

## JIHLAVA – THE CENTRE OF THE VYSOČINA REGION AND FOREIGN INVESTMENTS

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### Abstract

The city of Jihlava has been since the boom of silver mining in its surroundings in the 13th century the economic centre of the sparsely populated Bohemian-Moravian Highland. At the time of the first modern census in 1869 Jihlava was the fifth largest city in the Czech lands. Mainly thanks to displacement of original German population after 1945 the position of Jihlava in the Czech settlement system considerably weakened. In the 1990s when the new administrative division of the Czech Republic was being made there were discussions whether between the Prague and Brno agglomerations a new region should be established or not. Eventually it was decided that a new region with Jihlava as its centre would be established. The aim of the authors was to find out if the city of Jihlava was capable of integrating the area of the Vysočina region. The authors were oriented mainly at analysis of spatial distribution of labour commuting to Jihlava and to the Bosch Diesel company, which represents the most important foreign investment in the whole region. The authors concluded that the establishment of the Vysočina region was a good step and that Jihlava was able to defend its position of the regional centre.

**Key words:** Jihlava, Vysočina region, Regional Centre, Labour commuting, BOSCH DIESEL

### INTRODUCTION

One of the most frequent questions during discussions over the new administrative division of the Czech Republic after 1989 was: “whether to create a new region within the area of the Českomoravská vysočina (Bohemian-Moravian Highlands) between two largest

agglomerations of the Czech Republic (Prague and Brno agglomerations)”. Regarding the fact that the political circles favoured the idea of more regions (altogether 14) than before 1989 (when there were only 8 regions), it became obvious that such a region would be created in this area without a strong population centre and that this would be Jihlava with its fifty

thousand inhabitants. The new region was created in 2000, it was named the Vysočina region and it was made up from the area of five districts. These were three Moravian districts – Jihlava, Třebíč and Žďár nad Sázavou – and two Bohemian districts – Havlíčkův Brod and Pelhřimov.

The objective of the authors of the article was to present that the city of Jihlava has slowly been gaining all the necessary prerequisites to successful integration of the whole area of the region. As the regional capital Jihlava significantly strengthened its administrative functions towards its hinterland, though the decisive factor for the superior status within the hierarchical system of the region seems to be the increase of the economic function of the city. Such increase has been conditioned by the growing number of foreign direct investments in the industry of the city which have been flowing into the city from the second half of the 1990s until present. The largest part of the investments comes from the company of Robert Bosch GmbH from Stuttgart. The authors draw upon some of the previous studies dealing with Jihlava as the pole of the economic development of the Vysočina regions. Among these are publications by Toušek and Tonev (2002), Novák (2005 and 2007) or some conclusions made by J. Kunc in his dissertation (2005) or his article (2006). The authors of the article have also used information about the role of foreign direct investments for regional development (Pavlínek 1998, 2002, 2004, Carter 1999, 2000, Vančura 2004, 2006, and Bašťová 2008) or conclusions of the publication by M. Srholec (2004) on direct foreign investments in the Czech Republic.

## **JIHLAVA AS THE REGIONAL CENTRE – A BRIEF HISTORY**

Jihlava became the regional capital as early as in the 16th century when the regions were first established in Moravia (in Bohemia they were created in the 14th century). The main reason for the creation of the regions also in Moravia was defence against the Turks. Jihlava remained the regional centre up to the end of the 1860s when regions ceased to exist both in Bohemia and in Moravia. In the 16th century the Jihlava region was made up by the Moravian part of the Jihlava area, by the northern part of Třebíč area (south was part of the Znojmo region), the Velké Meziříčí and Dačice areas. From the 16th century to the half of the 19th century other areas were incorporated into the region (the Žďár nad Sázavou, Nové Město and Bystřice areas). The Jihlava region was made up only by Moravian areas as at that time the administrative division respected the historic borderline between Bohemia and Moravia. In 1868 the administrative division ceased to exist and a new structure of political districts and smaller sokes were established (Jihlava became the centre of both such districts).

In the former Czechoslovakia regions came into existence again on January 1, 1949. There were thirteen regions at that time. By the half of the 20th century the historic borderline lost its significance and the Jihlava region was made up by Moravian and Bohemian districts. Its area was 6,650.5 km<sup>2</sup> (the fifth largest region) and according to the 1950 census its population was 425.5 thousand (the second least densely populated region). The Jihlava region was made up by 13 districts, out of which 7 were situated in Moravia, 6 in Bohemia. Such administrative division lasted only until 1960 when an

administrative reform took place and whose outcome was a smaller number of regions and districts which were territorially larger. Jihlava lost its status of a regional centre and became only a centre of a district.

The year of 1989 saw the start of many political changes which were reflected significantly not only in the social and economic development but also in the changes concerning the administrative division. The regional national committees ceased to exist and the national committees were changed into municipal authorities at the level of municipalities and district authorities at the level of districts. District authorities were dissolved in the Czech Republic (in January 1, 1993 Czechoslovakia split up into the Czech Republic and the Slovak Republic) in December 31, 2002 and some of their duties were transferred to the newly established autonomous regions (altogether 14) and partly to municipalities with extended authority (altogether 205, out of which 15 are in the Vysočina region). The basis for the establishment of the administrative division was the bill on regions, which was made into an Act by the Parliament of the Czech Republic in April 12, 2000. New regions, including the Jihlava region (later renamed as the Vysočina region) with Jihlava as its centre, came into existence on the day of the elections to the regional authorities (November 12, 2000), when the Act on regions came into effect.

Though the area of the Vysočina region has a very similar layout as the Jihlava region from 1949 to 1960, there can still be seen certain differences. As was already stated above, the area of the Vysočina region is made up by the areas of five districts. From the year of 1960 the districts of Jihlava, Třebíč and Žďár nad

Sázavou were parts of the Jihomoravský (South Moravian) region, the district of Pelhřimov was part of the Jihočeský (South Bohemian) region and the district of Havlíčkův Brod was part of the Východočeský (East Bohemian) region. Today the area of the Vysočina region is 6,795.7 km<sup>2</sup>, which is a little larger area than in the case of the former Jihlava region. In between the years of 1949-1960 the Dačice area was part of the Jihlava region (at present the district is part of the Jihočeský – South Bohemian – region); today the Bystrice, Náměšť and Chotěboř areas are also parts of the Vysočina region (see Figure 1).

