%) which was a reverse perennial tendency.

The share of large towns in the general population of the Katowice conurbation also underwent changes, decreasing from 71.9% in 1988 to 68.3% in 2008r. (tab. 1).

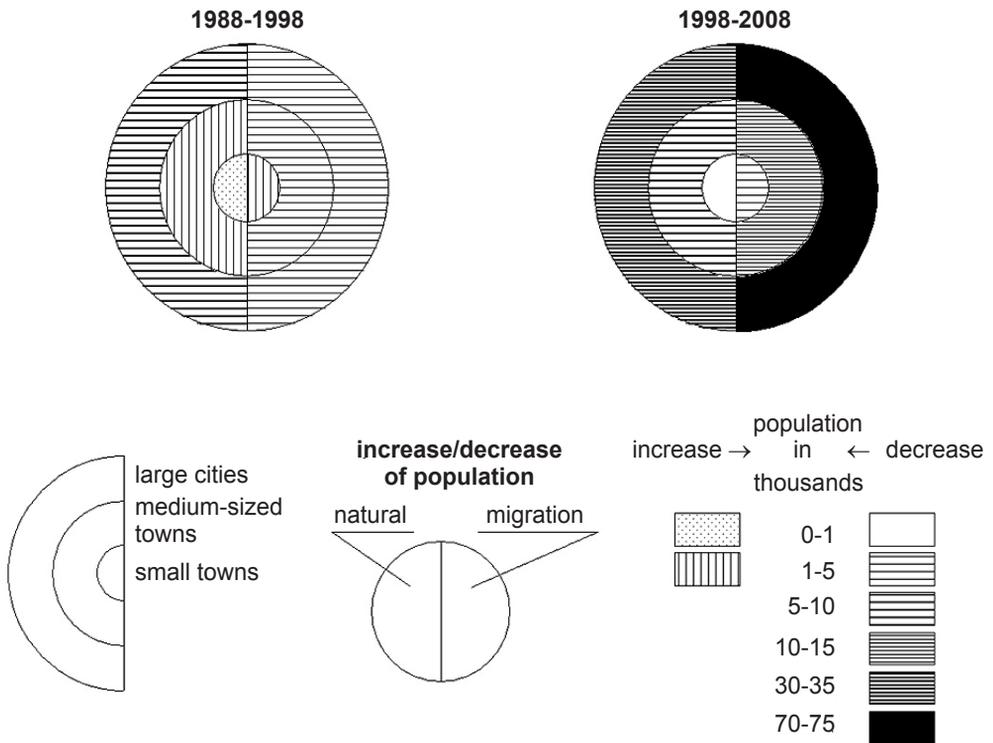


Fig. 2. Demographic changes in the towns in the Katowice conurbation in the period of 1988-2008

However, the share of small towns increased from 2.5% to 6.0% respectively. The share of medium towns is quite stable (25.7%) with minor variations.

Changes of population in each town of the Katowice conurbation in the period of 1998-2008 is presented in fig. 3. In that period, the greatest demographic regress occurred in the group of large towns (up to 93.6%), it was significant among medium towns (up to 96.4%) and small among small towns (up to 99.3%).

Among the large towns the strongest regress occurred among towns belonging to the central part of the conurbation (Katowice, Bytom) and the western one (Ruda Śląska). Lower regress of population occurred in Dąbrowa Górnicza and Tychy, the towns with large dwelling stock (Rajman 1997). All medium towns, except Mikołów (101.6%), also showed decrease of population. It was the most dramatic in the central part of the conurbation (Siemianowice Śląskie, Świętochłowice, Piekary Śląskie). The decrease was the smallest in the south (Mikołów, Łaziska Górne) and the east (Mysłowice, Jaworzno) parts of the conurbation. Actually the faster tempo of depopulation occurs in the central, western and northern parts of the conurbation, while it is the lowest in the towns located in the south (Łaziska Górne, Mikołów).

