PRACE NAUKOWE UNIWERSYTETU EKONOMICZNEGO WE WROCŁAWIU nr 180
Problemy rozwoju regionalnego 2011

Miloslav Šašek
University of J.E. Purkyně in Ústí nad Labem, Czech Republic

ANALYSIS OF MIGRATION IN THE LARGEST CITIES OF THE CZECH REPUBLIC

Summary: This text is focused on migration in the biggest cities in the Czech Republic. Suburbanization process was apparent in the second part of the 1990s primarily in the surrounding areas of Prague, Brno and Plzeň. The suburbanization did not as much accelerate in structurally affected areas – for example in the area of Moravian-Silesian city of Ostrava. During 1992-2003 (monitored period) Prague showed a negative migration balance (which continued until 2001). In Brno, which is minor in terms of population, the decrease of the inhabitants on account of relocation was noted in 1996 and in Plzeň even earlier in 1994. In both cities the negative migration balance continued until the end of the analyzed period, i.e. to the end of 2003 (in a matter of fact it was until 2004 in Plzeň and 2006 in Brno).

Key words: migration, suburbanisation, city.

1. Introduction

Suburbanization process was apparent in the second part of the 1990s primarily in the surrrounding areas of Prague, Brno and Plzeň. The suburbanization has not been as much accelerated in structurally affected areas – for example in areas such as Moravian-Silesian city Ostrava. Regarding intensity of the population movement to the city surrounding areas, Praha, Brno and Plzeň are significantly different. During 1992-2003 (monitored period) Prague showed a negative migration balance in 1998 (which continued until 2001). In Brno, which is minor in terms of population, decrease of the inhabitans on account of relocation was noted in 1996 and in Plzeň even earlier – in 1994. In both cities the negative migration balance continued until the end of the analyzed period, i. e. to the end of 2003 (in a matter of fact it was until 2004 in Plzeň and 2006 in Brno).

Since this publication focuses primarily on the structure of migrants according to the highest level of completed education, migrants aged 0-14, and even 15-19, were excluded from the further analysis. In 1992, 36% of people from this age group were either employed or registered as unemployed, while at the end of the analyzed period, i. e. in 2003, the rate was not even 10%. It means that more than 90% of people aged 15-19 were students. Evidently, people aged 20-24 are students, but most of them are

employed or unemployed. In 2003 the economically active population was (in the Czech Republic) more than 63% of people aged 20-24.

2. The Moravian metropolis Brno

At the end of the monitored period (12 December 2003) there were 370 thousand inhabitans living in Brno, the largest Moravian city and the second largest city in the Czech republic, which was approximately one third of the total number of residents living in Prague at the same time. The emigration started to prevail over the immigration in 1996, and this situation continued until 2003, which was the last year of the analyzed period. The total negative migration balance of people aged 20 and over between 1992-2003 was not too different from Prague. The migration loss of Prague was almost 6,3 thousand, but migration loss of Brno was only less than 1000 persons lower, therefore the negative gross rate of migration balance of people 20 and over was more than twice as high in Brno than in Prague.

Table 1. Immigrants and emigrants aged 20 and over (national inter-regional migration) total to/from Brno between 1992-2003

Administrative region	Immigrants	Emigrants	Migration balance	Migration change
Hl. m. Praha	1 144	2 871	−1 727	4 015
Středočeský	634	1 048	−414	1 682
Jihočeský	652	766	−114	1 418
Plzeňský	333	405	−72	738
Karlovarský	271	326	−55	597
Ústecký	563	551	12	1 114
Liberecký	282	309	−27	591
Královehradecký	545	510	35	1 055
Pardubický	1 163	929	234	2 092
Vysočina	3 408	2 983	425	6 391
Jihomoravský	16 172	22 429	−6 257	38 601
Olomoucký	2 167	1 591	576	3 758
Zlínský	2 576	1 741	835	4 317
Moravskoslezský	2 654	1 450	1 204	4 104
Total	32 564	37 909	−5 345	70 473

Source: [*Databaze*… 2004]; own calculations.

