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**PROBLEMS AND CHANCES
OF DEVELOPMENT OF REGIONAL METROPOLISES.
THE CASE OF WROCLAW**

ABSTRACT. Wrocław as a regional metropolis possesses many important advantages. The city is the centre of science and education. According to R&D indicators Wrocław comes in a high position in the country. The city has a diverse structure of industry, incl. *high tech*. Next important feature is the human capital (good demographic structure, economic activity of population). Moreover, the city is the seat of many cultural institutions. The characteristic feature of Wrocław is a long and rich history.

On the other hand, Wrocław's weak points are e.g. bad state of the industry companies important for city economy, poor road infrastructure (too few ring roads, expressways), too few international passenger connections, too slow development of building, and lack of effective lobbying.

The city possesses the status of regional metropolis, but it still has to try to hold this position among others big cities like Poznań or Kraków. The high position of Warsaw is in many respects out of reach (administrative centre, institutional potential, transport connections).

In this article author focusses on current chances of development and the most important problems, with which the city has to deal.

KEY WORDS: metropolis, city development, Wrocław, SWOT analysis.

One of the effects of current social and economic changes is the polarization of geographical space. There are two different results of the polarization. The process of metropolization is the first effect. It includes changes in dynamic urban agglomeration, which become metropolises, and gain global, continental

or domestic dimension. Also, there is a process of integration within networks, which is associated with the changes. Urban units cooperate with each other and they depend on each other. The areas outside of metropolises become peripheral, as the second result of changes. The process is considered as the process of peripherization (Kołodziejcki, 2001; Czerny, 2005; Kudłacz and Markowski, 2002 and other authors).

There are several basic characteristics of the European city-metropolises, such as appropriate geoeconomic, geopolitical and central-communication localization. Without those properties, a city cannot become a metropolis. Also, demographic potential of urban units, which can develop into metropolises, should exceed one million (other researchers start with 0.5 million). The high quality of the human capital is connected with the growth of the employment rate in high technology industries. The city should be a well established scientific and university center. Living standards must be of high quality, and must be the basis of development toward European standards. Metropolis is a big and developing investment and consumption market. It is a two-way market for production, capital, people, commercial goods and services. City-metropolises have different functions on European level. It is important that chapters of international institutions are located in metropolises. Metropolitan service sector must be well-developed. Metropolises must organize international meetings, and they must belong to international organizations.

Depending on the stage of development in different areas, which I discussed above, there are several classes of metropolises. In literature, there are different concepts regarding the classification. Wrocław was differently classified in the sources. Some analysts considered Wrocław as comparable with Kraków, Łódź and Poznań, but other analysts locate those cities in two or even in three different categories.

In 1997, a list of Central and Eastern European cities included, for example, Wrocław, Kraków, Łódź and Poznań in the same category, as well-developed centers in macroregions and they were included in the highest ranking group of the cities, which were not capitals (Zentrensysteme..., 1997). R. Brunet, however, established a ranking which located Łódź, Poznań and Wrocław in the seventh category. Kraków was in the sixth and Warsaw in the fifth category (there were 8 categories in his ranking). Brunet mainly considered economic and high-technological-industrial functions of international importance (Brunet, 1989).

In current research, Polish metropolises are located in five to seven urban groups, according to adopted criteria. In my research, I analyzed Wrocław as a city comparable to other conglomerations of 0.5 million or less inhabitants. I compared Wrocław with Warsaw, Łódź, Poznań and Kraków, i.e. with the cities of over 0.5 million inhabitants. They were listed according to the number of inhabitants (Table 1), but their position is different than the level of their metropolitan development.

Only Warsaw is considered as international metropolis. The city is considered as metropolis based on the highest employment potential in the urban area and in the region (30 km), the high rate of professional activity, very big scientific and educational potential, high foreign direct investments factor, the localization of the *hub*-type airport, the presence of many cultural institutions, which organize international events, the presence of big and modern office infrastructure.