Till 2030 the largest decrease of population is expected to continue in Piekary Śląskie, Siemianowice Śląskie and Świętochłowice. There are two crucial factors which cause the regress of population in the towns: first – their strong industrial or

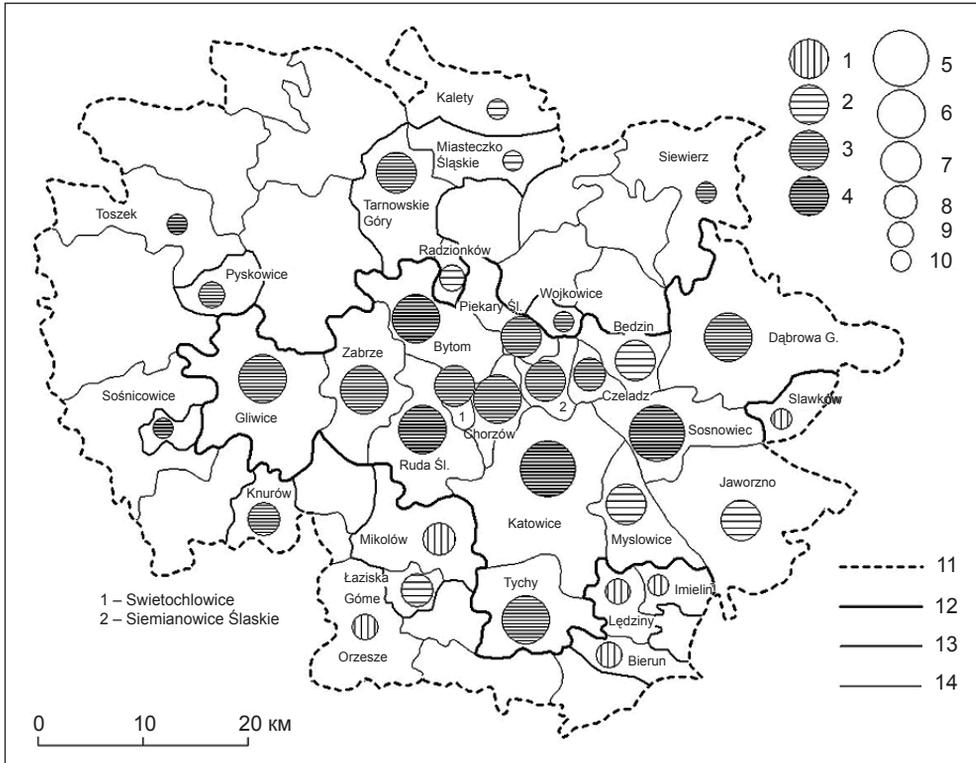


Fig. 3. Dynamics of population changes in the Katowice conurbation in the period of 1998-2008 (1998=100) 1. 100.0 and more; 2. 97.0-99.9; 3. 94.0-96.9; 4. below 94.0; The towns with population (in thousands): 5. 200 and over; 6. 100.0-199.9; 7. 50.0-99.9; 8. 20.0-49.9; 9. 10.0-19.9; 10. below 10.0

mining-industrial character, second – confined area covered by the towns with no possibility to expand (Siemianowice Śląskie, Świętochłowice). Being squeezed in the centre of the conurbation by larger towns hinders development of housing (Rajman, 1997). Whereas the medium towns in the southern and eastern parts of the conurbation have significant spatial development potential both for housing and business activity and there are also large green areas in those towns. Their business activity structure is more varied and they serve like bedrooms for the labour markets in the neighbouring towns. Apart from Mikołów and Łaziska Górne located in the southern part of the conurbation, the towns Imielin, Bieruń and Lędziny situated in the inner zone of the conurbation, in its south-east part, have a large chance to take the leading role in suburbanisation processes. However, rural areas (Bobrowniki, Siewierz and Psary communes) are more likely to play such role in the north-east and east part of the conurbation.

**L a b o u r m a r k e t.** Formation and development of a huge non-agricultural labour market influencing the whole voivodeship, but also broad areas of Poland, was the main cause of emerging of such a great population centre in the form of a

conurbation. Fast growth of the number of new labour places, both in the period of capitalist industrialisation and the forced socialist industrialisation caused that the labour market of the emerging conurbation had to strive for outside work sources (Długoborski 1967, Runge J., 1996).