Between 1992-2003 there were 32,6 thousand immigrants aged 20 and over to Brno, almost a half from this number came from the South Moravian Region, where Brno is the regional city. During the last legal administrative reform in 1997 the number of the South Moravian Region´s districts was reduced from 14 to 7. From these seven districts three became a part of the Vysočina Region, other three were integrated to the Zlín Region and Prostějov district became a part of the recently founded Olomouc Region. This situation influenced the size of migration flows

from the new regions to Brno. According to the Table 1 data the migration flows from the Vysočina, Moravian-Silesian, Zlín and Olomouc regions to Brno can be considered significant. More than 2 thousand people aged 20 and over moved to Brno from each of above mentioned regions between 1992-2003. If the number of immigrants to Brno from individual regions was recounted on 1000 persons of the same region and divided by 12 (the analyzed twelve years), the result would show an average annual gross rate of emigration of people (aged 20 and over) to Brno from the Czech regions. The order would be as follows: The South Moravian Region (1,77 per mille), Vysočina (0,55), Zlín Region (0,36) and Olomouc Region (0,28). The Moravian-Silesian Region, which does not border with the South Moravian Region, has a monitored relative value with Brno lower (0,17) than the neighbouring Pardubice Region (0,19).

On the other side, the proportion of the South Moravian Region on the migration from Brno was higher than in case of the migration to Brno. It reached almost 60%. The main target area of emigrants from Brno was Brno-Venkov *District*, which surrounds the Moravian metropolis. The second largest emigration flow was the moving of people from Brno to Vysočina and almost the same number of emigrants from Brno was noticed during the monitored twelve years also in the capital city Prague.

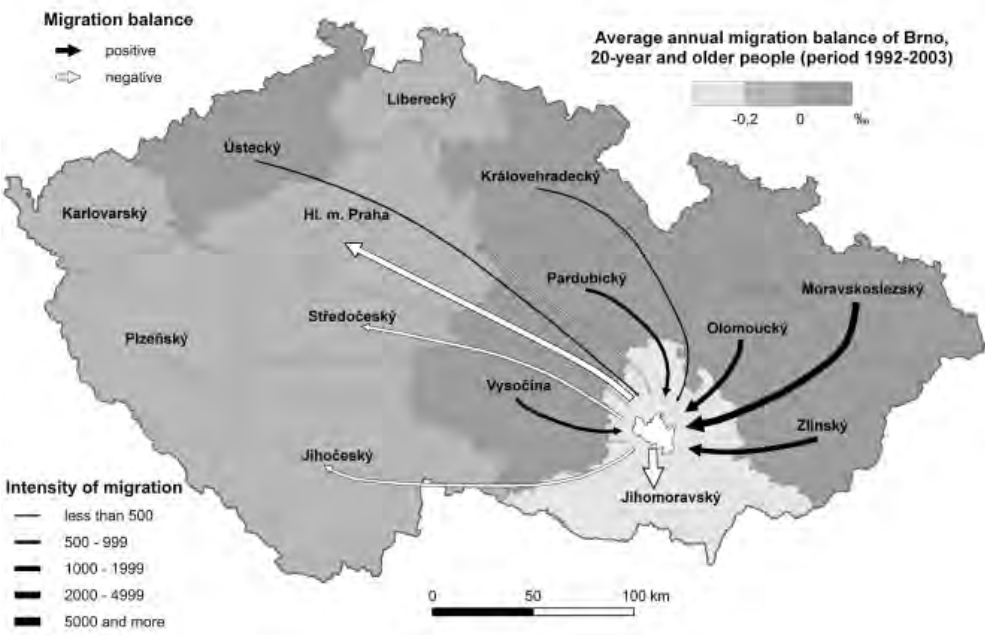

Fig. 1. Migration intensity and migration balance of people aged 20 and over moving to/from Brno between 1992-2003

Source: [*Databaze*… 2004]; own calculations.

Brno showed a negative migration balance 5,3 thousand persons aged 20 and over during the monitored period. Brno´s migration loss in benefit of the rest of the South Moravian Region was even higher – 6,3 thousand persons. Except of this region Brno had a more significant negative migration balance also with Prague and the Central Bohemia Region, and a less significant with the South Bohemian, Plzeň, Karlovy Vary and Liberec regions. Brno had a migration profit primarily with the Moravian-Silesian and also with the Zlín and Olomouc regions.