From the point of view of the historic development of the administrative division of the country we can say that Jihlava was and has been, with only minor exceptions, a regional centre. The dilemma over its re-establishment as the regional centre was a consequence of the fact that it lost its position within the settlement system of the Czech Republic. At the beginning of the modern statistical monitoring (in the year of 1869) Jihlava ranked among the largest cities on the area of the present Czech Republic. With its 20,049 inhabitants – which is only a little less than in Pilsen or Liberec – Jihlava was the fifth largest city. In 1900 despite the number of inhabitants grew to 24,387 Jihlava dropped to the 13th position. From today's point of view we might however say that it dropped to the 10th position since Žižkov, Královské Vinohrady and Smíchov were not yet parts of the capital city of Prague. In the list of the largest cities of the Czech Republic from the 1930 census Jihlava moved to the 14th position and the number of inhabitants exceeded the level of 31 thousand inhabitants. The war and the displacement of the German-speaking inhabi-



**Figure 1** Administrative division of the Vysočina region.

Source: Lexikon obcí ze SLDB 1950, ČSÚ 1955; Malý lexikon obcí ČR 2007, ČSÚ 2007.

tants caused that the significance of Jihlava within the settlement system of the Czech Republic continued to decrease. At the 1950 census there were 29,517 inhabitants, which was less than in 1930 and Jihlava became the 19th largest city in the Czech Republic as far as the number of inhabitants was concerned.

During the next year Jihlava dropped to the 22nd position.

Jihlava is the oldest mining city in the Czech Republic. Originally a Slavic village it became the gateway to colonization of a relatively large area. The colonization was accelerated by the

discovery of silver at the end of the 1240s. The silver rush brought miners, various craftsmen and businessmen from all over Europe. At the end of the 14th century, when the veins richest in pure silver were depleted and when the mines were affected by an earthquake and floods, the significance of the mining of silver dropped. The economic development of the city was brought about at that time by trade and handicraft; mainly woollen cloth manufacture became the most important craft for four centuries. During the second half of the 18th century Dutch cloth workers were invited to the city, whose experience led to the perfection of the manufacture. Thousands of people in the city and its surroundings made living as cloth workers at that time and Jihlava became the second largest producer of cloth in the monarchy (Jaroš, Veverka 2001).

Even though the first modern factories were established in Jihlava as early as in the year of 1815, these were only imitations of real industrial enterprises which did not have long standing. We can say that modern industrial production appeared only in the second half of the 19th century. The first big factories were cloth-making factories, but the first largest factory in Jihlava was a state tobacco factory. The factory was established in the city in 1851 when it was transferred here from the town of Louka near Znojmo (in 1862 there were 2.4 thousand employees). In the course of time other industrial enterprises appeared which significantly changed the economy of the city. Among these were the new brewery, starch factory, distillery, leather and shoe-producing factory, the big steam saw mill, match-factory and the glassworks in Antonínův Důl (established already in 1845) etc. An important

position had even smaller textile factories which grew from the traditional cloth-making factories, i.e. knit works or weaving mills and factories for the production of woollen products. The economic development was connected mainly with the construction of the railways. Mechanical engineering was not an important industrial field in Jihlava, the first significant engineering factories start to appear after the WWI, these were Kotva (established 1920) and the filing factory of Ajax (1921).

After the WWII the production base of the city considerably changed with the establishment of new large engineering and metalworking factories such as Pal in 1946 (since 1950 Motorpal), Jihlavan in 1952 or Kovolit (later Moravské kovárny). Also traditional textile industry went through substantial changes, when in 1948 eighteen smaller hosieries were merged into one national enterprise – Pletařské závody (later Modeta). In 1958 Tesla was established on the premises of a former tobacco factory, which brought electrotechnic production to Jihlava. Even the old sawmill in Bedřichov went through substantial changes when it was transformed after 1960 into a large complex producing wood-chips (part of the Jihomoravské dřevařské závody with head offices in Brno). After the completion of a new high-capacity line for chipboards in 1982 the Jihlava plant became one of the largest wood-producing factories in Czechoslovakia. At the end of 1989 the largest industrial employers in Jihlava were as follows: Motorpal (in Jihlava employing 2676 workers), Tesla (1958), Jihlavan (1572), Modeta (1460), Jihomoravské dřevařské závody (1349), Kovolit (788) and Sklářny Bohemia (424 workers).

## **JIHLAVA AFTER 1989**

New social and economic circumstances in the Czech Republic after November 1989 significantly influenced employment structure in Jihlava. In 1990 dismissal of workers (mainly from technical and economic branches of industry) from largest industrial companies started. However as late as the 1991 census (March 3), most labour opportunities were still in the secondary sector (50.2% of occupied labour positions). Industry employed 13.3 thousand and building industry 3.7 thousand persons. Agriculture, forestry and water management employed 3.5% of workers and tertiary sector the remaining 46.3%.

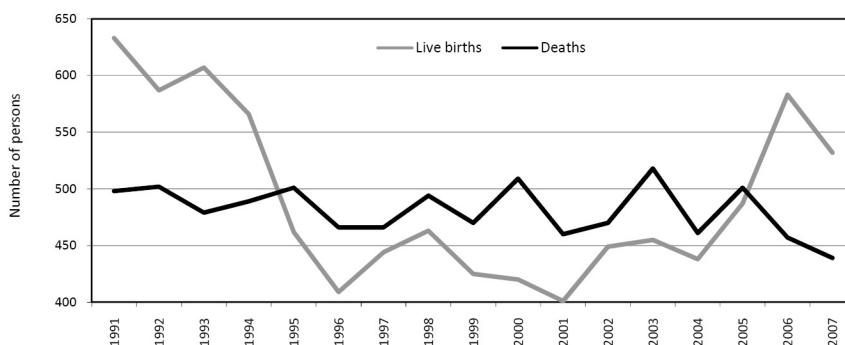
During the 1990s along with decreasing number of inhabitants there appeared signals that the economic development of Jihlava was quite dynamic and that its influence on hinterland increased. The number of labour positions did not significantly drop in connection with economic transformation of the city and the unemployment rate was not high. People from neighbouring districts, such as Třebíč and Žďár nad Sázavou (areas which wanted to remain in the South-Moravian region with the centre in Brno in the last administrative reform), started to commute to Jihlava. Population decrease in Jihlava practically ceased. By the end of 2006 almost 51 thousand inhabitants lived in Jihlava and Jihlava lost the position of the smallest regional centre. Such centre became Karlovy Vary.