In 1988, the towns of the Katowice conurbation agglomerated 1130.9 K of employed people i.e. 61.6% of the total number of employed in the whole voivodeship (without individual farmers). The structure of employment was typical for a traditional industrial region (Runge, J., 1996). The industry provided 59.0% of the total employment. It was mostly coal-mining, metallurgy (mainly steel industry), energy and electric-machinery industry. Services provided approx. 37% of the total employment (Kłosowski, 2006, p.103). The large towns of the conurbation concentrated the crucial part of the labour market, up to 75.0%. 23.7% of the employed people worked in the medium towns and only 1.3% in the small ones (table 2).

However, current analysis of the labour market changes is very difficult as Polish public statistics provides only fragmentary data. Statistic data concerning employment in small companies employing less than 9 people are confidential and such companies comprise 90% of all businesses in Silesian voivodeship. Apart from that, the published data for spatial units (towns and communes) covered the number of “employed” till 1994, now the data provide the number of “working” people which distorts analysis of employment dynamics in the longer time horizon. The lack of data concerning employment in small companies (up to 9 employees) significantly decreases the total number of employed. The number of business entities in the whole voivodeship was equal to 428.9 K in 2008, including 404.1K ones employing less than 10 people. The total number of entities operating in large towns was equal to 164.0 K and 154.4 K of them employed up to 9 people. 26.8 K of entities of the total of 28.4 K in 5 medium towns are the smallest ones. Micro-companies employ approximately 440 K people in the whole Silesian voivodeship, according to estimations prepared by the team led by A. Sobala-Gwosdz (Kurowska-Pysz, 2010, p. 39, 43.). It also considered over-representativity of the REGON system which shows certain inertia in registration of quickly changing situation on the labour market, especially in the field of the smallest entities. It was also assumed that self-employment was the most common among the smallest business entities. The following analysis was based on the official statistical data. Apart from that there was also an attempt to estimate the whole number of working people including business entities with less than 9 employees.

Employment in the towns of the Katowice conurbation decreased almost by half i.e. to 689.2 K of working<sup>1</sup> (to 60.9%) and in the industry from 715.2 K. to 295.4 K, i.e. to 41.3% as a result of the economic transformation forcing application of market rules in business activities and branch restructurization of industry. However, considering people working for small companies, the total number of working people dropped down to about 905.1 K i.e. 80.0% (tab. 2). Significant decrease occurred in large towns. Dramatic drop of employment occurred in places which had been very strong labour markets before, especially: Chorzów, Ruda Śląska, and most of all Bytom where due to administrative changes (separation of Radionków) the range of the

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<sup>1</sup> Note: official statistical data concerning employment are lower as they do not include companies employing up to 9 people.

regress cannot be estimated precisely. Relatively the smallest (but still significant) decrease of employment occurred in Katowice. The town is currently the largest labour market in the conurbation with 158.2 K of employed (in companies employing more than 9 people) and according to the estimated data including small entities there are approximately 195.8 K of working people. The next largest labour markets are Gliwice with 71.6 K people (91.9 K according to the estimated data) and Sosnowiec with only 52.0 K of people working for large companies (however, together with small companies about 75.2 people) and the population over 200 K people. It is estimated that the labour markets in Tychy, Dąbrowa Górnicza and Zabrze do not exceed 50 K. According to the official sources increase of employment up to 106.4% occurred in the period of 2006-2008. Regressive tendencies still occurred only in Bytom.

