Partnership without borders

The Carpathian Euroregion Strategy 2020 & Beyond

Annex I – Country profile

Hungary

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Note: Without English language proofreading

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Regional analysis – country profile Hungary

General description of the region

The area under analysis consists of five counties in Hungary (hereinafter referred to as region): Borsod-Abaúj-Zemplén, Hajdú-Bihar, Heves, Jász-Nagykun-Szolnok and Szabolcs-Szatmár-Bereg. These combine an area of **28 613 km², representing 30.8% of Hungary**. The region is located in the north-eastern part of the country. The territory of two counties (Borsod-Abaúj-Zemplén and Heves) consists mountains of medium height; the others are typical lowlands in the basin of the Tisza River.

Figure 1 – Territory of the counties
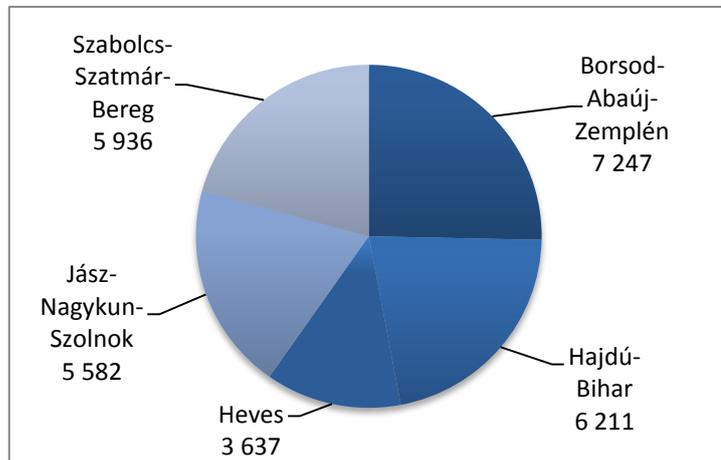
Source: KSH

The distribution of the 868 settlements among the counties is uneven. Borsod-Abaúj-Zemplén and Szabolcs-Szatmár-Bereg counties are characterized by **high number of small villages**. These **rural areas** typically face complex economic and social problems (poverty, outmigration, deficiencies in services, etc.). Most of the 111 cities are **small towns with limited catchment area and competitiveness**.

Figure 2 – Settlement network of the region
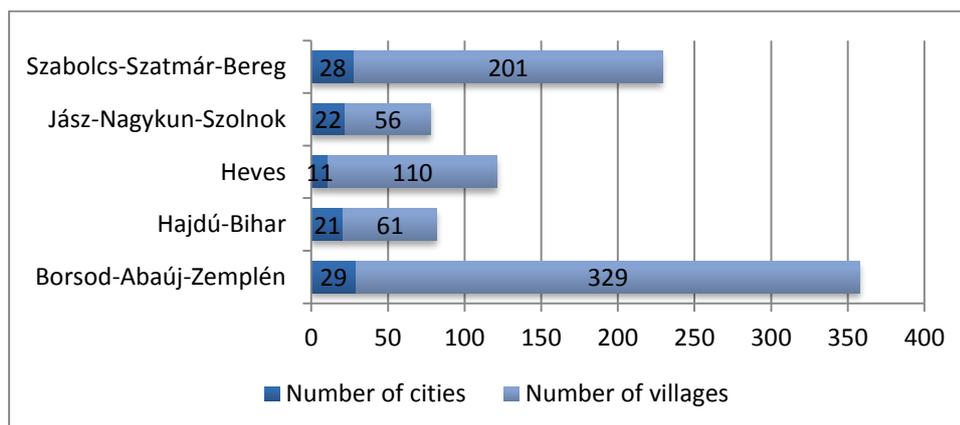
Source: KSH

County capitals are the most populated in the region; with the exception of Eger and Szolnok, they exceed 100 thousand inhabitants and **play central role within the countries** regarding economy and public services. The largest city is Debrecen with a population of almost 204 thousand, forming an important economic centre in Eastern Hungary.

The five county seats combine a total population of approx. 611 thousand people, representing one quarter of the area. The relatively **high share of the county seat population** in the total population (hypertrophy 1) and in the urban population of the county (hypertrophy 2) includes risks for the expected polycentric development. Although **the rate of population living in cities reaches 62.8%**, it has to be noted, that even these townships are to be considered as rather rural in their character.

Main needs and challenges

- The location of the region within the country is mostly peripheral, which emphasize the importance of cross-border cooperation.
- The area can be characterized as rural with a few important large cities accompanied by a number of smaller cities. The majority of the population centres in and around the capitals and bigger cities.
- Rural areas face complex economic and social problems (poverty, outmigration, deficiencies in services, etc.).

Main potentials

- The competitive county seats and bigger cities can function as engines of the development in the whole area.
- The extensive network of small- and medium-sized towns offers a wide range of (public) services for their catchment area, and they can stimulate cross-border cooperation in various sectors.
- Rural areas can preserve the natural values and the traditional way of life. They can be revaluated as potential residence for various social groups. Their attractiveness can be used as a basis for rural, active and ecotourism.

Demography

The region is inhabited by slightly less than **2.5 million people representing 24.9% of Hungary's inhabitants**. Concerning the population change, negative tendency is experienced in the region. **Between 2000 and 2013 the population reduced by 6.9%** – mainly because of the **selective outmigration**, but natural decrease is also detected. Differences among the counties are significant: Borsod-Abaúj-Zemplén county which may be identified as a rust belt after the transition suffers the largest decline.

Figure 3 – Change in population and population density (2000, 2013)

	Population (person)		Population density (person/km²)		Change (%)
	2000	2013	2000	2013	
Borsod-Abaúj-Zemplén	753 497	674 999	104.0	93.1	-10.4
Hajdú-Bihar	553 264	539 507	89.1	86.9	-2.5
Heves	327 733	303 503	90.1	83.4	-7.4
Jász-Nagykun-Szolnok	420 461	383 489	75.3	68.7	-8.8
Szabolcs-Szatmár-Bereg	589 989	561 379	99.4	94.6	-4.8

Hungarian region	2 644 944	2 462 877	92.4	86.1	-6.9
Hungary	10 200 298	9 877 365	109.6	106.2	-3.2

Source: KSH

The **population density** of the counties concerned is lower than the national and the EU28 average (cc. 116 people/km²), which justifies the rural character of the region.

Regarding **distribution of population according to age groups** (see Figure <mark>X</mark> in Annexes), there are not significant differences among the data (proportion of working-age population is 68%). The relatively high proportion of people under the age of 15 in Szabolcs-Szatmár-Bereg and Borsod-Abaúj-Zemplén counties is connected with the presence of Roma people, because their natural increase is tendentiously higher than the national average.

The value of **ageing index** shows the ratio of population between 0-14 years and the population of over 65-year-old people. The **dependency rate** is the number the child and the old-age population as a percentage of population aged 15-64. Regarding these data, the **intraregional dissimilarities** are more significant: Szabolcs-Szatmár-Bereg county has the best position, while Heves and Jász-Nagykun-Szolnok counties face population ageing unambiguously.

Figure 4 – Ageing index and dependency ratio (2014)

	Aging index	Youth dependency rate	Old-age dependency rate	Total dependency rate
Borsod-Abaúj-Zemplén	106.5	23.3	24.8	48.1
Hajdú-Bihar	106.4	21.9	23.3	45.2
Heves	*132.1*	21.3	*28.2*	49.5
Jász-Nagykun-Szolnok	*124.5*	21.7	*27.0*	48.7
Szabolcs-Szatmár-Bereg	**86.8**	23.8	**20.6**	44.4
Hungarian region	111.3	22.4	24.8	47.2
Hungary	121.5	21.2	25.8	47.0

Source: KSH

Regarding the **distribution of population aged 7 years and older by highest education completed** can be stated, that despite the positive trends, the region has unfavourable values compared to the Hungarian data (e.g. the share of graduates is 13.6% – see Figure <mark>X</mark> in Annexes). Only Hajdú-Bihar county can be highlighted: the share of people with tertiary education approaches the national average – due to the wide range of available faculties and of job opportunities for well-qualified people.