### **Population**

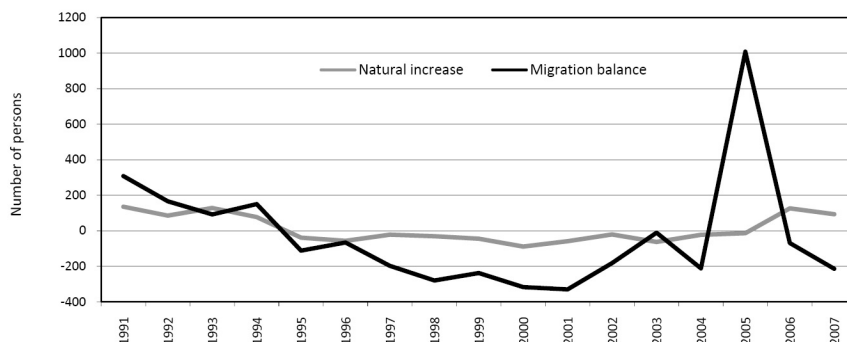
After 1989 the population trends in Jihlava were similar to those in the rest of the country. Social, economic and political living conditions

in a totalitarian system led, not only in the Czech Republic but in other transforming countries of central and Eastern Europe to the formation of demographic behaviour patterns significantly different from the prevailing demographic behaviour of democratic countries with advanced market economies. The Czech Republic was lagging behind in terms of decreasing its mortality intensity improvement, and maintained a high marriage rate, as well as a low average age for first marriages and a corresponding young average age of mothers specifically at first childbirths and a high induced abortion rate. A less notable variance from the European average is to be found in the divorce rate, in this field the Czech Republic traditionally ranks among the countries with the highest rate; the birth rate did not differ much from the European average.

The former pattern of demographic behaviour of the population was encouraged by significant state paternalism, significant social benefits in diverse fields and by the existence of sometimes even unbearable social certainties. The above mentioned situation did not provide sufficient space for personal decision making and sense of responsibility. Young people would extensively uniformly contract marriage at an early age, only about 5% of women remained single and the pattern of a two-child family was favoured. The transition to a market economy and all its social consequences, but also new opportunities of self-realisation led to changes in demographic behaviour. Individuals as well as families have faced a highly competitive environment simultaneously with life style changes, higher incomes, and an improved social status, all of which were inaccessible for a majority of people in the previous era. Due to the curbing



**Figure 2** Development of the number of live births and deaths in Jihlava in 1991-2007.  
Source: Pohyb obyvatelstva v obcích ČR v letech 1991-2007 (database), ČSÚ 2008.



**Figure 3** Development of natural change and migration balance in Jihlava in 1991-2007.  
Source: Pohyb obyvatelstva v obcích ČR v letech 1991-2007 (database), ČSÚ 2008.

of social benefits aimed at families with children, the scope of social benefits narrowed and unemployment appeared as a new reality, negatively affecting couples considering marriage and potential parents. These new conditions for individuals and families were weighed within a free and sensible decision-making process concerning family life and the position of children in the family. This new situation was similar to the period of demographic behaviour changes, which took place during the 1970s and 1980s in democratic European countries. However, in the Czech

Republic the changes of demographic behaviour took place far too quickly (Pavlík et al. 2002).

At present many more young people study at universities or higher professional schools. The amount of free time made available during their studies allows them to travel and gain experience particularly after graduation and prior to starting their first jobs. Young people face greater demands on the labour market, domestic but specifically international experience is valued and significant work flexibility

**Table 1** Population change in Jihlava in selected periods after 1900 (annual averages in ‰)

Parts of change	Periods			
	1991-1995	1996-2000	2001-2005	2006-2007
Nativity	10.8	8.3	8.9	11.0
Mortality	9.4	9.2	9.6	8.8
Natural change	1.4	-0.9	-0.7	2.2
Migration balance	2.3	-4.2	1.1	-2.8
Total increase (decrease)	3.8	-5.1	0.4	-0.6

Source: Pohyb obyvatelstva v obcích ČR v letech 1991-2007 (database), ČSÚ 2008.

is expected. Furthermore the ambitions to achieve a higher position, better income and the concurrent risk of not finding or losing one's job have become important conditions in the decision-making process, whether, when and how to start a family, when to have children and how many. Opportunities for obtaining financially affordable housing also play an important role. This all was reflected in considerable decrease in fertility and natality. The number of live births in one year dropped below the level of 500 in Jihlava as early as in 1995. Only after more than 10 years was this level exceeded again (see Figure 2). Last increase in live births is accompanied by decrease in deaths so in 2006 and 2007 Jihlava there was an increase in the number of inhabitants by natural population change again (see Figure 3).

In the past years natural population decrease was accompanied also by emigration (with the exception of 2005), which was reflected in the population decrease in Jihlava below the level of 50 thousand inhabitants. The largest part of emigration from the city headed for municipalities in the closest hinterland of Jihlava. This suburbanization process can be

recorded in most large cities in the Czech Republic since the half of the 1990s.

Population development analysis in selected periods after 1990 confirmed that the lowest fertility in Jihlava was in the second half of the 1990s. In this period the population decreased not only by natural change but also thanks to negative migration balance (see Table 1).

Decrease in the number of live births has gradually led to the fact that the population of the city started ageing. In 1991-2007 the number of persons in pre-productive age dropped from 11.1 thousand to 6.8 thousand. On the other hand the number of persons in post-productive age increased from 5.8 thousand to 7.4 thousand. The average age of the city population increased by more than 5 years during this period (see Table 2). In 2004 the age index exceeded the level of 100 which means that the number of persons older than 65 was higher than the number of persons younger than 15. However, in most of regional centres the age index was higher than in Jihlava by the end of 2007 (with the exception of the cities of Ústí nad Labem, Ostrava and Liberec).



**Table 2** Age structure of the population of Jihlava (as of December 31)

	1991	1995	2000	2004	2005	2006	2007
Population	52,631	52,751	51,408	49,865	50,859	50,916	50,795
In age of 0-14 years	11,105	9,756	8,076	6,945	7,002	6,884	6,762
15-64 years	35,716	36,585	36,395	35,734	36,567	36,623	36,454
65 and more	5,810	6,410	6,937	7,186	7,290	7,409	7,579
Average age (in years)	35.5	36.7	38.7	40.3	40.2	40.5	40.8
Age index *	52.3	65.7	85.9	103.5	104.1	107.6	112.1

Source: Demografický vývoj města Jihlavy, ČSÚ 2008.

\* population older than 65 per 100 inhabitants younger than 14.

Preliminary data on population change in Jihlava during the first half of 2008 indicate that by the end of 2008 the population is going to exceed the level of 51 thousand since the number of births is going to be higher than in the preceding year and the city of Jihlava will probably experience natural increase as well. This trend is supported also by data on housing construction. It is necessary to point out that relatively high-rise housing constructions prevail in the city (even above average in the Czech environment), and not only during the past years. Comparison of housing construction in regional centres during 1997-2007 shows that the city of Jihlava ranks first in the number of housing constructed per 1,000 inhabitants (Prague comes only second and Brno third).

