

DAGMAR POPJAKOVÁ

University of South Bohemia, České Budějovice, Czech Republic

MARIA TKOCZ

University of Silesia, Sosnowiec, Poland

MICHAL VANČURA

University of South Bohemia, České Budějovice, Czech Republic

New Industrial Spaces in Old Industrial Centres: Selected Examples of Sosnowiec (Poland) and České Budějovice (Czech Republic)

Abstract: As industrial centres, the Polish city of Sosnowiec and the Czech city of České Budějovice developed differently. Sosnowiec was a part of the Upper-Silesian coal region, one of the most important old industrial regions on the European scale. However, until the 1980s, the city had developed not only as a centre of coal extraction and iron metallurgy, but unlike other Upper-Silesian industrial cities, also as a centre with diversified sectoral structure of industry. On the other hand, České Budějovice evolved as a peripheral centre in the southern part of the Czech Republic, i.e. in the region located outside the main industrialized spaces in the country. České Budějovice and the surroundings did not possess, apart from graphites and water, sufficient reserves of minerals. For this reason, since the beginning of industrial development it has been the light (consumer) industry that has played the major role, and in particular the production of beer and stationery. Industrial development of the cities has also differed during the last 20 years. In Sosnowiec, an important part in the regeneration of old industrial areas has been played by the city and European funds. At the same time, all the main old industrial areas maintained their production functions. In České Budějovice on the other hand, it has been the German and Austrian capital. Several industrial areas have altered their former production function into non-production functions.

Key words: brownfields; foreign investment; greenfields; industrial transition; old industrial centres

INTRODUCTION

Industrial regions have been undergoing vast transformations in many countries in the last decades (Hamilton, 1984; Popjakova, 2001; Tkocz, 2001; Suchacek, 2005). Old industrial centres, frequently associated with renowned industrial companies, are in a state of deep crisis and they require restructuring, or they will decline. Referring to the concept of a product life cycle, it may be stated that they are in their declining phase, characterized by a fall

in production, employment and consequently, liquidation of industry or a need for modernization (Steiner, 1985).

A question is, whether or not the old industrial centres with traditional and frequently failing industries may turn into attractive areas for new industrial investments?

This article makes an attempt to answer the question. Two old, but radically different industrial areas connected with traditional industries have been selected for research, i.e. Sosnowiec, located in the southern Poland in the Upper-Silesian Coal Basin and České Budějovice, located peripherally in the southern Czech Republic, beyond the main axle of industrialization of the Czech Republic. Both centres are connected with traditional branches of industry, but they significantly differ in their genesis, location factors, the structure of industry and its regional, national and global bindings.

Sosnowiec is a city of 215.3 thousand inhabitants (2012), where 50.2 thousand are employed in companies larger than 9 people, including 17.1 thousand in industry, which constitutes 34.1% of workers in the city. Apart from that, there are 1720 small industries registered in Sosnowiec, with the number of workers not exceeding 9.

České Budějovice was populated by 93.5 thousand people in 2012, employing 13 thousand people in industries over 20 people. Industry of the city comprises 2.5 thousand registered entities, which represent 9% of all business entities in the city.

On comparison of industrial development paths in both centres, an attempt was made to explain whether the period of economic transition in Poland and in the Czech Republic had an impact on the decline of traditional industries in these centres and the emergence of new industries.

In Polish conditions, a crucial role in transformation of industry was played by processes of economic transformation that led to the restructuring of industry, including changes in the functioning of state companies (Rachwał, 2006, 2011; Strykiewicz, 1999; Tkocz, 2001; Ziolo, 2008; Ziolo, Rachwał ed., 2006). Among national conditionings, a key role is played by industrial and regional policies connected with state interventionism in the area of attracting investments, which in Poland is mostly connected with the functioning of special economic zones (Smętkowski, 2008). An effect of these factors comes in the role of industrial companies in the socio-economic development of spatial structures of various scales, including cities. Industrial companies, especially innovative ones, are becoming not only workplaces but also mediums of progress and impulses for development for other companies and international relationships (Rachwał, 2006; Wiedermann, 2008; Ziolo, 2009).

In the field of industrial policy in the Czech Republic, the evolutionary method of “small steps” was adapted, which led to gradual transformations of industrial plants and limited liquidation (Suchacek, 2005). Based on experience of industry restructuring in the old industrial regions, the so-called soft factors of development play an important role in the process of local and regional development. Among them, in particular, are local qualitative factors, such as local identity and identification of inhabitants, genius loci of the territory, specific projects – flagship projects, also defined as creative (Koutský, 2011; Slach, Boruta, 2012; Rumpel et al., 2010). In the Czech, as well as Central European context, direct foreign investment was an impulse for industry development during the transformation period (Toušek, Kunc, 2004; Vančura, 2005; Pavlínek, 2009 etc.).

INDUSTRY DEVELOPMENT CONDITIONS

When examining the genesis of Sosnowiec as an industrial centre, its specific location in the 19th century shall be taken into account – the western boundaries of the Russian empire, in proximity to the German and Austrian border, in the Triangle of Three Emperors.

Industry found perfect conditions for development in Sosnowiec due to its rich natural resources, especially large supplies of coal, which started to be mined in the first half of the 19th century, an inexpensive workforce, convenient transport located on the Warsaw-Vienna railway junction built in 1869 and the extremely receptive Russian market. Also geopolitical factors contributed to the development of industry in Sosnowiec, such as the customs war between Russia and Germany. Russia, by introducing high production tariffs, led to the closing of the border to German products in 1877. In such a case, the German capital that wanted to prevail on the extremely receptive Russian market, started to locate their subsidiaries in the Polish Kingdom, especially in Sosnowiec, located in proximity to the border, with its own railway station and customs chamber. This is how the period of the most intense industrial development started at the turn of the 19th century, and lasted, with periods of stagnation and war damages, until the 1980s (Szajnowska-Wysocka, 2003).