In Hungary the **Roma population** has an uneven geographical distribution in the territory of the country. The majority of them lives in regions significantly affected by social and economic problems (in the North and East Hungary): in the countryside, in a rural environment, generally in segregated residential zones, in rather poor housing conditions. But also in cities are large and crowded segregated districts with high ratio of Roma people. Based on estimates, their employment rate is well under the national average. It is coupled with an extremely poor state of health, a low educational level, and high risk of poverty. Segregation and discrimination are simultaneously the

cause and consequence of these processes: it is a cyclically regenerated phenomenon that is passed down from one generation to the next.[1]

Main needs and challenges

- The large-scale decline in population (e.g. selective outmigration, ageing society) reduces the labour force in the region – causing competitive disadvantages.
- The high number of early school leavers erodes long-term the labour market potential of the region.
- The proportion of Roma population is significant in the entire area, with some internal differences. Given that the majority of Roma families live under the poverty threshold, this is a major and long-term social risk.

Main potentials

- The area has a major contribution to the whole population of Hungary, representing 24.9% of the total number of inhabitants.
- The general improvement in qualification level makes the working-age population more competitive.
- Some areas are characterized by high proportion of young people as future potential labour force.

Economy, competitiveness and labour market

The GDP shows a relatively **low economic performance**: the proportion of the population in the total area of Hungary (24.9%) exceeds the share of the region regarding **GDP** (15.9%). The values of the counties show some intraregional disparities: Borsod-Abaúj-Zemplén and Hajdú-Bihar produce the biggest part of the total GDP – due to the larger regional centres, Miskolc and Debrecen.

Figure 5 – Counties' share of national indicators (%)
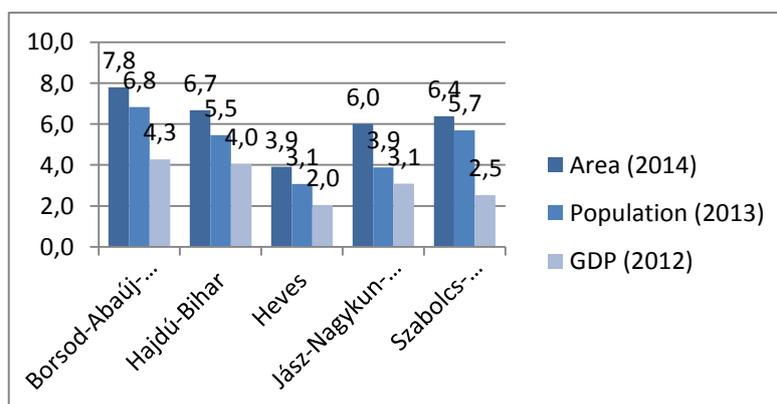
Source: KSH

The trends of the last years are controversial: the counties lost 10-20% of their GDP from 2008 to 2009, since 2010 the tendencies are mainly positive, however, none of the counties reached pre-crisis level.

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[1] National Social Inclusion Strategy – Extreme Poverty, Child Poverty, The Roma – (2011–2020), December 2011, Ministry of Public Administration and Justice State Secretariat for Social Inclusion

Regarding the **GDP per capita** values, the counties are **well under the EU28** (26,500 euro PPS – source: Eurostat, 2012) and the national average as well. The average GDP per capita in the region is 41.4% of the average in the EU28. The data reflect the different competitiveness and sectoral structure of the countries.

Figure 6 – Gross domestic product (GDP) at current market prices (2000, 2012)

	GDP/head (EUR)		Change (%)	GDP (mEUR)		Change (%)
	2000	2012		2000	2013	
Borsod-Abaúj-Zemplén	3 200	6 100	90.6	2 413	4 215	74.7
Hajdú-Bihar	3 700	7 300	97.3	2 037	3 979	95.3
Heves	3 600	6 500	80.6	1 167	2 010	72.2
Jász-Nagykun-Szolnok	3 300	6 400	93.9	1 403	2 489	77.4
Szabolcs-Szatmár-Bereg	2 900	5 400	86.2	1 701	3 050	79.3
Hungarian region	3 340	6 340	91.1	10 465	18 892	79.8
Hungary	5 000	9 900	98.0	51 121	98 699	93.1

Source: Eurostat

Figure 7 compares the **share of different sectors** (agriculture, industry and services) **in gross value added and in employment**, which tells a lot about the character of their economies. In counties with better agricultural potential (e.g. soil, climate, tradition) the proportion of primary sector is larger. The productivity of is is much lower than in the other two sectors, mainly because of its high labour-intensity. Compared to the national average, industry and construction are overrepresented in Borsod-Abaúj-Zemplén, Heves and Jász-Nagykun-Szolnok counties. Its productivity is better than the agriculture, and even the national average, which can be interpreted as a competitive advantage. Although the data leaves no doubt about the dominance of services, it is not as strong as in Hungary.

Figure 7 – Distribution of gross value added and employees along sectors (%, 2013)

County	Agriculture, forestry and fishing		Industry and construction		Services	
	GVA	Employees	GVA	Employees	GVA	Employees
Borsod-Abaúj-Zemplén	5.6	7.7	40.2	34.0	54.1	58.3
Hajdú-Bihar	11.4	15.0	29.9	24.3	58.7	60.7
Heves	5.9	9.0	40.3	39.9	53.8	51.2
Jász-Nagykun-Szolnok	9.4	12.1	41.4	38.0	49.2	49.9
Szabolcs-Szatmár-Bereg	9.9	15.4	29.7	27.8	60.4	56.8
Hungarian region	8.4	11.8	36.3	32.8	55.2	55.4
Hungary	4.5	7.3	30.4	28.9	65.0	63.8

Source: Eurostat

The **number of active corporations and unincorporated enterprises** has been reduced as a consequence of the financial and economic crisis in the last years. The number of the enterprises is almost 115 000, but the distribution is uneven; it shows also the different economic weight of the counties. A majority of them (95-96%) belong to the small category. Local businesses are characterized by limited competitiveness, lack of capital and low access to credit.

The **number of enterprises per thousand inhabitants** (48.2) is far below the national averages (65.1); additionally, the values show certain intraregional disparities: the difference between the highest (Hajdú-Bihar) and the lowest (Borsod-Abaúj-Zemplén) value is more than 30%.

The **business infrastructure** primarily consists of industrial parks and business incubators. In the region there are **more than 70 areas with official industrial park title**. However, this title was granted too many areas characterized by low utilization rate – the main reasons include the insufficient infrastructure, poor location, labour market deficiencies, low levels or absence of business services. Really successful industrial parks – the ones with the highest occupancy rate – are located in the major cities (more specifically in the county capitals).

Figure 8 – Number of industrial parks (2015)
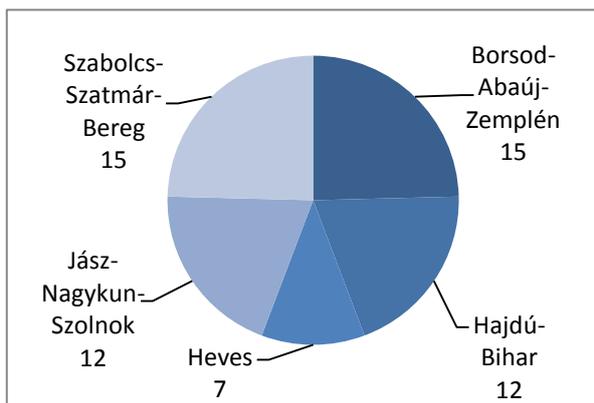
Source: Regional development documents of the counties

Business incubators serve to strengthen the local businesses and SMEs. The first incubators were established in the early 1990s (mainly with EU-support). Unfortunately though, many of them stopped working when the funding ended. There are a small number of positive examples that became self-sustaining. The actual number of business incubators is about 20. They mainly attract start-up enterprises; on the other hand, there is a lack of business incubators that could support technology transfer processes and help the technology development of SMEs.

Research, technological development and innovation (RTDI) are key segments of any region's development in the light of the EU2020 Strategy. Despite its distance from the country centre the area has a vivid academic life. Two major universities can be found in Debrecen and Miskolc accompanied by another universities and colleges. The 15 **tertiary educational institutions** have several different institutes, faculties and locations with a really extensive training offer. The number of higher education students surpasses the 61 000 mark which is about 2.6% of the population. The approximately 3500 teachers of universities and colleges play an important role in RTDI.