### Economy

In the Czech Republic the 1990s are connected with the transition from the centrally planned economy to the market one. The integrated synopsis of the economic reform was finished and approved of in September 1990, i.e. already during the existence of the federation state of the Czechs and Slovaks. The whole conception

of the reformation strategy called for complex approach, within which a wide spectrum of measures focused on the price deregulation, foreign trade liberalization, introduction of the inner convertibility of the currency, and privatisation had to be taken. This privatisation was a combination of restitution of assets and property to the previous owners and their heirs, of sale of the assets and property to the domestic and foreign capital, and of the “handing out” of the assets and property to the population through investment coupons. Today, in hindsight, we can claim, that foreign strategic investors were not sufficiently involved in the privatisation in the Czech economy, especially when we take into account the fact that at the beginning there was no private sector participation in the creation of domestic product in the Czech Republic (Toušek, Vančura, Viturka 2000).

Since the beginning of the 1990s till the end of 1997 foreign direct investments reached in the Czech Republic 9.2 billion USD, which was less than in Poland (14.6 billion) and Hungary (15.9 billion). At that time the position of the Czech government towards granting conces-

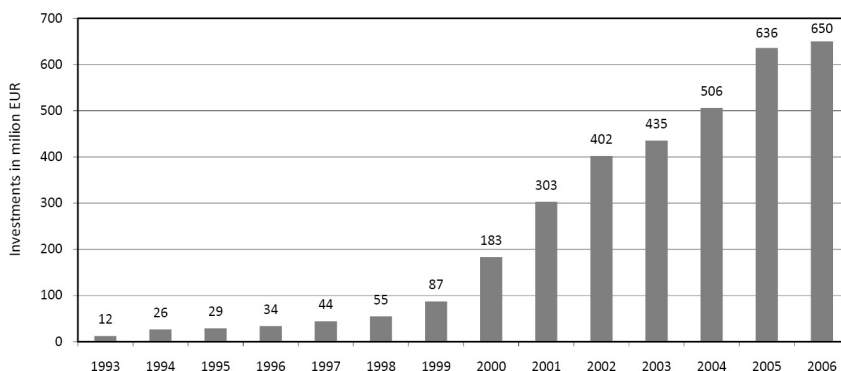
sions to the foreign investors was rather negativistic. It was not until 1998 that a rather extensive system of investment incentives not only for foreign investors but also for domestic ones was introduced. The system comprises an income tax relief, grants to municipalities for building technical infrastructure, job creation grants, training and retraining grants. The investments incentives bear an important regional dimension, for their amount depends on the situation at the regional labour markets. In 1998 the Czech Republic experienced a sharp increase in foreign direct investments (FDI) inflow thanks to the incentive system (Toušek et al. 2005). Jihlava was among the cities into which foreign capital flowed before 1998. At the same time foreign direct investment inflow increased significantly in Jihlava also after the acceptance of the incentive system.

Generally we can say that privatization of the largest industrial companies in Jihlava – with some exceptions (e.g. Modeta) – was successful in the first phase. In comparison with some more significant settlement centres not only in the Vysočina region, foreign capital entered the industry in far greater extent, as stated earlier. In case of Jihlavské dřevařské závody (wood-processing plant), Pivovary a sodovkárny Jihlava (breweries and soft drinks factory) and Moravské kovárny (smithworks) it was Austrian capital, in case of the Jihlavské sklárny Bohemia (Bohemia glassworks) American capital and in case of Motorpal German capital. Jihlava attracted also FDI of the Italian company Magnetti Marelli. Not only from the point of view of amount but also of the number of newly created job positions the most important company in Jihlava is Robert Bosch GmbH. The company was established in Stuttgart in 1883 by Robert Bosch and it is one

of the largest German industrial companies. The whole group of 300 subsidiaries in more than 50 countries employed by the end of 2006 around 260 thousand people (out of which more than a half outside Germany) and its profits in the financial year of 2006 reached 43.7 billion EUR.

The company **Bosch Diesel, s. r. o.** (Ltd.) was established in Jihlava as early as in 1993. Motorpal, the local producer of systems and components of diesel engines fuel injection, became the partner for the German concern and on its premises a new factory building was erected (now plant I). Motorpal provided for the joint venture premises and an unfinished factory building, Bosch provided technology, machines and completed the building. The majority (76%) was controlled by the Robert Bosch GmbH company, which in 1996 purchased the share of the Czech partner. The company expanded outside original premises of Motorpal. In 1998 the company merged with car locks producer Bomoro (Rožnov pod Radhoštěm), which became a Bosch Diesel subsidiary, and the construction of a new factory building in Pávov (Jihlava's neighbourhood) started. This subsidiary should have produced lighting systems. However, this division became part of the Automotive Lighting, a new company. At the end of 1999 the management of Bosch Diesel decided to remove production temporarily placed into rented premises of Alfatec (called Na dolech – now plant II) to a newly constructed shop floor in Pávov.

The year of 2001 meant a significant turning point when the parent company under the influence of increasing demand for cars with diesel engines decided to markedly enlarge its



**Figure 4** Development of investments of Bosch Diesel s. r. o. in Jihlava in 1993-2006.

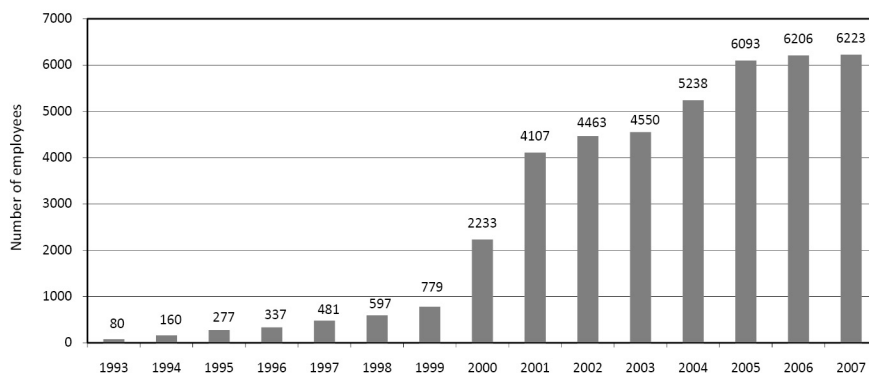
Source: Bosch Diesel, s.r.o., 2007.

subsidiary in Jihlava and to invest 300 million EUR. At the beginning of 2001 Bosch Diesel opened a new plant (plant III) producing high-pressure pumps (33 thousand sq. meters) in Pávov and by the end of the year finished construction of the second building oriented at the same production, but only half the size than the original shop floor. During that year the company purchased the shop floor Na dolech (today assembly of packing machines), which was until then only rented, and thus Bosch Diesel now has at disposal around 80 thousand sq. meters in three localities. The dynamics of the company is also shown in the economic data: in 2001 the company more than doubled its turnover from 4.6 to 9.8 billion CZK and the number of employees increased from 2.2 to 4.1 thousand. Since 1993 until the end of 2001 Bosch Diesel invested into purchase of premises, construction and technologies 772.6 million EUR (10.5 billion CZK).