Table 2

*Changes in the labour market in the Katowice conurbation in the period of 1988-2008*

Specification	Years	Katowice conurbation	Large towns	Medium towns	Small towns	
Number of working people (in thousands)	1988	1130.9	848.2	268.5	14.2	
	a*) 2008	689.1	507.5	144.3	37.3	
	b*) 2008	905.1	661.9	194.6	48.6	
Dynamics of working people	a*)	1988-2008	60.9	59.8	53.7	262.9
	b*)		80.0	78.0	72.5	341.8
The share of working people acc. to the size classes of the towns in the conurbation	1988	100.0	75.0	23.7	1.3	
	a*) 2008	100.0	73.6	20.9	5.4	
	b*) 2008	100.0	73.1	21.5	5.4	
The share of people working in industry in the total number of employed	1988	63.2	62.2	67.9	35.6	
	1998	51.1	47.6	59.0	67.1	
	a*) 2008	42.9	40.0	47.9	62.7	
The share of people working in industry acc. to the size classes of the towns in the conurbation	1988	100.0	73.8	25.5	0.7	
	a*) 1998	100.0	67.8	25.6	6.6	
	a*) 2008	100.0	68.7	23.4	7.9	
The number of working people compared to the population	1988	42.8	44.7	39.7	21.8	
	a*) 1998	33.6	35.4	29.5	29.7	
	a*) 2008	29.1	31.4	23.7	26.3	
	b*) 2008	38.3	50.0	32.0	34.2	

Note: a\*) the number of people employed without companies employing up to 9 people (published data) b\*) estimated total number of working people including employed in small companies – up to 9 employees.

Source: the author's study based on Local Data Bank of Central Statistical Office (Banku Danych Lokalnych GUS) and Statistical Year Book of Katowice voivodeship 1989, WUS (Katowice Voivodeship Statistical Office) 1989, WUS Katowice.

The most significant regress could have been observed in the medium towns where the number of working people dropped down from 268.5 K to 144.3 K i.e. 53.7%. However, it may be estimated that the decrease was 194.6 K i.e. up to 72.5% (table 2). It should be noted that due to administrative changes, medium towns have lost part of the labour market for small towns (separation of small towns from several medium towns). Reduction of employment in large industrial companies, especially in coal mining and even liquidation of some of the mines significantly decreased the number of working people in Czeladź to 43.0%, in Świętochłowice to 43.5% and in Knurów to 47.1% (acc. to public statistics). However, including the number of people working for small business entities the dynamics of working people may be estimated as follows: in Knurów to 55.7%, in Świętochłowice to 61.1%, in Łaziskach Górne to 66.8%, i Piekary Śląskie to 67.5% and in Czeladź to 69.2%. Liquidation of at least one large company causes problems on the labour market of a medium town and becomes dramatic in case of a mono-function town. The process was the most gentle in Mikołów due to its varied structure of economic activities. The large companies showed the decrease of employment to 97.3%, but considering the smallest entities the total employment increased up to 126.1%. In the period of 2006-2008 the number of people working in medium towns increased up to 104.1%, particularly in Knurów up to 119.1%, in Mikołów to 115.4%, in Siemianowice Śląskie to 108.0%, in Świętochłowice to 106.2% and in Piekary Śląskie to 102.3%, but generally the increase was slower there than in the large towns. Regressive tendencies still occurred in Jaworzno (to 92.6%) and Czeladź (to 95.9%).

The economic transformation was the easiest in the small towns. However, one of the reasons of significant growth of employment in the small towns was the fact that 7 new towns joined the group due to administrative changes. The drop of the number of working people in the 6 small towns which were independent in 1988 and also in 2008 reached 79.4%, and estimating the number of employed in small companies it could have increased up to 114.9% (Siewierz, Orzesze). Unfortunately, there were also towns where strong regress of the labour market occurred – e.g. Kalety with the decrease to 23.3% and including small companies to 48.5%. In 2008, newly separated towns included 65.3% of employed in all small towns. However till 2006, decrease of employment, especially in Łędziny (to 67.9%) was observed. Not before the period of 2006-2008 was the increase of employment up to 109.6% observed in small towns, so it was faster than in large towns. The increase occurred in the towns which had previously existed (Sławków to 142.5%, Orzesze to 122.0% Pyskowice to 116.2%), and also in the newly separated ones (Radzionków to 114.2%, Wojkowice to 114.0%, Miasteczko Śląskie to 113.8%). The decrease was still observed only in Sośnicowice.