Number of R&D units, personnel and expenditure shows an increase, but also huge intraregional disparities: dominance of Hajdú-Bihar county and Debrecen is unquestionable, as it gives cc. 50% of values of the R&D indicators.

Figure 9 – R&D indicators (2013)

	Number of R&D units	Number of R&D staff	R&D expenditure
Borsod-Abaúj-Zemplén	123	1576	32 739
Hajdú-Bihar	223	4027	86 040
Heves	74	1139	14 049
Jász-Nagykun-Szolnok	25	384	18 855
Szabolcs-Szatmár-Bereg	53	600	14 294
Hungarian region	498	7726	165 978
Hungary	3159	58237	1 355 162

Source: KSH

Despite the negative trends in the last decade, the total number of **active population** in the region surpasses 1 million in 2013. However, the labour market data show an unfavourable picture. The activity rate of population aged 15-64 shows a much lower number (54.5%) than the EU average (71.9%). The same is true in terms of the employment rate (47% vs. 64%). The gap is slightly smaller in case of unemployment rate: 13.4% compared to 10.8%. The figures suggest some intraregional disparities, mainly related to the unemployment (see Figure X in Annexes).

Main needs and challenges

- Persistent economic stagnation can hinder the positive trends in labour market indicators.
- Although a number of industries are present in the area, the lack of sectoral focus makes the comprehensive and concentrated economic development of the whole region difficult.
- The technology transfer processes and the innovation potential of SMEs are weak.
- As a result of the low level of RTDI expenditure and the lack of sectoral focus of the research activities the innovation potential of the region is not used to its full extent.
- The total number of economically active population in the area is low and decreasing.
- Due to the weak economic potential of the area and to the partial lack of adequate job opportunities the selective outmigration is growing. Because of it and of the natural decrease of the population the labour force potential of the region reduces, which – as a self-reinforcing process – weaken the economic performance of the counties in the long run.
- The scenarios for the change in number of persons in labour force between 2005 and 2050 presume extremely high labour force reductions by 2050.

Main potentials

- The 2.5 million population of the area, including 5 larger cities represent not only a potential market, but also a competitive labour force pool for SMEs and transnational companies.
- Diverse structure of economy is a good basis for further development.
- Local SMEs – based on their traditional (partly agricultural) quality products – could sell more of their products within the wider (cross-border) region, which is essential for the better economic performance of the area.
- Improving the infrastructure conditions for enterprises can increase their competitiveness, which can result in higher employment rate.
- Better utilisation of the existing business infrastructure and – if necessary – building new ones at appropriate locations contribute to the stability and the interconnection of the economy in the region.
- The universities and research units of the area have a solid academic background and RTDI capacity providing a good foundation for better utilizing research results.
- Relatively competitiveness of Hajdú-Bihar county and Debrecen can enhance the development of the whole region.
- Equalization of intraregional differences in employment levels, demand and supply through integrated development of the related territories can result in convergence.

Tourism, culture and leisure

The tourism of the area has great importance in each country, which could arise from the dominance of the sector in the national GDP production and employment. The region is rich in **touristic attractions** – both in **cultural** and in **natural** heritage. The most prominent touristic attractions in the area include (without being exhaustive):

- Borsod-Abaúj-Zemplén: Aggtelek National Park and Tokaj wine region (UNESCO World Heritage), castles, spas, mountains,

- Hajdú-Bihar: Hortobágy National Park (UNESCO World Heritage), old burial sites, churches, bridges, the largest spa in Europe,

- Heves: mountains, Eger wine region, Lake Tisza Ecocentre, castles, churches, spas,

- Jász-Nagykun-Szolnok: Tisza River and tourist region of Lake Tisza, spas, museums,

- Szabolcs-Szatmár-Bereg: Tisza River, medieval churches, watermill, castles, spa, village museum and zoo in Nyíregyháza-Sóstó.

Altogether, besides the similarities in terms of attractions, there are also many complementary features.

In the region the **balneary and health tourism** is significant, based on the existence of mineral and thermal water. Further typical types of tourism are **cultural tourism[2]**, rural (and ethnographic) tourism, active and sports tourism (e.g. water sports). In certain counties hunting and fishing tourism is available, while the area of mountains is great for hiking trips and speleological tourism. In some part of the area is favourable for business tourism or transit tourism.

In addition to physical places, attractions, a rich offer of **touristic events and festivals** (gastro, music, theatre, dance, wine and other drinks, ethnography, religious, etc.) has developed in recent years. Many of these festivals attract people also from outside the area and are internationally renowned.

In 2013, **1.4 million guests spent 3.6 million nights in the region**. Although these figures seem high, but compared to the national numbers the region is under-represented: 20% of the Hungarian bed-places located in these counties (75 925), but their share in the number of guests and tourism nights is only 16%. The figures are even worse in case of foreign tourists (285 201): only 6.5% of the international guests arrived in Hungary come to visit this part of the country. Data shows a certain concentration of tourists and tourism nights. According the number only Hajdú-Bihar has significant international attractiveness thanks to the large spa in Hajdúszoboszló. Regarding the **average length of stay**, slight difference was observed between the counties: in Hajdú-Bihar and Jász-Nagykun-Szolnok the number of nights is higher than the national average – mainly due to the spas (e.g. Hajdúszoboszló) and the Lake Tisza.

Figure 10 – Number of bed-places and average length of stay at public accommodation establishments (2013)

	Bed-places	Nights

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[2] Number of protected buildings and monuments in the region is 1959 that means the 17.9% of the Hungarian data. Borsod-Abaúj-Zemplén county is the richest in cultural heritages.

	Bed-places	Nights
Borsod-Abaúj-Zemplén	19 963	2.3
Hajdú-Bihar	15 982	3.1
Heves	17 607	2.3
Jász-Nagykun-Szolnok	11 887	2.9
Szabolcs-Szatmár-Bereg	10 486	2.1
Hungarian region	75 925	2.5
Hungary	365 641	2.6

Source: KSH

Main needs and challenges

- The insufficient public transport links to the sights, the lack of the tourism infrastructure, services, and programme packages reduce the attractiveness of the area, and make the development of complementary attractions difficult.
- The region as tourist attraction has too low international recognition, visibility and presence on the European scene.
- A further problem is the continuous degradation of the cultural-artistic heritage.

Main potentials

- Natural, historical and cultural heritages of the region (thermal water and spas, natural protected areas, castles, churches, watermills and other historical and archaeological sites) provide stable base for the higher level of inland and international tourism.
- With a stronger coordination, exchange of information and cross-promotion the touristic events of the area are also potentially strong attractions (even on international level) complementing and enhancing the physical attractions.
- The cooperation between cultural institutions is the basis to create a common cultural region.

Environment, climate change, energy, risk management

The **Natura 2000 sites** involve numerous sites that partially overlap with the protected natural areas of national importance. The territory of the **protected natural areas** is almost 315 thousand hectares (11% of the whole region); many of them are situated in Borsod-Abaúj-Zemplén and Hajdú-Bihar counties. There are 3 national parks, high number of protected landscape areas and nature conservation reserves in the region. The protection and management of the unique flora and fauna of these vast, and partly connected and cross-borderly situated territories can only be effective commonly, with the participation of all involved and affected parties. The area has one – cross-border – natural heritage sites protected by UNESCO: Caves of Aggtelek Karst and Slovak Karst.

Forests represent 18.3% of the territory of the region with higher share in mountains, natural floodplains and sand ridges. Regarding the situation of nature, it can be concluded that Jász-Nagykun-Szolnok county is the most affected by human activity.

