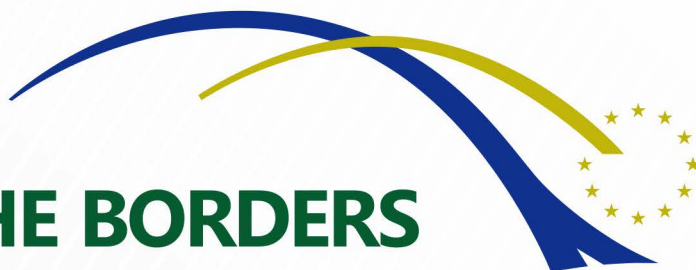


Central European Service for Cross-Border Initiatives  
European Institute of Cross-Border Studies



# **CROSSING THE BORDERS**

## **Studies on cross-border cooperation within the Danube Region**

Geographic and Structural Characteristics of  
Cross-Border Cooperation  
in the Danube Region

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## **1. Introduction**

The territorial cohesion of the European Union does not only necessitate the opening of internal borders as well as the removal of legal and administrative barriers, but also the appropriate evaluation and analysis of the integration process, based on objective data. In the last few years, the extension of the European Union and the resulting changes of the territorial processes, the relocation of territorial focal points and the growing demand on community financing tools made it more and more important for the distinct specialized policies to redefine their activities, toolkits and objectives as well as to enhance their efficiency; for all of these aims the review and assessment of the most important shifts and achievements on the respective fields were essential.

Such was the case for one of the most dynamically evolving community policies of the recent years, INTERREG too. Started as a community initiative in 1990 and concentrating on the overcoming of social, economic and cultural barrier effect of state borders through the promotion of cross-border cooperation on local and regional levels, the policy proved successful; as a result it became part of the regional policy of the European Union under the name European Territorial Cooperation (ETC) for the 2007-2013 budget period. The underpinning of the achievements of the past two decades, the promotion of the measurability of cross-border interactions is of utmost importance therewith to prove to policy makers: it worth to support such objectives from community funds because they create tangible added value. Moreover, territorial monitoring based on the possibly largest range of data and information may ensure in a long term the efficient use of development funds whilst feedbacks can contribute to make the interventions of INTERREG program and also that of European regional policy more targeted.

In the region of Central and Eastern Europe (CEE), the evaluation of cross-border interactions has high actuality. The average surface of the countries is smaller than in Western Europe; therefore, the extent of borders is higher. Moreover, these borders meant hardly penetrable barriers in many fields of social life for the countries of this region during the years of communism. European integration not only enabled the former socialist CEE countries, the opening of physical borders but it created an opportunity for the exploitation of local and locational energies. In our days, the CEE region is great beneficiary of European Union supports dedicated to cross-border cooperation (INTERREG/ETC). However, strategic planning necessitates the objective interpretation and assessment of local conditions and processes, based on the possibly widest range of statistical data.

The specific situation of the region within the all-european space has already been recognized by the European Union, having launched macroregional initiative Danube Region Strategy (EUSDR) in 2011. The surface of the macroregion does not only cover the territories of the former European socialist countries (Poland and the Baltic States are not even members), old member states (such as Austria and the German federal states of Bavaria and Baden-

Württemberg) as well as candidate countries (Serbia, Bosnia-Herzegovina, Montenegro), but ENP countries (Ukraine, Moldova) also take part in the joint work. Nevertheless, the macroregion embraces a largely coherent area in both historical, geographical, economic and social terms, which lays the ground for being considered as an adequate spatial entity for the interventions targeting the reinforcement of territorial cohesion.

At the same time, the region is characterised by powerful social and economic inequalities, which counteract cohesion efforts. The spatial structure of the region is marked by various dichotomies both in the terms of large scale patterns as well as regional and local levels. The revelation of these inequalities together with the identification of the causes and circumstances behind are, as we have already mentioned it, of decisive importance for the planning of development policies. Macroregional differences are largely dependent on the economic situation of the distinct countries; therefore, the Danube Region is only slightly competent in the handling of these questions. Regional and local level imbalances however cannot be ignored by the (macro)regional policy of the European Union, certainly not in the case of zones such as borderland regions which hold a certain relevance from the point of view of the creation of territorial cohesion as the experiences of these areas may anticipate the likely outcomes and even the failure of the distinct interventions.

In the followings, we are making an attempt to reveal and analyse the regional and the local level social and economic inequalities which must be taken into consideration in all cases in the course of the elaboration of policy planning. In the case of the Danube Region, no analysis with such a depth has been performed and, as we shall see in the followings, the implementation of this present investigation also met a series of difficulties. Nevertheless, we find its realisation important, assuming that it may lead us to a more inclusive Danube Region which is able to provide with an adequate territorial framework for the achievement of a real territorial cohesion.



## **2. Research database and methodology**

Our present study strives after a situation analysis of the sub-state, mainly local level, entities of the countries involved in the European Union Danube Region Strategy. The basic aim of this analysis is to indicate to what extent borderlands regions may contribute to the strengthening of macroregional territorial cohesion, both in the terms of the Danube Region and the European community, as well we to what extent their difficulties may hinder their efforts for cohesion. For this objective the socio-economic conditions of borderland regions are needed to be revealed and their position in the wider geographic space must be identified.

### **2.1 Database**

For the purposes of the investigation we used the following indices on the possibly lowest territorial administrative level:

- Population density
- Population ageing index
- Natural population increase as well as decrease
- Birth and death rates
- Migration rate
- Commuting rate
- Activity rate
- Unemployment rate
- Proportion of working-age inhabitants
- Tourist accommodation capacity
- Occupancy of tourist accomodations

Although, Eurostat collects statistical data on EU Member States (along with some Non-Member States) on the basis of a uniform methodology, the tight range and moderate actuality of accessible data, on the one hand, and the territorial levels of data gathering (predominantly NUTS 2 and NUTS 3) which are inadequate for the measurement of local-level processes, on the other hand, are important concerns. The acquaintance with the processes indicating the deepening of European level social and economic integration over the borders necessitates datasets which are measured and registered on the local territorial levels marked as LAU 1 (district) and LAU 2 (settlement) by Eurostat.

In the case of such in-depth analyses, a fundamental problem is meant by the fact that statistical data for the local-level territorial entities of the distinct countries are collected from different sources. The principal and thus most reliable sources of statistical data are national

statistical offices which basically carry out their activities within the framework of the individual state; therefore, considerable differences may occur between distinct national systems.

In the individual national statistical systems the collection and processing of data may be performed in different manners, along with the elaboration of the distinct indicators. The acquisition of absolute indices was preferred so to enable the production of relative figures on the basis of a possibly uniform methodology. These indicators are however not immune from country specific elements. Spectacular example for this is provided by the differences of datasets on unemployment in the distinct countries: the definition of the status of unemployment is diverse from country to country, therefore in spite of the use of standardised relative figures (compared to overall population), the comparison of these data must be considered thoroughly.

The principal sources of datasets at disposal for local-level entities are censuses. A positive trend in this respect is that European countries continuously harmonised their census years; however, the date and frequency of other data registrations are still matters of unfavourable differences. As the frequency of data collection is largely influenced by both the dates of former data registration dates and other traditions, it is in many cases highly improbable that the same datasets are available for all countries for the identical period; therefore, one or two years of differences must be accepted as a compromise.

Many difficulties occur in the terms of the accessibility of data as well. Statistical publications and methodology are still overwhelmingly released on the domestic language and they are only rarely at disposal in English, though a remarkable advancement took place in recent years in this respect. Nevertheless, for in-depth analyses one still needs to consult publication issued on domestic language, for which our partners provided with an invaluable help.

The range of statistical data, collected and processed by statistical offices is also highly varied. The experiences show that the more countries are taken into consideration, the higher the probability is, that a dataset is lacking in one or more of the countries. A general opinion among researchers is that fully appropriate statistical datasets are never at disposal without gap; therefore managing data shortages is a usual task at every scientific investigation. Any research project can get on with some extent of data shortage, and an analysis without full data coverage may also provide with interesting information; however, the interpretation of research outcomes need to be carried out carefully.

National statistical offices are also not able to reflect on numerous activities with a cross-border character. A typical example for this is cross-border commuting, for which usually only estimations are available; nevertheless, estimated numbers from different sources for the same phenomena usually show considerable differences. Some distinct forms of commuting cannot be revealed through statistical methods only (grey and black employment), may be dependent on numerous subjective elements both in terms of time and definition (e.g. shopping tourism) or are measured with figures which may not be reliable from the point of view of comparability (e.g. number of pupils with foreign address in borderland schools,

proportion of SMEs in foreign property). Due to these reasons we did not involve such data within our investigation as the outcomes of such analyses would likely be overwhelmingly irrelevant.

The methodology and temporality of data registration and publication, the degree of collection and systematisation and last but not least the accessibility of data show largely different images for each country, which further worsen their comparability and impede the objectives set at the beginning of the research project. In the forthcoming only those statistical analyses are presented in the study of which the data were reliably at disposal in the majority of the respective countries.

## 2.2 Methodology

The aspects introduced in the previous subchapter accurately defined the framework for the setup of the research database. The range of the deliverable investigations was needed to be specified accordingly. In an attempt to outline of the present situation and future perspectives of borderland areas, we needed to find such methods which may be able to present the macroregional position as well as the socio-economic characteristics and problems of these areas on the basis of the possibly most complex aspect. As a consequence of this and also that of the assumption that cohesion policy may bring along new territorial organisational shifts, we considered the notion and principle of territorial cohesion itself as a guiding line for our investigations. As a result, we performed a highly comparable situation analysis on the entirety of borderland areas, which has a strong cohesional focus and is able to answer the fundamental questions.

The use of the indicator of population density enables to indicate which borderland areas fulfilled what role within their own countries (centre, semi-periphery, periphery) as well as to what extent the west-east population density slope is effective and whether borderland-located urban centres are able to exercise their influence on the neighbouring side of the border.

The balance or, as the case may be, the imbalance of the population in terms of age structure is mostly spectacular through ageing index reflecting on which zones have favourable demographic basis for the ensuring of stable economic growth and in which areas may future initiatives on cooperation and development be endangered by the perturbation of demographic balance. Moreover, in case of parallel processes on the neighbouring sides of the border may point at certain phenomena which unfold on supra-state level, largely independently from state borders.

Natural increase as well as decrease, along with birth and death rates are expected to show a largely complex image which is to be influenced by a number of factors (such as economic, socio-cultural, health conditions, etc.); altogether, these indices are likely further developing

the twofold image which differentiate groups of localities with favourable as well as unfavourable situation, based on ageing index.

Migration balance, as of our expectation, may possibly point at the economically favourable and unfavourable (attractive and unattractive) areas, referring to their dynamics, as well as to their ability to attract and maintain population, and thereby to their social and economic significance in the wider geographic space. A similar, though territorially more focused investigation is awaited to be feasible through the analysis of the figures of commuting.

Activity and unemployment rate may point at economically more and less successful regions; however, they are expected to provide with a largely complex image which is considerably influenced by the structural characteristics of the distinct countries, on the one hand and the varied definitions of unemployment, on the other hand. These all make the comparisons among countries rather problematic, though they may well characterise the domestic spatial structure and focal points of the individual countries.

The figures on tourism (bed places per 1 000 inhabitants; guest nights per 1 000 inhabitants) are supposed to make the difference between borderlands with favourable and unfavourable economic conditions, by pointing at the areas mostly attractive for domestic and international tourists and enlisting those which are not. Nevertheless, touristic attractiveness is an outcome of both natural, social and economic features, as a consequence a series of interrelationships can be derived from these datasets. Taking into consideration these distinct indices may enable the investigation of the features of tourism (such as domestic vs. international attractiveness), as well as that of the structural characteristics of tourism as a sector.

### 3. Overall analysis on the regional inequalities of the eu and the Danube region

#### 3.1 Land cover

The Danube Region is generally characterised by balanced duality of lowland surfaces along the River Danube and its tributaries and that of mountainous areas belonging mainly to the great European mountain ranges, such Alps, Carpathians, Dinaric Alps and Balkan Mountains, among others.

This duality is noticeable when looking at the land use pattern. More than half of the Danube region (51.46%) is covered by agricultural areas, typically on the fertile lowlands. The ratio of the woodland areas is considerably high (41.52%), as well, as a characteristic of the mountain areas. The water bodies and wetlands amount to less than 2% of the region's area, meanwhile about 5.23% is covered with artificial surfaces. However land cover ratios in the different countries are reasonably variable, the proportion of natural and semi-natural areas is significant throughout the region. In addition, a significant decrease of the cropland area is observed in the region, which is favourable from the aspects of ecosystems (grassland and forest).