Table 2. Domestic migration of people aged 20 and over to/from Brno between 1992-2003

Period	Brno-Venkov	
	Migration balance	Migration change
1992-1994	−152	6 396
1995-1997	−1 509	6 353
1998-2000	−1 939	6 515
2001-2003	−3 668	8 048
1992-2003	−7 268	27 312

Source: [*Databaze*… 2004]; own calculations.

Table 3. Total migration balance of Brno with the Czech regions between 1992-2003 by age groups

Administrative region	Age group							Total
	20-24	25-29	30-34	35-39	40-49	50-59	60+	
Hl. m. Praha	−306	−506	−321	−187	−236	−100	−71	−1 727
Středočeský	−15	−74	−100	−46	−76	−60	−43	−414
Jihočeský	22	45	−15	−15	−48	−35	−68	−114
Plzeňský	−20	5	18	−8	−31	−14	−22	−72
Karlovarský	−14	27	3	−25	−22	−5	−19	−55
Ústecký	30	38	−10	−3	−39	−4	0	12
Liberecký	17	34	−13	7	−21	−24	−27	−27
Královehradecký	56	50	14	1	−29	−18	−39	35
Pardubický	196	146	62	−10	−40	−54	−66	234
Vysočina	466	521	131	−18	−74	−151	−450	425
Jihomoravský	501	90	−962	−976	−1705	−1753	−1452	−6 257
Olomoucký	293	416	91	−5	−47	−52	−120	576
Zlínský	401	502	112	1	−52	−86	−43	835
Moravskoslezský	467	599	127	30	−13	10	−16	1 204
Total	2 094	1 893	−863	−1 254	−2 433	−2 346	−2 436	−5 345

Source: [*Databaze*… 2004]; own calculations.

The migration loss of Brno was 6257 persons in benefit of the South Moravian Region, especially the municipalities in Brno-Venkov District. The number of persons who moved to this district from Brno was 7268, consequently Brno gained in the monitored twelve years approximately one thousand persons from the South Moravian Region with the exception of Brno-Venkov district. The Table 48 data

imply that the suburbanization in Brno and surrounding areas began in the first half of 1990s, but it was a very slow process. While between 1992-1994 Brno-Venkov District gained 152 inhabitans from Brno, in the next three-year period the active migratory balance was almost 10 times higher. The migration balance of this district was furthermore increasing and between 2001-2003 it was more than 3,5 thousand persons. The proportion of Brno-Venkov District on a migration turnover of Brno is more than 38 percent and it makes the area significant for the migration of Brno inhabitans.

Table 4. Immigrants and emigrants aged 20 and over (domestic inter-regional migration) with university education to/from Brno between 1992-2003

Administrative region	Immigrants	Emigrants	Migration balance	Migration change
Hl. m. Praha	371	1 096	−725	1 467
Středočeský	143	333	−190	476
Jihočeský	234	170	64	404
Plzeňský	102	71	31	173
Karlovarský	66	47	19	113
Ústecký	138	87	51	225
Liberecký	73	66	7	139
Královehradecký	209	118	91	327
Pardubický	347	187	160	534
Vysočina	912	535	377	1 447
Jihomoravský	2 716	3 418	−702	6 134
Olomoucký	809	366	443	1 175
Zlínský	959	408	551	1 367
Moravskoslezský	1 108	319	789	1 427
Total	8 187	7 221	966	15 408

Source: [*Databaze…* 2004]; own calculations.

3. The western Bohemia city Plzen

At the beginning of the analysed period between 1992-2003 Plzen had a migration profit. Anyway, the city Plzen begins to lose its residents gradually since the year 1994. Between 1992-1994 Plzen with its demographic background made by regions Plzen-south and Plzen-north showed a slight negative migration deficit. In those cases in the region Plzen-south it amounted to 116 people and in the region Plzen--north to 16 people aged 20 and over. This negative deficit was markedly widened in the next years. The following tables do not register the migration between 1992--1994 because data about the emigration of the persons from Plzeň aged 20 and over in the structure according to the education are incomplete.