Wrocław competes with other cities within lower category: the category of regional metropolises. It doesn't mean, though, that the status of those cities decreases, and the competition between them doesn't exist. To the contrary, the cities contribute to the development of network-type connection between big metropolises and their regions. They are considered as intermediate cities, which can play intermediaries between metropolises of higher category. They compete among themselves as organizers of international events, developers of flight and railroad connections. They all want to attract investors. The City of Wrocław was analyzed in this research paper according to different factors, and based on the SWOT method. I discussed strong and weak aspects of Wrocław's development.

Table 1. Social and economic potential of Warsaw, Łódź, Kraków, Wrocław and Poznań. Selected indicators (2003)

SPECIFICATION	WARSAW	ŁÓDŹ	KRAKÓW	WROCLAW	POZNAŃ
Population in thousands	1,689.6	779.1	757.7	637.5	574.1
Population per 1 km ²	3,269	2,647	2,318	2,177	2,197
Area in km ²	517	294	327	293	261
Natural increase per 1000 population	-3.0	-6.2	-1.3	-2.4	-1.4
Net migration per 1000 population	+4.3	-1.2	+1.6	+0.3	-2.7
Infant deaths per 100 live births	6.1	7.7	5.4	9.1	6.2
Registered unemployment rate in %	6.1	19.2	8.5	12.9	7.1
Dwellings completed in 2003 per 1000 population	7.3	1.6	5.4	6.1	5.3
Students of higher education institutions in thous.	270.5	106.8	153.9	132.0	122.8
Tertiary schools	71	21	22	21	23
Units of R&D activity	261	57	79	49	37
Employment in R&D activity (in %)	6.9	8.6	18.2	12.9	53
Tourist accomodated in thous.	1,132.0	146.2	624.4	472.3	301.1
Units of the national economy	274,953	92,342	102,427	95,278	87,288
Companies with foreign capital participation	14,070	1,327	1,609	2,154	2,146
City public transport in km per 1000 population	4.3	5.8	7.8	5.8	8.2
Proximity of western border in km	467	365	390	158	176
Number of foreign cities which have direct plane connection with the city	64	6	39	10	11

Source: based on Polish Statistical Office. Last position based on: www.airport.lodz.pl, www.airport.wroclaw.pl, www.airport-poznan.com.pl, www.lotnisko-balice.pl and www.lotnisko-chopina.pl.

There are many positive aspects of Wrocław's development (strong sides).

— Wrocław is very well located, and its central location contributes to the development of international communication facilities (Fig. 1 and Fig. 2). The most important economic factor is connected with Road A-4, and the railroad route Dresden-Wrocław-Katowice-Kraków-Przemyśl-Lvov-Kiev. There is a development project, which includes construction of the Road A-12 to Berlin. The crossing of the Road A-12 and the Road 8 to Łódź in the gmina of Kobierzyce near Wrocław contributed to gmina's development from rural to investment area, with a very high foreign investment factor. Foreign investment *per capita* is one of the highest in Poland. There are many commercial centers and industries in the area of Kobierzyce. Also, the vicinity of international borders (in the South and West), contributes to foreign investment in Wrocław and the area (Łoboda, 2006; Namyślak, 2002 and other authors).