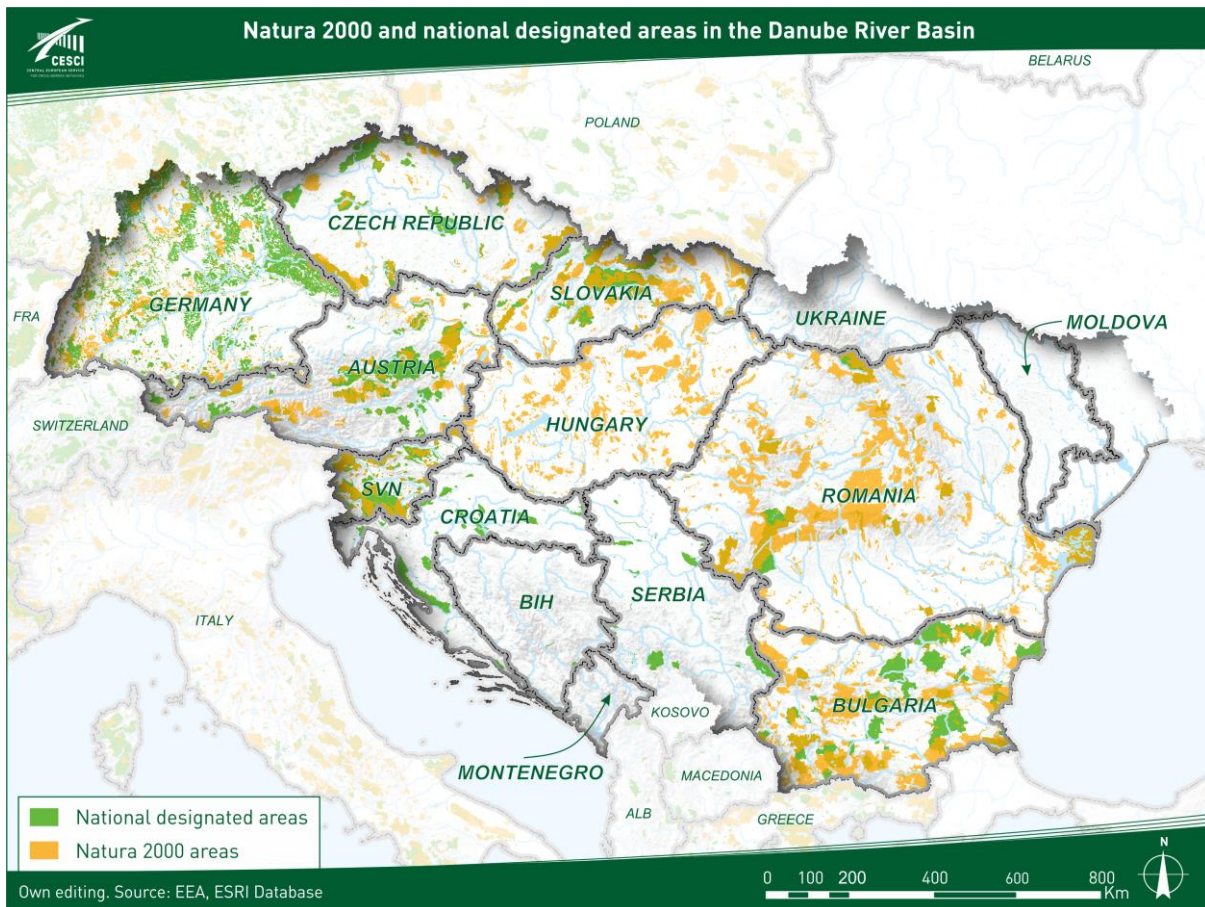


Figure 1. Natura 2000 areas in the Danube Region



There is a relatively high proportion of protected areas which reflects the natural wealth of the Danube region. Protected areas in the Danube region cover almost the entire spectrum of natural values, such as geological, hydrological, botanical, zoological, landscape values. Among the countries of the Danube region, Slovenia, Bulgaria, Slovakia and Hungary assigned Natura 2000 areas in a ratio above the EU27 average compared to their own areas. Based on the implementing indicator of the Habitats Directive, it can be concluded that only Germany, Bulgaria and Austria are equal to or above the EU27 average. The Czech Republic assigned the lowest percent of its area for Natura 2000 areas, and as for implementing the directive, it is ranked in the last position among the countries of the Danube region.

The larger urbanised areas, indicated on the first map of Figure 2, are largely concentrated.

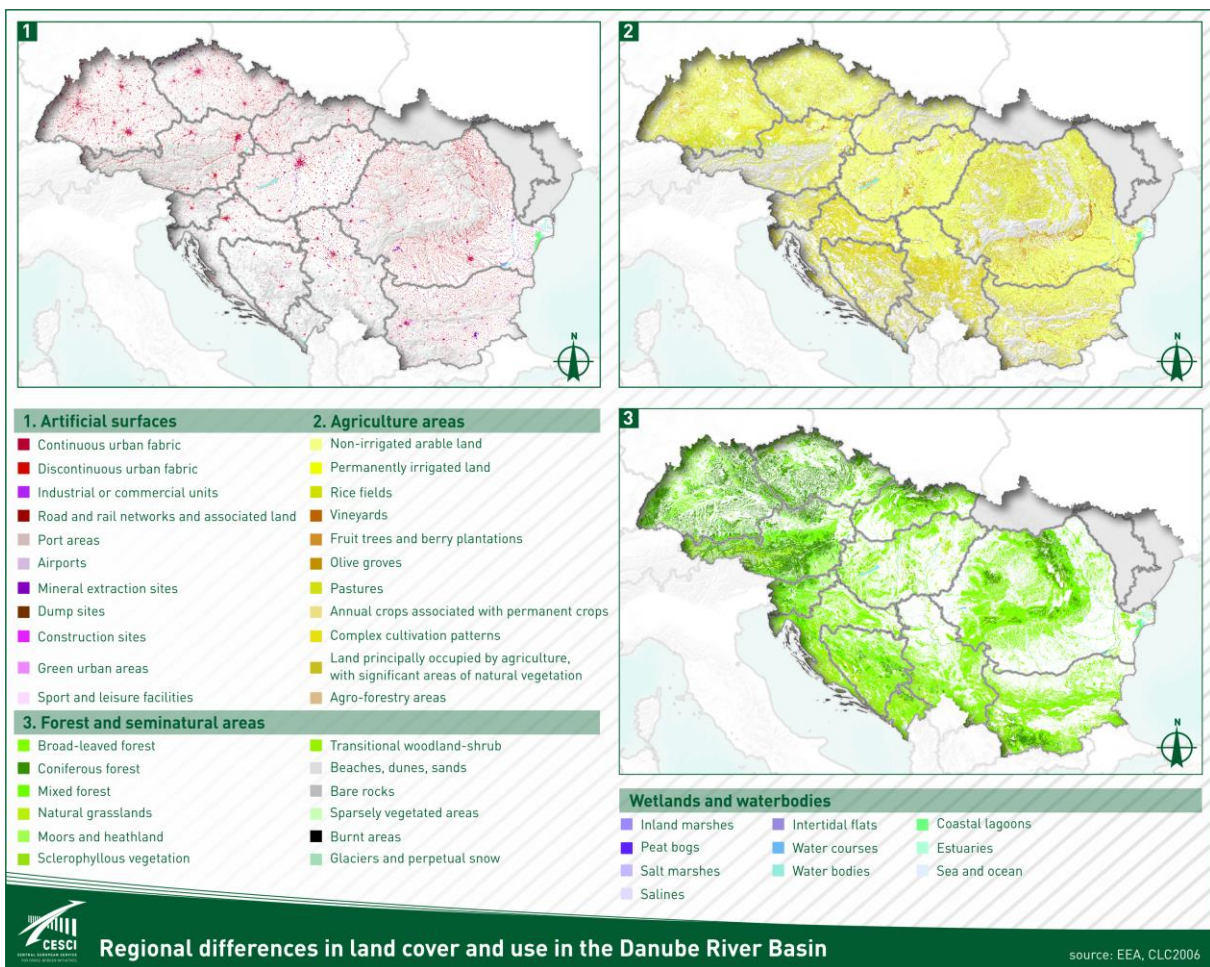


Figure 2: Regional differences in land cover and use in the Danube River Basin

The ratio of the artificial areas being almost unusable from the aspects of ecosystems is above 5% in almost all countries having measuring values, which belong to the Danube region. The typical value is about 6% but there are some extremities: Germany provides a ratio above 8%, while in Slovenia, a markedly favourable value (less than 3%) was measured.

### 3.2 Urban network

Metropolitan and regional urban centres play a significant role in the economic and social life of larger regions, providing them with a spatial concentration of employment opportunities and a range of services. Therefore, these centres have a gravitational effect on nearby or even distant areas and this hinterland can also extend in cross-border terms.

Commonly used scientific methods in the analysis of spatial (power)relations in the urban network are gravity models<sup>1</sup> with which the theoretical hinterlands of the particular centres can be determined. In our analysis, we have chosen the so-called 'Reilly formula'. When determining the "gravity space", this model takes into consideration the distance between two points and the "mass" of the network of settlements (mainly: population). It is important to insist that this method is a theoretical research method. It provides no values verifiable from point to point, but it rather (quite realistic) offers ratios, indicating trends in an objective, uniformly comparable form. Moreover, it abstracts from the administrative borderlines which break the spatial continuity, therefore it indicates well the eventual cross-border territorial potentials of the certain centres.

The results of the extensive calculations were illustrated graphically, projected on the map in order to be interpreted in an easier way. The Figure 3 represents the theoretical hinterlands of the broader region's principal and sub-centres together. All of the hypothetical hinterlands of the NUTS 3 centres, which belong to the macro-region and have at least 50,000 inhabitants can be followed.

Based on this examination methodology Munich, Vienna, Budapest, Belgrade and Sofia seems to have considerably large cross-border hinterlands. Some larger areas (such as Bosnia, Dalmatia, Bukovina and Eastern Trachia) are outside of the gravity of principal centres which has a manifest effect on their socio-economic status.

The potential and current urban network connections are eventually organised in two levels in the Danube region. The main centres form the backbone of the network accompanied by subcentres which are able to deserve not only internal but external relations, as well. The role of the subcentres can be identified in the cooperation of city pairs, twin cities and polycentric city networks.

By examining the settlements which serve as seats or branches of the macro-regional cooperation in the Danube region, the capitals of the particular countries (especially Vienna, Sofia, Zagreb, Budapest, Bucharest, Bratislava, Belgrade) and the large cities which follow in the settlement hierarchy are marked out (e.g. in Croatia: Split, in Hungary: Szeged, in Serbia: Novi Sad, in the Czech Republic: Brno).

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<sup>1</sup> Tamás Dusek (2005): Three-dimensional interactions, socio-physical models. In: József Nemes Nagy (author) Regional analytical methods. RTT 11, Department of Regional Geography, ELTE – Regional Science Research Group, MTA-ELTE pp. 237-245.

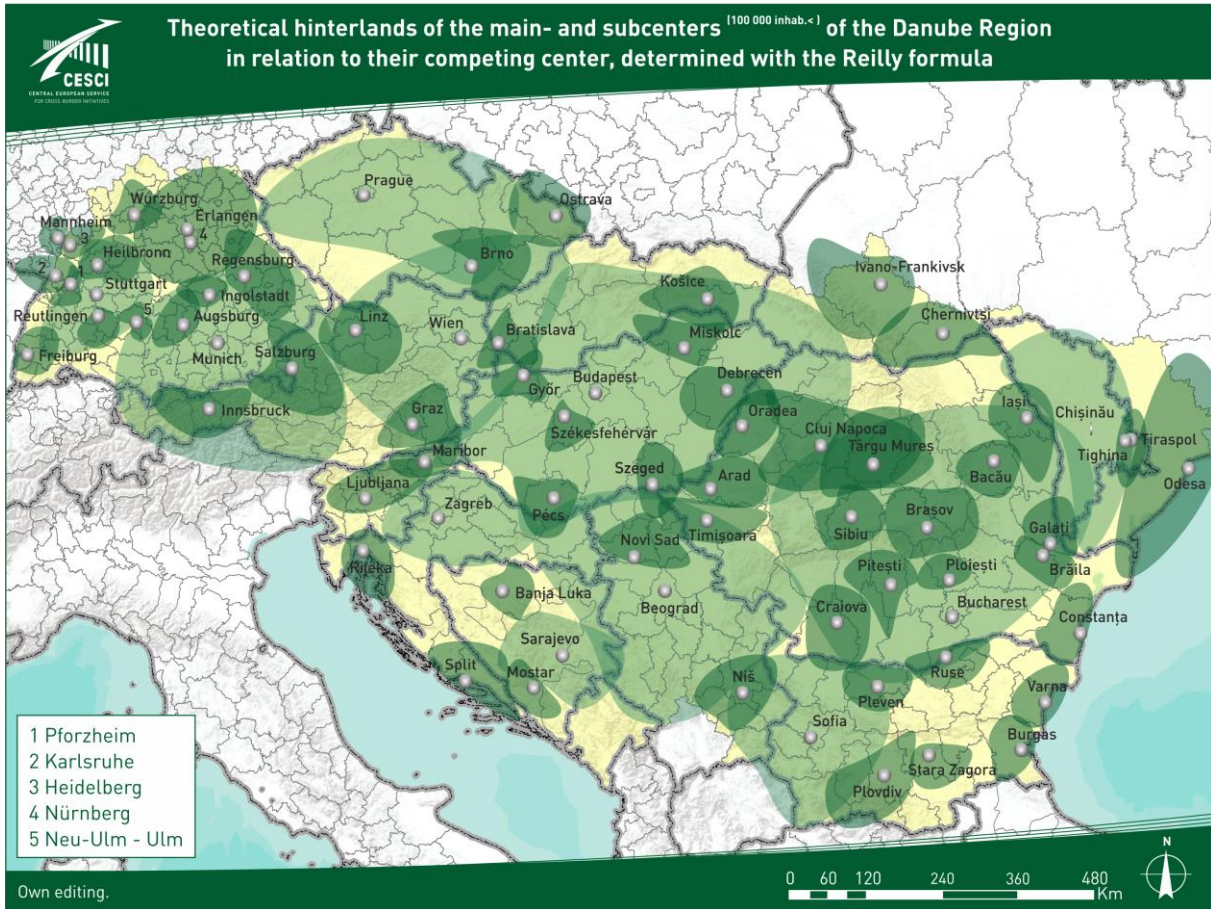


Figure 3: Theoretical hinterlands of the main- and subcentres of the Danube region

Vienna is the only metropolis of the Danube region and its position is unambiguously amplified by the fact that the 3<sup>rd</sup> United Nations Headquarter, after New York and Geneva, can be found there. The city has altogether 10 organisational units, offices and commissions unlike other cities of the Danube region with no such functions. The organisations and programme secretariats of the European Union are represented in Vienna (European Agency for Fundamental Rights), Budapest (European Institution of Innovation and Technology), Prague (European GNSS Supervisory Authority) and Ljubljana (Agency for the Cooperation of Energy Regulators).