Figure 11 – Territory and percentage of protected natural areas and forests (2013)

	Protected natural areas (thousand ha)	Share of protected natural areas (%)	Forests (thousand ha)	Share of forests (%)
Borsod-Abaúj-Zemplén	111.6	15.4	209.1	28.8
Hajdú-Bihar	86.9	14.0	69.0	11.1
Heves	58.2	16.0	88.3	24.3
Jász-Nagykun-Szolnok	29.3	5.2	32.7	5.9
Szabolcs-Szatmár-Bereg	28.7	4.8	125.0	21.1

Source: KSH

Public utilities show a heterogeneous picture of the area again. Regarding wastewater, the worst situation is detected in Hajdú-Bihar and Szabolcs-Szatmár-Bereg counties. The proportion of households connected regular waste disposal system is at least about 90%. Solid waste collection problems (e.g. low share of waste collected selectively) have a negative impact on the quality of the environment, which can be perceived especially the contamination of rivers.

Figure 12 – Public utilities indicators (2013)

	Settlements supplied with public sewerage network	Dwellings connected to		Public utilities scissors[3]	
		public sewerage network	water pipe network	primary (m)	secondary (%)
Borsod-Abaúj-Zemplén	68.2	71.3	88.9	682	17.6
Hajdú-Bihar	51.2	70.3	94.8	688	24.4
Heves	70.2	71.6	92.9	671	21.3
Jász-Nagykun-Szolnok	65.4	69.1	96.2	691	27.1
Szabolcs-Szatmár-Bereg	51.5	59.8	93.2	601	33.4
Hungarian region	61.3	68.4	93.2	667	24.8
Hungary	59	75	94.4	679	19.4

Source: KSH

Energy efficiency is becoming a more and more important question regarding the management of energy, renewable energy and self-sufficiency. There are energy efficiency initiatives in the area, but the share of renewable energy sources still has a minimal role in the current energy structures. Initiatives like biomass power plants that utilise forestry and agrarian waste, and plantations installed for energy purposes are popular. Important renewable energy source could be geothermal, solar and wind energy.

Emergency response and disaster management are important in cross-border cooperation, as natural and human-related emergency situations often extend geographically, not respecting state borders. The most frequent emergency situations possibly requiring cross-border cooperation in the border area are as follows: flood (in certain years icy and flash flood), fires in forests and reedy areas,

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[3] Primary: length of public sewerage network per one kilometre of water pipe network; secondary: the gap between the ratio of dwellings connected to the public drinking water-conduit network and to the public sewerage.

the pollution of natural waters and drinking water supplies, serious traffic accidents, major movements of crowds and congestions.

Climate change – and its potential negative effects – are important risks influencing the future development of Central and Eastern Europe. The ESPON Climate project[4] introduces a standard set of indicators to assess climate change and its impacts in Europe.

- The first indicator is the "aggregate potential impact of climate change" shows the weighted combination of physical, environmental, social, economic and cultural potential impacts of climate change.

- The overall adaptive capacity of the area is also a crucial issue. Unfortunately, the area does not exhibit a positive picture: all counties are characterised by low overall capacity to adapt to climate change.

- The combination of regional potential impact and the overall adaptive capacity of the given region present its vulnerability to climate change. Unfortunately, this indicator highlights a fairly unfavourable situation.

Figure 13 – Potential vulnerability to climate change
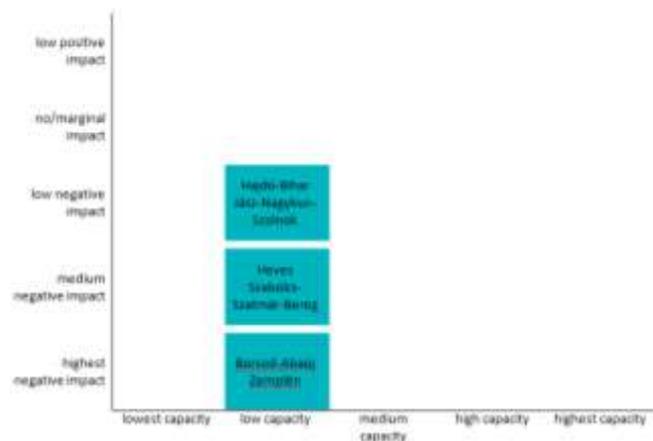
Source: ESPON Climate

The ESPON Climate study introduces a climate change typology of European regions, defining 5 distinct categories, all the five counties fall into "Southern-central Europe" category. The area can expect a strong increase in mean temperature and summer days, and a strong decrease in frost days. With regard to precipitation, the region can also expect strong decrease of precipitation during summer months.

Main needs and challenges

- Partial lacks regarding public utilities include not only environmental risks, but also can cause economic backwardness.
- Existing power plants are mainly outdated and rarely use renewable sources of energy, which enhance the energy dependence.
- The inadequate energy efficiency of the public infrastructure increases the dependence on energy resources and energy import of the region.
- Natural disasters and civilization-origin hazards threaten localities including their population, businesses and agriculture, which causes permanent uncertainty and material damages.
- The region can expect a strong increase in mean temperature, in summer days, and a strong decrease in frost days and in precipitation during summer months, which requires higher

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[4] Source: ESPON Climate – Climate Change and Territorial Effects on Regions and Local Economies, Final Report http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/CLIMATE/ESPON_Climate_Final_Report-Part_B-MainReport.pdf

Main potentials

- Protected natural areas in the region involve numerous sites that can be interpreted as environmental and social values to be preserved.
- The region has remarkable geothermal, solar, wind, hydropower, and biomass capacity offering a strong potential for increasing the currently modest share of renewable sources of energy in total energy consumption
- Population has growing sensibility to environmental issues, which is an important stimulating factor for climate change adaptation and risk prevention.
- Besides the investment activities for modernising the energy sector awareness raising activities could help a lot in the framework of a small scale (cross-border) programme.

Transport infrastructure, mobility, ICT

The TEN-T network improvement got high priority in the last years within the EU. The region is affected by the Mediterranean TEN-T corridor (running from Spain towards Ukraine). Regarding the **motorways and main roads**, in the past ten years improvements have been accomplished and further developments are planned and needed to eliminate missing links and bottlenecks as well as to improve the quality of infrastructure. Road density is below the national average in Hajdú-Bihar and Jász-Nagykun-Szolnok, but in the counties with high number of small villages the road density surpasses the value of Hungary. Even if the density of roads can be evaluated as suitable, the state and quality of roads need to be developed to take the advantages of the existing opportunities. The availability of the country/county capitals and the TEN-T network from the periphery is difficult.

Figure 14 – Transport infrastructure indicators (2013)

	Length of motorways and motor roads	Length of national public roads		Length of railway lines	
		km	km/1000 km²	km	km/1000 km²
Borsod-Abaúj-Zemplén	65	2583	356	510	70
Hajdú-Bihar	89	1667	268	469	76
Heves	75	1270	349	283	78
Jász-Nagykun-Szolnok	0	1329	238	503	90
Szabolcs-Szatmár-Bereg	54	2208	372	391	66
Hungarian region	283	9057	317	2156	75
Hungary	1336	31760	341	7542	81

Source: KSH

Crossing the borders using **public transport services** is not an easy process. Cross-border public transport services basically hardly exist. Public transport lines turn back at the borders. Passengers have to cross the border on foot and take another service meanwhile the timetables are not harmonised.

Infrastructural inequalities are also traceable concerning the **railway** lines. In passenger transport the railways have a very strong position in some directions of travel (e.g. between county seats) but they are much weaker in other directions, either due to the nature of the railway service or to the stronger expansion of bus traffic. Railway connections in case of secondary lines and cross-border transport are partly underused because of the long traffic time and the partly inadequate schedules. It does not support daily mobility only along the main railway lines. The quality of infrastructure in passenger transport is low – with the exception of IC trains. Záhony is the largest logistic centre in Central and Eastern Europe, and as a core TEN-T rail-road terminal (RRT)[5] ensures the railway connection to Ukraine.

There are one international **airport** (Debrecen), two domestic airports, six non-public airports and one military airport in the region.[6] The airport of Debrecen offers charter flights to different tourist destinations as well as regular connections London, Eindhoven, Milano, Paris, Malmö and Brussel. The passenger volume increased from 19 135 to 145 709 between 2011 and 2014.

Rivers are actually unused as **water transport** routes, although conditions are or can be made appropriate on the Tisza River. The improvement of the inland waterway axis Rhine/Meuse – Main – Danube's navigability is the 18th from the 30 TEN-T priority projects, giving high importance for this topic. Major ports are Szolnok and Tiszaújváros.