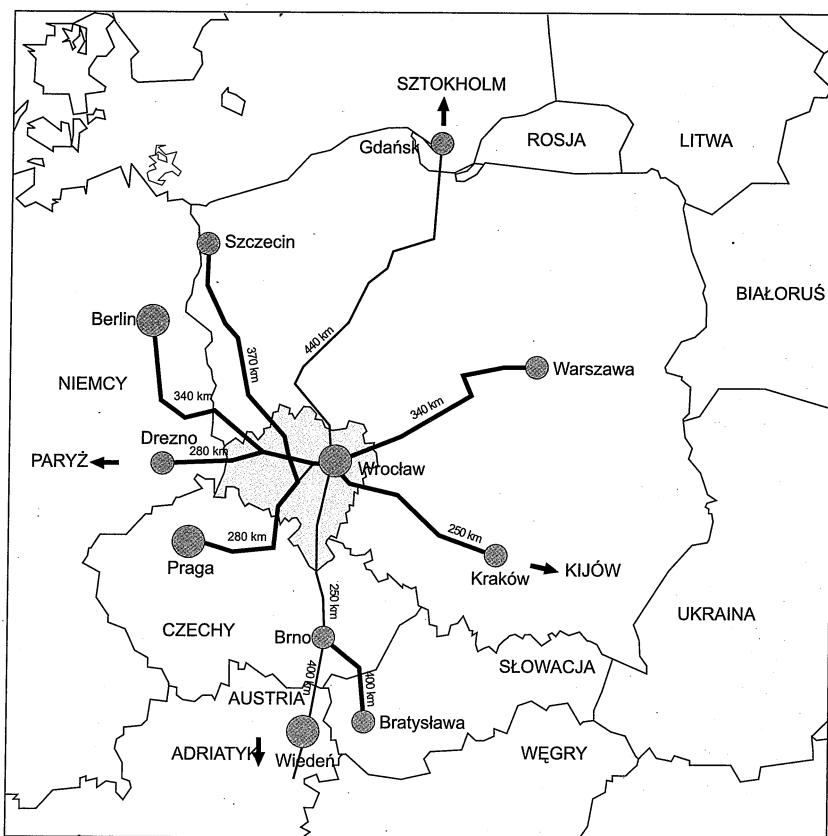


Fig. 1. Geographical location of Wrocław
 Source: Łoboda, J., Ciok, S., Jakubowicz, E. 2003.

- The human potential includes highly qualified labour force; it is connected with high scientific potential, because Wrocław is an important research and educational center; Wrocław can use its knowledge-based economy in the process of future development. Demographic structure includes many positive factors; for example, in 5-year age groups, the biggest are the groups of people from 20 to 24, and 25 to 30 years of age.

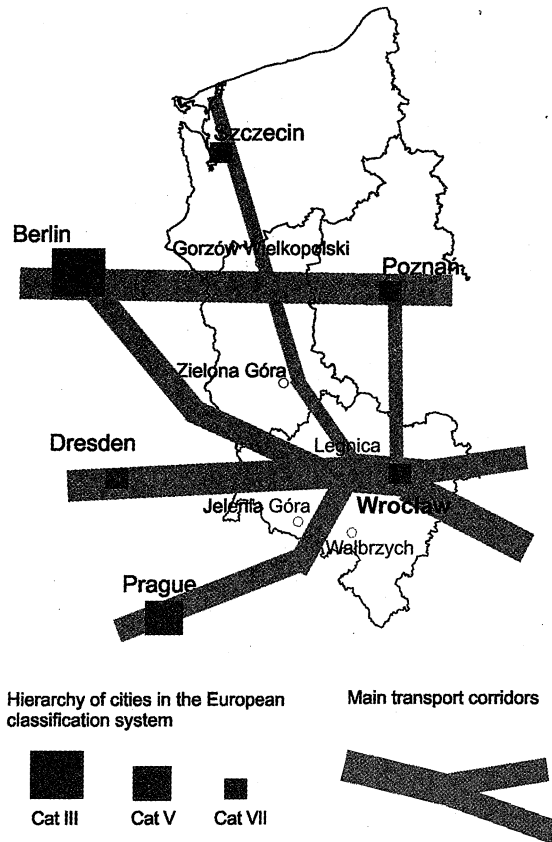


Fig. 2. Main transport corridors of the Lower Silesia Region
 Source: based on Łoboda, J., Ciok, S., Jakubowicz, E. (2003).

