

“Demographic and Migratory Flows Affecting European Regions and Cities”

(DEMIFER)

First draft

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1. Introduction

The case study of NUTS 3 region Jihovýchod¹ is focusing on the description of the socio-demographic structure, demographic and interregional and international migratory processes and their economic and social consequences. There is considered the sustainability of the demographic system and the migration process at the sub-regional level as well as information regarding the migration flows to/from EU/ESPON countries. The interrelations between socio-economic and demographic trends are at the heart of this case study. There are discussed the demographic trends on the economy and society as well as migration ones.

1.1. Specification of the research questions, and the aims

First, we have to set the research questions and methods which were more or less the same as for other similar research study area:

- How are demographic and migratory flows affecting the case study area Jihovychod-NUTS 3 region (subdivisions and cities)?
- How do demographic change and migratory movements bring about population growth, population ageing and ageing of the working age population?
- What are the factors of attraction (causes of migration) at the regional level: the role of economic development, labour force demand, regional competitiveness and provision of public services?
- What are the skill level of interregional, intra EU and international migrants?
- What are the economic and social consequences of migratory flows in the Jihovychod region?
- In general, what are the links between ‘demography’ and ‘economy’ in the Jihovychod region?

The case studies are based on the analysis of published research and empirical quantitative research regarding interregional and international migration data. Data analysed in the case studies are coming from published data of population registers and population censuses.

- Population by gender and 5-year age groups

¹ CZ063 Vysocina and CZ064 Jihomoravsky kraj, and the subdivisions of Havlíčkův, Jihlava, Pelhřimov, Třebíč, Žďár, Havlíčkův, Blansko, Břeclav, Brno, Brno-venkov, Hodonín, Vyškov, Znojmo.

- TFR and life expectancy
- Interregional, international (EU, ESPON space) and international (non-ESPON space) migration by country of origin and destination
- Additional information regarding the working age population and the labour force

1.2. Historical and economic background of the South Moravian and Vysocina Regions

South Moravia

The economic situation of the South Moravian region is quite well comparing with the other Czech regions. Its gross domestic product accounts for one-tenth of the Czech Republic's national GDP and its per capita gross domestic product in terms of purchasing power parity amounts to 72% of the EU average. The Southmoravian region is having since 2000 the third position in all Czech regions after GDP (after Prague and Pilsen regions). The heart of the Region and a traditional centre of international trade and services is the city of Brno. South Moravia's conditions for the development of science and research are exceptionally good. In 2007, with the assistance of CzechInvest Agency, Brno attracted 15 new investors, ten of whom are planning to set up development or service centres in the city. In 2007, some forty companies invested in the Region, where they will spend an estimated EUR 500 million on their projects in the next few years. The future enterprises will employ some 3900 people.

The arrival of significant foreign investors in recent years testifies to a favourable environment for business and suitable conditions for successful development. Altogether 275 industrial enterprises with over 100 employees were based in the South Moravian Region in 2007. This figure places the South Moravian Region at the top of all the country's regions.. In 2007, the revenues of industrial enterprises derived from the sale of their own products and services exceeded the EUR 7.5 billion margin, which is 25.8% more than in the previous year. Among the sectors, the highest increase in revenues was shown by enterprises concerned with the manufacture of electrical and optical devices, whose revenues grew by 80.7%, followed by enterprises making other non-metallic mineral products, where revenues were up by 69.0%.

The highest share (53.6%) of the Region's total exports in 2007 was accounted for by the export of machines and transport equipment, followed by the export of semi-finished products and materials (21.1%). In 2007, the South Moravian Region had a 7% share of the Czech Republic's total exports and ranked 5th among the country's 14 regions.