Bicycle is used more frequently – due to the improved infrastructure within and between the settlements as well as across the border. Eurovelo 11 is present in the region.

Figure 15 – Comparative ICT indicators (2013)
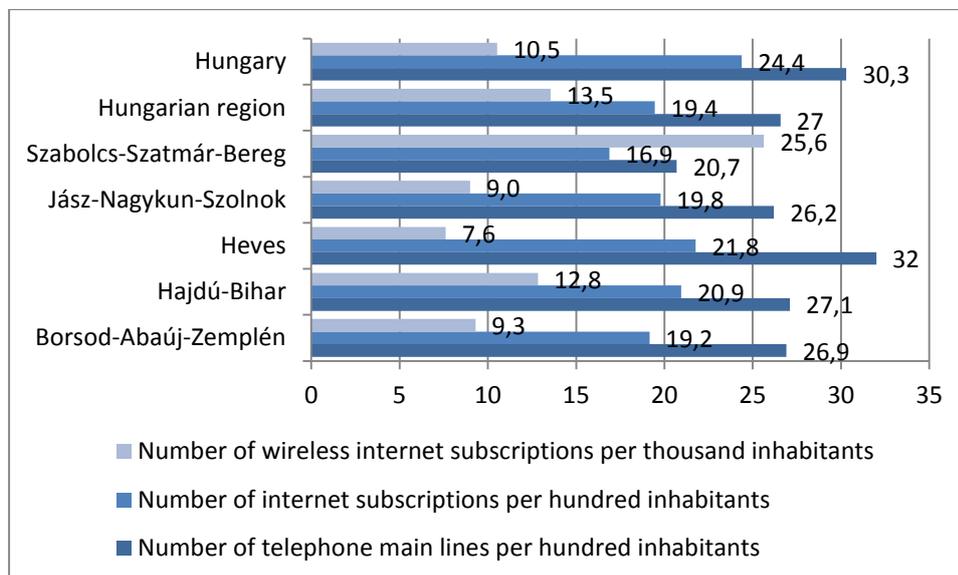
Source: KSH

The use of **information and communication technologies** (ICT) and the level of development of the digital society are keys to create the conditions of smart growth. The analysis of this area – just like of some other non-traditional areas – is made difficult by the scarce availability of reliable data from the appropriate geographical level. Generally the usage of ICT is – compared to the EU28 average – low

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[5] Miskolc is identified as a comprehensive TEN-T RRT.

[6] http://www.hungaryairport.hu/, retrieved on 03.06.2015

and underdeveloped, especially in the poorer regions. There are local appearances of traditional media (newspapers, radio and TV stations, online portals); cross-border info-communication interconnectivity is low-level. However, it is also visible, that while the region somewhat lags behind, changes are rapid in this area, driven mainly by market forces and the proliferation of mobile devices.

Main needs and challenges

- Slow traffic, bad road conditions, bottlenecks and lack of intermodal hubs can be observed in everyday life, which makes the interregional and cross-border transport difficult.
- Partial deficiencies regarding intermodality cause significant regional differences in accessibility by car and public transport.
- Regional bicycle road network is discontinuous; the number of bicycle parking and storage facilities is low. These facts hinder the proliferation of cycling in daily commuting and in tourism.
- There have not been any significant changes in the navigability of Tisza River as waterway over the last decade; the capacity and density of existing ports is inadequate.
- The ICT indicators reflect modest level of ICT development hindering the competitiveness of the area.
- Social and territorial disparities of ICT indicators reduce the competitiveness of the business sector and of the population as labour force.

Main potentials

- Good density of road and railway infrastructure ensures the interregional and international connections of the region.
- Daily commuting, strengthening of business and institutional cooperation shall force an increased integration of public transport facilities.
- Existing and potential new logistic centres and multimodal logistics hubs (e.g. Trimodal Logistics Base at Airport Debrecen) can contribute to strengthened interregional and cross-border transport and business connections.
- Tisza River can be used as longitudinal corridor of freight and passenger transport.
- Proliferation of mobile internet devices enhances and accelerates the positive trends relating the ICT indicators.
- The existing methods and infrastructure of the traditional media channels along with the difficulties of the usage of modern ICT technologies could be a base for a common communication platform in the cross-border region.

Migration, borders & security

The **density of border crossing points** (BCP) plays a crucial role from the point of view of any forms of cross-border cooperation. 21 road border crossing points operate at the approximately 600 km long border section. Average distance between two border crossing points is 29 km, while the same data in Western European countries is only 7-8 km. After Romania's joining the Schengen area, the

inhabitants of the borderland can use five new BCPs. Due to that, the density of BCPs will improve (23 km).

Data are not available about **number of passenger and vehicles crossing the border** at county level, only per section of Schengen external border. Number of passenger increased in the last years, although several problems occur regarding the border crossing procedure:

- inefficient and time-consuming procedure,
- lack of harmonisation,
- insufficient technical infrastructure,
- lack of border crossings for pedestrians and cyclists.

Figure 16 – Number of border crossings (2013-2014)

	Passenger	Vehicle
HU-UA	4 706 811	1 841 045
HU-RO	16 248 870	6 642 095
Hungary	37 774 508	13 448 541

Source: Hungarian Police

Figure 17 – Illegal border crossings (2013-2014)

|	2013	2014
Borsod-Abaúj-Zemplén	14	25
Hajdú-Bihar	237	348
Heves	0	0
Jász-Nagykun-Szolnok	0	0
Szabolcs-Szatmár-Bereg	107	240
Hungarian region	358	613
Hungary	23608	50065

Source: Hungarian Police

Illegal border crossing is less typical in the relevant border sections, e.g. at the Hungarian-Ukrainian border 190 illegal border crossings was detected in 2014, while at the Hungarian-Serbian border 43 711. The whole region's share of the Hungarian data is only 1.2%.

Nevertheless other **types of crimes** are common at the border. Due to the crisis people are poorer, but the demand for certain goods, it is still the same, so people looking for cheaper ways to get to them, which feeds trafficking. Until recently, trade in illegal goods mainly focused on luxury products, fuel, cigarettes and alcohol. Today, however, because of poverty extends to everyday objects as pharmaceuticals, cosmetics, electronics, spare parts and even food. The custom office introduced intensive control especially at the external borders of the European Union. Hungary becomes also a transit country.

Number of **registered crimes** in the area is decreasing, and with the exception of Heves county its number per hundred inhabitants is lower than the national average. However, the high number of perpetrators suggests that more and more people feel the hopelessness of their economic and social situation.

Figure 18 – Number of registered crimes and perpetrators (2013)
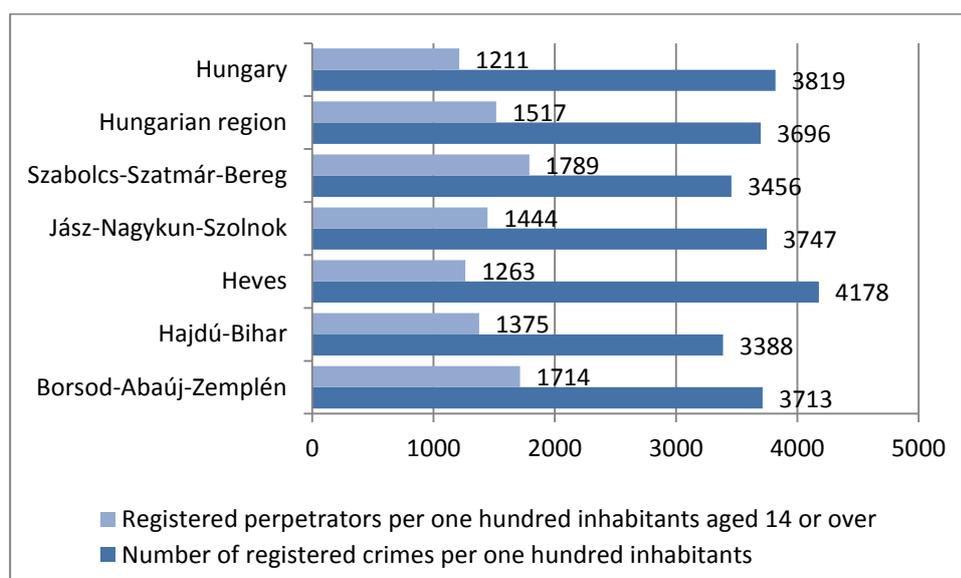
Source: KSH

Main needs and challenges

- Negative effects of globalisation and common threats, such as insecurity, organized crime, terrorism, communicable diseases, drugs and human trafficking.