Despite the relatively low number of the institutions, Munich and the adjacent towns (Heidelberg etc.) play the role of the primary scientific centre of the macro-region. In the field of research and development responsible for innovation with its participation international cooperation can be launched, the development of the strong capacities regarding life science and automobile industry provides a good opportunity for this in the region. A co-operation between the region's pole cities to propagate innovation has great importance in the Danube region. Graz, Brno, Bratislava, Cluj-Napoca, Chişinău, Belgrade, Ljubljana and Ivano-Frankivsk serve as further important scientific bases.



The Central European countries form a common group in the area of the European Union, where the central settlements of Prague, Budapest and Bratislava belong to the 3<sup>rd</sup> category. The functional urban regions of Slovenia, Bulgaria and Romania can be classified only to the fourth level.

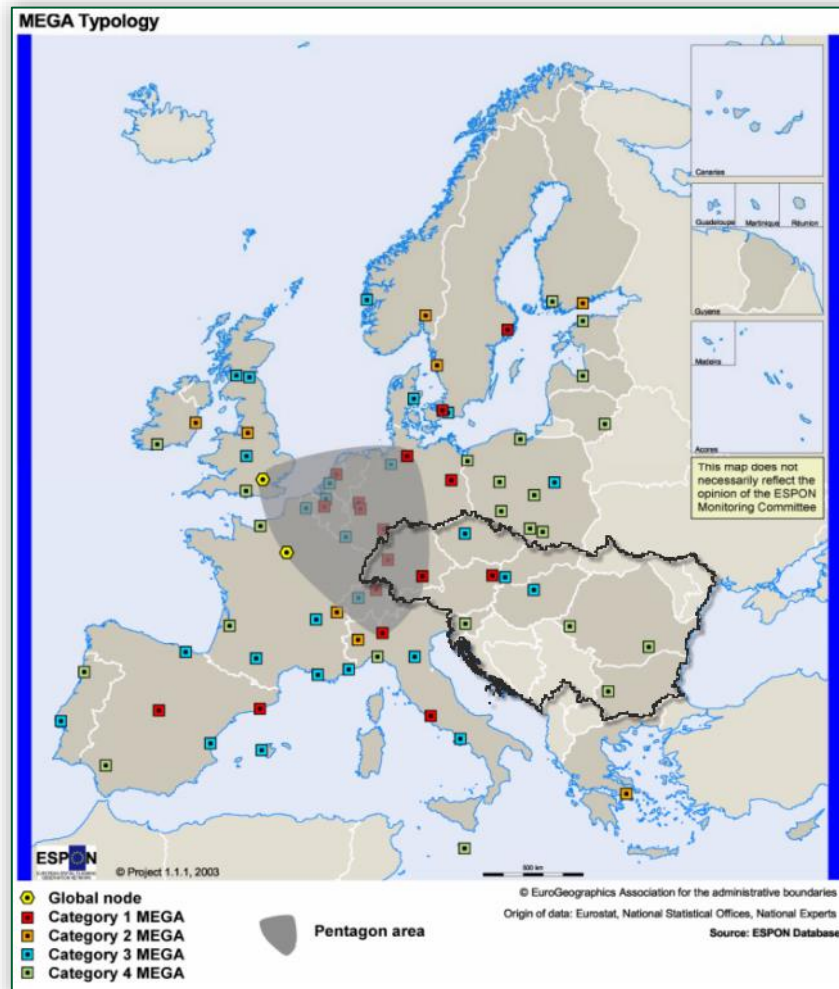


Figure 4: Categories and location of Metropolitan European Growth Areas (MEGAs)<sup>2</sup>

There is no global node in the Danube region, which could play an important role on a larger scale. Thus, the urban centres which play an important role in the external and internal macro-regional relations constitute a triple hierarchy system: there are centres of European importance, of macro-regional importance as well as centres at national-regional level. To the category of national-regional centres belong among others Linz, Cluj-Napoca, Győr, Rijeka or Zenica. The category of macro-regional centres are represented by major rural centres, such as

<sup>2</sup> ESPON 111: Potentials for polycentric development in Europe  
[http://www.espon.eu/export/sites/default/Documents/Projects/ESPON2006Projects/ThematicProjects/Polycentricity/fr-1.1.1\\_revised-full.pdf](http://www.espon.eu/export/sites/default/Documents/Projects/ESPON2006Projects/ThematicProjects/Polycentricity/fr-1.1.1_revised-full.pdf) page 12

Stuttgart, Bratislava, Ljubljana, Sarajevo, Zagreb and Chişinău. And finally, European-level nodes are Vienna, Munich, Budapest, Prague, Bucharest, Sofia and Belgrade.

Polycentricity, dominating the cohesion of the urban network of the Danube region, is influenced by three factors: size, location and interconnection. The national disparities considered on this field are disadvantageous in terms of the territorial cohesion. According to the figures of ESPON's POLYCE research, the urban network of only few countries is able to fulfil the fundamental principles of polycentricity within the national borders; however, not the whole macro-region was examined.

The degree of urbanization is relatively high in Germany, Austria, the Czech Republic, Hungary, Bulgaria and Ukraine; the rate of urban population surpasses two-thirds of total population in these countries. The area of the Balkans is much more rural due to its history of urban geography, where small towns dominate in comparison to macro-regional standards.

In terms of ESPON's METROBORDER project on cross-border polycentric metropolitan regions 11 such regions are referred in the ESPON research, of which two, namely the Vienna–Bratislava and the Katowice–Ostrava region are situated inside the Danube Region. Compared to EU 15 Member States, the development of cross-border polycentric metropolitan regions caught up much later in Eastern and Central Europe. Consequently, the urban network is still dominated by domestic metropolitan agglomerations; however, some prominent cities in the relative proximity of the border has already benefitted from cross-border agglomeration processes, such as the capitals of Vienna and Bratislava together with the regional centres of Győr and Brno, contributing so to the emergence of a cross-border polycentric agglomeration, the so-called CENTROPE region. Besides this area some sections of the Czech-German, Austro-German and Czech-Slovak-Polish border also stand out concerning the density of important urban centres and the intensifying interaction among them.



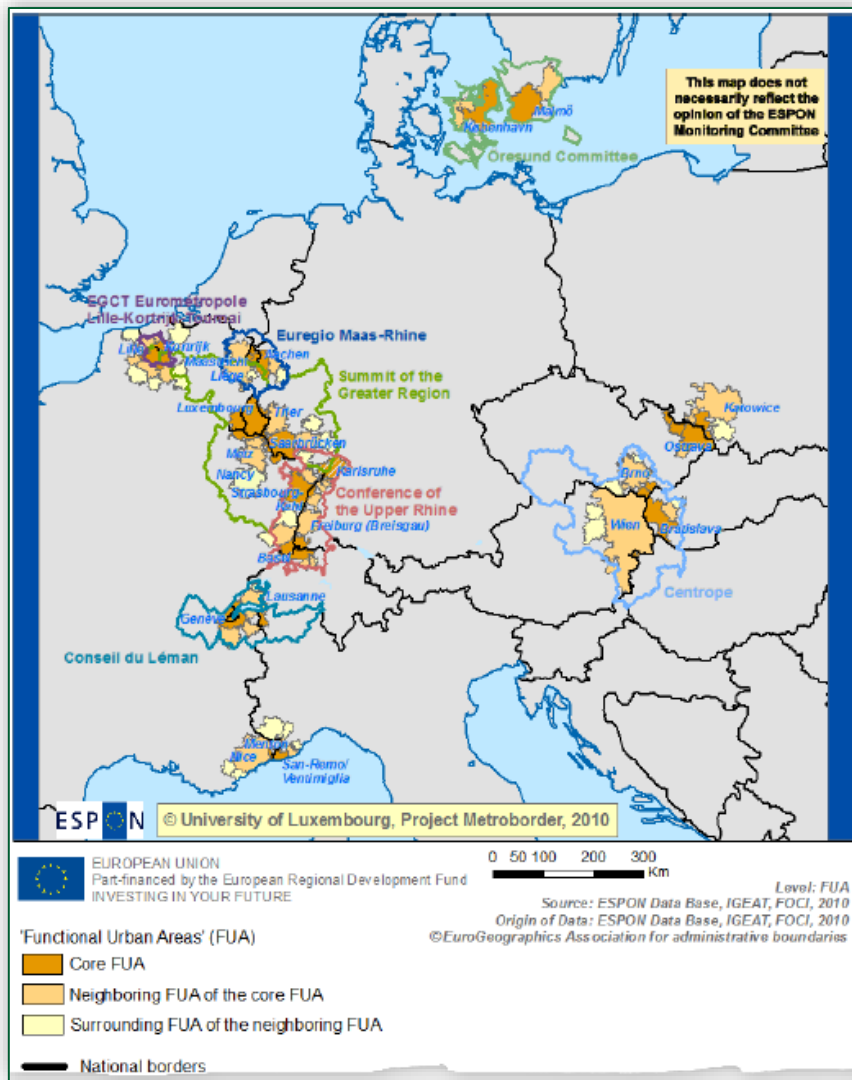


Figure 5: Cross-border polycentric metropolitan regions and the position of the constituent functional urban areas<sup>3</sup>

<sup>3</sup> METROBORDER: Cross-border Polycentric Metropolitan Regions  
[http://www.espon.eu/export/sites/default/Documents/Projects/TargetedAnalyses/METROBORDER/METROBORDER\\_-\\_Final\\_Report\\_-\\_29\\_DEC\\_2010.pdf](http://www.espon.eu/export/sites/default/Documents/Projects/TargetedAnalyses/METROBORDER/METROBORDER_-_Final_Report_-_29_DEC_2010.pdf) page 8

### 3.3 Status of the borders



Figure 6: The status of the borders and the expected changes of those in the macro-region of the Danube River Basin

The internal cohesion of the Danube region has been fundamentally affected by the perpetual status of the borders. In this respect the borderland areas of the region have a wider variety of state borders than ever before. The countries of the Schengen zone have no more internal physical borders; however, there are actually three EU member states outside the Schengen zone among the EUSDR member countries. There are also associated countries, whose borders are to be opened in the medium term; and neighbouring third countries whose borders which will remain permanently closed.



Figure 7: The density of border crossing points in the macro-region of the Danube River Basin

The barrier effect of the borders is not only determined by their legal status, but also by the infrastructural conditions at the borders. Border crossing points are to be found on the borders of Western European countries in an average distance of 7-8 kilometres from each other. The physical geographic features, such as the Alps in the Western part of the Danube Region, can mean physical barriers as a consequent of which this above mentioned density of border crossing points is not possible to reach; however, physical obstacles are less problematic here than in the East. In the Eastern part of the Danube Region, where the border is confined to streams, such as the Danube (in the case of the Hungary-Slovakia, Croatia-Serbia, Serbia-Romania, Romania-Bulgaria and Romania-Ukraine border), the Morava (Austria-Slovakia border), the Drava (Hungary-Croatia border) and the Sava (Croatia-Bosnia border) borders are hard obstacles that would need costly investments (mainly bridges) to overcome. In other cases, border regions simply lack road and rail infrastructure (such as in the case of Hungary-Romania or Hungary-Serbia borders) or it is politic seclusion which ends up in the low number of border crossings (borders of Ukraine at first).

All in all, one could see the weakening of borders as administrative barriers within the macro-region throughout the past decades which points towards a strengthening territorial cohesion. Furthermore, the predicted lifting of visa requirements as well as the cancellation of other travel restrictions might also have a positive effect in this respect. On the other hand, the free

movement of people is challenged from time to time in Western political discourse because of security and social issues, therefore the dissolution of borders is not probable in the near future. The separating function of the borders of the greater region hardens from the Northwest towards the East and Southeast areas and seemingly this remain so permanently or at least for a longer term.