Table 5. The immigrants and emigrants aged 20 and over (national inter-regional migration) total from/to Plzen between 1995-2003 (the Plzen region without Plzen)

Administrative region	Immigrants	Emigrants	Migration balance	Migration change
Hl. m. Praha	734	1 186	−452	1 920
Středočeský	576	587	−11	1 163
Jihočeský	602	488	114	1 090
Plzeňský	6 691	9 679	−2 988	16 370
Karlovarský	1 083	564	519	1 647
Ústecký	556	340	216	896
Liberecký	106	95	11	201
Královehradecký	130	109	21	239
Pardubický	104	103	1	207
Vysočina	123	80	43	203
Jihomoravský	218	183	35	401
Olomoucký	108	97	11	205
Zlínský	77	67	10	144
Moravskoslezský	199	133	66	332
Total	11 307	13 711	−2 404	25 018

Source: [*Databaze*… 2004]; own calculations.

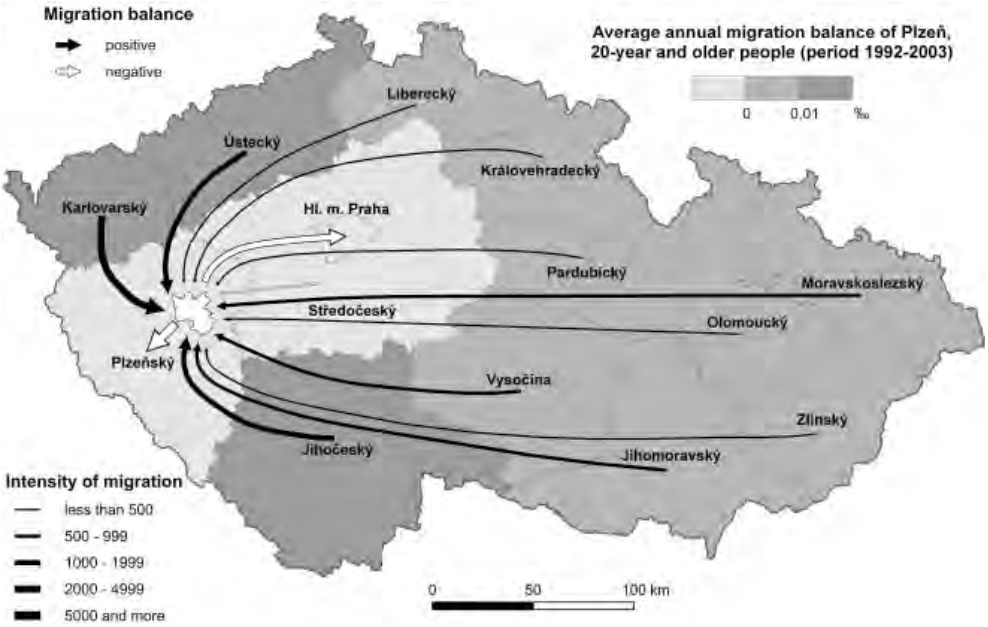

Fig. 2. Migration intensity and migration balance of people aged 20 and over moving to/from Plzen between 1992-2003

Source: [*Databaze*… 2004]; own calculations.

Table 6. Immigrants and emigrants aged 20 and over (domestic migration) to/from Plzen between 1992-2003 (average annual rate per 1000 inhabitants of the region(the Plzen region without Plzen)

Period	Plzeň-jih		Plzeň-sever		Total	
	Migration balance	Migration change	Migration balance	Migration change	Migration balance	Migration change
1995-1997	−417	2 043	−483	2 481	−900	4 524
1998-2000	−665	2 341	−883	2 777	−1 548	5 118
2001-2003	−966	2 588	−1 140	3 246	−2 106	5 834
1992-2003	−2 048	6 972	−2 506	8 504	−4 554	15 476

Source: [*Databaze*… 2004]; own calculations.

The city Plzeň shows a negative migration balance of 2,4 thousands of people aged 20 and more (table 5). Plzen had a negative migration balance only in a set of cities of the Plzen region then with Praha and its wide demographic background represented by the area of central-Bohemian region. The fact which suggests about the attractiveness is that in the comparison with the others regions of the Czech Republic the migration balance was positive. It was most remarkable with the neighbouring region of Karlovy Vary. The migration balance is well-arranged in the figure 2.