For many years, the structure of industry in the Region was characterised by the dominance of mechanical and electrical engineering and electronics, with centres in Brno and Blansko. Currently, the dominant position in the Region's economy is held by the manufacturing industry, which accounted for 24.1% of the Region's gross added value, with agriculture and other traditional sectors, especially in the Region's southern areas, accounting for a mere 3%. Construction, a developing sector in the Region, had a 7.8-per cent share and trade, the repair of consumer goods a share of 14.3%, with commercial services accounting for 15.3%.

Of the total number of 269 366 registered economically active entities, 13.8% operated in industry, 11.5% in construction, while 25.7% were involved in trading and the repair of motor

vehicles and 21% in the real estate business. Only 6.3% of economic entities operated in agriculture and forestry. In spite of this, farming in the Region is a highly productive economic activity.

Very favourable conditions for intensive farming exist in the southern parts of the Region. Farmland accounts for more than 60% of the Region's total area, 83% of which is arable land. The highest proportions of arable land are to be found in the districts of Znojmo and Brno-Country. The main crops in the Region are cereals, rape and sugar beet. The extremely good natural conditions make it possible for farmers to carry on the long tradition of specialised farming production linked to the Region's specific features, mainly winegrowing and fruit and vegetable growing. 90% of the country's vineyards are to be found in the Region. Winegrowing is especially flourishing in the Břeclav district, which accounts for 48% of the winegrowing surface in the Czech Republic, followed by the districts of Hodonín, Znojmo and partly also Brno-Country. In animal production, the South Moravian Region holds a leading position in pig rearing and poultry production.

In recent years, cross-border co-operation has been developing in the framework of the Pomoraví Euroregion, which associates the regions of Weinviertel (Lower Austria), South Moravia and West Slovakia (www.euregio-weinviertel.org). The intensifying linkage of those regions creates prerequisites for the establishment of regional manufacturing networks. Good co-operation exists mainly in the area of metalworking and woodworking, supplies for the car industry and environmental facilities. Increasingly noteworthy is the co-operation in farming with the associated agro-industry and food industry sectors.

The South Moravian Region has extremely good conditions for the development of science and research thanks to the large number of university students and the very good rating of its universities. This fact has been confirmed by companies (e.g. Bio Vendor, Honeywell, FEL, IMI Norgren, MMM Group, Pliva, Tescan, Grisoft, NESS Technologies, Siemens) which have set up their Research and Development centres in Brno.

A favourable feature is the Region's adequate network of pre-school facilities and schools. The aim of the secondary-level and apprentice training school system is to link the supply of secondary-school graduates with the demand of the labour market. Institutions of higher learning add to the high standard of education in the Region. 11.7% of university students in the Czech Republic study at the Region's universities. An important institute is the Military Academy with departments in Brno and Vyškov, which have the use of large training grounds and a modern infrastructure (www.unob.cz).

Vysocina

The Vysočina Region has an agricultural tradition and the industrial development started after the 50's. Small and medium-sized enterprises are its economic backbone. The region Vysočina had the GDP in 2007 at almost 150 billion Czech crowns (the share on the Czechia GDP level was 4.2 %). The high of the regional GDP per capita was in 2007 287 879 CZK.

The economy of the eastern part of the Region is influenced by the neighbouring Brno agglomeration, and the north-east is a catchment area of Prague. The main sectors are engineering, electrical engineering, the food industry and woodworking. The other sectors in the Region are the chemical, glass, textile, power, and construction industries, and the manufacture of components for the automobile industry.

Agriculture is focused on meat and milk production, and the crops are potatoes, flax and rape. Important sectors are forestry and fish- and waterfowl-breeding. The Region accounts for 4.3% of the GDP of the Czech Republic. Dominant in regional exports are machinery and transport equipment. A good locality for foreign and domestic investors is Bystřice nad Pernštejnem, which has many comparative advantages, when compared to similar industrial zones in the Czech Republic and Central Europe.