Within one of the largest investment projects of 2001 in the Czech Republic, for which the company was granted income tax allowance and exemption from import duty, Bosch Diesel

committed to invest into production of the Common Rail high-pressure pumps, which together with injection devices for diesel engines and packaging machines for food and pharmaceutical production forms the main production programme of the company. This investment brought more than two thousand new job positions, so by the end of 2006 Bosch Diesel employed in Jihlava 6.2 thousand people (plant I – 700, plant II – 1.2 thousand, and plant III – 4.3 thousand people). It became the third largest employer in the manufacturing industry (more persons are employed only in Auto Škoda Mladá Boleslav and ArcelorMittal Ostrava). In the financial year of 2006 Bosch Diesel reached the turnover of 22.8 billion CZK (around 830 million EUR). Total investment of Bosch into Jihlava was by the end of 2006 3.4 billion EUR (see Figures 4 and 5).

Other dynamically developing company in Jihlava with a foreign owner is Automotive Lighting s. r. o. (located in the vicinity of the Pávov plant of Bosch Diesel), which was established only recently as a joint venture of Bosch Diesel and Magneti Marelli (a merge of



**Figure 5** Development of employees of Bosch Diesel s. r. o. in Jihlava in between 1995-2006.  
Source: Bosch Diesel, s.r.o., 2007.

their divisions producing car lighting technology). At the time of the establishment in 1999 both investors had equal shares; a year later Magneti Marelli (controlled by Fiat) took over Seima Group company, the largest European producer of rear lights, incorporated it into the joint venture with Bosch and increased its share to 75%. Presently this producer of lighting is totally in Italian possession. By the end of 2006 around 1.8 thousand people were employed in the company, which made Automotive Lighting the second most important industrial employer in the city of Jihlava (Novák 2007). All of the production of the Jihlava plant is aimed at export. Front and side lights form the main contents of the production programme and are intended predominantly for Daimler Benz, BMW and Porsche.

By the end of 2007 Automotive Lighting constructed in Pávov a new shop floor with 5.2 thousand sq. meters, so the company has now the total acreage of 40 thousand sq. meters (one plant is also localised nearby Střítež u Jihlavy). The volume of output of the headlamps will

soon rank the Jihlava company among the largest in Europe, since in 2011 the year production of more than 7 million pieces is planned (in 2007 it was almost 5 million pieces). The number of employees will increase by 400 to 2.2 thousand. Until 2006 around 165 million EUR were invested in Jihlava, till the end of 2011 it should be another 100 million EUR. At present no other company in Jihlava employs more than 1,000 people. This level is approached only by Moravské kovárny, Tesla Jihlava and Motorpal.

The average month salary of a Bosch Diesel employee is comparable to such industrial companies as Škoda Auto Mladá Boleslav or Barum Continental in Otrokovice. A monthly salary in Automotive Lighting is slightly lower, but in comparison to the average Czech salary and mainly to the average salary in the Vysočina region it is higher. Moreover foreign companies producing car components play a significant role in the creation of secondary job positions in the nearest surroundings of Jihlava, mainly in transport companies such as ICOM transport a. s. and JIPOCAR transport, s. r. o.

Both companies, though predominantly Bosch Diesel, favourably influence the situation at the labour market. Unemployment rates both in the city of Jihlava (4.6%) and in the Jihlava district (4.1%) and the Vysočina region (4.6%) in the mid of 2008 did not reach the level of 5% (the average unemployment rate in the Czech Republic). Apart from industry a favourable situation at the labour market is also influenced by the tertiary sector. After 1989 the number of employees in undersized services increased. This increase has been continuing also during this decade and is connected both with the increase of administrative functions of Jihlava as the regional capital and with the establishment of the College of Polytechnics in Jihlava (since 2004; now with 1,560 students).

### **JIHLAVA AND ITS LABOUR IMPORTANCE**

Labour commuting represents an important social phenomenon whose extent, distances, directions and forms reflect economic structure of every region. It reflects on one hand the level of population concentration and on the other hand the distribution of labour opportunities. The Vysočina region is typical of its polycentric settlement structure; the city of Jihlava dominates the process of labour commuting, particularly thanks to significant foreign direct investments which have been received here in the past years. The results from the last census (2001) show that in Jihlava there were 34.4 thousand job positions, while in any other centre of the region this figure did not exceed 20 thousand. Results from the latest research projects point out that Jihlava has presently more than 36 thousand workers. The most important development axis of the region is formed along the D1 motorway, where most

investment activities are concentrated. It has direct influence on the character of the commuting pattern in the Vysočina region and on the size of hinterlands of commuting centres lying in the vicinity of this important communication.

### **Labour commuting to Jihlava in 1991 and 2001**

Labour migration, which is one of the forms of short-term migration, is influenced by many factors. Its character is given by the settlement structure of a region, distribution of labour opportunities, transport infrastructure, demographic structure, property market etc. Unique data on labour commuting in the Czech Republic are provided in censuses which have been held since 1961 (the last census took place in March 2001).

In 2001 in the Vysočina region 98,564 persons commuted to work outside their permanent residence, which is almost by 5 thousand more than in 1991. Out of the total number of the employed, those who crossed the border of their municipality on their way to work made up 41.5%. In 1991 this proportion reached 34.8%. It is caused not only by lower number of commuters but also by higher employment rate in 1991 and unfinished process of disintegration of municipalities (in 1991 there were 621 municipalities in the region, ten years later there were 730 municipalities). In 2001 the proportion of labour commuters from all the municipalities in the Czech Republic was 36.5%. What follows is that the migration activity in the Vysočina region is higher; in the Czech Republic only the Středočeský, Zlínský and Pardubický regions achieved higher intensity of labour migration.

**Table 3** Commuting from municipalities in districts of the Vysočina region in 1991 and 2001

District	1991		2001	
	Absolute figures	Portion in employed persons (in %)	Absolute figures	Portion in employed persons (in %)
Havlíčkův Brod	17,294	34.3	18,234	41.5
Jihlava	16,006	27.9	17,668	33.8
Pelhřimov	12,251	31.1	13,343	38.3
Třebíč	23,842	40.2	23,620	46.2
Žďár nad Sázavou	24,438	38.9	25,699	46.4
Vysočina region	93,831	34.8	98,564	41.5

Source: Sčítání lidu, domů a bytů k 1. 3. 2001 – dojíždka a vyjíždka. ČSÚ Praha, 2004; own calculations.

Table 3 presents numbers and proportions of persons commuting to work over the boundaries of their municipality of permanent residence in districts of the Vysočina region in 1991 and 2001 (see Table 3). The Vysočina region is characterised by passive balance of labour commuting. In between 2001 and 1991 the negative balance of labour migration even deepened, roughly by 3 thousand persons. Outside the region 18.7 thousand persons commuted to work, from other areas of the Czech Republic 8.8 thousand persons commuted to work into the region: negative commuting balance accounted for 9,911 persons. The only district of the region with positive commuting balance was the Jihlava district thanks to the city of Jihlava. In 1991 the positive balance accounted for 236 persons, while ten years later it was already 2,043 persons.