The structure of industry was a distinctive phenomenon for the city, which made it different from other industrial cities of the Upper-Silesian Basin. Despite the fact that the coal mining and the iron industry constituted the basis of industrialization, within the borders of contemporary Sosnowiec, starting from the second half of the 19th century, other industries developed well here, such as textiles, clothing, machines, metal products, chemical, mineral and stationery industries. Even though in the structure of manufacture in the city their participation was not significant, the plants built in the past are still present in the city landscape.

The genesis of industrialization in České Budějovice is connected with the development of brewing, as early as in the Middle Ages, and with food industries, such as milk and meat processing. Due to the lack of natural resources in proximity to České Budějovice, the city may not be included in the group of cities whose development was based on the 19th century industrialization; nevertheless, it was reflected there by the location of several important plants for the city. An important event was the initiation of horse transportation in 1832 between Linz and České Budějovice. Other factors of industry location were wood supplies, water, city location with a good connection to Linz, Vienna and Prague.

Development of industry happened gradually in the city, attracting various types of industries. It was significant that in 1795 a Bourgeois Brewery was established, later called Samson, and in 1895, a Czech brewery, today called Českobudějovický Budvar. Since then, beer production has become an important element of the industrial structure of the city.

Another important factory, up to present day associated with České Budějovice, is Koh-I-Noor Hardtmuth, transferred from Vienna in 1848, which has been a producer of stationery materials. In the period of intense 19th century industrialization other companies were also located in the city, such as an enamel tableware producing company (later called Sfinx), a machine producer concentrating on the production of mills (later called Motor) and several

smaller enterprises such as a chocolate factory, a bakery, a producer of paper, matches and similar goods (Dvořák, Kubeš, 2010).

INDUSTRY DEVELOPMENT UNTIL 1989

In Sosnowiec, in the period of 1945–1989, referred to as a planned economy, further and intense development of industry took place. In 1950, 55.9 thousand people worked in industry, which amounted to 61.2% of the total number of employed in the city. Such a high number of people employed in industry prevailed until the late 1970s, and in 1979 it equalled 56.9 thousand (59.8% of employed in the city). Since then, a decline has been observed in the number of employed, both in the city economy as well as in the industrial sector. In 1989 only 43.8 thousand worked in industry (58.0%). Industrial development happened mostly in old factories, dating back to the second half of the 19th century. These factories were frequently expanded and modernized in the period of the People's Republic of Poland. Industries, such as coal mining, iron industry and textiles, which had developed intensely at the turn of the 19th century, became the basis of economic development in the city. Coal mining was at that time a dominating branch in the city's industry, which attracted 49.2% of all the employed in the city in 1989 and 4% of national extraction (7.1 tonnes). The Sosnowiec mines though, were old factories with highly exploited resources and the gradual decline in coal extraction has taken place since 1980 (Tkocz, 1999).

Another important branch was the iron industry. Two ironworks – Buczek and Cedler – employed 10.5% of all the industry workers in the city (1989). The electromechanical industry, closely connected to the mining and iron industry, was represented by 45 entities, the largest ones being: “Prema-Milmet” Roller Bearing Factory, “Zakłady Mechaniczne Urządzeń Wiertniczych” (Drilling Equipment Mechanical Plant), “Niwka” Mining Equipment Factory, “Fakop” Industrial Boilers Factory, and “Silma” Small Engines Factory. They were mostly factories producing for regional markets, especially for the needs of mining, iron industry and energy production. The electromechanical industry employed 27.9% of all industry workers in the city. Traditional industries in Sosnowiec also included textiles, employing 10.7% of all industry workers in the city, the mineral industry connected with sand exploitation in the “Maczki-Bór” mine, as well as the glass industry. Its participation in the employment in city industry equalled 0.8%.

When evaluating the state of industry in Sosnowiec in the late 1980s, one shall agree with the opinion of L. Pakuła (1992: 39), that “the industry concentrated here is still to a large degree industry-based on resources, with only a slight hint of manufacture; it is very energy-consuming and its products do not require highly educated workers, they are cheap on the market but expensive in production”. Apart from the traditional and frequently environmentally burdensome factories, there were also more modern ones, connected with the automotive industry or the production of chemical equipment. There was a lack of companies representing modern disciplines of high technology.

To conclude, it may be stated that unlike many other industrial centres of the Katowice region, where the mono-functionality of the mining and iron industry was clearly visible, Sosnowiec was characterized by a diverse industrial structure with representation of varied industries, even though their participation in the industrial structure of the city was insignificant.

In the period of socialist economy in České Budějovice, development of heavy industry took place, especially machines, metallurgy, mining and the energy industry, with the total participation of 45% of all the employed in the city industry. They dominated the structure of production to replace hitherto prevailing light industry (production of food, glass, textiles).

In 1989 there were 31 industrial businesses operating in the city, which altogether 17.6 thousand workers employed. The largest plant was Motor České Budějovice employing 2063 people, which accounted for 11.7% of all the industry workers in the city. The second largest employer was one of the oldest factories in the city – Koh-I-Noor Hardtmuth, with 1738 workers. A slightly lower number of 1722 workers were employed by Sfinx, whose genesis dates back to 1894. The remaining one third of all persons employed in industry were hired by some food producing companies operating in the city.