Main potentials

- Increasing density of border crossing points as well as improving border crossing procedure can improve the economic and social conditions and interconnectivity in the area (e.g. business relations, daily commuting, strengthening cross-border functional urban areas).

Education

A free eight-year general and lower secondary education and upper secondary or vocational education is provided for all children living in the territory of Hungary. The upper limit to the compulsory schooling age will be reduced to age 16 but participation in kindergarten education will be obligatory from the age of 3. Compulsory education starts at the age of 6 (ISCED 1). At the end of upper secondary studies students must pass secondary school leaving examinations in order to be admitted to higher education. Secondary vocational schools provide general and pre-vocational education, prepare for the secondary school leaving examination and offer vocational post-secondary non-tertiary programmes (ISCED 4 C).[7]

On 1st September 2012 a new act on public education came into effect; since than the State is the maintainer of educational institutions, which makes the cross-border educational cooperation slightly complicated and inflexible. So far cooperation was widespread and fruitful: only in Hajdú-

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[7] Source: European Commission, https://ec.europa.eu/europeaid/education-hungary_en

Bihar and Szabolcs-Szatmár-Bereg counties 15 cross-border projects had been implemented by grants of the Hungary-Romania CBC Programme 2007-2013.

Figure 19 – Number of kindergarten and school sites (2013)

	Kindergarten	Primary school	Secondary general school	Vocational and special vocational school
Borsod-Abaúj-Zemplén	354	323	51	75
Hajdú-Bihar	205	189	49	49
Heves	157	130	21	25
Jász-Nagykun-Szolnok	176	156	34	40
Szabolcs-Szatmár-Bereg	297	247	93	117

Source: KSH

Number of kindergarten and schools reflects the settlement structure of the counties: counties with high number of settlements have more educational institutions. At least kindergarten functions in the majority of the villages, however, some schools with low number of pupils have been closed in the rural area last years. The infrastructure of the educational institutions improved significantly since 2007, but because of the lack of a central state-developed concept inequalities regarding the technical condition and equipment are considerable. The number of students (267 317 in 2013) is decreasing recently, which shows parallelism with the change of population. PISA surveys organized by the OECD show that the Hungarian students – especially from less-developed regions – perform worse than the OECD-average, mainly in mathematics. Other data about the qualification level is detailed in Chapter 1.1.1.2. Main information about the tertiary education is provided in Chapter 1.1.1.4.

Main needs and challenges

- Changes made recently in the educational system can cause differences in the efficient implementation of the cross-border cooperation.
- Declining number of students can reduce the potential labour force of the region.
- Depopulation of villages has interaction with school closures.

Main potentials

- Well-developed network of school sites provides solid basis for improvement in qualification level.
- Developed infrastructure of schools ensure a better environment for a more effective education.

Health and social affairs

The **life expectancy at birth** shows a significant increase primarily in case of males between 2000 and 2013. This may be associated with the – relatively slow – spread of health-conscious lifestyle, and the fairly high number of **hospitals** (23) and outpatient institutes (almost in every district seats). Number

of hospital beds per thousand inhabitants is 67 compared to the national 70, but in Borsod-Abaúj-Zemplén and Heves counties the situation is better. Regarding primary health care Szabolcs-Szatmár-Bereg county has the worst position. The availability and quality of health services show regional disparities primarily to the detriment of small villages.

Figure 20 – Life expectancy at birth (2000, 2007, 2013)
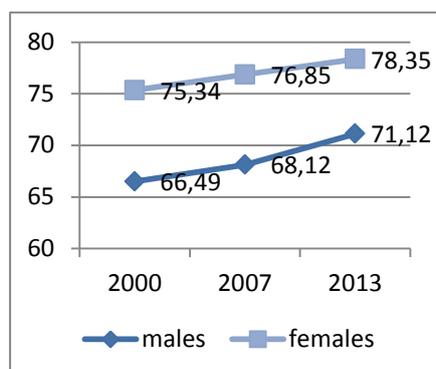
Source: KSH

Figure 21 – Health care indicators (2013)

	Hospital beds in use per 10000 inhabitants	Inhabitants per General Practitioner and family pediatrist
Borsod-Abaúj-Zemplén	72.1	1552
Hajdú-Bihar	66.4	1582
Heves	71.6	1668
Jász-Nagykun-Szolnok	62.3	1598
Szabolcs-Szatmár-Bereg	62.8	1733
Hungarian region	67.0	1627
Hungary	70.0	1557

Source: KSH

Because of the expenditure reduction, problems arise in the maintenance of the health system, investment in new equipment, thus in access to services, especially for low-income groups. Cross-border health care migration to Hungary has shown an increasing trend until recently, and is still at a fairly high level year over year.

The EU 2020 Strategy is aimed at delivering smart, sustainable and inclusive growth. The issue of **social inclusion and poverty** is even present in the related headline targets: one of the objectives of the strategy is to lift 20 million people out of poverty. The rate of people at risk of poverty is measured at NUTS2 level. In 2014 14.6% of the total Hungarian population were at risk of poverty, and the share has been growing recently. In the given NUTS2 regions the ratio is approximately 20%, but the situation is certainly worse in Borsod-Abaúj-Zemplén and Szabolcs-Szatmár-Bereg counties[8]. These negative data are justified by income of households and inhabitants, which is only 80-85% of the national average. According to international researches[9] poverty mainly affects children. Increasing activity and employment rate is very important to reduce (child) poverty. It also requires, inter alia, development and operation of infant nurseries. Their number in the region is 165 with 7000 infants enrolled, but only cities with a population of at least 10 thousand are obligated to operate such institutions.

Main needs and challenges

- There is a great need for the development of health infrastructure and public health services (especially for people in disadvantaged situation).
- Inequalities in health and social care infrastructure and services contribute to patient migration to Hungarian hospitals.

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[8] Source: Final Report of the ESPON TiPSE (The Territorial Dimension of Poverty and Social Exclusion in Europe) project (NUTS3-level data are not available.)

[9] http://www.unicef.org/socialpolicy/index_childpoverty.html

- Failure to create proper administrative conditions for cross-border health care financing may lead to the increase of semi-legal or illegal practices and hinders the evolvement of a consistent cross-border health care system.
- High number of people at risk of poverty and of population living in poor areas results in permanent problem of the region because the socio-economic marginalization of the concerned social groups and areas.

Main potentials

- Based on the existing cross-border cooperation between the hospitals of the region the health care infrastructure and services can be better harmonized to address the needs of potential patients, ensure efficient use of capacities and to improve health care indicators as life quality factors directly and as employment factors indirectly.
- Poverty reduction in general can contribute to the economic convergence and social cohesion of the region as well as to decreasing number of registered crimes and perpetrators.