The city of Jihlava showed positive labour commuting balance of 5,646 persons in 1991 (2,674 commuting out and 8,320 commuting in). In 2001 the commuting balance exceeded

the level of 9,000 persons and accounted for 9,062 persons (2,474 commuting out and 11,536 commuting in). According to the 1991 census results Jihlava presented an important centre of labour commuting; at the same time more persons commuted to work to a number of smaller towns than to Jihlava. In between 1991 and 2001 significant foreign investments were received (see above) and for instance the Bosch company employed almost 4 thousand persons in 2001, which was again reflected in the number of commuters. Due to the fourth largest increase in labour commuters the city thus became the twelfth largest commuting centre in the Czech Republic (see Table 4).

In between 1991 and 2001 the commuting hinterland of Jihlava spatially expanded. The commuting hinterland is formed by municipalities from which more than 20% employed persons commute to Jihlava. In 1991 the hinterland was formed by 61 municipalities, ten years later they were already 77 municipalities (see Figure 6). The largest increase in the number of municipalities (from 20 to 32)

**Table 4** The most important labour commuting centres in the Czech Republic – comparison of 1991 and 2001

Rank	City	Commuting 1991	City	Commuting 2001	City	2001/1991 index
1	Praha	111,837	Praha	163,108	Mladá Boleslav	215.7
2	Ostrava	63,750	Brno	65,127	Liberec	152.3
3	Brno	60,988	Ostrava	45,359	Praha	145.8
4	Plzeň	27,386	Plzeň	27,362	<b>Jihlava</b>	<b>138.7</b>
5	Olomouc	19,705	Olomouc	24,227	České Budějovice	125.5
6	České Budějovice	18,964	České Budějovice	23,791	Karlovy Vary	123.9
7	Zlín	18,098	Mladá Boleslav	20,655	Olomouc	122.9
8	Hradec Králové	16,585	Hradec Králové	19,135	Tábor	117.1
9	Karviná	15,944	Zlín	17,513	Hradec Králové	115.4
10	Pardubice	15,199	Pardubice	16,197	Kroměříž	113.1
11	Kladno	13,270	Opava	13,415	Znojmo	112.8
12	Opava	12,155	<b>Jihlava</b>	<b>11,536</b>	Opava	110.4
13	Frýdek Místek	11,754	Liberec	10,927	Brno	106.8
14	Přerov	11,585	Prostějov	10,466	Pardubice	106.6
15	Teplice	11,459	Ústí nad Labem	9,965	Otrokovice	104.0
16	Prostějov	11,335	Uherské Hradiště	9,902	Uherské Hradiště	101.1
17	Kolín	11,284	Přerov	9,796	Ústí nad Labem	100.5
18	Most	11,241	Kladno	9,745	Plzeň	99.9
19	Třinec	11,107	Teplice	9,579	Zlín	96.8
20	Ústí nad Labem	9,911	Karviná	9,538	Chomutov	92.5
21	Uherské Hradiště	9,796	Třinec	9,150	Prostějov	92.3
22	Hodonín	9,727	Karlovy Vary	8,690	Břeclav	91.5
23	Mladá Boleslav	9,575	Kolín	8,632	Hodonín	86.1
24	Litvínov	9,544	Most	8,560	Příbram	85.4
25	Šumperk	8,843	Frýdek Místek	8,376	Přerov	84.6
26	Stonava	8,654	Hodonín	8,372	Teplice	83.6
27	<b>Jihlava</b>	<b>8,320</b>	Kroměříž	7,829	Šumperk	83.2

Source: Sčítání lidu, domů a bytů k 1. 3. 2001 – dojíždka a vyjíždka k 1. 3. 2001. ČSÚ Praha, 2004; own calculations.