### **3.4 Governance and multi-level governance in the Danube region**

The European model of governance could not develop at its full extent in the most countries of the Danube Region. To be specific, the late feudal states of the region were not replaced by bourgeois democracies but by authoritarian and totalitarian regimes in the 20<sup>th</sup> century. Most of the countries of the former Soviet bloc really did not even get a chance for the development of classic (western style) democratic institutions until 1989. Through the Euro-Atlantic integration, the adoption of the western models, the legal stability and the democracy of decision-making, as well as the level of the civil self-organisation have been improved significantly and some mechanisms of the transparency also have been developed. However, it would be a great mistake looking for indicators and mechanisms in the case of the 20-25-year-old Eastern European democracies, for the development of which the western countries had centuries.

States have an extremely important role in the distribution and coordination of financial resources, their hierarchical relationships greatly define the decision-making, its methods and its pace. The vertical structure of the states of the Danube region (role and strength of the central authority, regional and local level) is fairly different, together with the relationship between the authorities and the different levels of stakeholders, the appearance of different competencies.

As for the entire region, we can distinguish three different types of State organisation.

1. In centralised unitary states, the central authority has a dominant role, in contrast regional level is largely of administrative nature. In certain countries (Hungary) the role of the local level is considerable, meanwhile it is almost insignificant elsewhere (Slovenia).
2. In decentralised unitary states the role of the regional level is more powerful. The might of the central authority can be more (e.g.: Slovakia), or less direct (like in the Czech Republic).
3. Lastly, in case of the federal states (Austria, Germany) the central authority unites the independent regions having a local government and a high degree of autonomy (provinces).

As the White Paper of the Committee of the Regions, dealing with this topic, set out states have a decisive role in designing the conditions of multi-level governance. Although some progress

of decentralisation can be observed in the European Union, the conditions of the shared governance are yet quite rudimentary.

The different governance frameworks of the nation-states of the Danube region can be explained by the fact that the states developed individual and different regimes, on the basis of their national features. As a result in case of the cross-border governance, the representatives of two or more authorities with significant differences in competencies and legislative capabilities interact with each other, and they have to face administrative and financial problems when developing common management systems in the absence of appropriate provisions.

Bordersides can also approach to each other through the harmonisation process of laws, thus creating the legal conditions of the cross-border multi-level governance. This is typically a national level competence and the territory of the Danube region is involved in many initiatives aiming at some sort of integration of various governance frameworks. In any case, the Danube Region Strategy is the only one that strives to create the conditions of the harmonisation between the sectorial policies and the relevant legal environment through involvement of the countries. As a result, the White Paper encourages initiatives aiming at the strengthening of territorial cohesion with special stress on the role of the macro-regional strategies in this field, as their implementation cannot be imagined without some degree of implementation of multi-level governance.<sup>4</sup>

### **3.5 The initiatives of the Danube Valley integration**

The need for the Danube cooperation is not a new idea: the first committee protecting the freedom of navigation on the Danube was established in 1856. Over the course of the last one hundred and fifty years, large number of plans and initiatives were launched, ranging from strict naval issues to political integration.

The „*process of Ulm*”, dating back to 2001, laid down the base for macro-regional cooperation and a strategy. The first summit in Ulm was followed by 5 further conferences (Melk, Esztergom, Passau, Stuttgart and Ulm). At the latest conference organized in October 2008, commissioner Danuta Hübner announced the inauguration of the second macro-regional strategy of the EU.

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<sup>4</sup> CoR1 White Paper on MLG, 30.



The Strategy<sup>5</sup> was approved in 2011 during the Hungarian presidency, and it is based on two documents: the Communication<sup>6</sup> and the Action Plan<sup>7</sup>. The Communication has set the main objectives (four pillars) of the Strategy. The Action Plan has defined the priority areas and potential projects (as examples) related to particular pillars (being in harmony with the EU 2020 Strategy objectives):

- connecting the Danube region (1) to improve mobility and multimodality, (2) to encourage more sustainable energy and (3) to promote culture and tourism, people to people contacts;
- protecting the environment of the Danube region (1) to restore and maintain the quality of waters, (2) to manage environmental risks and (3) to preserve biodiversity, landscapes and the quality of air and soils;
- building prosperity in the Danube region (1) to develop the Knowledge Society through research, education and information technologies, (2) to support the competitiveness of enterprises, including cluster development, and (3) to invest in people and skills;
- strengthening the Danube region (1) to step up institutional capacity and cooperation and (3) to work together to promote security and tackle organised and serious crime.

Each of the priority areas are hosted by a coordinator state and managed by an international Steering Committee which are supported by working groups deal with issues related to the particular area.

In 2012-2013, the Priority Areas collected and defined particular projects to be realised in an international / transnational context and created their roadmaps aiming to mark the way of implementation. These documents and concrete projects under preparation point at the local needs for transnational cooperation which may be taken into account during the elaboration of the Danube Programme.

### **3.6 Current cross border cooperation initiatives**

Since 1990, the countries of East and Central Europe have been gradually working off their handicap in the field powered by the background energy rising from the liberation and the re-invention of cultural-historic togetherness. Moreover, the countries of Eastern Europe could start the common development activities on an advanced level of institutionalisation, and they do not need to go through the whole evolution process as the western countries did.

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<sup>5</sup> [http://ec.europa.eu/regional\\_policy/cooperate/danube/index\\_en.cfm](http://ec.europa.eu/regional_policy/cooperate/danube/index_en.cfm)

<sup>6</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. European Union Strategy for Danube Strategy. COM(2010)715 final

<sup>7</sup> SEC(2010) 1489 final

Initially, cross-border cooperation initiatives were local partnerships, motivated by geographical proximity and by the common cultural/natural/historic heritage, managed by a foundation or a public corporation, founded and financed by the wealthier members of the cooperation in order to work out and manage the projects implemented within the frames of partnership.

Institutionalized cooperation saw a boost in the mid-20<sup>th</sup> century, as the first such initiative, the EuRegion was established in 1958 at the German-Dutch border region. Subsequently, 'euroregion' became the most popular form for the following decades. Nevertheless, in most of the cases this name covered only an international agreement constituting consultative bodies, thus being rather a geographical concept without real institutional content. Still, the implementation of these agreements was usually hindered by the incompatibility of the relevant national legislations; therefore, a typical euroregion was not more than a loose association of two non-profit organizations registered on the two bordersides.

Due to the fluctuation of the euroregions' activities and a lack of exact definition for these organization the fair number is subject to estimation, but at best more than 200 euroregions have likely been founded since 1958, many of them being defunct by now. Among the effectively functioning euroregions 33 are located within the territory of the Danube region (Figure 8).

Twin-city relations are further special forms of cross-border cooperation. There are several cities along the borders of the countries of the Danube region located directly next to each other – on both sides of the border. It is a special feature of the region, that the Danube, in almost half of its length (1197 km), forms a physical state border. Thus, we can find six city-twinning in the case of which the partners are located on the opposite riverbanks in two different countries. Most of these partnerships have already resulted in valuable common investments, both in symbolic and functional terms.

Besides the border-region settlements, the cooperation between those cities that are located in a bigger distance from the border, but having cross-border functional attraction due to their size, have a significant role (like Vienna-Bratislava, Debrecen-Oradea, Pécs-Sombor-Osijek, Timișoara-Szeged, etc.). This cooperation between the cities may also influence the chance for development of urban regions indirectly connected thereto; moreover, the development of such cooperation is simpler: they are usually bilateral requiring therefore less negotiations and are free from financing difficulties, hence the importance thereof is undisputable.

The acceptance the European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities in Madrid, on 21<sup>st</sup> May 1980 (*The Council of Europe Treaty Series - CETS No.:106.*) by the Council of Europe provided with some guidelines for cross-border cooperation initiatives. On the basis of the Convention, several interstate agreements were concluded in Western Europe (like the Karlsruhe Convention, Bayonne Convention, etc.) regulating the institutional background of cooperation in the border-regions on a bilateral level.

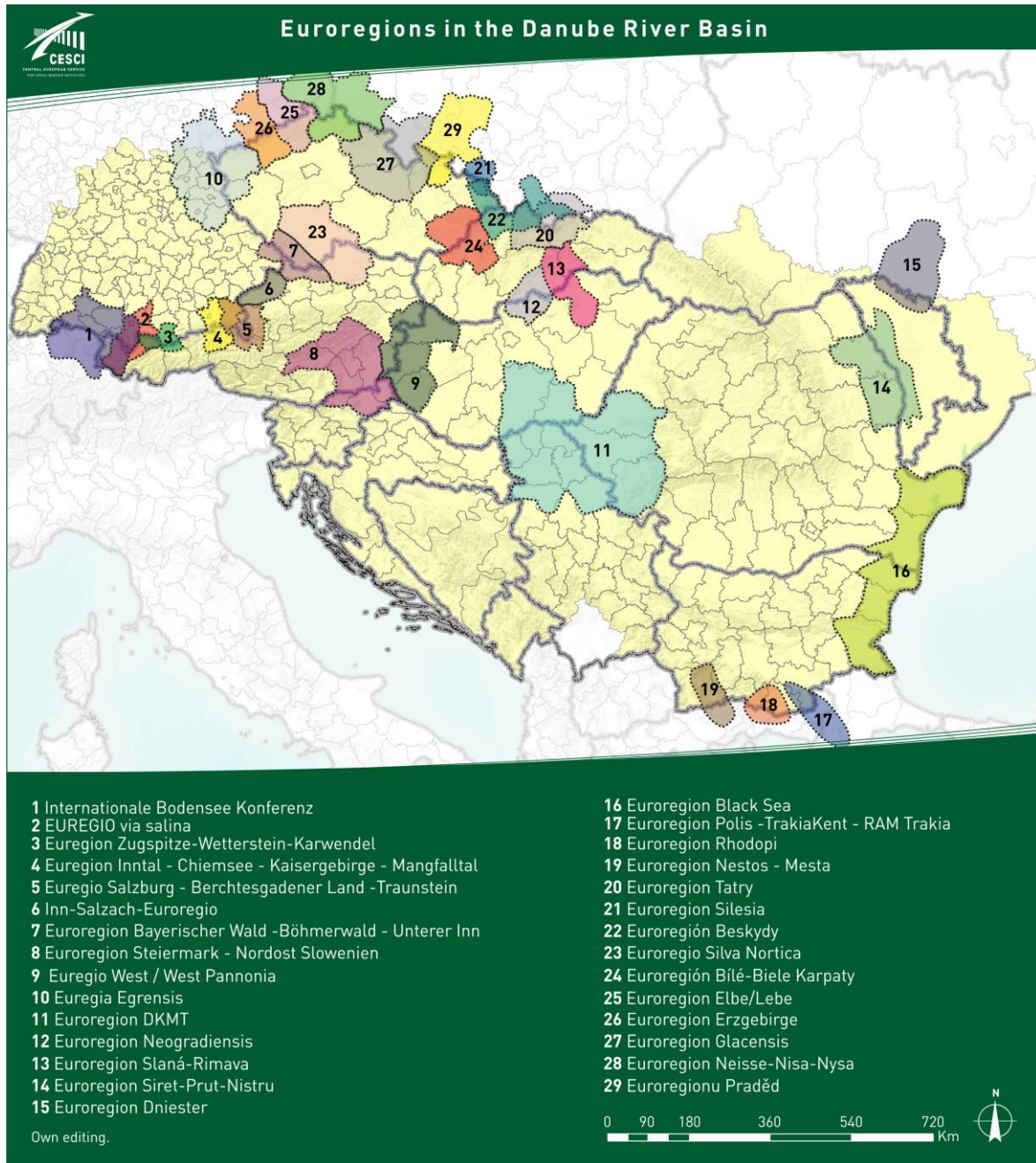


Figure 8: Euroregions in the Danube River Basin (as of 2013)

The most innovative solution for cross-border partnerships is the European Grouping of Territorial Cooperation (EGTC), currently representing the highest level of institutionalised cooperation. The groupings are permanent cross-border organisations which are allowed to hire own employees, to launch and operate joint institutions of cross-border scope of activity or even public enterprises. Member states, regional and local authorities, governmental bodies and the associations composed by the above may become members of such groupings, provided that the competences of the members make possible the realisation of certain elements of those common targets defined by the mutual agreement of the participants. Furthermore, EGTCs have full legal personality without the necessity to sign further interstate



agreement therefore they have capacity to act towards all competent authorities in relevant EU member states. Legal entities of third countries may join an EGTC upon separate agreement and/or in compliance with the national regulations of the given country. This opportunity is invaluable at the external borders of the EU within the Danube Region and there have already been attempts to involve third countries in this manner.

Since the adoption of the EU regulation regarding the EGTC<sup>8</sup> in 2006, 57 EGTCs have been successfully registered in the European Union, almost half of them are situated at the territory of the Danube region (Figure 9). Significant number of the groupings were founded along the Hungarian borders.<sup>9</sup> The first trilateral grouping, Tritia EGTC, comprises Slovakian, Czech and Polish members.