The share of particular size classes of towns in the Katowice conurbation in the total number of working people showed increase in case of small towns, from 1.3% do 5.4%. However, it should be noted that due to administrative changes the number of small towns had increased (Bieruń, Łędziny, Imielin, Miasteczko Śląskie, Radzionków, Wojkowice and Sośnicowice - after restitution of town privileges). The share of the large towns in general employment in the conurbation decreased from 75.0% to 73.1%, and the medium towns from 23.7% to 21.5%. The share of the conurbation in the total number of working people in Silesian voivodeship decreased slightly going down from 61.6% in 1988 to 57.8% in 2008. It proves that strong regress oc-

curred in the whole voivodeship, also on the second big labour market in the voivodeship i.e. Rybnik agglomeration (decrease to 60.1%).

It is assumed that joining the EU in 2004 marked the end of the political-economic transformation in Poland. The situation on the labour market became significantly stabilised and gradually slight increase of working people was being observed. In the period of 2006-2008, the number of working people increased to 106.2% and in the towns of the conurbation to 106.1%, therein in large towns to 106.4%, in medium towns to 104.1% and in small towns to 109.6%. In the period of 1998-2008, dynamics of business entities was the best in small towns – 127.7% and in medium towns 125.5%, but it was slightly lower in large towns 119.2%.

In 1988, the labour market in medium towns reached 40 K people: in Jaworzno (37.7 K), Mysłowice (35.3 K), or in Tarnowskie Góry (32.1 K) and the smallest labour market exceeded 10 K of employees – Mikołów (13.0 K), Czeladź (12.2 K.) Łaziska Górne (11.6 K).

In 2008, the largest labour markets in medium towns were still in the same towns, but they only reached 20 K in Jaworzno and Mysłowice and below 20 K in Tarnowskie Góry. However, including small business entities they can be estimated at approximately 27 K in Jaworzno and in Mysłowice and only slightly below 25 K in Tarnowskie Góry. According to the published data in towns with population of 50-75 K (except Tarnowskie Góry where the structure of employment is diversified) the labour market is really tiny – Świętochłowice 8.8 K of employed, Piekary Śląskie 12.3 K and Będzin 13.7 K. However, including all business entities the number of working people in Świętochłowice and Piekary Śląskie may be estimated at 12-15 K people, and in Będzin at about 20 K. The towns with population of 20-50 K also show varied sizes of labour markets – from 5.2 K of employed in Czeladź up to 13.5 K in Knurów. Together with small entities the market in Knurów may reach 16 K of people, but in Czeladź and in Łaziska Górne it has dropped below 10 K.

Comparison of population in a given town with the size of its labour market enables to determine the character of the town either as a work centre or a housing one. However, in case of the investigated conurbation it shows the scale of changes that a traditional industrial centre has undergone and which results in significant advantage of the work supply over the work demand. There were 42.8% of inhabitants employed in the towns of the Katowice conurbation in 1988 and in 2008 the amount of employed people was only 38.3% of the total number of inhabitants (tab. 2). The coefficient was the best in the large towns reaching 50.0% and the worst in the medium ones – only 32.0%. Among the investigated medium towns, the relation of working people related to the local employment was above the average in Mikołów and Knurów (above 40%) and 30-40% in Tarnowskie Góry, Mysłowice, Łaziska Górne and Będzin, while the lowest share (25% and lower) was observed in Czeladź and Świętochłowice. Consequences of political-economic transformation, including liquidation or regress of the previously leading companies, unattractive locations and the lack of investment grounds have caused that the medium towns located centrally in the conurbation have serious problems with their development. The high coefficient for large towns (50.0%) prove their growing role as labour markets also for medium towns being in regress. However, not all large towns are attractive. Significant polarisation of the labour market especially in Katowice and Gliwice can be observed (Runge, J., 2010).

## SYNTHESIS ATTEMPT

The presented outline of social-economic and also spatial characteristics of medium size towns in the Katowice conurbation leads to the following generalisations:

- first – their border location in the northern part of the conurbation, spreading from west to east is the consequence of a long lasting, historical process of the growth along the trade routes from the west to the east of Europe. Trade and craft traditions were further enhanced by an industrial function.