The negative migration balance between 1995-2003 amounted nearly to 3 thousands (2988). However the detailed studies showed that Plzen had a negative migration balance only with two regions of its demographic background, in the comparison with the others Plzen increased. As is presented by the data recorded in the table n.54 the negative migration balance went over the limit of 4,5 people in the regions Plzen-south and Plzen-north, it means that the processes of the sub-urbanisation in the closest background appeared.

From the analysis of data about the migration balance of the city Plzen with particular regions of the Czech Republic results that according to the group of five-year and ten-year age group the only region which has the negative migration balance was the Plzen region. With the capital city Praha Plzen showed a migration profit in the oldest observed age-group. That means in the group aged 60 and over. On the other hand Plzen had a positive migration balance in all discussed age-groups.

As similar as it was in the case with the Moravian metropolis Brno even Plzen has been migration attractive for the residents especially in the age of 20-24 and 25--29. It was not only about the neighbouring Karlovy Vary region and close distance regions like South Bohemia region and Ustiregion but even about regions in the East Bohemia (Moravian-Silesian and South-Moravian regions). Plzen got the residents aged younger than 30 mostly with Hradec Kralove and Vysocina regions. As mentioned before Plzen showed a negative migration balance with central-Bohemian region. But Plzen had a migration profit with the central-Bohemian region in the youngest and the oldest age-groups.

Table 7. Total migration balance of Plzeň with the Czech regions between 1992-2003 by age groups

Administrative region	Age group							Total
	20-24	25-29	30-34	35-39	40-49	50-59	60 +	
Hl. m. Praha	−106	−218	−74	−57	−34	−14	51	−452
Středočeský	32	−21	−4	−8	−11	−10	11	−11
Jihočeský	72	53	5	−2	6	−17	−3	114
Plzeňský	−43	−164	−427	−343	−943	−900	−168	−2 988
Karlovarský	157	185	58	36	26	12	45	519
Ústecký	78	78	33	15	3	10	−1	216
Liberecký	−1	8	11	−4	5	−1	−7	11
Královehradecký	16	11	0	−8	5	−6	4	22
Pardubický	−1	13	0	2	−7	−3	−4	0
Vysočina	10	26	2	0	6	2	−3	43
Jihomoravský	16	23	−3	2	−1	1	−3	35
Olomoucký	1	22	−9	0	−4	−1	2	11
Zlínský	1	14	−2	2	3	−4	−4	10
Moravskoslezský	28	29	3	−3	−1	4	6	66
Total	260	59	−407	−368	−947	−927	−74	−2 404

Source: [*Databaze…* 2004]; own calculations.

Table 8. Immigrants and emigrants aged 20 and over (domestic inter-regional migration) with university education to/from Plzeň between 1995-2003

Administrative region	Immigrants	Emigrants	Migration balance	Migration change
Hl. m. Praha	169	379	−210	548
Středočeský	120	168	−48	288
Jihočeský	162	120	42	282
Plzeňský	864	1 214	−350	2 078
Karlovarský	231	94	137	325
Ústecký	149	52	97	201
Liberecký	27	18	9	45
Královehradecký	18	20	−2	38
Pardubický	26	15	11	41
Vysočina	37	14	23	51
Jihomoravský	43	41	2	84
Olomoucký	31	32	−1	63
Zlínský	25	14	11	39
Moravskoslezský	51	16	35	67
Total	1 953	2 197	−244	4 150

Source: [*Databaze…* 2004]; own calculations.

Concerning people with the university degree Plzen lost those educated people because of the migration contrary of Praha and Brno. During the period 1995-2003 the migration balance amounted to 244 people. As mentioned above these regions

were involved at this loss: Plzen, Praha and central-Bohemian regions. A slight negative migration balance of Plzen was discovered in the case of migration of university students between Plzen and regions of Hradec Králové and Olomouc. The source of the university degree people were for Plzen the regions of Karlovy Vary and Usti nad Labem.

The mentioned loss of 244 college-educated people in Plzen does not mean that the migration had a bad influence on the level of education structure of residents in the Plzen region. It is the other way around because in the period 1995-2003 the regions Plzen-south and Plzen-north showed a positive migration balance which was higher than 500 in the case of college-educated people. Municipalities located in the neighbouring demographic background had mostly a positive migration balance.