The network of schools provides education of a high standard. These include the College of Polytechnics Jihlava and the West Moravian University in Třebíč. The Vysočina Region has many prerequisites for the development of tourism. It ranks among the Regions of the Czech Republic with the finest environment. It has 124 protected landscape areas and nine natural parks. Municipal information centres offer a broad range of tourist attractions. Marked trails are prepared for hiking and cycling. The main destinations include the Zoo in Jihlava, the Museum of Records and Curiosities in Pelhřimov, the Western Šiklův Mlýn near Zvole nad Pernštejnem, and the Urban Monument Reserves in Telč, Jihlava and Třebíč, which are on the UNESCO World Heritage List.

1.3. Settlement structure

The area of Jihovýchod region (NUTS 2) has 12 districts, 36 administrative territories of municipalities with extended powers and 1 376 municipalities, of which 80 towns. 23% of the area's population live in 1 142 municipalities with less than 1 000 inhabitants, 44% live in 17 towns with more than 10 000 inhabitants. With its surface of 7 196 km² and a population of 1 140 534 it ranks fourth in size among the Czech Republic's regions. There are 26% of the area's population living in the regional towns of Jihlava and Brno. The areas of the two regions differ only a little: the Jihomoravský Region is a bit larger (2%), but its population is more than double. The situation in the average size of municipalities as measured by population is similar. The number of municipalities in the Vysočina Region is by one eighth higher as is also the proportion of the population in rural municipalities (by a sixth). The concentration of population in the capital of the Jihomoravský Region is nearly fourfold. The population density in the Jihomoravský Region is more than twice the population density of the Vysočina Region.

From the geographical point of view, the Jihomoravský Region (NUTS 3) has a relatively advantageous position. This ensues from its location on the historical junction between the south and the north of Europe. Within the European Union, its neighbours are Austria and Slovakia. The South Moravian Region is defined by the districts of Blansko, Brno-City, Brno-Country, Břeclav, Hodonín, Vyškov and Znojmo and is divided into 21 administrative districts with enlarged competence comprising 673 communities, 49 of which are towns. Brno, the Region's capital, is Moravia's largest city and the second largest city in the Czech Republic. One-third of the Region's population lives in Brno, which unequivocally surpasses all other cities of the Region in terms of its economic importance, and its significance goes far beyond the Region's boundaries. (www.bрно.cz).

The Vysočina Region is situated on the boundary between Bohemia and Moravia, in the very centre of the Czech Republic. It differs from the neighbouring Regions by the ruggedness of the landscape, higher altitude and sparse settlement. Its area of 6 796 km² is 8.6% of the area of the Czech Republic. The Region has 513 677 inhabitants in five districts and 704

municipalities, of which 34 are towns. The regional capital, with 50 140 inhabitants, is Jihlava, which is also the commercial, industrial and cultural centre.

1.4. Outline of the case study report

Most of the results of this report are based on secondary analyses and CZSO data source.

2. Review of existing analysis of demographic and migratory flows in the case study region

3. Demographic stocks and flows of the case study region and its sub-divisions

Since 2000 the Czech Republic is divided into 14 new regional units (NUTS 3) and 76 districts (NUTS 4) and 6250 communes (NUTS 5). Since 1 January 2005 internal migration reflects territorial changes, i.e. the transfer of 28 municipalities between regions and districts. Since 1 January 2007 internal migration data have reflected the transfer of 119 municipalities from one district to the other within the regions.

Methodologically we are working with the following data:

In terms of flows the internal migration refers to a change of the municipality of permanent residence within the Czech Republic. In the category of foreigners are registered since 2001 also those, who are having long term residence permit (beside the permanent one).

External migration refers to a change of the country of permanent residence and from 2001 also those with other types of stay of foreigners over 90 days). Registration of emigration (international migration) is pure because many persons are not deregistering.

In terms of stocks, the figures include Czech citizens with permanent residence and also foreigners with permanent residence and with visa over 90 days. Since 1 May 2004 the figures include citizens of the European Union with temporary stay on the territory of the Czech Republic and citizens of other countries with long-term stay.