- second – clear fragmentation as well as asymmetric location of medium size towns in relation to large towns playing the role of the core of the Katowice conurbation does not only result from the above mentioned border location, but also from the ellipsoid shape of the conurbation settlement system. The core is mainly formed by large towns, while its inner zone with a large share of medium size towns actually formed in the north. There are no representatives of the zone in the south and Mikołów and Łaziska Górne incidentally occurring there just prove the fact. Implementation of the GOP (Upper Silesia Industrial Region) deagglomeration idea in 1950's, including development of Tychy from a small centre to a town with 100 K population practically obstructed formation of a larger representation of medium towns south of Katowice.

- third – medium towns in the inner zone of the conurbation show large functional variety but also, despite neighbouring large towns, significantly influence the direct and distant surrounding. The influence is enhanced by their administrative functions as the seats of poviats<sup>2</sup> (Tarnowskie Góry, Mikołów, Będzin). On the other hand medium towns which are located in the centre of the conurbation developed as mining centres. Coal mining which started to develop since the second half of the 18<sup>th</sup> century limited the possibility to differentiate the functional structure of those towns. Therefore, during the political-economic transformation the problems of the labour market were more serious there (unemployment, decrease of the number of employed people). The medium size towns occurred to be more sensitive to transformation changes due to a dominant role of the traditional industry and mono-function of the economic structure.

- fourth – negative tendencies of population changes (negative population growth, emigration) have been accompanied by significant loss of the economic position of the centres, especially the ones in the core of the conurbation. Faster decrease of the number of employed than population causes oversupply of the work force. The negative tendencies will continue to increase generating numerous social and economic consequences. Future problem which the analysed towns have to face will be as follows: depopulation, demographic ageing, shrinking labour markets and in result lower incomes of the town budgets.

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<sup>2</sup> middle level of administrative division units