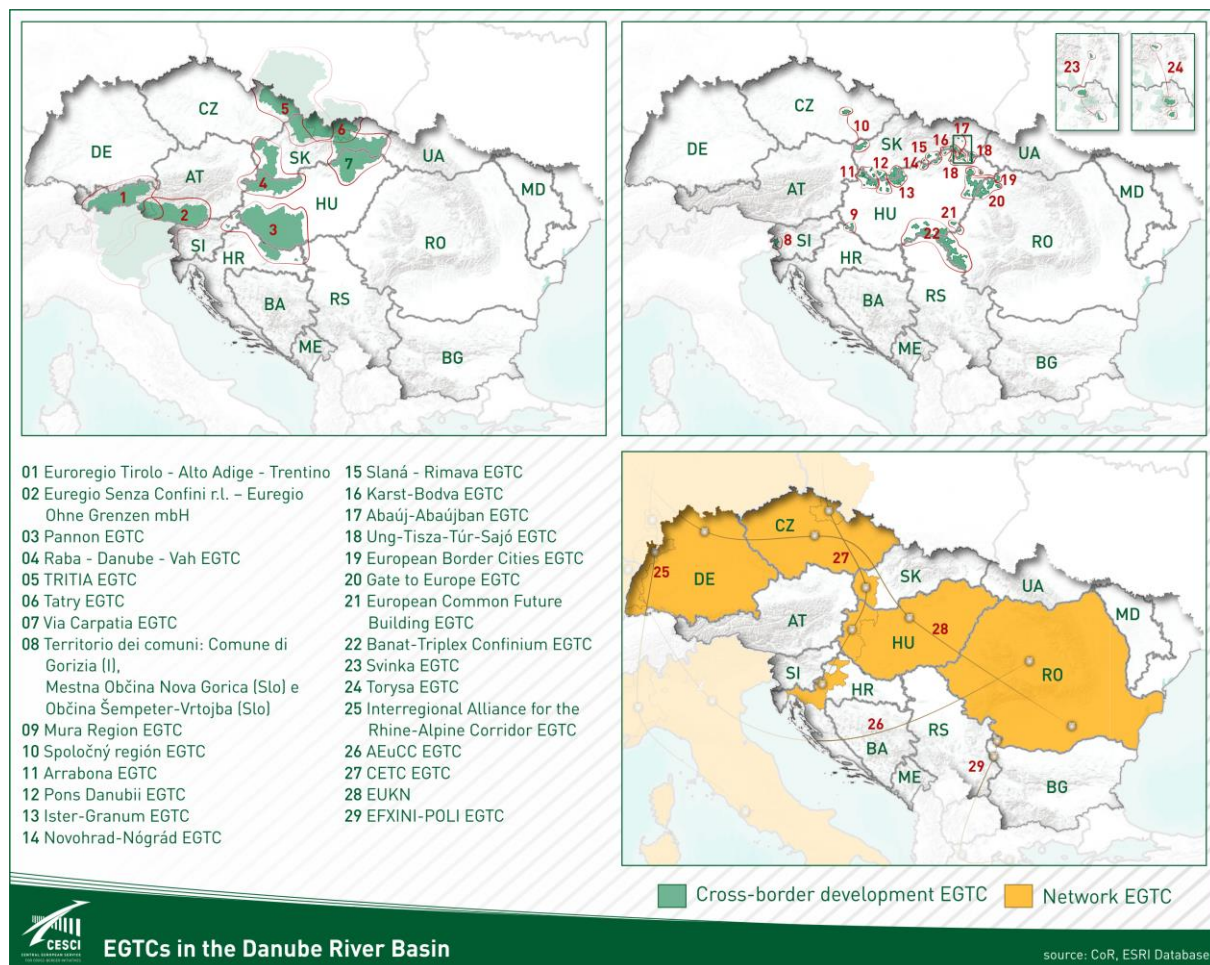


Figure 9: EGTCs in the Danube Region (as of 2013)

<sup>8</sup> REGULATION (EC) No 1082/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 July 2006 on a European grouping of territorial cooperation (EGTC)

<sup>9</sup> For a detailed information and research about the 'European Grouping of Territorial Cooperation' see Chapter III of this volume.

### 3.7 Economic Growth

The national income of the individual countries has grown at a different pace and shows symptoms of dynamism not at all identical or even similar to each other's growth characters. This is the case despite their relative geographical vicinity, economic interrelationship or, in the case of 9 countries out of 14, the obvious need, based on their membership in the European Union, of „synchronising” their economic dynamism and partly their economic policies, too.

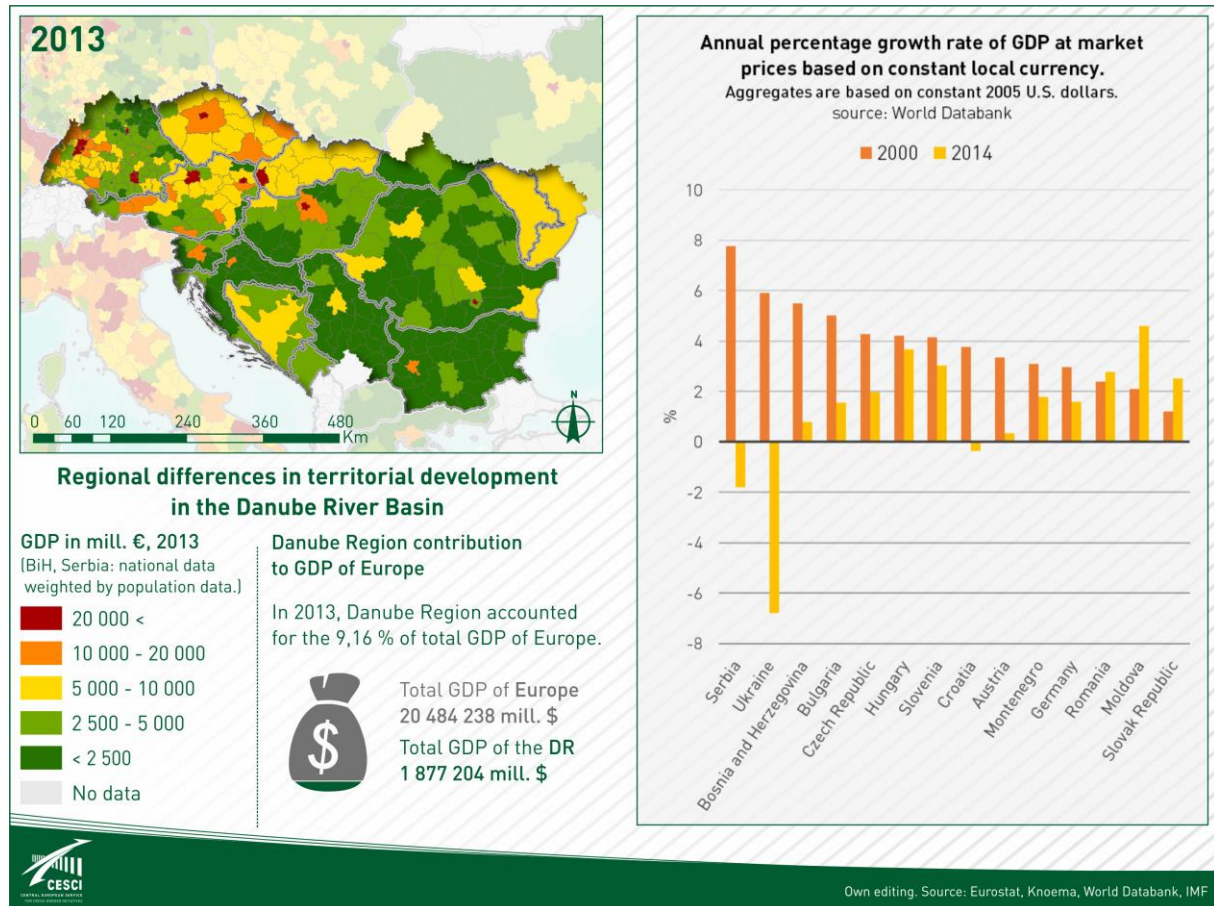


Figure 10: GDP growth (annual %) in 2000 and 2014

The structurally stronger, more stable economies of the region with stronger economic structures (Austria, Germany) grew at an average pace, ranging between 2.5 per cent and 4 per cent per year between 2000 and 2008 that was the last year preceding the economic crisis. The growth rate of the majority of the „catching-up”, convergence countries that had obtained EU-membership at the beginning or during the 2000s (Bulgaria, the Czech Republic, Slovenia, Slovakia, Romania) was somewhat higher, between 4 and 6 per cent per annum. The country „missing out” this latter group was Hungary which could only achieve, especially after 2004, a rate of economic growth 2 to 4 percentage points lower. The main reasons for this were the combination of a number of factors like repeated national budget deficits and increasing external indebtedness resulting in slackening growth performance and a slower pace of structural modernisation and adjustment. On the other hand, the countries in the programming



region not being members of the European Union (Bosnia-Herzegovina, Serbia, Ukraine, Moldova and Montenegro) registered a significantly higher growth rate in the average of these years, each between 5 and 7 per cent per year.

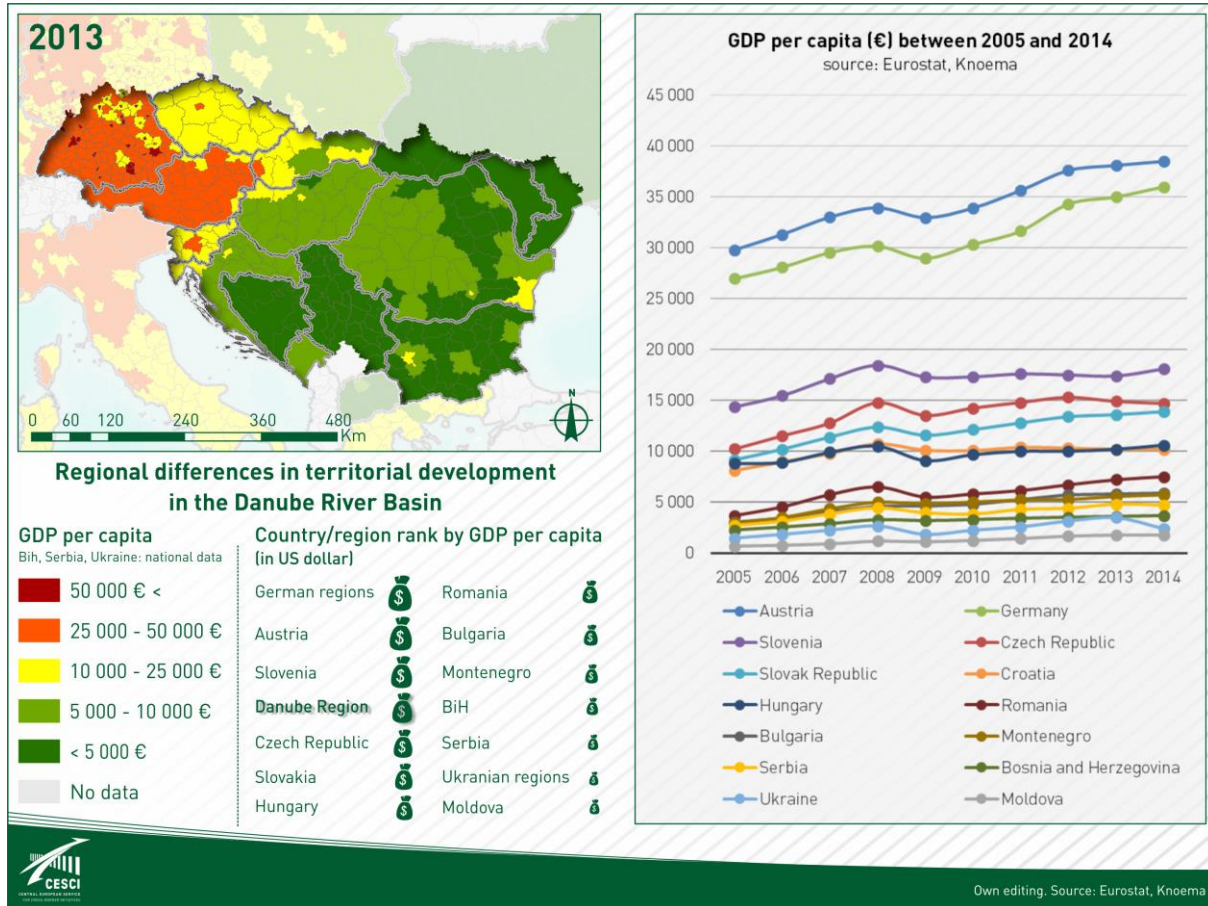


Figure 11: GDP per capita between 2005 and 2014

The share of the EU-countries of the Danube Programme in the total national income of the European Union amounts to about 27 per cent. Three-quarters of this; however, is produced by Germany alone. The two German provinces (Lander) involved in the programme, namely Baden-Württemberg and Bavaria, represent almost half of the total gross domestic product of the whole programme area (that is, the GDP based on the data of the sub-regions involved in the programme in the case of Germany and Ukraine, too). The EU-members produce approximately 88 to 90 per cent of the combined gross domestic product of the programme area whereas the share of the „external” programme countries (in the case of Ukraine only considering the four border territories involved) is slightly more than 10 per cent. As a matter of fact, the two Southern German provinces are among the most developed ones even within Germany in most economic indicators such as GDP per capita, research and development, innovation, capabilities of high-tech industrial and service sectors, economic and business infrastructure, quality of life, etc. The share of Baden-Württemberg in the total GDP of Germany reaches about 14.5 per cent, while that of Bavaria is near 17.5 per cent. As far as the generation

of the combined GDP within the programme area as a whole is concerned, the share of Austria is around 14 to 15 per cent while that of the Czech Republic is 7 to 8 per cent, Romania is 6 to 7 per cent and Hungary 5 per cent, each, of course, with minor differences every year. The share of the other programme countries (Slovakia, Croatia, Slovenia, Bulgaria and, naturally, the national economies outside the EU) is usually below 3.5 to 4 per cent each.

