ACTA UNIVERSITATIS CAROLINAE
2003 GEOGRAPHICA, No. 1, PAG. 437–444

Brno – important industrial center?

VÁCLAV TOUŠEK, ONDŘEJ MULÍČEK

Masaryk University, Brno, Institute of Geography, Czech Rep.

Abstract

Since the year 1989 the city of Brno went through substantial economic and social changes resulting into the decline of city based industry. The city economy is lacking the propulsive segment or the major firm with strong multiplicand effects. Deindustrialization shapes the city economic policy as well as the spatial pattern of the city. Possible high-tech oriented line of city industrial development opens further discussions about the role of industry and production services within the local economy, as well as about relations between "old" and "new" industrial sectors.

Key words: Brno, deindustrialization, economic policy, spatial structure

Introduction

The goal of this paper is to characterize the processes linking to the structural changes of Brno industry – those processes that take place primarily in the level of particular industrial firms with secondary impacts to the spatial development of the city or to the city economic policy respectively. As the title of the paper shows, its authors do not consider contemporary development of Brno industry as strongly deindustrializing, in spite of many indicators signalizing stagnation or depression of traditional industrial sectors in the city. Within the text of this paper there are the running changes interpreted as a transition towards new quality of city industrial production. This production brings of course different demands for quality of labor force, location pattern within the city and needs for public support.

Historic development of Brno industry

The city of Brno can be called important industrial center from the beginning of the 19th century. The textile industry was the trigger of classic industrial era of the city, which lasted almost without interruptions until the nineties of the 20th century. In 1900 almost 13,000 workers were employed in textile industry, which was approximately one third of industrial employees in the city of Brno. During the 20th century the engineering took the lead – after the year 1918 the number of engineering workers exceeded the number of employees of textile industry and in the end of eighties the

engineering became the dominant sector within the Brno industry with more than 50,000 workers. Moreover in eighties the electrical industry came to be relatively strong sector (Kunc, 1999).

There are several important facts to understand correctly the city development during the period of transition in nineties. The city of Brno never belonged to the category of so called single resource industrial towns – its industrial base was always rather diversified in spite of the fact that four biggest industrial companies (Zetor – the producer of tractors, Zbrojovka – arms manufacturer, Šmeral and Královopolská – producers of machinery tools) employed more than one third of total number of industrial workers. That is why the development trajectory of the city is slightly different from that of single sector based cities (for example Ostrava). Of course the city development policy used to be affected by the needs of industry. However the influence of "industrial paternalism" (Illner, 1992) – it means the interconnections between decisive and production spheres – was not so visible comparing with other Czech industrial cities. The industry of socialist times was supported by quality research and development base, which extent was dramatically reduced during the nineties.

In the end of the year 1989 the secondary sector (industry and construction) was the leading one in Brno as for the number of employees (124,000 workers – almost 50% of all workers in Brno). Soon in 1991 the tertiary sector became dominant with more than half share on the total employment. "Slimming" of industrial companies was under way in two rounds and only part of released workers has moved to non-production sectors. In the end of 1996 only 60,000 workers were employed in industrial sector (86,000 in the secondary sector) while the number of workers in the tertiary sector came almost to 170,000. In the end of 2000 the non-production sector was keeping 70% of Brno labor force.

As the Table 1 shows, in 1989 several sectors of Brno industry (e.g. engineering, paper-making or electrical industry) were keeping quite high level of specialization. Comparing the year 1989 with the present situation the steep decline of the index of specialization is characteristic for many industrial branches, e.g. the index of specialization in engineering, the traditional industrial sector in Brno, is below 1.00 nowadays. Only the share of employees in electro-technical industry in Brno exceeds the value of national average (the index of specialization is higher then 1.00).