## REFERENCES

- Długoborski, W. Kształtowanie się Zagłębia Górnośląskiego (próba analizy ekonomiczno-przestrzennej). Śląski Kwartalnik Historyczny „Sobótka”, Wrocławskie Towarzystwo Miłośników Historii, Ossolineum Wrocław nr 1-2; s. 109-127, 1967.
- Gwosdz, K. Ewolucja rangi miejscowości w konurbacji przemysłowej. Przypadek Górnego Śląska (1830-2000), Instytut Geografii i Gospodarki Przestrzennej UJ, Kraków, 2004.
- Kłosoński, F. Sektor usług w gospodarce regionu tradycyjnego w warunkach transformacji i restrukturyzacji. Wyd. Uniwersytetu Śląskiego, Katowice, 2006.
- Krzysztofik, R. Lokacje miejskie na obszarze Polski. Dokumentacja geograficzno-historyczna, wyd. UŚ, Katowice, 2007.
- Krzysztofik, R. Aglomeracje miejskie, [w:] M. Tkocz (red.), Województwo śląskie. Zarys geograficzno-ekonomiczny, Prace Wydziału Nauk o Ziemi UŚ nr 53, Sosnowiec, 2008.
- Krzysztofik, R., J. Runge, I. Kantor-Pietraga. Paths of Shrinkage in the Katowice Conurbation. Case Studies of Bytom and Sosnowiec Cities, Prace Wydziału Nauk o Ziemi UŚ nr 69, Sosnowiec, 2011.
- Kurowska-Pysz, J. Rynek pracy w województwie śląskim, [w:] A. Sobala-Gwosdz (red.), Badanie trendów rozwojowych w województwie śląskim poprzez wyznaczenie ośrodków wzrostu i obszarów stagnacji, EFS, Bielsko-Biała s. 32-58, 2010.
- Rajman, J. Rozwój Górnośląskiego Zespołu Miejskiego. Wybrane problemy osadnicze i społeczno-demograficzne, Rocznik Naukowo-Dydaktyczny WSP w Krakowie z. 62, s. 5-21, 1977.
- Rajman, J. Struktura przestrzenna ludności i osadnictwa aglomeracji katowickiej w okresie transformacji gospodarczej, [w:] P. Korcelli (red.). Aglomeracje miejskie w procesie transformacji: VI Zeszyty IGiPZ PAN s. 39-52, 1997.
- Runge, A. Rola miast średnich w sieci osadniczej województwa śląskiego – wybrane problemy, [w:] B. Namyślak, R. Koziół (red.). Współczesne procesy transformacji w układach lokalnych i regionalnych w Polsce, Przekształcenia regionalnych struktur funkcjonalno-przestrzennych VII, Uniwersytet Wrocławski, Wrocław s. 27-48, 2002.
- Runge, A. Ludnościowe uwarunkowania rynku pracy w miastach GZM, [w:] R. Dulias, A. Hibszer (red.), Górnośląski Związek Metropolitalny. Zarys geograficzny, PTG oddz. Katowicki, Sosnowiec, s. 160-170, 2008a.
- Runge, A. Przemiany demograficzne miast GZM, [w:] R. Dulias, A. Hibszer (red.). Górnośląski Związek Metropolitalny. Zarys geograficzny, PTG oddz. Katowicki, Sosnowiec, s. 140-159, 2008b.
- Runge, A. Procesy i struktury ludnościowe w województwie śląskim, [w:] J. Runge, I. Żurek (red.). Procesy i struktury demograficzno-społeczne na obszarze województwa śląskiego w latach 1988-2008, Urząd Statystyczny w Katowicach, s. 33-84, 2010.
- Runge, J. Struktura rynku pracy regionu tradycyjnego i jego otoczenia na przykładzie województwa katowickiego. Prace Naukowe UŚ w Katowicach nr 1592, Katowice, 1996.
- Runge, J. Urbanizacja i jej konsekwencje w regionie katowickim – mity a rzeczywistość, [w:] Współczesne procesy urbanizacji i ich skutki, I. Jażdżewska (red.), XVIII Konwersatorium Wiedzy o Mieście, Uniwersytet Łódzki, Łódź, 2005.
- Runge, J. Rynek pracy województwa śląskiego, [w:] J. Runge, I. Żurek (red.). Procesy i struktury demograficzno-społeczne na obszarze województwa śląskiego w latach 1988-2008, Urząd Statystyczny w Katowicach, s. 111-168, 2010.
- Runge, J., T. Zadrozny. Delimitacja konurbacji katowickiej, [w:] Z. Rykiel (red.). Struktury i procesy społeczno-demograficzne w regionie katowickim. – Prace Geogra-

ficzne IGiPZ PAN nr 151, Ossolineum, Wrocław-Warszawa- Kraków-Gdańsk-Łódź, 1989.

Rykiel, Z. Aglomeracje wielkomiejskie. Arkusz 66.3, [w:] Atlas Rzeczypospolitej Polskiej, IGiPZ PAN, Główny Geodeta Kraju, PPWK Kraków, 1997.

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## СРЕДНОГОЛЕМИ ГРАДОВЕ В СЛОЖНИ СЕЛИЩНИ СИСТЕМИ (НА ПРИМЕРА НА КОНУРБАЦИЯ КАТОВИЦЕ)

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(Резюме)

Целта на настоящата статия е определяне на тенденциите в демографското развитие и в избрани компоненти на пазара на труда в средноголемите градове, развиващи се в сложни селищни системи. Представените проблеми са изследвани на примера на Катовицката конурбация в Полша. Тази значима европейска градска конурбация е формирана за по-малко от 100 години на основата на промишлената специализация в слабо населен регион в Южна Полша. Нейното развитие е обусловено от разкритите през втората половина на XVIII в. големи находища на въглища. Тяхната експлоатация се превръща в двигател на по-нататъшните селищни и социални трансформации главно в резултат от миграционния наплив на население от други региони. В следствие на това възниква сложна селищна система, обхващаща 33 града, между които 9 големи (над 100 хил. души), 11 средноголеми (20-100 хил. души) и 13 малки града (под 20 хил. жители). През 2008 г. в тях са концентрирани общо 2,4 млн. души, което представлява половината от населението на цялото Шльонско воеводство. Това е най-голямата конурбация на територията на Централна Европа.