### **3.8 External Economic Opening, Export Orientation**

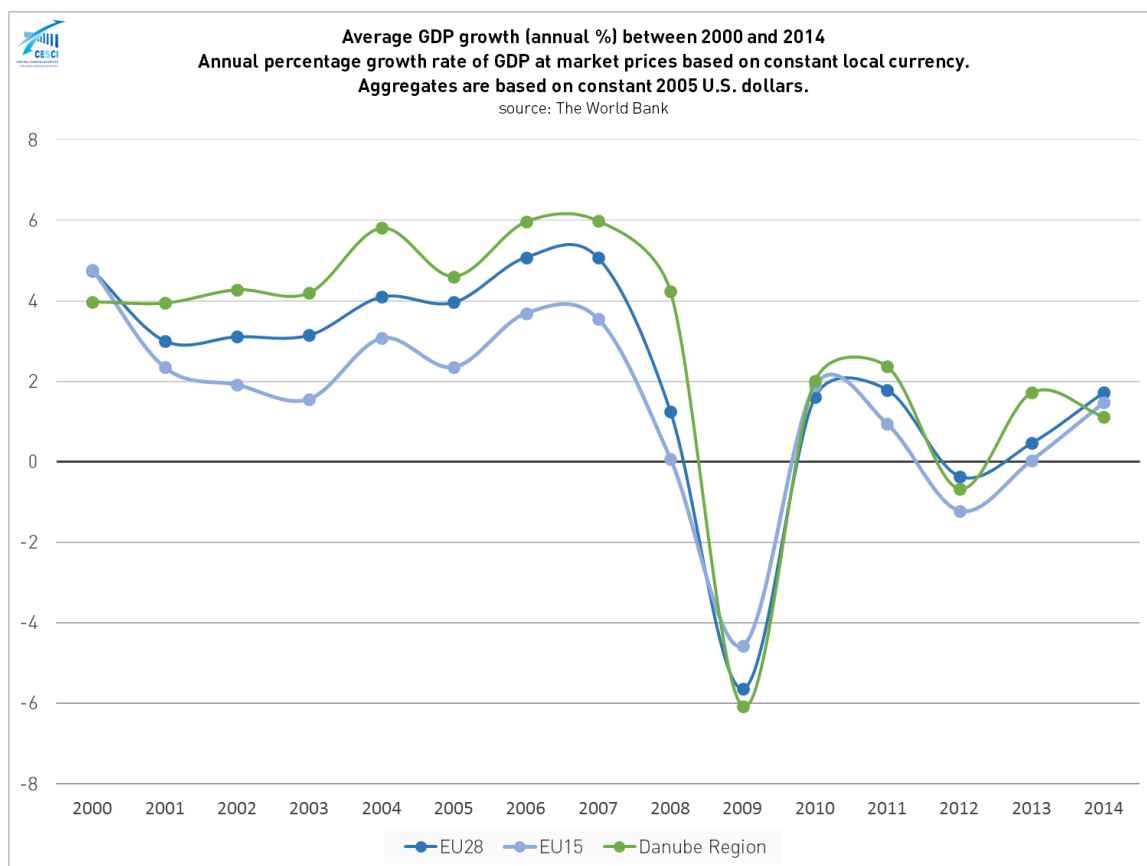
Besides the differences in the performance of domestic economies, the degree of external economic openness is also widely different among the countries. The front-runners are the two most developed national economies, namely Germany and Austria, but conspicuously, they are closely followed by Hungary, Slovenia, the Czech Republic and, to a lesser degree, by Slovakia, Romania and Croatia, too. In the last decade, even Serbia has caught up with them at a fast pace in these terms. In the most open national economies of the Danube Region, the share of exports from the national product is close to 70 per cent, or even more such as in Hungary and Slovenia. At the same time the countries outside the European Union (Bosnia-Herzegovina, Moldova, Montenegro, Ukraine) are for the moment less open in international or EU-comparison in the field of external economic relations, but based on the expected strengthening of their EU-connections, they will catch up with the most open national economies at a very fast pace. Their limited temporary openness is underlined by the fact that despite their relative geographical closeness, EU-vicinity, „European” character, none of these countries are featured among the 40 or 50 most important external economic partners of the European Union.

### **3.9 Impacts of the European Crisis**

The international financial crisis of 2008 and the subsequent general economic crisis had a negative impact on the national economies of the programme area. In 2009, the countries of the Danube region registered a negative rate of economic growth. The following countries were most severely hit by economic recession: Ukraine (-14.8 per cent setback), Slovenia (-8 per cent) and Hungary (-6.9 per cent). The growth performance of other countries ranged between -1 per cent and -5 per cent. The consequences of the crisis, apart from the negative growth performance, were manifested in 2009 and 2010, and in the national economies that had earlier accumulated higher budget, financial or trade deficits even in 2011, by considerable falls in GDP, shrinking industry and especially construction industry, growing central budget deficits, setbacks in investments, weaker bank financing capabilities and by falling money reserves. In this lasting crisis situation some of the governments of the countries participating in the Danube Programme were unable to mobilise sufficient external resources and use them for carrying out structural policy measures, for modernising the structure of their economies (investments, manufacturing industry, the export sector, service industries), or for adjusting

them to international competition and for mitigating the external shock impacts resulting from the crisis.

After 2010, in some cases after 2011; however, several of the countries participating in the Danube Programme, were successful in stopping the general erosion of their national economies. GDP started to grow in a number of countries, especially and most importantly, because of its „role of locomotive“, in Germany. The growth of industrial production and the performance of the service sector turned into positive figures and the import demand of Germany began to grow again. There was another positive impact, mostly independent from economic or structural policies of governments, namely that, as a result of favourable weather in most of Europe, a number of countries in the region heavily dependent on agriculture and food processing could register good agricultural performances and their food production and food exports also began to increase more dynamically.



*Figure 12: Average GDP growth (annual %) between 2000 and 2014*

Based upon the developments and economic policy performance, deep and lasting recession was successfully avoided in Slovakia (3 per cent economic growth per annum between 2009-2012), in Romania (growth rates per year between 0.5 and 1 per cent) and in Bulgaria and Serbia (in both an average of 1 per cent growth rate per year). The national economy of Moldova has been soaring for years now, in the average of the years between 2009-2012 its growth rate was close to 10 per cent per year while that of Ukraine was 3 per cent per year.

The rather fragile base for an economic turnaround and the lasting structural problems are reflected in the fact that in 2012 the growth rate of Slovenia decreased again, after the negative performance of 2009, by 2.5 per cent, that of Hungary by 1.7 per cent, the Czech Republic by 1.3 per cent and Bosnia-Herzegovina by 0.7 per cent. The slackening pace of the Ukrainian economy to 0.3 per cent and the slower-than-expected economic upturn of the two strongest driving forces, namely, Germany and Austria, can prove to be a somewhat worrying phenomenon for medium and long-term national economic policy making.

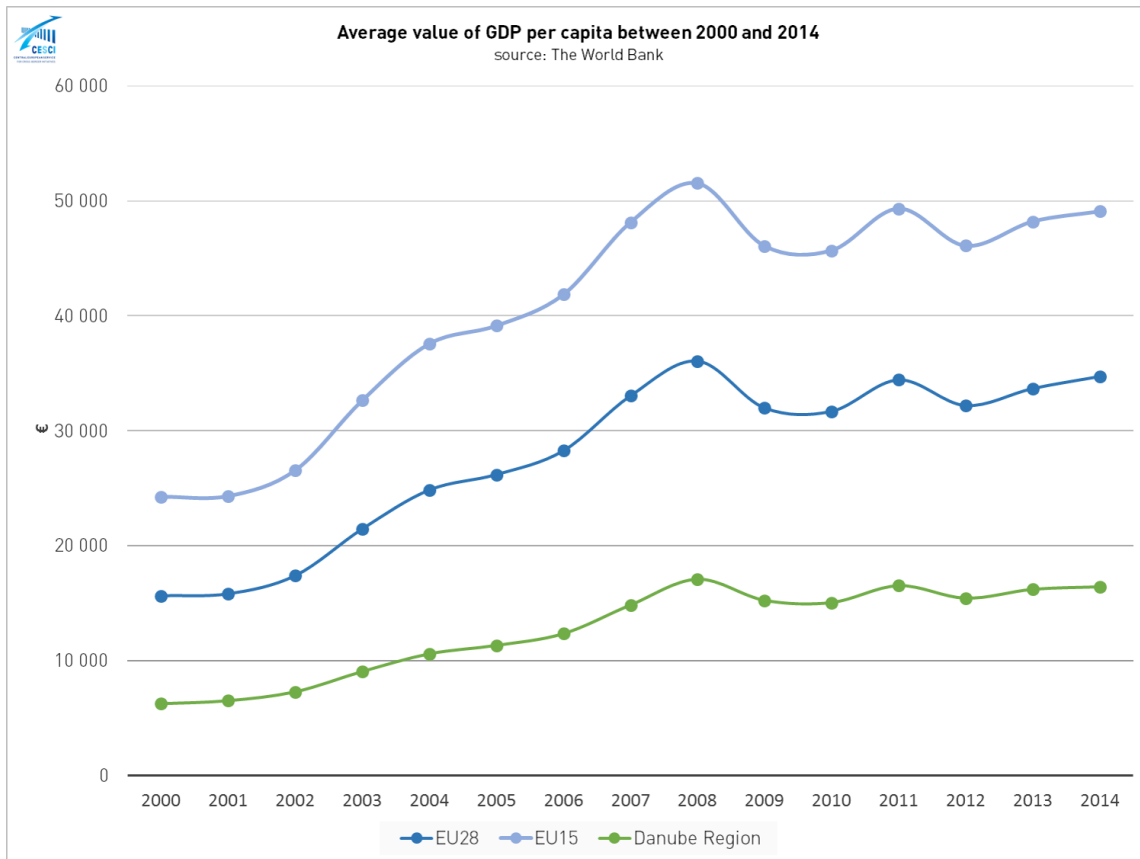


Figure 13: Average GDP per capita (current US\$) between 2000 and 2014

As a result of the contradictory economic processes between 2000 and 2012 (catching-up, convergence periods followed by economic recession) the per capita GDP of the Danube Region is less than half of the average of the EU28 and around one-third of the average of the EU25 group of countries. The unsuccessful catching-up efforts are proved by the fact that during this period the pace of economic growth as a whole was higher in the significantly more developed Western European countries. The density of all-European income levels in certain Western European regions is well demonstrated by the charts and maps prepared by ESPON and Eurostat. It can also be observed that the per capita economic indicators of some of the national economies in the Danube Region are not unreachably far from those of the most developed regions within the EU. On the other hand, the per capita indicators of others outside of the EU15 or, even more markedly, outside of the EU28, are even lower, their economic performance falls even more behind them. Therefore the convergence criterion should be a



strong consideration to follow in the EU programmes to be launched and carried out until 2020 aimed at strengthening transnational cohesion.