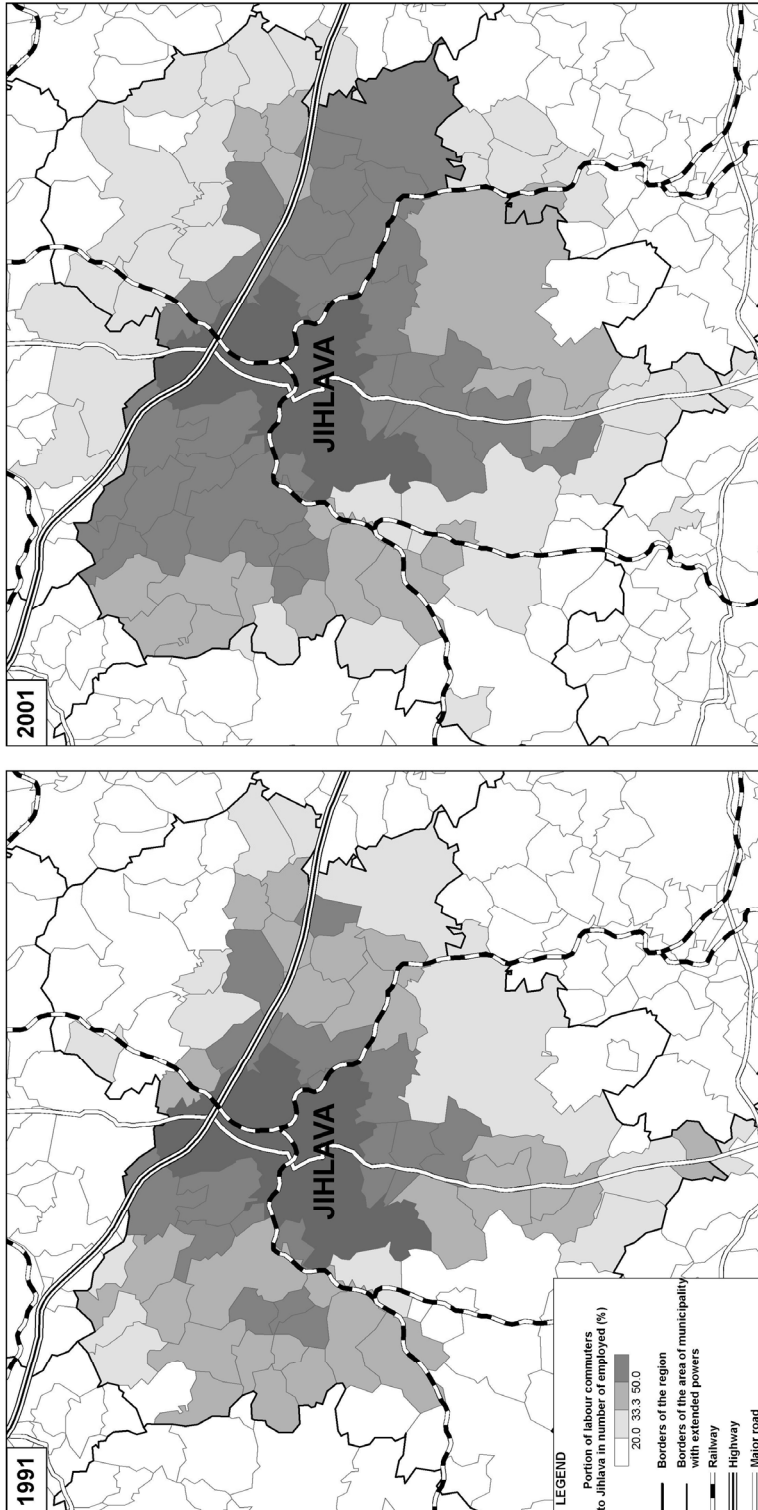


Figure 6 Commuting hinterland of the city of Jihlava in 1991 and 2001.  
Source: Sčítání lidu, domů a bytů 2001, ČSÚ Praha; own calculations.



was achieved in the so called first zone of the commuting hinterland (municipalities from which more than 50% employed commuted to Jihlava); some municipalities of the second (33.3-49.9% employed) and the third (20.0-33.2% employed) zones (as defined according to commuting patterns in 1991) were included in the first zone. The area of the second zone decreased. In 1991 this zone comprised 22 municipalities, ten years later only 16 municipalities. On the other hand the third zone recorded increase in the number of municipalities – from 19 to 29.

The first zone of the hinterland is spatially asymmetric. Municipalities from which at least one half of the employed commutes to Jihlava are situated in the north west and south east off the regional centre. In the southern direction the important role is played by the first class road no. 38, which connects Prague to Vienna. In the south west the dominant position of Jihlava is disturbed by Kostelec, which is an important labour commuting centre of the Vysočina region thanks to the presence of the largest Czech meat packing plant. In the north there is the second largest centre of labour migration in the region – Havlíčkův Brod. Labour force flows to Jihlava mainly from areas with high unemployment rate, i.e. the Telč area, with a relatively good transport connection, and the Třebíč area.

### **Labour commuting to Bosch Diesel**

An increase in the labour function of Jihlava is influenced mainly by foreign investments. This was confirmed by our research carried out in the Bosch Diesel company at the end of April 2006. The main attention focused on the employment structure, but we were also

interested in commuting of the employees to Jihlava.

Out of total number of 5,948 employees of the Bosch Diesel company 5,658 of them had their address of permanent residence in the Vysočina region in April 2006. 139 persons commuted from other regions. 133 persons were from Slovakia. Among other nationalities which the company employed were the Austrians and Germans (18), who occupied solely middle and high management positions.

According to the survey the source of workforce for Bosch Diesel is mainly the city of Jihlava, where more than one third of the employees had the address of permanent residence. The company had a more important position in 19 municipalities in the commuting hinterland, where the number of persons working in Bosch Diesel exceeded 10% of all of the employed living in the municipality, which is not the case of Jihlava (8.4%).

If we are to assess the geographical distribution of commuting to Bosch Diesel by the administrative areas of municipalities with extended authority, we see that the most important one is the Jihlava area. The proportion of the company on the workforce of the Jihlava area reached 7.5%. The second place was occupied by the area of Telč, which belongs to the Jihlava district (2.4%). In absolute figures it is only 158 persons. More persons commuted to Bosch Diesel from the areas of Třebíč, Havlíčkův Brod and Moravské Budějovice (see Table 5).

From the area of Třebíč more than 800 persons commuted to Bosch Diesel in April 2006. It could be surprising, since in case of the

**Table 5** Structure of employees of Bosch Diesel according to place of permanent residence (according to areas of municipalities with extended authority of the Vysočina region) as of April 30, 2006

Area of municipality with extended authority	Number of persons	Proportion in employment in Bosch Diesel (%)	Area of municipality with extended authority	Number of persons	Proportion in employment in Bosch Diesel (%)
Jihlava	3,739	62.9	Velké Meziříčí	79	1.3
<i>Out of which the city of Jihlava</i>	2,122	35.7	Pelhřimov	53	0.9
Třebíč	817	13.7	Světlá nad Sázavou	29	0.5
Havlíčkův Brod	408	6.9	Chotěboř	7	0.1
Moravské Budějovice	180	3.0	Náměšť nad Oslavou	4	0.1
Telč	158	2.7	Bystřice nad Pernšt.	3	0.1
Humpolec	95	1.6	Nové Město na Moravě	3	0.1
Žďár nad Sázavou	81	1.4	Pacov	2	0.0

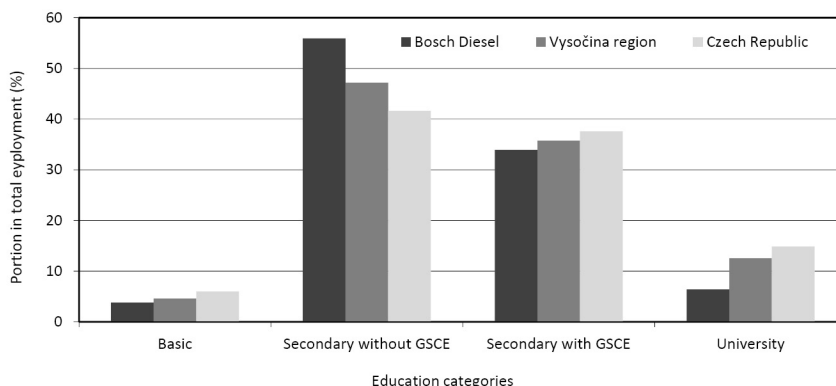
Source: Bosch Diesel, s.r.o., 2006.

municipalities of this area and its centre, Třebíč, they are not accessible very well. From the town of Třebíč 495 persons commute to Bosch Diesel. It is 2.6 times more than from more easily accessible Havlíčkův Brod. Commuters from Třebíč have to take much longer journey in comparison with commuters from Havlíčkův Brod, and the time difference is still more noticeable. The reasons for higher commuting activity of not only the town of Třebíč but the whole area are a small offer of job positions, relatively high unemployment rate and low wages in the region. Large number of commuters was also recorded in case of another area in the Třebíč district – Moravské Budějovice. The shortest road distance between Jihlava and Moravské Budějovice is 46 km, which is considerably longer than from some other centres such as Humpolec, Pelhřimov etc. The lack of job positions in the area of Moravské Budějovice (in April 2006 there were 25 unemployed per one vacancy) and high unemployment rate (the highest in the

Vysočina region – 14.1%) induced increased labour commuting to Jihlava, mainly to Bosch Diesel. In the Vysočina region there were (in April 2006) two other areas with the unemployment rate higher than 10%: Náměšť nad Oslavou and Bystřice nad Pernštejnem. The distance from Náměšť nad Oslavou and Bystřice nad Pernštejnem exceeds 50 km, which means that commuting to Jihlava is not very lucrative for the inhabitants even if we take into account higher wages. Low rate of labour commuting to Bosch Diesel was recorded also in the areas of Chotěboř, Nové Město na Moravě and Pacov.