Tab. 1 Branch Structure of Employment in Brno and Czech Industry (31. 12. 1989)

Industry	**Number of employees**				**Index of specialization**
	Brno		**Czech Republic**		
	total	*%*	*total*	*%*	
fuel	941	0.4	204,978	3.9	0.10
energetics	3,335	1.3	57,470	1.1	1.22
metallurgic	158	0.1	145,733	2.8	0.02
chemical and rubber-making	2,911	1.2	118,971	2.3	0.51
engineering	53,464	21.4	601,907	11.5	1.86
electrical	9,928	4.0	140,881	2.7	1.48

Industry	Number of employees				Index of specialization
	Brno		Czech Republic		
	total	*%*	*total*	*%*	
glass and construction materials	1,607	0.6	128,003	2.4	0.26
wood and furniture	1,483	0.6	76,837	1.5	0.41
metalworking	2,199	0.9	112,622	2.2	0.41
paper-making	2,430	1.0	28,865	0.6	1.77
textile, clothing, tanning	9,360	3.8	278,149	5.4	0.70
printing	1,180	0.5	17,077	0.3	1.45
food-processing	4,967	2.0	74,223	1.4	1.40
other industrial production	3,457	1.4	58,464	1.1	1.24
Industry total	97,420	39.1	2.114,882	40.4	0.97
Economy total	249,453	100.0	5.236,908	100.0	

Source: Workers and wage-funds in the socialist sector of national economy in the regions and districts by branches of national economy of CSR in 1989, Czech Statistical Office, 1990

Combined influence of industrialization, socio-economic, resp. ideological organization of society and the way of production on (urban) processes shaping the socialist cities is a subject of study for many urban geographers (e.g. Szelenyi, 1996).

Industrial changes in a wider context of the city

Restructuring of the city economy was logically most visible through the changes on the labor market. Apart from this view and with no such strong emphasis other processes driven by industrial changes were taken in account. As Musil (1992) shows, post communist societies go under dual transformation – political and technological. Not only in the case of the city of Brno the industrial restructuring is a good illustration of the dual character of social transformation. The decline of importance of industry for the life of the city, it means process which took several decades in the West-European cities (Le Gales, 2002, Pacione, 2001) is very fast in the milieu of former socialist towns.

If we consider the city as a whole with distinct history and collectively formed knowledge, the crisis of the city identity can be mentioned as one of the results of changes in the Brno industrial structure. This identity crisis is closely connected with the death of concept of collective city (Short, 2000). Collective city is specific by clearly defined role in the centrally controlled national economy, only few tools of autonomous development, big proportion of public services and investments, large sharing of public goods and collective consumption of space. As Sýkora (2001) points out, while deindustrialization affects most of big cities in the developed countries, only few of them are able to reach new functions within the global economy. The concept of industrial production as a driving engine of the city economy seemed to be a thesis with strong inertia during the transformation period with deep influence on the public attitudes and activities of political representation of the city.

Together with the decline of traditional industrial sectors, with the downfall of centrally controlled industry and with the collapse of the biggest industrial firms in Brno the city (city council) starts to play a new role of agent fully responsible for economic development. From nineties the city is conceptualized as a form of enterprise that can be successful under the condition that the comparative advantages and inner reserves are mobilized (Amin, 2000). The entrepreneurial concept of the city strongly influenced the attempts to define its new role in changing economic environment and to stress the priorities of the economic policy.

Like in other Czech cities also in Brno there the great attention was paid to attract foreign investments. The project of Technology Park, very ambitious at the time, was launched as the public-private partnership project between the City, technological university and private developer in the beginning of nineties, long time before the introducing of the incentive scheme in Czech Republic. The Park was oriented to technological firms and strategic services, but due to no possibility to stimulate the investors by incentives it was disadvantaged towards similar projects in Hungary or Poland. In the view of rising rate of unemployment the project loose its prior position within the economic policy of the city. The activities of the municipality were re-oriented to fight the growing (political) problem of rapidly increasing unemployment. This course of policy corresponds with the preparation of industrial zone Černovická terasa (prepared in 2000) and with economic marketing focused on investors able to bring a large number of jobs, no matter of what quality.

The first "large-scale" investor was US company Flextronics International entering the industrial zone with the promise to create about 3000 jobs in assembly of electronic parts. The activities of Flextronics in Brno, including the closure and removal of its production in 2002, are good example of risks resulting from orientation to branch-plant type of investments (Knox, 1994). Other threats were for example use of cheap labor force, big share of non-local or foreign workers, no links with local companies, high mobility of production or excessive opening of local economy towards fluctuation of global market.