In conclusion, it may be said that in the socialist period in České Budějovice, heavy industry was developed, whose roots frequently dated back to the 19th century, and also traditional industries for the city, such as production of stationary and food (Tab.1)

Tab. 1. Sectoral structure of České Budějovice's industry in years 1989–2011

Sector	Number of enterprises			Number of employees					
				number			in %		
	1989	1994	2011	1989	1994	2011	1989	1994	2011
Mining, energy, waste	2	7	12	1526	2152	1652	8,7	13,8	12,7
Metallurgy	1	–	11	1807	–	1094	10,3	–	8,4
Manufacture of chemicals	1	3	3	73	192	763	0,4	1,2	5,8
Machine industry	7	25	9	4581	7410	4750	26,0	47,4	36,4
Electro-technical industry	1	–	8	1143	–	1455	6,5	–	11,1
Manufacture of other non-metallic mineral	1	5	0	305	440	0	1,7	2,8	0,0
Manufacture of wood and paper	4	16	12	1526	1448	657	8,7	9,3	5,0
Manufacture of textile, clothing apparel, leather	1	5	2	219	345	100	1,2	2,2	0,8
Food industry	9	16	7	2317	2228	873	13,1	14,2	6,7
Other manufacturing	4	6	10	4123	1432	1710	23,4	9,2	13,1
Total	31	83	74	17620	15647	13054	100	100	100

Note: missing data, i.e. data merged with the engineering industry

Source: ČSÚ 2013, Kolář et al., 2013

TRENDS FOR CHANGES IN THE PERIOD OF TRANSITION

The introduction of a free market economy enforced the need to liquidate or change the production profile of some unprofitable factories. Simultaneously, there appeared grounds for introducing structural changes in connection with the process of economic modernization.

As a result of changing management principles in Sosnowiec, a decline in employment was observed, which was especially severe in the first year of the transition – from 75.5 thousand (1989) to 65.9 thousand (1990), that is by almost 10 thousand (12.7%). In 1989 43.8 thousand people worked in the city's industries, while in 1995 only 30.9 thousand (45.3%). In the following years, the dynamics of decline was slower (Fig. 1), which was connected with the fact of establishing a special economic zone in the city and the privatization of some industrial plants. In 2010 the number of employed in Sosnowiec equalled 50.2 thousand, including 17.1 thousand employed in industry (34.1%). Apart from that, there were 1550 small businesses (up to 9 people) employing over 3 thousand workers.

In the transition period, the most important changes happened in the coal mining industry. Three Sosnowiec mines were liquidated due to the exhaustion of natural resources and unprofitability (Sosnowiec, Porąbka–Klimontów, Niwka–Modrzejów). The only operating mine in Sosnowiec is Kazimierz-Juliusz, whose resources allow for exploitation until 2019.

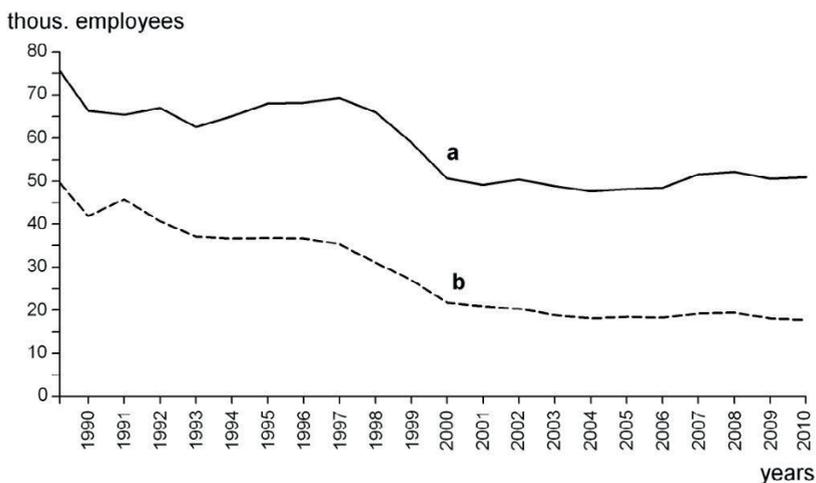


Fig. 1. Total number of employees in Sosnowiec (a) and in sector II (b) in the period 1989–2010

Source: Own calculations based on *Statistics of Boroughs in the Katowice Voivodeship 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, US, Katowice and the Silesian Voivodeship – subregions, poviats, boroughs, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011*, US Katowice

In the iron industry – the other traditional industry in Sosnowiec – crucial changes have taken place. Cedler ironworks, dating back to the 19th century, became a part of the Accelor-Mittal Poland concern, whereas Buczek ironworks was partially liquidated. Also the textile factories, that operated in the city since the second half of the 19th century, have not met the requirements of the market economy.

Some 19th century plants, such as the Industrial Boilers Factory, were relatively quickly privatized and sold to foreign companies. At present, this factory is operating as the Foster Wheeler Energy “Fakop”. Other companies with long traditions (Prema Milmet) and favourably located near the Katowice-Warsaw divided highway, were bought by the American concern of Timken and Vitkowice-Milmet company.

Among other industrial plants in Sosnowiec, a relatively new one, which was built in the 1960s, is the Automotive Equipment Factory, operating since 1980s as a branch of the Compact Car Factory in Bielsko-Biała. It was privatized by Magneti-Marelli, the company that has become a generator for other automotive companies in the city.

Many factories in Sosnowiec have not found their strategic investors or they have not met the requirements of the market economy and they have been liquidated, leading to a radical increase in unemployment. In such a case, city authorities have concentrated their activities on infrastructural preparation of development areas in order to attract investors who would create new work places.

Similarly to Sosnowiec, the number of persons employed in industry of České Budějovice decreased in the first years of economic transformation and transition to the market economy to 15,647 as of 31 December 1994. It represented a 12.3% decline compared to the year 1989 (Tab.1).

The share of industry in the total employment of the city represented one third (32.8%) at that time. In total, during the period of 1989–2011 the number of employees dropped by nearly one quarter (23%), and by over 4.5 thousand employees in absolute numbers.

The share of sectors of consumer industry progressively decreased to the benefit of above all the machine industry but also the electro-technical industry. Among the consumer industry sectors, the highest decline in share occurred within other industries, in particular with the closing of Sfinx enterprise and shrinking employment in Koh-I-Noor Hardtmuth. In spite of this, Koh-I-Noor is one of the most important world producers of office supplies. It exports 90% of its production to 80 different countries. The holding comprises 26 firms, where half of them operate abroad.