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- Heves Megye Területfejlesztési Koncepciója (2014-2020) – Helyzetelemzés, helyzetértékelés (2014)
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- Szabolcs-Szatmár-Bereg Megyei Területfejlesztési Koncepció – Helyzetelemzés, helyzetértékelés (2014)

Annexes

Figure 22 – Hypertrophy of the Hungarian counties

County/County seat	Population of county seat	Population of the county	Hypetrophy 1 (%)	Population of cities	Hypertophy 2 (%)
Borsod-Abaúj-Zemplén/Miskolc	161 265	674 999	23,9	396 686	58,8
Hajdú-Bihar/Debrecen	203 914	539 507	37,8	430 963	79,9
Heves/Eger	54 527	303 503	18,0	144 373	47,6
Jász-Nagykun-Szolnok/Szolnok	73 106	383 489	19,1	281 089	73,3
Szabolcs-Szatmár-Bereg/Nyíregyháza	118 164	561 379	21,0	305 397	54,4
Hungarian region	610 976	2 462 877	24,0	1 558 508	62,8
Hungary	-	9 877 365	-	6 858 542	69,4

Source: KSH

Figure 23 – Distribution of the population according to age groups (2013)
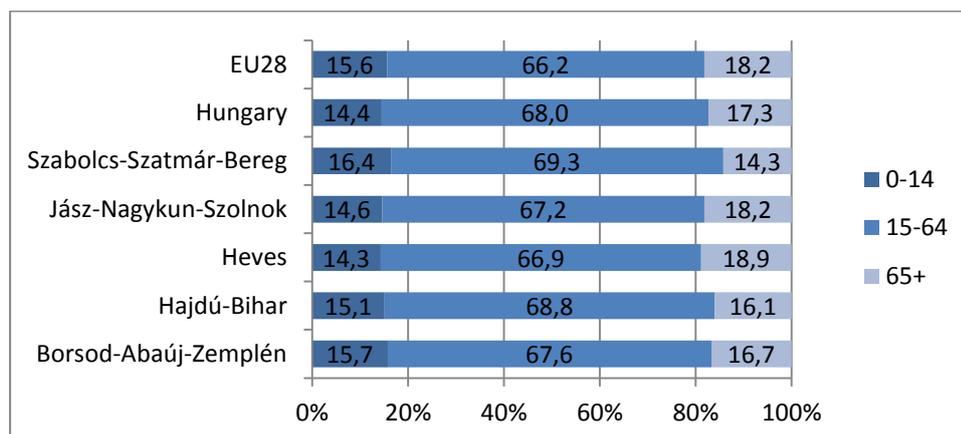
Source: KSH

Figure 24 – Population aged 7 years and older by highest education completed (2011)

	Less than grade 8	Primary school (grade 8 completed)	Secondary level without final examination	Secondary level with final examination	University, college
Borsod-Abaúj-Zemplén	15,5	21,8	25,8	23,8	13,2
Hajdú-Bihar	14,7	20,6	25,9	22,4	16,4
Heves	14,4	21,2	26,5	24,1	13,9
Jász-Nagykun-Szolnok	15,1	22,5	27,7	22,5	12,3
Szabolcs-Szatmár-Bereg	17,6	24,0	26,0	20,4	12,0
Hungarian region	15,4	22,0	26,3	22,7	13,6
Hungary	12,4	19,3	25,2	25,0	18,1

Source: KSH

Figure 25 – Key sectors, industrial clusters in the counties

| County	Key sectors	Industrial clusters
Borsod-Abaúj-Zemplén	• Machine industry • Chemical production • Metallurgy and metal processing • Grape and wine production	• ICT cluster • Automobile cluster • Material science and nanotechnology cluster • Environmental industry cluster
Hajdú-Bihar	• Agriculture (primarily cereals and industrial crops, animal farming) • Food processing and light industry • Chemical and pharmaceutical production • Machine industry	• Pharmaceutical • Food industrial • Instrument manufacturers and developers • Information technology • Facility energetics, thermal energy and innovation, green technology, green industry
Heves	• Machine industry • Automobile industry • Food processing and light industry • Electricity generation	• Machine industry (Hatvan)
Jász-Nagykun-Szolnok	• Manufacturing • Machine industry • Food processing and light industry • Chemical production	• Machine industry
Szabolcs-Szatmár-Bereg	• Agriculture (primarily vegetable and fruit production: apple, sour cherry, plum, potato, animal farming) • Food processing • Rubber and plastic processing, non-metallic mineral production	• Optomechatronic (Mátészalka) • Logistical (Záhony)

Source: Regional development documents of the counties

Figure 26 – Number of active corporations and unincorporated enterprises by staff categories, and business density (2012)

|	1–9	10–19	20–49	50–249	250+	Total	Number of active enterprises per 1000 inhabitants
Borsod-Abaúj-Zemplén	28 208	702	329	206	37	29 482	43.2
Hajdú-Bihar	29 141	757	411	227	35	30 571	56.5
Heves	15 570	351	187	111	18	16 237	53.0
Jász-Nagykun-Szolnok	16 369	438	247	141	28	17 223	44.5
Szabolcs-Szatmár-Bereg	24 883	569	309	178	27	25 966	46.1
Hungarian region	114 171	2 817	1 483	863	145	119 479	48.2
Hungary	613 241	17 312	8 690	4 578	871	644 692	65.1

Source: KSH

Figure 27 – Labour market indicators (2013)
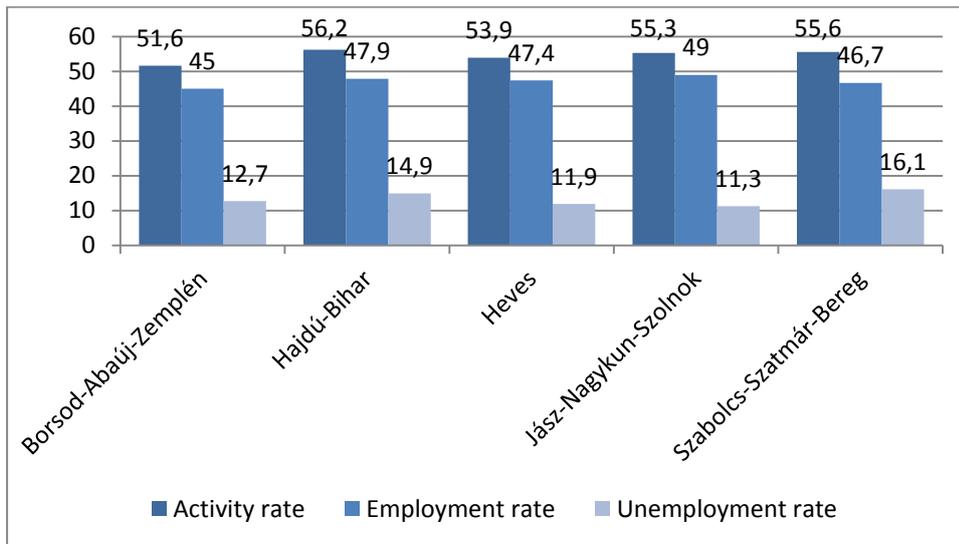
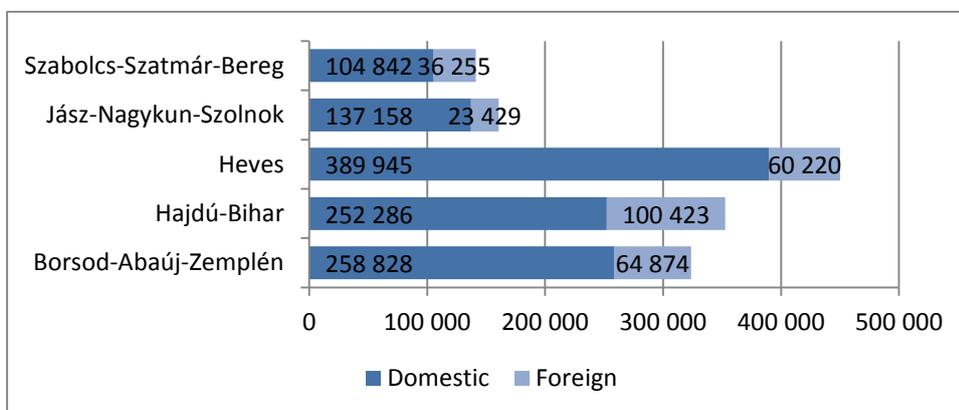*Source: KSH*