- Wrocław is a diversified city; in Wrocław, there is a high technology industry, there are international manufacturers, such as Volvo Bus Poland. Some manufacturer established before 1990 survived the transformation, and they still enjoy prosperity. The group includes, for example, household equipment manufacturers, and railroad industry. Five foreign banks established their divisions in Wrocław. There are leasing companies located in Wrocław, including the European Leasing Fund.

- In Wrocław, there are many foreign companies and they involve foreign capital, although, their investments are rather limited, and not very risky.
- Wrocław can be characterized in terms of its high-level entrepreneurship. There are many new companies, which registered in Wrocław, including many companies, who received construction permits.
- The city has an international airport, located within the city limits. From Wrocław, airline passengers can fly to ten cities in Europe, including London, Munich, Copenhagen, and Frankfurt.
- The city, with its 1000-year history, is considered as important European cultural center. Throughout its history, the city belonged to several different states. The history of Wrocław is inscribed in its architecture. The city has many tourist attractions and it has a tourist-oriented infrastructure.
- In Wrocław, there are many investment lots located in central districts, including Old Town and Wrocław's Central District. Extensive post-war reconstruction projects were often criticized in the past, nevertheless, the fact, that construction lots are still available is now considered as positive factor. More and more investors are interested in building constructions in central areas of the city. Architectural planning includes hotels, offices, conference centers, apartment buildings, and commercial buildings. Central areas in the city are still changing. The city limits are clear, although they might be considered as not very well-developed (there is no clearly visible *city*).

Nevertheless, there also are negative aspects of Wrocław's development (weak sides).

- Many Wrocław dwellers believe that the biggest problem of their city is the decapitalisation of the road infrastructure; the road infrastructure is being developed, but the process is too slow, and it doesn't match the number of the road users, which is rapidly growing. There is no alternative city circular road, and the intercity circular road project is progressing too slowly. In the 1970s, only one main road was built in the city (East-West Road). Although it destroyed historic road structure, the city road transportation wouldn't be possible without it. There are over 100 bridges in Wrocław, and, because of that fact, the city is sometimes called *Polish Venice*, but still, there is sufficient bridge infrastructure, especially in the city suburbs. The potential of river transportation isn't properly used. Also, public transportation to and from villages and small towns surrounding Wrocław isn't well developed.
- Wrocław's suburbs aren't well-developed, therefore the suburbs cannot be used in order to form bigger agglomeration. Urban space surrounding the city's administrative boundaries isn't evenly spread; for example, a part of the Fabryczna District (Leśnica), is more separated from the city than, in other cases, some small towns located 20 kilometers from the city center. There is no current prognosis, which considers the growth of Wrocław to

- over 1 million inhabitants. The inclusion of smaller cities located 30 kilometers from the city center is merely a statistical trick, and doesn't contribute to an uplifting of the city's ranking.
- Closing and/or degradation of several industrial companies can be considered in two aspects. As the result of the process, industrial potential of the city decreased, and that is a negative aspect, because industry greatly contributes to the growth of GNP, and new factories are usually located beyond city boundaries, where building lots are cheaper. Closing of factories contributed to structural vacancy in urban areas (the districts, which were built as industrial areas). As the result of that process, small economic units use the vacant space, and the infrastructure deteriorates in some areas.
 - International transportation and communication routes to and from Wrocław aren't sufficiently developed. The railroad system is in the worst situation; there is only one train to Prague, and two trains to Berlin. Also, Wrocław should have better developed inexpensive airline connections (the situation is bad, especially, when compared with the situation in other cities of similar size, which have such connections).
 - There are two social problems: the negative actual increase (both because of low birth and net migration rate), and too big (as for a metropolis) unemployment, including unemployment among people who never worked (25%). Also, infant death rate is surprisingly high.
 - Small voters' participation in both local (30%), and parliamentary elections doesn't contribute to the development of citizens' society.
 - Tourist infrastructure should include more budget hotels; in recent years, only expensive, 3 and 4 star hotels opened in Wrocław.
 - Often, urban structure is inappropriately used. There are new investment projects, which don't fit historic neighborhood. Uniform architecture of commercial centers doesn't match other buildings in central areas of the city, and it doesn't contribute to proper development of cityscape. Unlike Kraków, Wrocław lost many precious architectural monuments. During WWII, many palaces, museums and other important buildings were destroyed. After WWII, half-surviving architectural monuments were demolished instead of being rebuilt. Undoubtedly, it contributed to decreasing tourist attractiveness of Wrocław. Wrocław's historic status in the 19th century is different from the city's status in the 20th and in the 21st centuries. Big-scale buildings from the 19th and the early 20th centuries, so characteristic in other central and east European cities are on deficit in Wrocław.
 - In different countries, people don't know much about Wrocław. Warsaw, Kraków, and Gdańsk are much more popular, and foreigners are better informed about those other cities. As the result of the EXPO 2010 competition, Wrocław authorities could learn, that Wrocław is little know