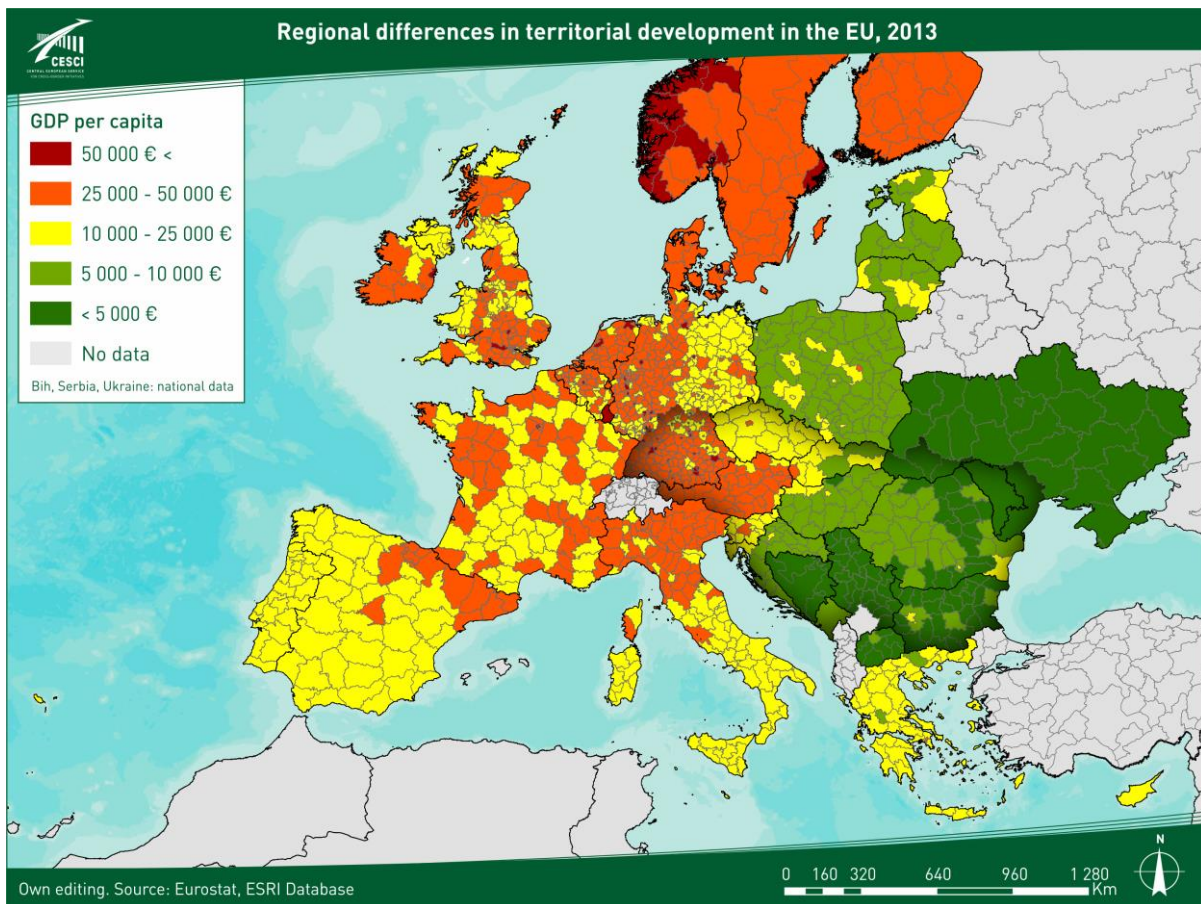


Figure 14: GDP per capita, 2013

From the above investigations, charts and maps, it follows that the countries participating in the Danube Programme in the 2014-2020 period are rather heterogeneous. By and large they can be classified, according to their relative economic status and structure as well as their position in the world economy and in the European economic space and; moreover, to a certain degree, according to their former macro-economic policies, economic philosophies and economic strategies, into three distinct categories.

- The GDP/capita of both Austria and Germany are significantly higher than the average of even the more developed countries of the European Union. In Austria in 2012, calculated according to the more reliable purchasing power parity (ppp) base, for example, reached even EUR 36 400, more than 30 per cent of the European average. In Germany the GDP/capita made up EUR 32 600, that is 22 per cent higher than the EU-average, despite the well-known lower levels of development, even after 20 years of re-unification, in the East-German provinces.
- The „midfield” of the countries of the Danube Programme under formation is comprised of the Czech Republic (79 per cent of the average GDP/head of the European



Union), Slovenia (81 per cent), Slovakia, owing to its dynamic economic development in the last 8 to 10 years (75 per cent) and, with certain limitations, Hungary (66 per cent) and Croatia which joined the EU in 2013 (61 per cent).

- The third category is represented by the countries reaching less than 50 per cent of the EU-wide average of the GDP/capita. Two EU-members, Bulgaria (47 per cent) and Romania (49 per cent) belong here, together with candidate-members and those expected to stay outside the EU for a somewhat longer period of time such as Serbia (35 per cent), Montenegro (43 per cent) and Bosnia-Herzegovina (28 per cent). Lastly, Ukraine and Moldova (on the basis of the very sparsely available data also around 22 to 25 per cent each) are also featured in this intermediary group.

### **3.10 Changes in the Economic Structures**

According to the macrostructural changes in the proportions of the value added by the main economic sectors (agriculture, industry, tertiary sector) in the GDP the share of agriculture has shrunk throughout the whole European Union during the 2000s, but the most spectacular decrease has taken place in the countries of the Danube Region. In general, the rate of agriculture dropped under 10 per cent; however, the Southern German provinces and Austria had a much greater weight in this decrease than other states. The share of industry shows a decreasing tendency as well; nevertheless, a renewed increase of the share of industry is to be seen in certain Danube Region countries in the last years, where recession affects industry less compared to other sectors. Meanwhile, tertiary (service) sector has practically come to a halt; moreover, it has even slightly decreased since 2008. These changes in the overall image are also overwhelmingly influenced by the figures of the two highly developed countries, namely Austria and Germany (southern provinces).

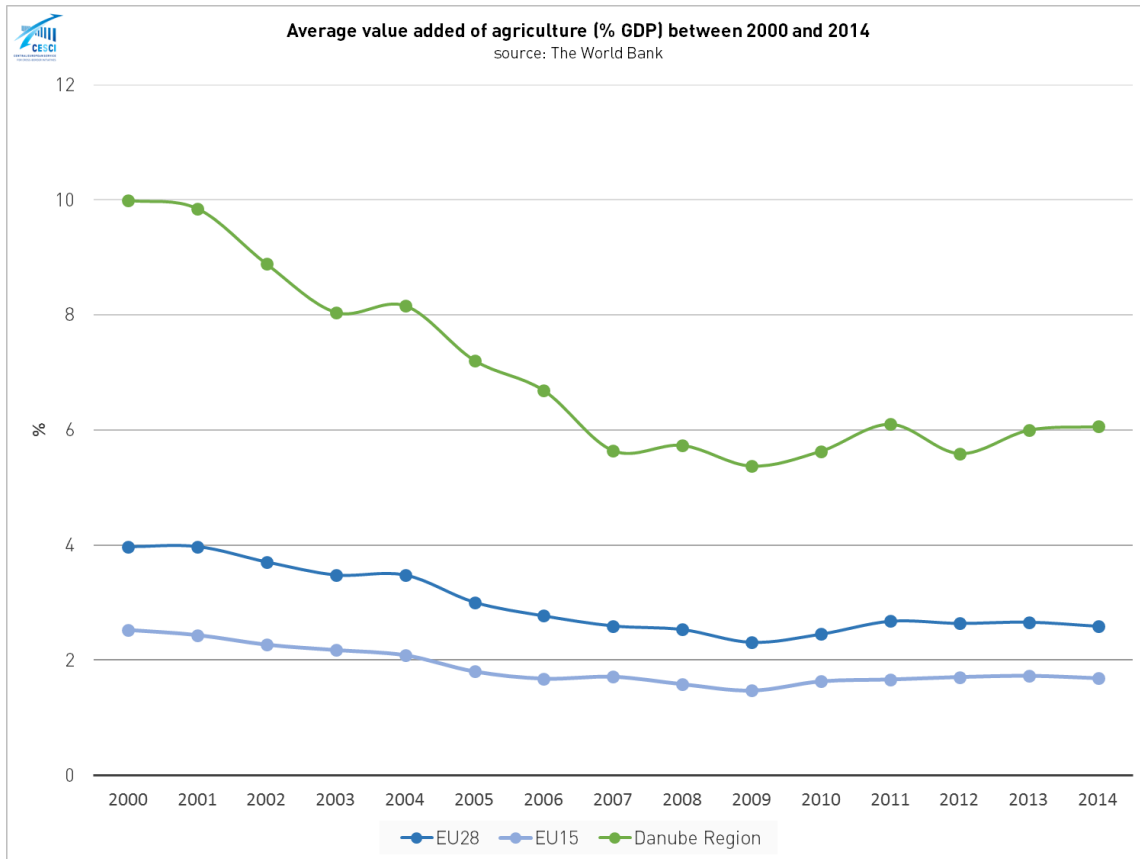


Figure 15: Agriculture, average value added (% of GDP) between 2000 and 2014

In macro-structural comparison the area of the Danube Region is highlighted by the dominance of small farms and plots. The fragmented land structure demonstrates that 85 per cent of farms do not even reach the size of 10 hectares, whereas in the EU15 only every second land or plot have a size below 10 hectares.

On the country level, the average size of land ranges widely by states. With the exception of the Czech, the German and the Austrian cases, very small and fragmented land structure poses a great problem, significantly limiting the competitiveness of agriculture.

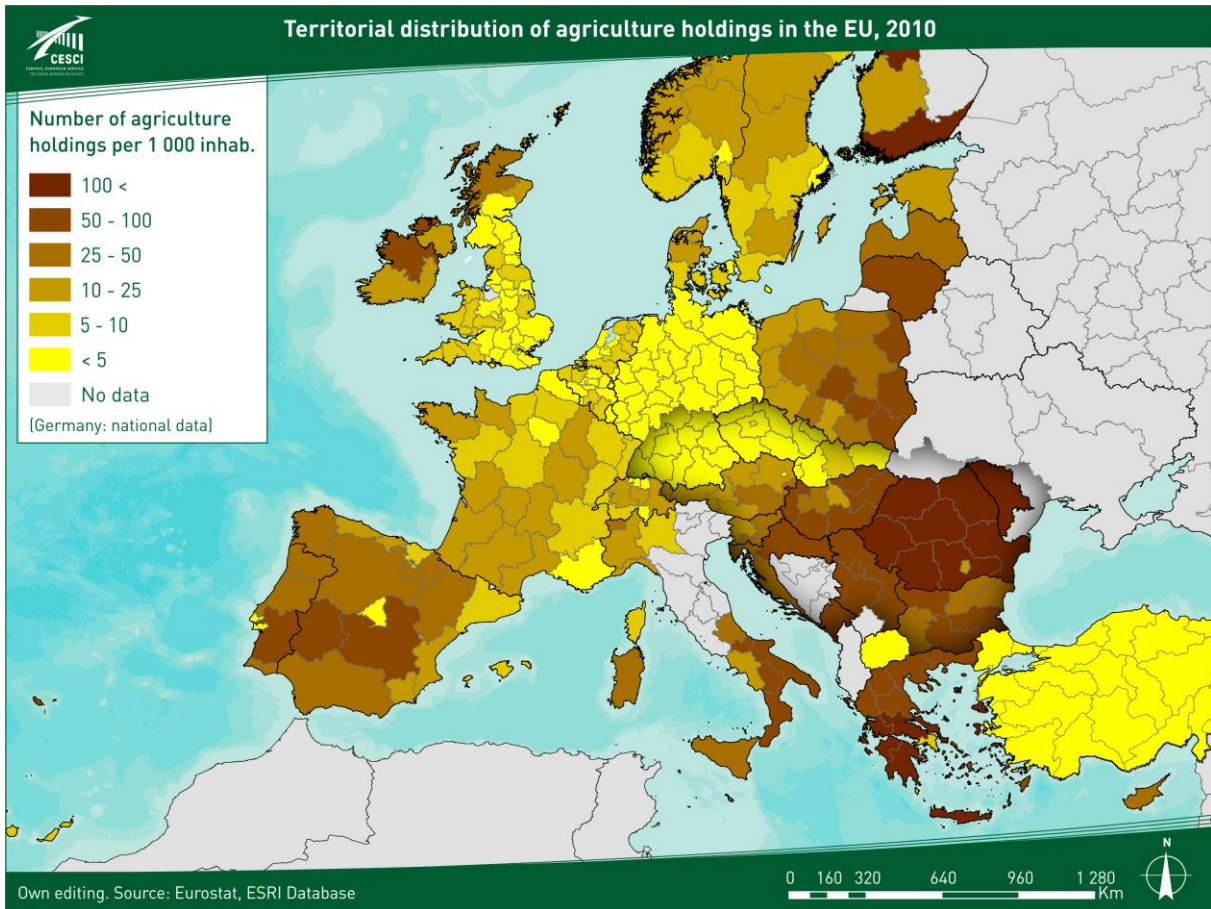


Figure 16: Territorial distribution of agriculture holdings in the EU, 2010

The geographical position of agricultural units depicts the areas, where agriculture plays a distinguished role in the fields of employment and income generation. Basically, a northwest to southeast duality is clearly visible between the two parts of the region. However, a certain convergence is taking place, as the decrease in the share of agriculture from the GDP has been a general tendency in the Eastern „half” of the region. An exceptionally huge decrease was registered between 2000 and 2010 in Moldova, Serbia, Ukraine and Bulgaria.