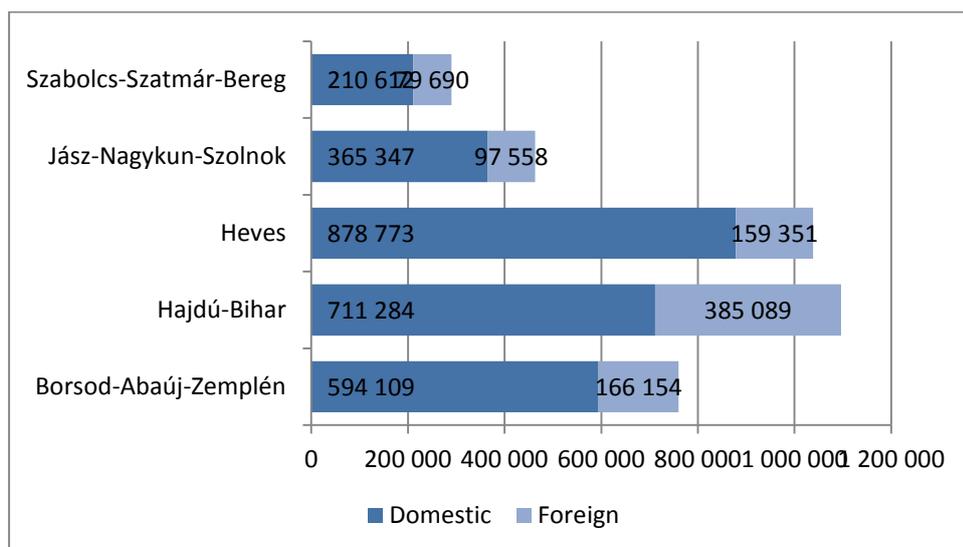**Figure 28 – Number of protected buildings and monuments (2015)**
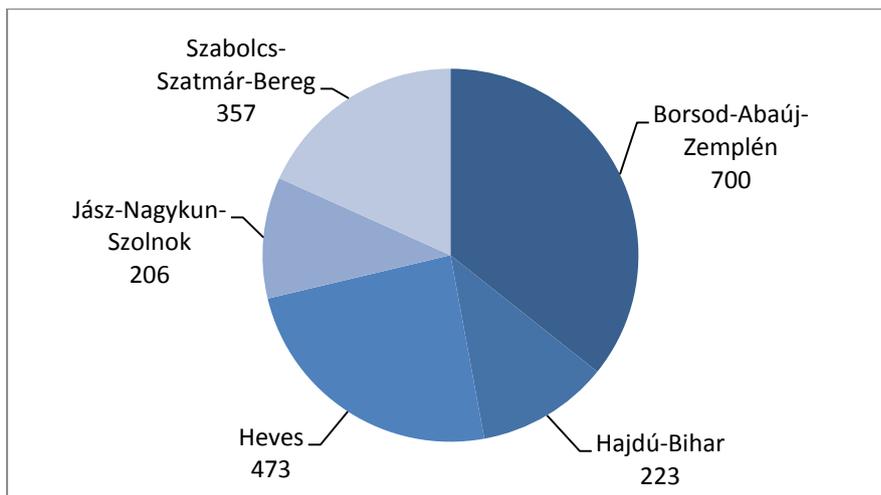
Source: www.muemlekem.hu

Figure 29 – Number of tourists at public accommodation establishments (2013)
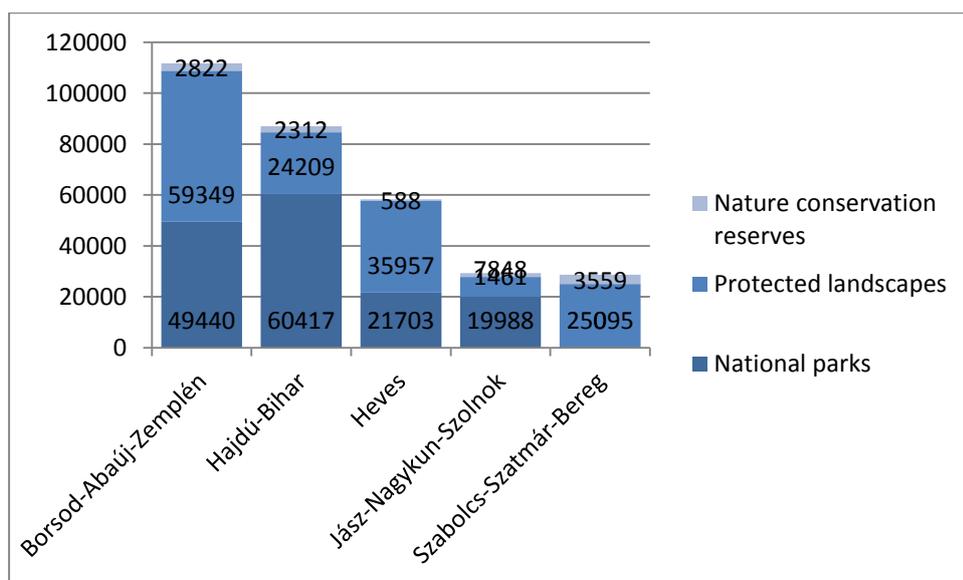

Source: KSH

Figure 30 – Tourism nights at public accommodation establishments (2013)

Source: KSH

Figure 31 – Territory of protected natural areas of national importance (hectares, 2013)

Source: KSH

Figure 32 – Number of railways crossing the border (2015)

Railway number	169	100	115	105	101
From-to	Košice – Budapest	Záhony – Chop	Mátészalka – Carei	Debrecen – Valea lui Mihai	Püspökladány – Oradea
BCP	Hidasnémeti	Záhony	Tiborszállás	Nyírábrány	Biharkeresztes
Daily number of passenger trains crossing the border	2	6	3	3	3
Railway electrification	Yes	No	No	No	No
Number of tracks	1	2	1	1	1

Source: Based on information provided by Hungarian State Railways

Figure 33 – Number of telephone main lines and (wireless) internet subscriptions (2013)

	Telephone main lines	Internet subscriptions	Wireless internet subscriptions
Borsod-Abaúj-Zemplén	181 325	129 291	6 284
Hajdú-Bihar	146 301	112 998	6 924
Heves	97 165	66 051	2 310
Jász-Nagykun-Szolnok	100 237	75 851	3 449
Szabolcs-Szatmár-Bereg	115 960	94 745	14 392
Hungarian region	640 988	478 936	33 359
Hungary	2 991 463	2 407 607	103 874

Source: KSH

Figure 34 – Border crossing points (2015)

Border crossing points		Type of vehicle	Type of transportation
Ukraine – Hungary			
Chop	Záhony	automobile	passenger, cargo
Dzvinkove	Lónya	automobile	passenger
Kosyno	Barabás	automobile	passenger
Luzhanka	Beregsurány	automobile	passenger under 3.5 tons
Vylok	Tiszabecs	automobile	passenger
Chop	Záhony	railway	passenger, cargo
Salovka	Eperjeske	railway	cargo
Hungary – Slovakia			
Aggtelek	Domica	automobile	passenger under 3.5 tons
Tornanádaska	Hosťovce	automobile	passenger under 3.5 tons
Hidvégardó	Hosťovce	automobile	passenger under 3.5 tons
Szemere	Buzica	automobile	passenger under 3.5 tons
Tornyosnémeti	Milhosť	automobile	passenger, cargo
Kéked	Trstené pri Hornáde	automobile	passenger
Hollóháza	Skároš	automobile	passenger
Sátoraljaújhely	Slovenské Nové Mesto	automobile	passenger, cargo
Karos	Streda nad Bodrogom	automobile	passenger
Pácin	Veľký Kamenec	automobile	passenger under 3.5 tons
Lácacséke	Pribeník	automobile	passenger under 3.5 tons
Zemplénagárd	Veľké Trakany	automobile	passenger under 3.5 tons
Hidasnémeti	Čaňa	railway	passenger, cargo
Sátoraljaújhely	Slovenské Nové Mesto	railway	cargo
Hungary – Romania			
Garbolc*	Bercu	automobile	passenger
Lajta*	Lazuri	automobile	passenger
Csengersima	Petea	automobile	passenger, cargo
Vállaj	Urziceni	automobile	passenger, cargo
Ömböly*	Sanislău	automobile	passenger
Nyírábrány	Valeu lui Mihai	automobile	passenger
Bagamér*	Voivozi	automobile	passenger
Létavértes	Săcueni	automobile	passenger
Pocsaj*	Rosiori	automobile	passenger
Ártánd	Borş	automobile	passenger, cargo
Tiborszállás	Carei	railway	passenger, cargo
Nyírábrány	Valeu lui Mihai	railway	passenger
Biharkeresztes	Oradea	railway	passenger, cargo

* after Romania's joining the Schengen area