After some time the concept of Technology Park based on the use of qualified labor force seems to be more viable scenario of local economy restructuring. As the stable structure of companies based in Technology Park shows the investments in modern technologies and high-skilled labor force within light industrial production or strategic services bring more long-term effects. Establishing of IBM client service center in 2001 or takeover of Flextronics production facilities by Honeywell (automation and control solutions) in 2003 are the examples of new quality investments which help besides other create post-industrial image of the city.

Current direction of city economic policy heads toward reinforcement of technological and innovation capacity of industry through improvement of institutional environment. Regional innovation strategy of South Moravia was prepared containing experience from regions of Limburg (Netherlands) and Saxony-Anhalt (Germany) – both regions went under deep structural changes. The strategic document outlines concrete measures concerning mostly improvement of so-called "soft" factors.

These are e.g. better communication between academic, commercial and R&D sectors, creation of conditions for branch clustering or support of technological start-ups. Foundation of South Moravia innovation center (an umbrella organization responsible for technology transfer and business incubators) is a tangible result of the project but mobilization of wider economic potential of the city. According to Amin (Amin, 2000) the city is a source of non-economic interdependencies based on closeness of relations and personal ties. Informal networks between particular urban actors create better innovative environment than directive, institutionalized relations – expansion of Brno IT companies could be a good example of sector which dynamic was originally launched on informal base.

Spatial impacts of industrial restructuring

As Pacione declares (2001) post-industrial urban development is characteristic by fragmentation of traditional urban form. Contemporary changes in Brno industrial production have a great impact to the functional structure of the city and they are sure to influence substantially the morphostructure of the city in the long-tem horizon.

In nowadays spatial structure of the city there we can still find urban patterns coming from the early (and only little spatially coordinated) phase of industrialization in the second half of the 19th century. In the first stages of industrialization the spatial needs of industry were determined by dependency of textile or engineering industry on water (necessary for steam engines operations). That is why the oldest industrial grounds are linearly concentrated within the structure of today city in spite of then unregulated and additive way of construction. The structure established in this way was significantly modified not at the times of socialist industrialization – post-war industrial development went on mostly through thickening of plants in the original localities (Kuča, 2000). Decentralization of industry – process running in the West Europe from seventies – started in the Czech cities during transition period of nineties. Changes of spatial structure of industrial production are results of many mutually interacting processes.

Disfunctional real estate market deformed the land use in the socialist city (Sýkora, 2001). Liberalization of the real estate market caused finer differentiation of values of particular plots with respect to their position within the city, accessibility and image of the city district.

Decline and rationalization of production in the industrial plants including reduction of over-employment or use of external services (catering, security) together with modernization result in less intensive use of many traditional industrial plants.

We can say with some simplification that the polarity between dynamic secondary sectors and declining traditional branches imprints into the spatial structure of the city. Centrally localized industrial plots are left behind while the (suburban) development zones attract new investments (Mulíček, Olšová, 2002). The location of new investments is nowadays much more determined by outstanding road accessibility, quality of working environment and legal status of the particular plot (ownership, rent conditions, etc.).

The way of present foundation of many industrial plants is called "controlled" by town-planners. Quite large plots are possessed by one owner or developer that apart