in European countries; the promotion of the city, which was connected with the competition, contributed to changing the situation.

- Flood protection isn't as modern as it should be, especially because of the fact, that the city suffered two major floods, in 1903 and in 1997.

Chances to Develop.

- Investment in Wrocław would be more attractive if the road structure improved, and highways were built. The European Union Funds can be used to improve the situation. In 2005, the big project, which includes over sixty road projects, started in Wrocław (it is to be completed by 2010). Several in-progress projects are based on pre-accession funds. Both regional and local authorities use those funds, nevertheless, Wrocław is only the fifth major city in Poland to use those funds from 2004 to 2006 (Wrocław uses 717 million złotych, which is 9.7%; Warsaw uses 23.5%, Szczecin 12.7%, Kraków 11.1%, Łódź 10.0%).
- There is a possibility of using a different fund, the European Social Fund, which is designed to decreasing long-term unemployment rate, including unemployment of people less than 30 years old, and people of limited entrepreneur ability.
- Wrocław is highly attractive to foreign investors. According to 2004 ranking, Wrocław is the fourth city on the list of most favorite cities (Dziemianowicz, 2005). The ranking included 70 variables connected with different situation in different towns. Warsaw, Poznań and Kraków were listed above Wrocław. Wrocław received five highest scores, five average scores, and summary score A, which included townships most attractive to investors. It lost against Kraków and Poznań, although in no category it received the lowest score. Investors believe, that Wrocław should improve in such areas as business infrastructure, social climate, marketing activity, and that the cost of economic activities should be lower in Wrocław.
- A part of Wrocław area (92 ha) belongs to the Wałbrzych Special Economic Zone (SEZ). In SEZ, one can obtain public assistance (in form of income tax break) when working on a new investment, and creating new jobs. The tax break in Wrocław is 40% of investment cost.
- Closer cooperation of local and regional governments, Polish Information and Foreign Investment Agency, should contribute to further development.
- Innovative economy should be connected with building economic and scientific networks; research institutions should closer cooperate with industry, and companies should closer cooperate with other companies (*learning regions*). In order to achieve that, they established Technological Park in Wrocław.
- Postindustrial, post-military, and post-railroad areas can be used for new commercial and apartment projects, such as Manufacture Project in Łódź,

and New City in Kraków. In Wrocław, there is a post-soviet military area of 180 ha, where construction companies build apartment houses and villas. Postindustrial areas are used for commercial purposes.

Threats.