Marked change in the sectoral structure of industry was caused by reduction of share of the food industry by roughly half, from 13.1% in 1989 to 6.7% in 2011 (Tab. 5). The importance of this sector in the city thus decreased. The city saw the closing of food factories; producing meat, flour or bakery products. However, the city remains an important brewing industry centre. The number of employees working in the two local breweries, Budějovický Budvar and Budějovický měšťanský pivovar (Samson), is currently three times higher compared to the situation at the beginning of the transformation process (it rose from 560 in 1989 to 728 in 2011). Budějovický Budvar is still state-owned. It is one of the most successful food

industry companies in the Czech Republic. It exports nearly half of its production to more than 50 countries in the world.

The city of České Budějovice observed growing importance of the machine industry and the electro-technical industry. From the point of view of employment, the share of these sectors in the city went up from one third to almost a half. More pronounced growth was noted by the electro-technical industry, which is represented in the city (apart from several small companies) by two important German-capital enterprises – Mectek and Wurth Elektronik. Almost 5 thousand workers in the city are engaged in the machine industry – firms Motor Jikov (having tradition in the city since 1899), Robert Bosch (the biggest entity in the region from the point of view of employment, with 2.5 thousand employees), Groz-Beckert (successor of Budějovice's Iгла, with 1.2 thousand employees) and others.

Foreign capital has also played an important role in the industry of the city and the region after 1989. From a total of 74 companies, 42 are Czech (57%) and 32 companies are owned by foreign investors. The biggest share of foreign capital of the city is held by Germany (44%) and Austria (20%). This is mainly thanks to the geographic proximity of this territory with Germany (Bavaria) and Austria (Upper Austria), which are economically strong regions. And thanks to the fact that Southern Bohemia was the territory of the former Sudetes administration region, before the Second World War it was still an area inhabited predominantly by German-speaking population. It was, above all, thanks to foreign capital that České Budějovice and the region were not caught by negative social consequences of the economic crisis related to changes in the 1990s during the transformation period, like was the case in other old Czech industrial regions built around the heavy industry sectors.

NEW INDUSTRIAL SPACES

A specific development of Sosnowiec as a city created in the era of intense industrialization through the consolidation of old settlements and industrial areas led to the situation that industrial plants were located relatively close to the centre and along rail tracks. Many of the factories located there underwent liquidation in the period of transition, leaving abandoned industrial facilities. Their regeneration required vast input in order to demolish old buildings, remove unnecessary infrastructure, land reclamation and preparation for new investments (Krzysztofik et al., 2012). The costs of the regeneration were covered by the city with the use of European Union funds. In order to accelerate restructuring processes and create new work places, a sub zone of the Katowice Special Economic Zone was established in 1996. In Sosnowiec, 5 investment areas were assigned (Fig. 2). An outstanding feature of these areas was their solely post-industrial usage. They constituted dispensable assets of liquidated mines and other state companies, such as the Prefab Tower Block Factory or the "Silma" factory. Thanks to the financial means from the city and the zone, the post-industrial areas have been totally developed and in place of old and liquidated factories, new industrial establishments were created.

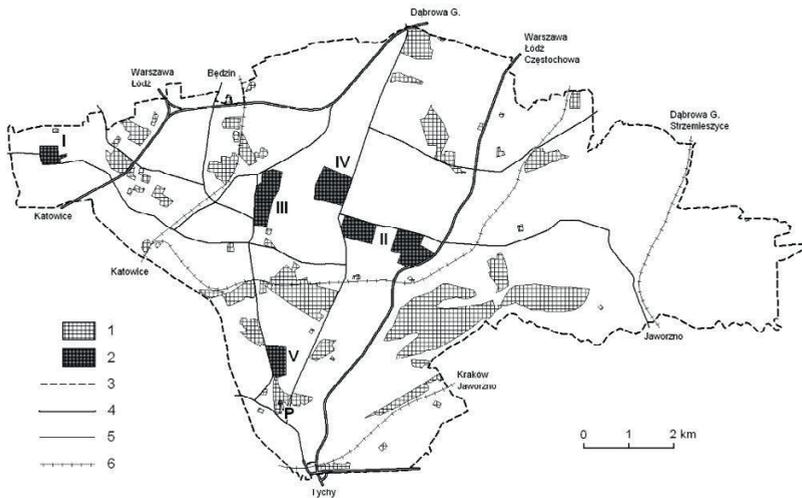


Fig. 2. Industrial spaces in Sosnowiec

1. Total industrial areas 2. Sosnowiec–Dąbrowa Economic Zone area: I. Milowice, II. Dańdówka, III. Narutowicza, IV. Zaruskiego, V. Mikołajczyka, P. The Sosnowiec Science and Technology Park 3. city borders, 4., 5. main roads, 6. rail tracks

Source: Own work based on *City plan of Sosnowiec*. (2010). Katowice: Wydawnictwo Kartograficzne

Zone I, Milowice, was developed to a large extent even in 1998, when Duda, Inc. bought a plot for the construction of a meat processing plant. In the beginning of the first decade of the 21st century, this plant employed the largest number of workers among all businesses established in the Sosnowiec zone. Also, an Italian company Vitrum Polska, Inc. which deals with glass production, purchased a plot in this area, as well as Polskapresse, a publishing house. Hörmann Polska, Inc. operates in proximity; it represents German capital and specializes in the production of gates and doors for utility rooms.

Zone II, Dańdówka, established in the area of a liquidated prefab tower block factory, dominated by companies linked to the automotive industry, such as Ergom, Ergomoulds, Nadwozia-Partner, and Bitron. An exception is the company called Caterpillar that produces parts for construction machines and Process Electronic that belongs to the group of most desired industries, i.e. high technology.

Zone III, Narutowicza, is mostly the area of the former “Sosnowiec” mine, located in close proximity to the city centre. The first investor in the area was Haeraus Elektronite Polska, Inc. specialising in the production of high class measurement equipment. Also Ferroli Polska, Inc. that deals with the production of heaters, central heating boilers, steam generators and home appliances has invested here. Another company is SEGU Polska, Inc., which launched the production of electrical equipment for engines and cars.