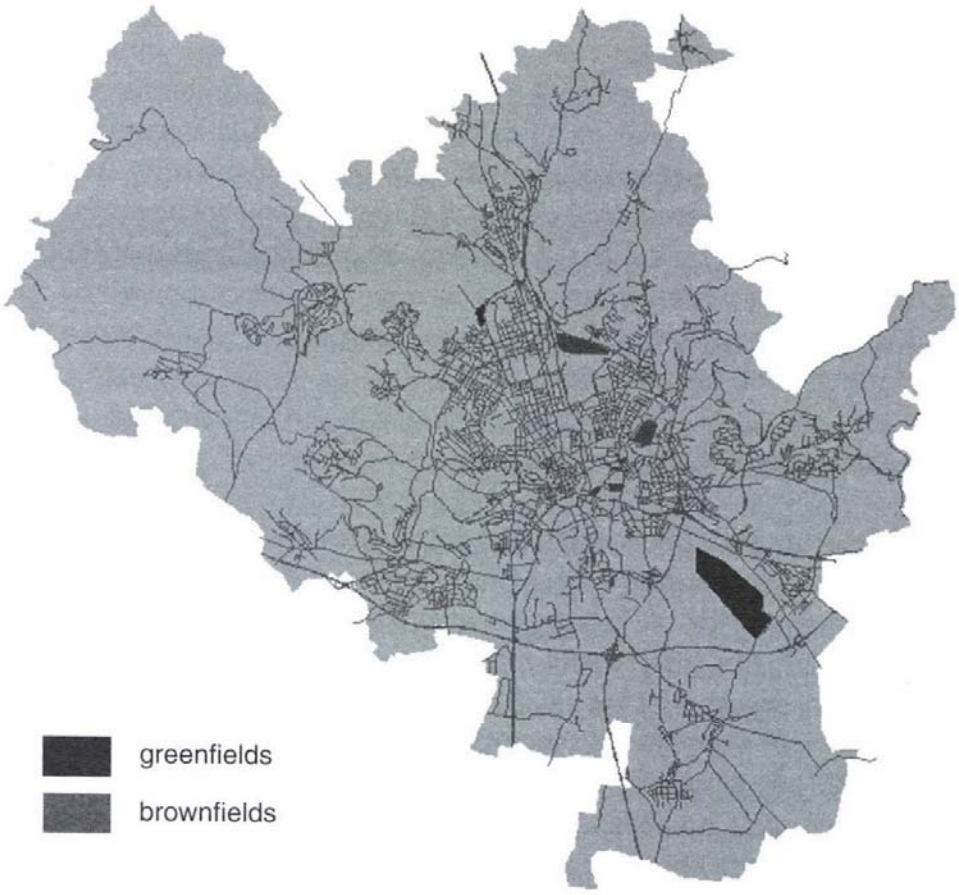

Fig. 1 Selected "brownfields" and "greenfields" industrial sites in Brno and its suburban fringe (1 – Technology Park, 2 – Královopolská, 3 – Industrial zone Černovická terasa, 4 – Central Trade Park, 5 – particular plots in traditional central industrial district)

from other activities defines the functional use of plots and also the price depending on the demand. There are some examples of this approach – Brno Technology Park (area of 60 ha, run by specialized joint-stock company), Central Trade Park Brno (area of 30 ha, private developer) or the industrial zone Černovická terasa (area of 180 ha, managed by the City of Brno). If we speak about spatial de-concentration of industry in Brno, it is necessary to realize that trend on the micro level is concentrative. Particular firms form clusters in the polyfunctional zones, often linked by supplier-client chain. This can be illustrated by the example of Central Trade Park Brno where the production firms are attracted by the presence of credible logistic company.

As for the new industrial investments in the Brno agglomeration, the demand is driven mainly by the transport conditions. That is the reason of (expected) dynamic development mainly in the southern part of the agglomeration, which is well connected to the highway system.

Relatively dynamic development of greenfield type zones in the fringe positions contrasts with functional changes in the traditional industrial districts in Brno. In Brno, as well as in the whole Czech Republic, there is significant imbalance between large supply of (old) production estates and weak demand for this kind of industrial properties. The offer of old-fashioned and low-quality plants prevails. The options

of their further development can be described by only few examples. The successful revitalization or change of function of old industrial property is an optimum solution. Anyway the revitalization plan has to correspond with the location and state of the estate. Former foundry Roučka Slatina (with outstanding position near the highway) converted to modern logistic center is a good example of well-done regeneration. In many cases the old industrial plants are exploited in the way, which is not sustainable from the viewpoint of spatial economy and seek only for immediate profit. This is the case of industrial plants in central parts of the city, which are occupied by wholesales and discount sales, cheap office spaces or stores. This mode of use is characteristic by minimal maintenance of the estate, unclear splitting of property between number of owners or tenants and by their frequent fluctuation (e.g. Gotex – approx. 70 tenants, former Mosilana – over 100 tenants, Zbrojovka production estate – approx. 20 tenants). It brings of course negative impacts to the real market in the vicinity of the estate. Moreover there are many industrial plots in the area of Brno without any use (e.g. Moravan). The rough estimation of real and potential industrial brownfields in Brno varies about 140 hectares.