Table 9. Total migration balance and migration turnover of people aged 20 and over (domestic migration) to/from Plzeň between 1992-2003

Period	Plzeň-jih		Plzeň-sever		Total	
	Migration balance	Migration change	Migration balance	Migration change	Migration balance	Migration change
1995-1997	−28	128	−53	149	−81	277
1998-2000	−53	209	−105	279	−158	488
2001-2003	−110	296	−155	317	−265	613
1992-2003	−191	633	−313	745	−504	1 378

Source: [*Databaze*… 2004]; own calculations.

When we compare the analysed cities we find in the development of the migration of residents in the nineties and at the beginning of this decade some similarities but some differentiates ones as well. These differentiates are not caused only by different population number of municipalities (Plzen had at the end of the year 2003 only 164,7 thousands of residents) and its place in the residential systems of the Czech Republic but even by its demographical location and the dynamism of economic processes.

Literature

Aleš M., *Vnitřní migrace v České republice v letech 1980-1999*, "Demografie" 2001, č. 3.

Andrle A., *Stěhování v České republice podle vzdělání migrantů v letech 1993-1998*, "Demografie" 2002, 44, č. 1.

Bartoňová D., *Demografické aspekty vnitřní a zahraniční migrace v České republice v 90. letech*, "Demografie" 1997, 39, č. 4.

Čermák Z., *Internal migration in the Czech Republic during period of transition*, "Acta Facultatis Rerum Naturalium Univrsitatis Comenianae – Geographica" 1996, 37.

Čermák Z., *Migrační aspekty dlouhodobého vývoje Prahy se zvláštním zřetelem k transformačnímu období devadesátých let*, "Geografie – sborník České geografické společnosti" 1999, 104, č. 2.

Čermák Z., Hampl M., Müller J., *Současné tendence vývoje obyvatelstva metropolitních areálů v Česku: Dochází k významnému obratu?*, "Geografie – sborník České geografické společnosti" 2009, 114, č. 1.

Databaze udaju o migraci obyvatelstva v Ćeske Republice, ĆSU, Praha 2004.

Kühnl K., *Geografická struktura migrace obyvatelstva v Čechách*, Kandidátská dizertační práce, Karlova univerzita, Přírodovědecká fakulta, Praha.2002.

Šašek M., *Vývojové tendence sídelní struktury Severočeského kraje*, Ústí nad Labem, Univerzita Jana Evangelisty Purkyně, "Acta Universitatis Purkynianae" 1999, 22.

Šašek M., *Regionální Differences in Educational Development in the North Bohemia*, "E+M Economics and Management (Ekonomie a Management)" 2003, Technická Univerzita v Liberci.

Šašek M., *Regional Differences in Educational Structures of Migrants and Their Impact on the Educational Structures in the Regions*, Mezinárodní konference Práce naukowe „Gospodarka lokalna i regionalna w teorii i praktyce", Akademia Ekonomiczna we Wrocławiu, Jelenia Góra 2003.

ANALIZA MIGRACJI W NAJWIĘKSZYCH MIASTACH REPUBLIKI CZESKIEJ

Streszczenie: Opracowanie koncentruje się na zagadnieniach migracji w największych miastach Republiki Czeskiej. Proces suburbanizacji uwidocznił się w drugiej połowie lat 90., głównie w obszarach przylegających do Pragi, Brna i Pilzna. Suburbanizacja nie postępowała dynamicznie w obszarach zaniedbanych strukturalnie, jak np. morawsko-śląskie miasto Ostrawa. W analizowanym okresie 1992-2003 Praga zanotowała ujemne saldo migracji, które utrzymywało się do roku 2001. W Brnie, które jest miastem mniejszym, spadek liczby mieszkańców wynikający z relokacji został odnotowany w 1996 r., a w Pilźnie spadek odnotowano wcześniej – w 1994. W obu miastach ujemne saldo migracji utrzymało się do końca analizowanego okresu, tj. do końca 2003 (w istocie utrzymało się do 2004 w Pilźnie i 2006 w Brnie).