In the area of **zone IV**, Zaruskiego, the only operating company is Automotive Lighting Poland, which belongs to the Magneti Marelli group that is linked in its capital with Italian Fiat and specializes in the production of lamps for all types of cars. This company has modernized the automotive industry plant taken over by Magneti Marelli in 1992 and present in Sosnowiec since 1960s.

In the area of **zone V**, Mikołajczyka, Magneti Marelli established another plant – Exhaust System Poland that specializes in exhaust systems for the automotive industry, and Watt, which deals with the production of solar collectors.

An overview of companies located in the Sosnowiec part of the Katowice Special Economic Zone reveals that the dominating companies are the ones connected with the automotive industry, which has become a “new” speciality of the old industrial region, the Upper-Silesian Industrial Region, including Sosnowiec. A positive element is the emergence of modern industries that represent high technology (Tab. 2). The total value of investments in the economic zone of Sosnowiec in 2012 amounted to 1173 million PLN, and the number of employees was 3629 (Kłosowski et al., 2013).

Tab. 2. New plants established in Sosnowiec in the Sosnowiec–Dąbrowa subzone of the KSSE

Plant's name	Investor	Branch	Type of production
Automotive Lighting Poland Sp. z o.o.	Italian	automotive	Automotive lamps
Bitron Poland Sp. z o.o.	Italian	automotive and household appliances	Plastic components
Caterpillar Poland Sp. z o.o.	American	steel	Parts for construction machines
Duda Bis Sp. z o.o.	Polish	food	Cold cuts
Ergom Poland Sp. z o.o.	Italian	automotive	Fuel tanks, plastic parts
Ergomoulds Sp. z o.o.	Italian	automotive	Moulding boxes, moulds, forms
Ferrolti Poland Sp. z o.o.	Italian	household appliances	Boilers and heating systems
Glimplast Sp. z o.o.	Italian	automotive and household appliances	Plastic components
Magneti Marelli Exhaust System Sp. z o.o.	Italian	automotive	Exhaust system components, DPF filters for engines and catalytic converters
Nadwozia-Partner Sp. z o.o.	Polish	automotive	Delivery vehicle body panels, boxes, containers, isotherms, refrigerators
Polskapresse Sp. z o.o.	German	publishers	Press publisher
Process Electronic Sp. z o.o.	Canadian	electronics – IT	Industrial processes steering systems, construction of special purpose machines
Segu Polska Sp. z o.o.	German	automotive	ABS system elements
Watt	Polish	energetics	Solar collector

Source: Krzysztofik et al., 2012; Kłosowski et al., 2013

It may therefore be concluded that new industrial spaces in Sosnowiec are areas of the brownfield type, where no traces of old facilities are found. For innovative businesses connected with pharmacy, electronics, and bio-informatics, the city has created a possibility of getting a location at the Sosnowiec Science and Technology Park (Fig. 2), created in the area of the former Niwka-Modrzejów mine (Krzysztofik et al., 2012).

The development of the private sector is an important element of transformation in the industry structure. The dynamic increase of the national economy entities registered in the REGON system has been in progress since the first decade of the 21st century. Since then, a downward trend has been observed. In 2010, only 1720 entities were registered in industry, that is 7.1% (Tab. 3).

Tab. 3. National economy entities registered in the regional register in Sosnowiec in the period of 1995–2010

Year	National economy entities			Changes 1995=100	
	total	in industry		total	in industry
		total	%		
1995	17 473	1 692	9.7	100,0	100,0
2000	22 653	1 770	7.8	129,6	104,6
2005	25 356	1 855	7.3	145,1	109,6
2010	24 369	1 720	7.1	139,5	101,6

Source: own calculations based on: the Statistics of Boroughs in the Katowice Voivodeship. Katowice Statistical Office 1996, Silesian Voivodeship – sub-regions, poviats, boroughs, 2001, 2006, 2011. Statistical Office in Katowice

Business entities registered in industry belonged in 95.6% to the section of the processing industry. They are mostly sub-suppliers for large companies or producers of market-destined products. They are frequently unable to meet market requirements and cease to operate. Among national economy entities representing industry of the largest number of companies (2009) – 326, it is the “production of ready-made metal products”. Within the limits of 100–180 companies, there are companies that operate in the range of “production of machines and equipment unclassified elsewhere”, “production of clothing and fur goods”, “production of furniture”, “production of food items and beverages”, “production of medical, precision and optical equipment”. Under 100 companies operate within activity connected with “production of rubber and plastic items” (80), of “other non-metallic sources” (75), “textiles” (62), “production of wood and wooden and cork products” (60) and also “production of machines and electrical equipment” (52).

The presented data referring to the industries with the largest number of operating business entities point out the multi-functionality of industry, but also relationships with traditional industries that existed in the city in the past.

The participation of branches representing modern industries of high technology is relatively low – 8.3%. These are entities within the sector of “production of office machines and computers” (20 companies), “production of equipment, radio and television devices” (26 companies) and the previously mentioned “production of medical and precision instruments” (101 companies).

In the case of businesses in industrial processing employing under 9 people, the average number of employees per business is 1.9. Their productive operation usually takes places in private properties, utility rooms or sometimes in rented halls of liquidated plants. Up to present they have not created new industrial spaces that stand out in the city development.