Low attractiveness of old industrial properties is caused high costs necessary for successful regeneration (demolitions, ecological recovery). The standardized costs of construction of industrial plant are four times higher in the case of brownfield site comparing with the greenfield construction (Jackson, 2002). If we take in account low willingness of local developers to invest in real estates and poor attractiveness of non-Prague localities for foreign developers we can see that the solution of brownfields issue is a matter of long-term development and massive public support.

Conclusion

Industrial development of the city of Brno in the post-socialist period is characteristic by qualitative shift. Industry in its original form has lost the prior and influential role within the development of the city. A number of traditional, highly specialized, local industries lost their importance on the city and national scale. The new types of production, different from the classic manufacturing by used technologies, by managerial and spatial patterns, often clash with traditional principles of the city economic management and spatial structure. The new industrial development is driven by another factors – besides them the accessibility, quality of working environment and legal status of plots belong to the most important ones.

References

AMIN, A. (2000): The Economic Base of Contemporary Cities. In: Bridge, G., Watson, S., eds., A Companion to the City. Blackwell, Oxford, s. 115–129.

ILLNER, M. (1992): Municipalities and industrial paternalism in a "real socialist" society. In: Dostal, P. et al., eds, Changing Territorial Administration in Czechoslovakia: international viewpoints. Instituut voor Sociale Geografie, Amsterdam, s. 39–47.

JACKSON, J. (2002): Urban Sprawl. In: Urbanismus a územní rozvoj, 5, č. 6, s. 21–28.

KNOX, P., AGNEW, J. (1994): The Geography of the World Economy. Edward Arnold, London, 436 s.
KUČA, K. (2000): Brno – vývoj města, předměstí a připojených vesnic. Baset, Praha, 644 s.
KUNC, J. (1999): Změny v průmyslu města Brna a jejich vliv na situaci na trhu práce. In: Acta Facultatis Studiorum Humanitatis et Naturae Universitatis Prešiviensis. Prírodné vedy. Folia Geographica 3. Prešov, roč. XXXII, s. 175–184.
KUNC, J., TOUŠEK, V. (2000): Průmyslová výroba a strategie rozvoje krajů v České Republice. In: Sborník referátů z II. mezinárodního kolokvia o regionálních vědách, ESF MU Brno, s. 39–65.
LE GALES, P. (2002): European Cities – Social Conflicts and Governance. Oxford University Press, Oxford.
MULÍČEK, O., OLŠOVÁ, I. (2002): Město Brno a důsledky různých forem urbanizace. In: Urbanismus a územní rozvoj, 5, č. 6, s. 17–21.
MUSIL, J. (1992): Změny městských systémů v postkomunistických společnostech střední Evropy. In: Sociologický časopis, 28, č. 4, s. 451–462.
PACIONE, M. (2001): Urban Geography: A Global Perspective. Routledge, London, 663 s.
SHORT, J. R. (2000): Three Urban Discourses. In: Bridge, G., Watson, S., eds., A Companion to the City. Blackwell, Oxford, s. 18–25.
SÝKORA, L. (2001): Proměny prostorové struktury Prahy v kontextu postkomunistické transformace. In: Hampl, M. a kol., Regionální vývoj: specifika české transformace, evropská integrace a obecná teorie. Přírodovědecká fakulta Univerzity Karlovy v Praze, Praha, 127–166.
SZELENYI, I. (1996): Cities under socialism – and after. In: Andrusz, Harloe, Szelenyi, eds., Urban and regional change and conflict in post-socialist societies, s. 286–336.