3.1. Age structure of the population

The age structure of the population in the Vysočina region is more or less at the same level as the average of the Czechia. On the other hand the Southmoravian region has older population mainly due to a crucial role of urban population of the Brno city.

The border districts (Znojmo and Breclav) have younger population because it is new settled territory after the Second World War and the hinterland Brno agglomeration district Brno-venkov is probably influenced by the suburbanization migration.

Table : Basic indicators of population age structure by region and district: 31 December 2007

Republic, region (R), district	Population, total	Population aged (%)			Mean age	Age dependency ratio
		-14	15-64	65+		
Czechia	10,381,130	14.2	71.2	14.6	40.3	102.4
Vysočina (R)	513,677	14.8	70.4	14.9	40.0	100.6
Havlíčkův Brod	95,618	14.4	70.2	15.3	40.4	106.4
Jihlava	111,257	14.6	70.9	14.6	40.1	100.0
Pelhřimov	72,958	14.3	69.7	16.1	40.9	112.8
Třebíč	114,153	14.9	70.6	14.5	39.8	97.3
Žďár nad Sázavou	119,691	15.5	70.1	14.4	39.4	93.1
Jihomoravský kraj (R)	1,140,534	13.9	70.9	15.2	40.6	108.9
Blansko	105,663	14.4	70.4	15.2	40.4	106.1
Brno-město	368,533	12.8	70.5	16.7	41.8	131.0
Brno-venkov	195,644	15.0	70.3	14.7	40.0	98.0
Břeclav	113,171	14.1	72.1	13.8	40.0	97.4
Hodonín	157,176	14.0	71.4	14.6	40.2	104.5
Vyškov	87,519	14.5	71.0	14.5	40.0	100.1
Znojmo	112,828	14.9	71.4	13.7	39.7	92.4

Source: CZSO, own

In the whole region of Southeast we observe population ageing – while in the beginning of the 90' the age dependency ratio was around 70, actually (2008) is 109,8.

3.2. Population change and its components

In the context of the natural change in the Czechia during the 1994-2005, the given regions recorded the natural population decrease. The main reason was decrease of the fertility in the Czechia, and the districts of Southmoravian region belonged to the group with the lowest fertility level in 2001 to 2005. The situation changed after 2005 when the fertility rate and also birth rate increased and thus the natural rate is positive.

The differences of the natural increase inside the Southeast region correspond to the differentiation of the fertility rate and age composition of the region population.

Table: The population change in the Southeast region (NUTS 2) and its districts
(per 1 000 year population), 2008

Regions/Districts	Live births	Abortions	Deaths	Natural increase	Immigrants	Emigrants	Net migration	Total increase
Vysočina (NUTS 2)	11.0	3.4	9.5	1.5	10.5	8.6	1.9	3.4
Havlíčkův Brod	10.8	3.7	10.3	0.5	15.7	11.5	4.3	4.8
Jihlava	12.1	3.7	8.8	3.3	14.7	11.0	3.7	6.9
Pelhřimov	10.0	3.2	9.8	0.2	15.8	12.2	3.5	3.7
Třebíč	10.5	3.1	9.7	0.8	9.1	11.0	-1.9	-1.1
Žďár nad Sázavou	11.1	3.3	9.0	2.1	10.0	9.1	0.9	3.0
Jihomoravský (NUTS 2)	11.5	3.3	9.8	1.7	10.8	6.7	4.1	5.8
Blansko	11.9	3.1	10.0	1.8	13.9	10.2	3.7	5.5
Brno-město	12.1	3.5	10.3	1.8	25.6	21.9	3.7	5.6
Brno-venkov	12.6	2.8	9.2	3.4	30.2	19.7	10.5	13.9
Břeclav	10.4	3.5	9.3	1.2	10.4	8.9	1.6	2.7
Hodonín	9.9	2.9	9.9	0.0	7.7	8.3	-0.6	-0.6
Vyškov	11.3	3.3	9.9	1.5	17.1	12.5	4.6	6.1
Znojmo	11.0	4.1	9.8	1.2	11.9	8.8	3.0	4.2

Source: CZSO, own

3.3. Natural change - fertility and mortality

3.4. Net migration (intra-regional, inter-regional, intra-ESPON Space, extra-ESPON Space)

As one can see in the table 1, the net internal migration in both regions (NUTS 3) is generally negative and the losses in the observing period are deepened.