- Wrocław might become a peripheral city if transportation problems are not properly solved. For example, new plans for railroad development don't include fast connection from Wrocław to Warsaw, and there are better roads to Berlin than to Warsaw. Trains to Budapest and Vienna were cancelled. Currently, it is easier to go by train to Warsaw and to Berlin through Poznań, although it isn't the shortest, direct route.
- There are numerous problems with the construction of intercity circular road, especially in the eastern part of Wrocław. Local inhabitants and ecologists claim that the construction of the road would contribute to the degradation of the environment in the area of a villa neighborhood (Zipser, 2001).
- Bad demographic situation is connected with negative actual increase of population in Lower Silesia. Negative birth rate in all big townships in Poland is at times compensated by migration, but not in Wrocław. We can assume, that Wrocław doesn't attract as many newcomers as Kraków and Warsaw, although recent Social Diagnosis Report documents the fact that 88.5% of respondents said that they were satisfied with living standards in Wrocław (there is a correlation between that report and other statistical research in cities of over 500,000 inhabitants).
- Some investors leave Wrocław and they move their business headquarters to Warsaw. It is a disturbing factor; nevertheless, Wrocław isn't the only regional capital, which looses against the state capital.
- Both Wrocław, and the entire region of Lower Silesian must compete with Slovak and Czech towns and regions in order to attract more foreign investors. Wrocław often looses in that competition, because of a little higher labour cost, worth infrastructure and less attractive business offers.

Based on selected social and economic factors (Table 1), the SWOT Analysis (which included quantitative data), and measurable characteristics, we can conclude, that Wrocław has the basic characteristics of regional metropolis. The most important positive characteristics include good geographical location, differentiated economic structure, and the human capital. Wrocław is developing, and enjoys positive characteristics. However, in different statistics, it usually is listed as the fourth city in Poland; Warsaw, Poznań and Kraków are considered as better developed. Lower Silesia, as a region, is also listed as the fourth most favorable region in Poland.

The reasons of that ranking situation were mentioned earlier in this article. In addition to that, Kraków and Poznań base their development strategy on clearly described conditions. Both cities have high quality labour market, good

transportation network, and high investment rate. However, there are big differences between strategic development plans in different cities. Kraków has unique cultural resources and enjoys its *splendid isolation*. There are many international meetings taking place in Kraków, and the city has good tourist infrastructure. Unique city's *milieu* contributes to its important position on cultural and tourist maps of Europe. Kraków has excellent university and college network, which attracts many students from different regions of Poland and from other countries. Poznań has high foreign capital participation and entrepreneurship rating. There are many international meetings and trading fairs taking place in Poznań. Łódź has fewer chances for development, because of lower professional activity, and higher unemployment rate than in Wrocław. Research and educational potential in Łódź isn't significant, and labour market isn't as sophisticated as in Wrocław. In the 1990s, its *sunset* industry suffered major setbacks, and the city hasn't recuperated ever since that decade. The city seems rather neglected and has no tourist network. Łódź lives in the shadow of Warsaw, although, the distance between the two cities does not exceed 133 km. With its population of 800,000 inhabitants, Łódź is less important now, than it was 150 years ago, when its population was about 50,000. The city's chance for development is connected with the plans of constructing A-1 highway (Gdańsk-Łódź-Upper Silesia), and A-2 highway. Both highways will cross at Stryków, 15 km Northeast of Łódź.

The most important factor contributing to all the problems in Polish metropolises is connected with the fact, that the cities have hard time adapting to new economic conditions and use inefficient strategies. The differences between Warsaw and regional capitals grow bigger, and that process might result in formation of three different regions in Poland: the region of Warsaw, and peripheral region, which would include Wrocław and other regional metropolises, and region of other smaller cities. Social and economic differences might be so big, that living standards in peripheral areas would be significantly lower than in the central region of Warsaw (Hardy, 1997 and other authors). Even now, there are many people (especially young) who choose moving from small towns to bigger agglomerations and from regional capitals to Warsaw. They move, although they face housing and other difficulties (high cost of apartment rental and lack of communal infrastructure). Also, Warsaw attracts capital, which was previously located in other big cities in Poland, including Wrocław. Capital and labour migration is one of the biggest problems facing Poland, and it influences country's future development.

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