## CONCLUDING REMARKS

There can be no doubts about the importance of the Bosch Diesel company in strengthening the position of the city of Jihlava as far as jobs offers are concerned. At present the industry in Jihlava specializes almost solely in the automobile industry. Companies active in this



**Figure 7** Education structure of Bosch Diesel employees in the Vysočina region and the Czech Republic.

Source: Bosch Diesel, s.r.o., 2006.

branch of industry – not only Bosch Diesel but also Automotive Lighting or Motorpal – are mainly “assemblies” without a stronger development base. Data on education structure of the Bosch Diesel employees confirm this finding (see Figure 7).

Nowadays the world financial crisis heavily influences European automobile producers and their Czech suppliers are not an exception. According to the estimates made by experts around 20 thousand of people working in the automobile industry can be dismissed (out of the total of 120 thousand) in the course of one year in the Czech Republic. Unfortunately this will most likely also concern the suppliers of car components based in Jihlava. Therefore the economic policy of the Jihlava town hall and the Vysočina region should be aimed at creation of conditions for diversification of production and development of services. The increase in employees in services in Jihlava shows that slow release of workers from largest industrial companies does not have to necessarily lead to the collapse of labour

market, on the contrary new services would mean the strengthening of Jihlava’s position as the regional centre.

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## Résumé

### Jihlava – centrum kraje Vysočina a zahraniční investice

Město Jihlava bylo od doby rozmachu těžby stříbra ve svém okolí ve 13. století ekonomickým centrem řídké osídlené Českomoravské Vrchoviny. Krajským městem byla Jihlava již v 16. století, kdy na Moravě vznikly poprvé kraje (v Čechách vznikly už ve 14. století). Status krajského města měla Jihlava prakticky až do konce 60. let 19. století, kdy v českých zemích (Čechy a Morava) zaniklo krajské zřízení.

Ještě v období prvního moderního sčítání lidu v roce 1869 představovala Jihlava páté populačně největší město v českých zemích. Především díky odsunu původního německého obyvatelstva po roce 1945 byla pozice Jihlavy v sídelním systému České republiky značně oslabena.

K 1. 1. 1949 bylo v tehdejší Československu obnoveno krajské zřízení. Zřízen byl i kraj Jihlavský. Tato územně správní organizace však vydržela pouze do roku 1960, kdy v Československu proběhla administrativní reforma,

jejímž výsledkem byl menší počet územně rozsáhlejších krajů a okresů. Jihlava ztratila status krajského města a stala se pouze sídlem okresu.

Při diskusích nad novým územně-správním členěním České republiky po roce 1989 bylo jednou z nejčastěji frekventovanou otázkou, zda na území Českomoravské vrchoviny, území ležícím mezi pražskou a brněnskou aglomerací, zřídit nový kraj či nikoli. Vzhledem ke skutečnosti, že v politických kruzích zvítězila myšlenka více krajů (celkem 14) než před rokem 1989 (kdy jich bylo pouze 8), bylo zřejmé, že i v tomto území bez existence populačně silného centra nový kraj vznikne a jeho sídlem bude „padesátitisícová“ Jihlava.

Cílem autorů tohoto článku je ukázat, že město Jihlava postupně nabývá předpoklady pro to, aby mohlo úspěšně integrovat celé území kraje. Získáním statutu krajského města Jihlava významně posílila svoje správní funkce vůči svému zázemí, avšak jako rozhodující pro postavení města v sídelním systému kraje se jeví významné posílení ekonomické funkce města. Toto posílení vychází z nárůstu přímých zahraničních investic do průmyslu města zhruba od poloviny 90. let prakticky do současnosti. Největším investorem se stal v Jihlavě německý koncern Robert Bosch GmbH ze Stuttgartu, který vlastní největšího zaměstnavatele v kraji Vysočina, výrobce vstříkovačích systémů dieselových motorů, BOSCH DIESEL, s.r.o.

Robert Bosch GmbH se rovněž podílel na umístění druhé nejvýznamnější investice v Jihlavě. Tu představuje společnost Automotive Lighting – producent automobilové osvětlovací techniky.

Autoři se zaměřili především na rozbor prostorového rozložení dojížděky za prací do města Jihlavy a do společnosti BOSCH DIESEL. Pracovní migrace, jež je jednou z forem krátkodobého pohybu obyvatelstva (short-term migration), je ovlivňována mnoha faktory. O charakteru dojížděky za prací rozhoduje sídelní struktura daného území, rozmístění pracovních příležitostí, dopravní infrastruktura, demografická struktura, trh s byty apod. Jediné údaje o dojížděce za prací v České republice poskytují jednotlivá sčítání lidu, domů a bytů (SLDB) od roku 1961, přičemž poslední sčítání proběhlo v březnu 2001. V intercensálním období 1991–2001 narostl díky zahraničním investicím významně počet dojíždějících do Jihlavy. Tento nárůst byl čtvrtý nejvýznamnější v České republice, a město se tak stalo dvanáctým největším dojížděkovým centrem v ČR.

Společnosti BOSCH DIESEL byla věnována pozornost především. Realizovaný průzkum struktury zaměstnanců a analýza dojížděky zaměstnanců do jihlavské firmy ukázal, že BOSCH DIESEL má prostorově rozsáhlý dojížděkový region. Práci zde nacházejí převážně osoby s nižším vzděláním a nižším věkem (ve srovnání s průměrem kraje Vysočina a ČR).

Článek vznikl v průběhu roku 2008, tedy ještě v období hospodářského růstu v ČR. Nelze ovšem nezmínit aspekt současné světové finanční a (následně) hospodářské krize, která již tvrdě dopadá i na evropské automobilky a jejich české dodavatele, neboť mezi ně především se řadí zahraniční společnosti, které realizovaly své investice v Jihlavě. Z expertních odhadů vyplývá, že v ČR může být během jednoho roku propuštěno až 30 tisíc zaměst-

nanců automobilového průmyslu. A to se samozřejmě týká i jihlavských dodavatelů automobilových komponent. Autoři dospěli k názoru, že jediným východiskem ze současné problematické situace je diverzifikace výroby a zejména rozvoj služeb. Nárůst počtu zaměst-

naných ve službách v Jihlavě naznačuje, že i pozvolné uvolňování pracovníků z největších průmyslových podniků nemusí znamenat kolaps na trhu práce. Naopak, nové služby budou ve svém důsledku znamenat posílení role Jihlavy jako krajského centra.