The main factors influencing internal migration are the processes of suburbanization. Brno (as the second largest city in the Czechia) as a core of an urban agglomeration is significantly loosing its population regarding the hinterland. Districts of Brno-venkov, Blansko and Vyškov are parts of the outer belt of Brno agglomeration and their net internal migration is positive.

The composition of the migratory flows from city of Brno to its hinterland are typical for suburbanization – is distinguished by young and well educated population. The peripheral position and pure economic power of the districts in Vysočina region are playing the decisive role in the negative internal net migration.

In comparison with the internal net migration is the international net migration significantly positive and thanks to this plays dominant role in migration balance. The main increases have Brno and its hinterland but comparing with other regions in the Czechia doesn't belong to the highest incomes regions. The other districts do not play an important role regarding the migration balance.

Table 1: Net migration at the District and region level (Vysočina and Jihomoravský regions)

District/Region	Net migration								
	Internal			International			Total		
	1994-98	1999-03	2004-08	1994-98	1999-03	2004-08	1994-98	1999-03	2004-08
Pelhřimov	-309	-342	-245	1026	489	1415	717	147	1170
Havlíčkův Brod	319	-45	-828	187	348	2084	506	303	1256
Jihlava	152	-384	-231	312	469	1671	464	85	1440
Třebíč	-68	-242	-1437	246	206	1345	178	-36	-92
Žďár nad Sázavou	-754	-861	-1161	215	248	1216	-539	-613	55
Region Vysočina (NUTS 3)	-660	-1874	-3902	1986	1760	7731	1326	-114	3829
Blansko	478	479	596	366	477	1607	844	956	2203
Brno-město	-1803	-7486	-9779	2669	2144	10284	866	-5342	505
Brno-venkov	2469	5230	5797	666	1747	5575	3135	6977	11372
Břeclav	330	97	-152	654	-448	888	984	-351	736
Hodonín	-277	-726	-1223	926	-379	700	649	-1105	-523
Vyškov	686	956	782	322	334	861	1008	1290	1643
Znojmo	324	316	272	218	301	828	542	617	1100
Region Jihomoravský (NUTS 3)	6621	-3402	-11121	5821	4176	20743	8028	3042	17036
SOUTHEAST (NUTS 2)	5961	-5276	-15023	7807	5936	28474	9354	2928	20865

Source: CZSO, own

Table 2: Net migration of the Southeast region and Espo and non-Espo countries

	Vysočina Region			Jihomoravský Region			SOUTHEAST (NUTS2)		
	ESPON countries	Other countries	Total	ESPON countries	Other countries	Total	ESPON countries	Other countries	Total
1994-98	985	1001	1986	3743	2078	5821	4728	3079	7807
1999-03	541	1219	1760	-614	4790	4176	-73	6009	5936
2004-08	945	6786	7731	3662	17081	20743	4607	23867	28474
1994-2008	2471	9006	11477	6791	23949	30740	9262	32955	42217

Source: CZSO, own

While in the first period (1994-98) prevailed the ESPON citizens in net migration, in the other two periods prevailing migrants from other countries (see table 2). This trend is particular because in the first period were included only those immigrants who have obtained permanent residence.

In the structure of immigrants are predominating foreigners over the Czech citizens. The purpose of their stay is mainly because of the economic reasons. While the immigrants from "other countries" (especially from Ukraine, Vietnam, Russia etc.) are mainly placed in low skill positions, the immigrants from ESPON countries (USA, Germany etc.) coming to high skill sectors.