Въгледобивът и металургията са факторите, довели до оформяне на монофункционалния стопански профил на много градски центрове в тази селищна система. Това е причина те да останат в категорията на средните градове (Пекари Шльонские, Шиemiaновице Шльонские, Швиентохловице, Мисловице). Само в някои от тях отрасловата структура на промишлеността е диверсифицирана, като освен въгледобива се развиват и различни отрасли на преработващата промишленост, главно електронно машиностроене. Това засяга главно стари градове като Тарновские Гури и Миколув. Нарастването на някои от градовете става възможно благодарение на развитието на железопътния транспорт и удобните жп връзки (Мисловице, Швиентохловице, Тарновские Гури).

Средните градове са разположени както в ядрото на конурбацията (Шиemiaновице Шльонские, Швиентохловице), така и в нейната външна зона (Тарновские Гури, Миколув, Лажиска Гурне, Кнурув, Явожно). Най-многолюдни са средните градове в северната и източната ѝ част. Периферното разположение на повечето градове съвпада с исторически установените направления на ранносредновековните търговски пътища, свързващи този район със Западна и Източна Европа.

Основна причина за формирането на значими селища в конурбацията е възникването и развитието на голям по обем трудов пазар (с изключение на земеделието), влияещ не само върху развитието на воеводството, но също и върху други региони на Полша. Увеличаването на броя на новите работни места в периода на капиталистическата и социалистическата индустриализация довежда до търсене на работна сила извън локалните трудови пазари. От средата на 80-те години на XX в. е налице намаляване на миграциите във връзка с финализацията на големите инвестиции в промишления сектор с надрегионално значение (металургичния комбинат „Катовице”, фабриката за леки автомобили в Тихи, многобройните инвестиции във въгледобива и др.), а впоследствие – във връзка с упадък на индустриалния модел в периода на постсоциалистическа трансформация. Освен от тези промени демографските процеси все повече се влияят и от вътрешнорегионални фактори.

Най-негативни демографски процеси се наблюдават в големите градове от централната (Катовице, Битом) и западната (Руда Шльонска) част на конурбацията. Депопулацията е с по-нисък интензитет в Домброва Гурнича и Тихи – градове, разполагащи с големи жилищни ресурси. В повечето от средноголемите градове също е регистриран спад на населението. Високият темп на намаляване на населението засяга в по-голяма степен градовете от централната, западната и северната част на конурбацията (Шиemiaновице Шльонские, Швиентохловице, Пекари Шльонские), а в значително по-малка степен това намаляние се отнася за разположените в южната (Лажиска Гурне, Миколув) и в източната част на конурбацията (Мисловице, Явожно). За депопулацията на градовете от централната част решаващи се оказват два основни фактора: първо, тяхната свръхиндустриализация във въгледобива; второ, ограничените възможности за териториално нарастване и за жилищно строителство в градовете (Шиemiaновице Шльонские, Швиентохловице), притиснати в центъра на конурбацията от големите градове. Същевременно средните градове от южната и източната част на конурбацията притежават по-разнообразна икономическа структура и представляват „спални“ по отношение на големите центрове с развити трудови пазари.

В резултат от социално-икономическата трансформация в Катовицката конурбация може да се отбележи, че:

- големите градове губят функциите си на полюси, привличащи трудови ресурси от селища извън конурбацията;
- средноголемите градове променят по различен начин характера на развитието си: в монофункционалните въгледобивни центрове от централната част на конурбацията силно се свива пазарът на труда, а в градовете от външната зона на конурбацията, включително на тези с по-разнообразна икономическа специализация, се наблюдава балансиране на негативните ефекти от трансформацията.

Въз основа на представените тенденции в развитието на Катовицката конурбация, а също и с отчитане на демографските прогнози, може да се очаква, че в близко бъдеще предстои по-нататъшно намаление на броя на населението в средните градове, запазване на тенденцията на застаряване, липса на алтернативни работни места при едновременна силна конкуренция на западноевропейските пазари, което ще води до отлив на работна сила в по-млада възраст.