Similarly to the case of Sosnowiec, the creation of the oldest industrial surfaces in České Budějovice is connected with the period of industrialization at the turn of the 19th and the 20th century. Progressively, industrial areas in the city expanded, mainly in the eastern and northern part of the city. After the year 1989 and the change in economic conditions, many firms found themselves in a difficult economic situation. Some of them stopped or significantly reduced their activities. Industrial brownfields appeared. Unlike Sosnowiec, the city of České Budějovice (CCB) did not markedly intervene in creating special conditions for the development of industry. The city authorities did not initiate any particular activities to attract foreign or domestic investments. An exception was the effort of the city to create the industrial park “Okružna” in the north-eastern part of the city in years 2001–2007. However, this was not a typical industrial park, but an area where apart from industrial firms (such as an electro-technical company Kern-Liebers CR with 340 employees, a mechanical engineering company Mosled with 100 employees, a textile producer Jivatex with 30 employees and others), companies of non-productive character were present. Excluding the above-mentioned exception, we cannot affirm existence of greenfields in the CCB. All the present industrial areas are those of former companies.

In the city of České Budějovice, three types of industrial areas can be identified (Fig. 3):

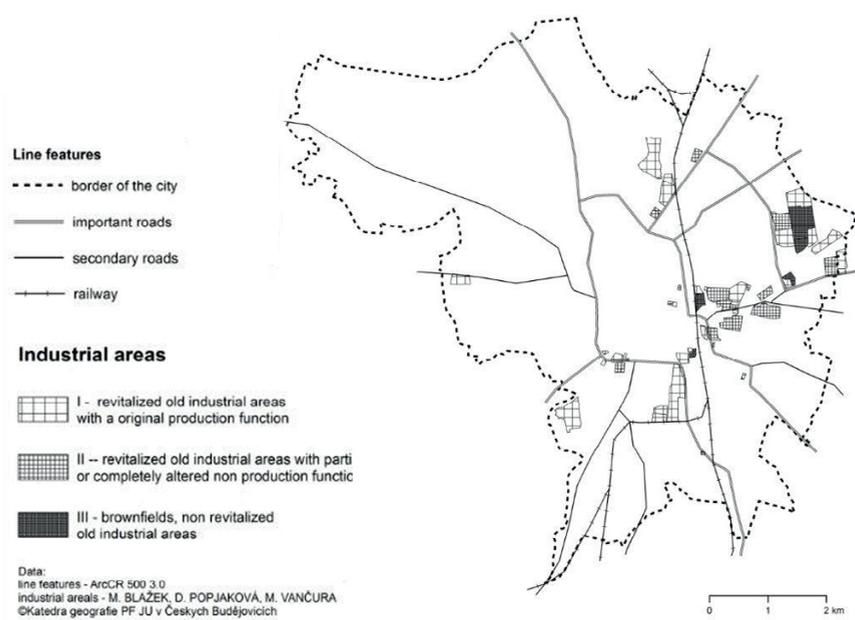


Fig. 3. Industrial areas in Ceske Budejovice at the beginning of the first decade of the 21st century

I. Regenerated old industrial areas with an original production function. It is a type of an industrial area in which original or similar industrial production continues to approximately the same extent, while the area of the original industrial company is used. This type is thus constituted by old industrial surfaces that underwent complete regeneration, or those that did not go through complete regeneration, but have a potential to develop. This type of industrial area is the most frequent one in České Budějovice. They are located in proximity to the city centre, that is at present predominantly a residential area, or in the old industrial areas outside the city centre.

A typical example is the location of the company Groz-Beckert (successor of Igla). The company, which produces textile machinery, is situated in an old area that was completely regenerated by a foreign investor; old factory buildings were demolished and new production halls were built.

The firm Robert Bosch operates in one of the original premises of the old machine company Motor CB, in the industrial area of Knezské Dvory in the north of the city. A foreign investor partly regenerated the area and at the same time invests in expanding the production. Thus, the old area is extended with new greenfields spaces. Other companies that came into being following the transformation of Motor CB – Motor Jikov Fostron and Motor Jikov Slevarna – also have their operations in the old premises of Motor CB. Also, in the north of the city, in the industrial area of Knezské Dvory, the brewery Budejovický Budvar runs its production on original premises. It is the only Czech state-owned enterprise in the city.

Unlike the firm Robert Bosch, the brewery has no possibility of further surface extension. The company is spatially enclosed on all sides. However, in the current period, the prosperous enterprise does not suffer lack of space. Extensive enlargement of the company is not its priority.

The same type of industrial area is also represented by the premises of industrial companies located in the northern direction from the city centre, south of the railway station, on the streets Manesova/Novohradská. We can classify here the original premises of the old industrial company Koh-I-Noor Hardtmuth, that are partly used by the company producing office supplies itself. In order to use the premises more effectively, the company Koh-I-Noor Hardtmuth sold a bigger part of the old industrial area in this part of the city to the industrial company Viscofan CZ. The industrial area of Viscofan CZ is fully regenerated. In the industrial area of Novohradská, on old premises of former industrial companies Jihoceske energetické závody and Chirana, an electro-technical industry production of the firms EGE and EGEM, are located.

The premises of the former Sfinx company in the industrial zone of Rudolfovska street – East, in the eastern part of the city also belongs to this type of industrial area. Under new market conditions, after the year 1989, the company became insolvent. The original production of Sfinx was partly taken over by the newly created company Belis, which currently is the biggest producer of enamel tableware. However, its main production programme comprises of the production of components for the automotive industry.

Similarly, the Samson brewery runs its production of beer in its original premises in the southern part of the city – Linecke Předměstí. It is an example of an industrial area that is

located in a residential area close to the city centre. It was built in the 19th century, when these premises were located outside of the inhabited areas, at the city borders. A similar example of an area that maintains industrial production while being located in what today is a residential area, not far from the city centre, are the premises of the company FN, s.r.o., with its production of textiles. The area was subject to repeated transformation during almost 100 years. It was built in the inter-war, on the city borders by the company Bata, the producer of shoes. After World War II, during the period of socialist development, the company Jitona, a furniture producer, had its operations here.

II. Regenerated old industrial areas with partially or completely altered functions.

This is a type of former old industrial areas in which new investment was not only directed at industrial production, but also to other third-sector activities. The former industrial areas thus completely or partially lost their production function. They are not only used for industrial production, but also for other servicing activities, such as trade, transport, warehousing, and other socio-cultural activities.