Age composition of migrants (intra-regional, inter-regional, intra-ESPON Space, extra-ESPON Space)

3.5. Other composition of migrants (intra-regional, inter-regional, intra-ESPON Space, extra-ESPON Space), if data are available

We have a data about education and reason of migration from 1992-2005. Is it reasonable to analyse it?

4. Economic change and population: the labour market of the case study region and its sub-divisions

4.1. Economic characteristics

The registered rate of unemployment is by a quarter higher in the Jihomoravský Region which also has a higher number of job applicants per vacancy (by one sixth). The level of average wages in the Vysočina Region is the second lowest in the CR and 5% down on the Jihomoravský Region. Net annual incomes from employment and business per house-hold member are the same in both regions, as is the proportion of households with incomes falling 1.5 times below the subsistence level. The percentage of people employed in the primary sector in the Vysočina Region is the highest of all the CR's regions and more than double than in the Jihomoravský Region. In the secondary sector, this percentage is higher in the Vysočina Region (by a quarter). The largest difference exists in the tertiary sector where the Jihomoravský Region is the second among the regions and the Vysočina Region last, with its percentage of employed persons one third down on the Jihomoravský Region. The Vysočina Region's percentage of the self-employed, including farmers, is the second smallest in the CR and by one fifth lower than in the Jihomoravský Region.

4.2. Demographic and socio-demographic characteristics of the working age population

4.3. Changes in the working age population

4.4. Economic activity

4.5. The role of migration

5. Economic change and population: other aspects of the case study region and its sub-divisions

6. Economic and social consequences of demographic change in the case study region and its sub-divisions

7. Population ageing at the regional level and the DEMIFER scenarios (the drafting of this chapter depends on the availability of the results of the scenarios)

8. Conclusions and policy implications of the demographic challenges in the case study region

9. References

1. CZSO data za NUTS 3 <http://www.czso.cz/csu/2009edicniplan.nsf/engp/3103-09>
2. <http://www.statoids.com/ucz.html> (info z roku 2001, Sčítání)
3. (<http://www.doingbusiness.cz/r/article.asp?id=521>)
4. Šalomoun, Z. (2008): struktura zaměstnanosti v Jihomoravském kraji (Employment Structure in the South Moravian Region). Master theses. Masarykova Univerzita Brno.

Annex I: Data issues – characteristics, quality and timeliness of data at the national level and regional particularities

Annex II: Data reported in tables, graphs and maps

Table: The most important industrial employers in the Vysočina region (January 2007)

Name of the firm	Place of the firm	Number of employees*	Country of origin of the firm owner
BOSCH DIESEL s.r.o.	Jihlava	6 206	Germany
ŽDAS, a.s.	Žďár nad Sázavou	2 772	Slovakia
MOTORPAL, a.s.	Jihlava (pobočky v kraji Vysočina: Jemnice, Batelov, Velké Meziříčí)	1 826	Czechia
Automotive Lighting s.r.o.	Jihlava	1 786	Germany (Italy)*
Kostecké uzeniny a.s.	Kostelec	1 376	Czechia
P L E A S a.s.	Havlíčkův Brod (pobočky v kraji Vysočina: Polná, Luka nad Jihlavou, Chotěboř)	1 324	Svitzerland, Germany
Sklo Bohemia, a.s.	Světlá nad Sázavou	1 281	Česko
Valeo Compressor Europe s.r.o.	Humpolec	1 273	Japany (France)*
AGROSTROJ Pelhřimov, a.s.	Pelhřimov (pobočka: Počátky)	1 192	Czechia
ČEZ, a. s.	Praha, v kraji Vysočina - Jaderná elektrárna Dukovany	1 176	Czechia
Futaba Czech, s.r.o.	Havlíčkův Brod	1 020	Japany
DIAMO, státní podnik odštěpný závod GEAM	Dolní Rožínka	1 010	Czechia

Source: Krajský úřad kraje Vysočina, 2007