The best example of industrial areas that partly changed their former production function and belong to prevalently the sales function, is the main industrial area of Koh-I-Noor in Manesova street – West, south of the city centre. The bigger, northern part of the company's site has its original function with ongoing production of stationery. The smaller, southern part of the company's premises was sold to retailers (a Lidl supermarket). In the industrial zone, Manesova – West, to the west of Koh-I-Noor, the former industrial site Sodovkarne (Jihoceske Pekarny) used to be located and has been transformed into a space with a sales function, in which construction of a large sales complex is currently under way.

A typical example is the site of the milk producer Madeta. The former premises in the Rudolfovska street – East, in which production and processing of milk used to take place, are currently occupied by the company's management and a logistics department only. Another example is the one of the sites of the concern Koh-I-Noor Hardmuth in the Rudolfovska street – East, and several other sites (Fig. 3).

III. Brownfields, old non-regenerated industrial areas. These represent the third type of old industrial areas mainly in the eastern and north-eastern part of the city and are typical brownfields. From the point of view of surface, as well as number they constitute, they are the least represented type of sites within the boundaries of České Budějovice. Examples are the sites of the former Sfinx company neighbouring the contemporary firm Belix with sites in Rudolfovska – East, further Rudolfovska – West and Novohradska. The two latter sites have an advantageous location given the proximity to the city centre and the railways, and thus have a potential to become an attractive area for further use.

A typical brownfield is the largest (by surface) former industrial site in the city that belonged to the liquidated metallurgic company Skoda Plzen, Slevarna. It is a vast space located in the north-eastern part of the city. The site used to be occupied by the leftover production of the former metallurgic firm (SCB Foundry), which, however, ceased its activities in 2013.

CONCLUSIONS

The presented information on the development of industry in Sosnowiec and České Budějovice clearly indicate that these are old industrial centres, associated with traditional industries, which still have impact on both the structure of industry, as well as on the space of the two cities. The genesis of both cities is related to industry, but its location factors were different. Also, the process of nineteenth-century industrialization had a slightly different course. In the period of socialist industrialization, however, some common features to both centres may be found, which manifested themselves through intense development of various industries, especially heavy industry. This industrial diversity, as well as the over a centuries-old tradition of some plants, became important factors contributing to the inflow of foreign capital. Comparing the old and modern industrial structures of Sosnowiec and České Budějovice (Tab. 4), it can be stated that the “old” industries, especially the manufacturing ones, continue to play an important role in the economy of the cities.

Tab. 4. Industry in Sosnowiec and České Budějovice

No.	Specification	Sosnowiec	České Budějovice
1.	Location	in the industrial region	outside the major industrialized regions
2.	Location factors	minerals, mainly coal, railway line, proximity to borders of three European powers	horse transport, transport position of the city, wood supplies, water
3.	Industries determining the base of industrialization	coal mining, metallurgy of zinc and iron	brewing, processing of milk and meat
4.	Industries in the period of intensive industrialization	manufactures of textiles, machinery, metals, minerals	manufactures of metals, textiles, apparel, stationery
5.	New industries in the period of socialist industrialization	manufacture of motor vehicles	manufactures of machinery, chemicals, electrical equipment
6.	Industries dominant to the 1980s	mining 49% of employed, metallurgy 10.5%, electro-mechanical 28%, textiles 10.7%	manufacture of machinery 26%, metals and stationery 23%, food industry 18%
7.	Liquidated industries	most of coal mines, textiles, part of metallurgy	metallurgy, manufacture of electrical equipment
8.	New industries in the 21 st century	electronics, high-tech	manufacture of machinery, electrical equipment
9.	New industrial spaces	use of the old industrial spaces, special economic zones	use of the old industrial spaces
10.	Support by local, state and EU institutions	yes	minimal

Source: own elaboration

This is more evident in the case of České Budějovice, rather than in Sosnowiec. The traditional brewing industry is still associated with České Budějovice, while there is no such industry in Sosnowiec. The only plant that has been operating since the second half of the nineteenth century is a factory of industrial boilers “Fakop”, but it is not clearly associated with Sosnowiec. The modern industry of Sosnowiec is more connected with the automotive industry than mining, metallurgy or the textile industry, even though some facilities associated with these industries continue to be visible in the space of the city and are well integrated into its regenerated image.

References

- ČSÚ. (1990). *Provozovny ústředne řízeného průmyslu v roce 1989 (počítačová databáze)*. Praha: Český statistický úřad.
- ČSÚ (1996). *Statistický průvodce městem České Budějovice*. ČSÚ, divize České Budějovice, p. 23–24.
- Dvořák, J., Kubeš, J. (2010). Vývoj průmyslu na území Českých Budějovic od počátku 19. století do 80. let 20. století. *Historická geografie*, 36(2), 255–289.
- Hamilton, F.E. (1984). Industrial Restructuring: an International Problem. *Geoforum*, 15(3), 349–364.
- Kłosowski, F., Pytel, S., Runge, A., Sitek, S., Zuzanska-Żyśko, E. (2013). *Rynek pracy w subregionie centralnym województwa śląskiego*. Sosnowiec: Wydział Nauk o Ziemi.
- Kolař, M., Bolek, J., Popjaková, D. (2013). *Databáza priemyselných podnikov mesta Č. Budějovice*. České Budějovice: KGE PF JU.
- Koutský, J. (2011). *Staré průmyslové regiony, vývojové tendence – možnosti rozvoje*. Ústí n. L.: Univerzita UJEP.
- Krzysztofik, R., Runge, J., Kantor-Pietraga, I. (2012). Paths of Environmental and Economic Reclamation: the Case of Post-Mining Brownfields. *Polish Journal of Environmental Studies*, 21(1), 219–223.
- Pakuła, L. (1992). Postępy restrukturyzacji przemysłu w wybranych gałęziach okręgu górnośląskiego, częstochowskiego i bielskiego. *Folia Geographica. Ser. Geographica-Oeconomica*, 24, 37–51.
- Pavlínek, P. (2009). Regional Development Effects of Foreign Direct Investment in Central and Eastern Europe. In: P. Blokker, B. Dalago (eds.), *Regional Diversity and Local Development in the New Member States*. London: MacMillan, 166–193.
- Popjakova, D. (2001). *Transformácia priemyslu v regióne Šarisa*. Prešov: Katedra geografie a geológie.
- Rachwał, T. (2006). Efekty restrukturyzacji wybranych przedsiębiorstw przemysłowych Polski Południowo-Wschodniej. *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 9, 98–115.
- Rachwał, T. (2011). Transformations of the Employment Structure as an Expression of the Transformation of Polish Industry against a Background of the European Union. *Bulletin of Geography. Socio-economic series*, 15, 521–529.
- Rumpel, P., Slach, O., Bednář, P. (2010). Re-imaging of industrial cities in the Czech Republic: selected drivers of change. In: *The regeneration of image in old industrial regions: agents of change and changing agents*. Gottingen: Cuvillier Verlag, 89–114.
- Škodová-Parmová, D. (2006). *Historický vývoj vybraných odvětví hospodářství ČR a jeho dopady na její úlohu v integračním procesu v Evropě*. České Budějovice: Zemědělská fakulta, Jihočeská univerzita, 200.
- Slach, O., Boruta, T. (2012). What can cultural and creative industries do for urban development? Three different stories from the post-socialist industrial city of Ostrava. *Quaestiones Geographicae*, 31(4), 99–112.

- Smętkowski, M. (2008). Rola specjalnych stref ekonomicznych w kształtowaniu struktury przestrzennej przemysłu w Polsce. *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 17, 204–216.
- Statistical Yearbook Śląskie Voivodeship. (2000, 2012). Katowice: Urząd Statystyczny.
- Steiner, M. (1985). Old industrial areas: a theoretical approach. *Urban Studies*, 5, 387–398.
- Stryjakiewicz, T. (1999). *Adaptacja przestrzenna przemysłu w Polsce w warunkach transformacji*. Poznań: Wydawnictwo Naukowe UAM.
- Suchaček, J. (2005). *Restrukturalizace tradičních průmyslových regionů v tranzitivních ekonomikách*. Ostrava: Vysoká škola Báňská – Technická Univerzita.
- Szajnowska-Wysocka, A. (2003). *Sosnowiec jako ośrodek przemysłu, kultury i nauki*. Sosnowiec: Wydział Nauk o Ziemi.
- Śląskie Voivodeship – subregions, powiats, gminas. (2000, 2012). Katowice: Urząd Statystyczny.
- Tkocz, M. (1999). Społeczno-ekonomiczne uwarunkowania restrukturyzacji gospodarki Sosnowca. *Rocznik Sosnowiecki 1998*, 28–42.
- Tkocz, M. (2001). *Restrukturyzacja przemysłu regionu tradycyjnego*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.
- Toušek, V., Kunc, J. (2004). The Most Important Foreign Investors in the Manufacturing Industry of the Czech republic. In: T. Siwek, V. Baar (eds.), *Globalisation and its Geopolitical, Cultural, Economic and Ecological Context*, 318–328.
- Vančura, M. (2005). Foreign direct investment in the countries of Central Europe with emphasis on the Czech Republic. In: T. Michalski (ed.), *Geographical Aspects of Transformation Process in Central and East-Central Europe*. Pelplin: Wydawnictwo Bernardinum, 171–181.
- Wiedermann, K. (2008). Czynniki i skutki rozwoju przemysłu motoryzacyjnego na terenie województwa śląskiego. *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 10, 93–108.
- Zioło, Z. (2008). Problemy badawcze struktury przestrzennej przemysłu. *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 1, 9–25.
- Zioło, Z. (2009). Rola przemysłu w procesie kształtowania społeczeństwa informacyjnego. *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 13, 11–20.
- Zioło, Z., Rachwał, T. (ed.) (2006). Procesy transformacji układów przestrzennych przemysłu na tle zmieniającego się otoczenia. *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 10.

Maria Tkocz, Assistant Professor of Earth Sciences in the field of geography, Associate Professor at the University of Silesia, Head of the Department of Spatial Planning. She specializes in economic geography, especially industrial, city, tourism, and spatial planning. She is the author of over 100 publications, including four monographs.

Dagmar Popjaková, doc. RNDr. Ph.D., University of South Bohemia, Czech Republic. A Slovak geograph now living in the Czech Republic, studied at the Faculty of Natural Sciences of the Comenius University in Bratislava. In years 1992–2001 she was active at the Department of Geography of Prešov University, where she centered research around the industrial transformation processes after the fall of the socialist political and economic system in Czechoslovakia at the end of 1989. Between years 2005–2007 she worked in her *alma mater* in Bratislava and studied questions of internal and external population migration. Currently she works in České Budějovice. Her research mainly concentrates on the study of population and industrial structures of the southern regions of the Czech Republic.

Michal Vančura, Mgr. Ph.D., University of South Bohemia, Czech Republic. After his studies at the Faculty of Natural Sciences of Masaryk University in Brno, he started working at the Department of Geography of the University of South Bohemia in České Budějovice in 1997. Since 2010, he has been the Dean of the Faculty of Education. His research focuses on the industry transformation processes, in particular on the problems of the role of foreign investments in industry.

Adres/address:

Maria Tkocz
University of Silesia
Department of Economic Geography
ul. Będzińska 60, 41-210 Sosnowiec, Poland
e-mail: maria.tkocz@us.edu.pl

Adres/address:

Dagmar Popjaková, Michal Vančura
University of South Bohemia
Faculty of Education – Department of Geography
Jeronýmova 10
CZ - 371 15 České Budějovice, Czech Republic
e-mail: dpopjakova@pf.jcu.cz
vancura@pf.jcu.cz