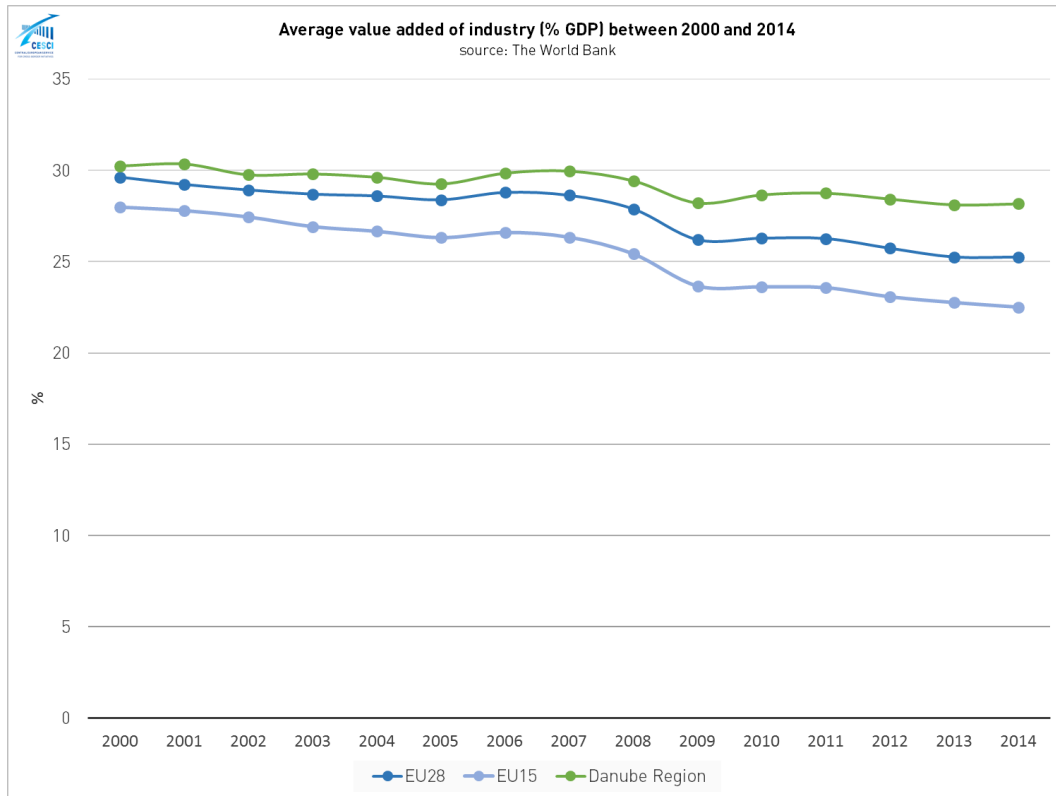


Figure 17: Industry, average value added (% of GDP) between 2000 and 2014

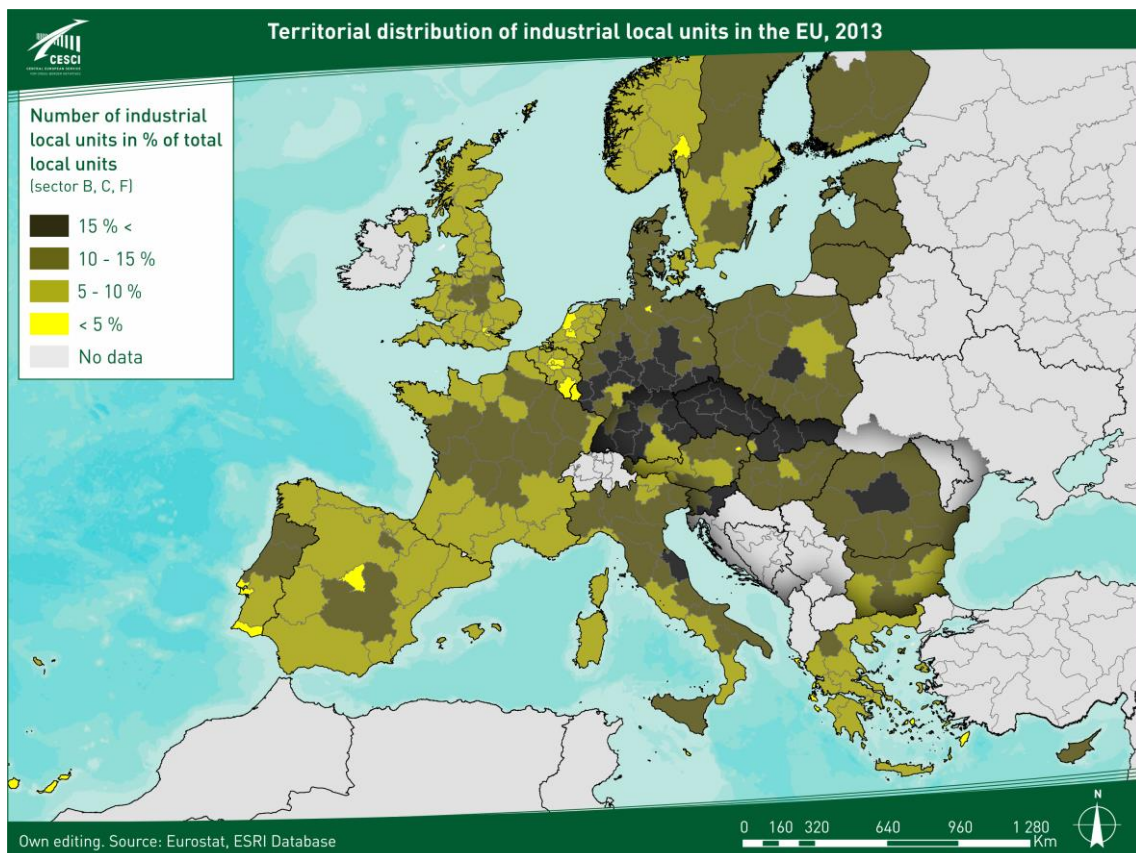


Figure 18: Number of industrial local units per 1 000 inhabitants, 2013

In terms of the density of industrial productive units, the Danube Region cannot be easily interpreted at the macro-level as one unified territory. Its western parts show rather more similarities with the European central economic area. The industrial enterprises of the Danube region are present in great proportions in the general enterprise sector in Germany and in Slovakia, while there are very few industrial enterprises in Bulgaria.

Industry has a very high share in some national economies. To be specific, the Czech Republic, Slovakia, developing at a dynamic pace in the last decade and, further, Romania all have rather strong industrial profiles. Structural changes since the turn of the millennium in the field of industry have been perceived to the greatest extent in Moldova, Ukraine and, further, in Bosnia-Herzegovina. In the former group of countries the process of de-industrialisation, while in the latter one industrialisation has become more prevalent. In most of the countries only smaller changes have taken place in this field.

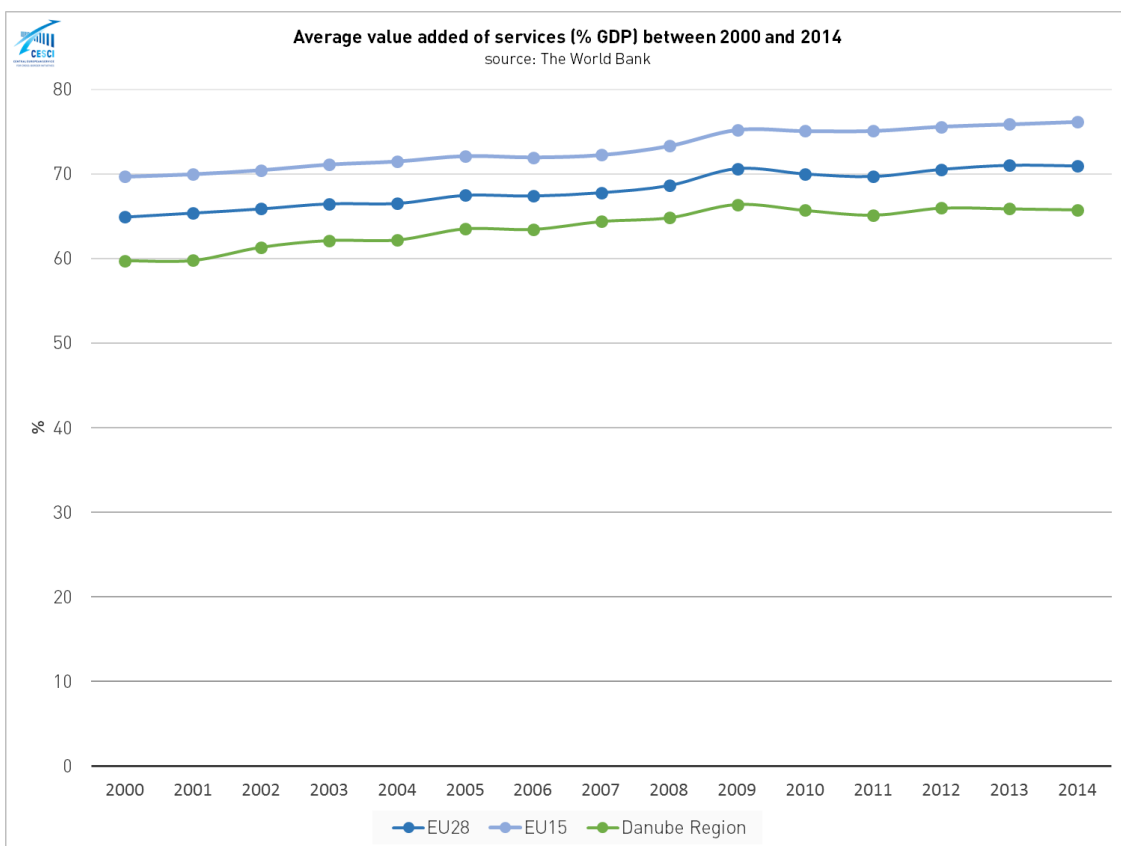


Figure 19: Service, etc., average value added (% of GDP) between 2000 and 2014

The contribution of the service sector to the GDP has exceeded by now from 60 to 70 per cent in all three country groups investigated (EU15, EU28, Danube Region). Although the tertiary sector has a decisive share in the national economies of the Danube Region it still remains below the average of the European Union.

The process of „tertiarisation” has advanced the most in the case of Moldova, Serbia, Slovakia and Ukraine. This rapidness in structural changes of the economy was in line with a series of



unfavorable changes such as the loss of ground of traditional agriculture, and by the de-industrialisation, the phasing out of the former „Socialist” type heavy industries. As an outcome, the economies of Moldova, Germany, Austria, Croatia and Montenegro rely most on the performance of the tertiary sector.

### **3.11 Economic Development and SMEs**

The term „small and medium-sized enterprises” (SMEs) is interpreted somewhat differently by international organisations and also by countries in Europe in or outside the European Union. According to the interpretation of the EU, three different categories are distinguished:

- *Micro enterprises* have less than 10 workers and their business turnover or balance sheet total is below EUR 2 million;
- *Small enterprises* employ between 10 and 50 workers and their turnover or balance sheet total is between EUR 2 million and 10 million;
- *Medium-sized enterprises* have a range of employment between 50 and 250 people and their turnover ranges between EUR 10 and 50 million (between EUR 10 and 43 million in terms of balance sheet total).

As far as the micro, small and medium-sized companies in the countries of the Danube region are concerned, such a categorisation is somewhat difficult to apply in their case. A company with over EUR 2 million, or, even more so, with over EUR 10 million of turnover, with employment levels over 10 or even 50 persons in the rest of the Danube region is usually regarded as great in the business life of the relevant country and acts, behaves and is treated as such in financial, administrative, regional and sometimes even political terms as well. It is useful to take this into consideration when discussing SME developments and possibilities in the region.

Micro, small and medium-sized enterprises play a key role in the European economy as a whole. There are almost 21 million SMEs in the non-financial business sector in the European Union, employing close to 90 million people that is about two-thirds of those employed in the competitive sector. SMEs represent almost 60 per cent of the total value added generated throughout the EU. About 92 per cent of the total business sector consists of micro enterprises employing less than 10 people. Interestingly the average size of a European enterprise is slightly over 4 persons (slowly decreasing since the middle of the last decade) therefore it can be stated that the typical European business company is, in essence, a micro enterprise. This pivotal role of SMEs in the EU economy is recognised by the various EU institutions, especially by the European Commission and from the legal and regulatory point of view it is anchored in the Small Business Act (SBA) approved in 2008, thus establishing a comprehensive policy framework for the EU in general and its member countries in particular.

The share of SMEs in generating GDP is close to one-fourth of total GDP in the region (except for Austria and the two Southern German provinces). At the same time; however, their share in generating exports is considerably less, not significantly higher than 10 to 12 per cent on the average as a whole; although, this average hides a range of great extremes in both directions. As far as the share of SMEs in employment is concerned in most countries it is rather high, it is around 70 to 72 per cent in the Czech Republic, Hungary, Slovenia or Slovakia and even higher in the Southeast and the Western Balkans.

The changes of the last decade suggest; however, that in the Eastern parts of the Danube region the enterprise sector is rather fragmented. The low efficiency of the SME-sector, coupled with poor competitiveness have contributed to the emergence of „unhealthy” dual economic structures in which the enterprises are simply unable to connect to the all-European production mainstream.

In terms of the sectoral division of small and medium-sized enterprises a decisive role is played, besides wholesale and retail activities, by professional, scientific and technological activities and, further, by the construction industry. One finds a great number of enterprises in the fields of manufacturing and horeca (Hotel/Restaurant/Café) sector. The charts and maps demonstrate that the regional inequalities of the SME-sector are not caused primarily by the disproportions in their sectoral structure.

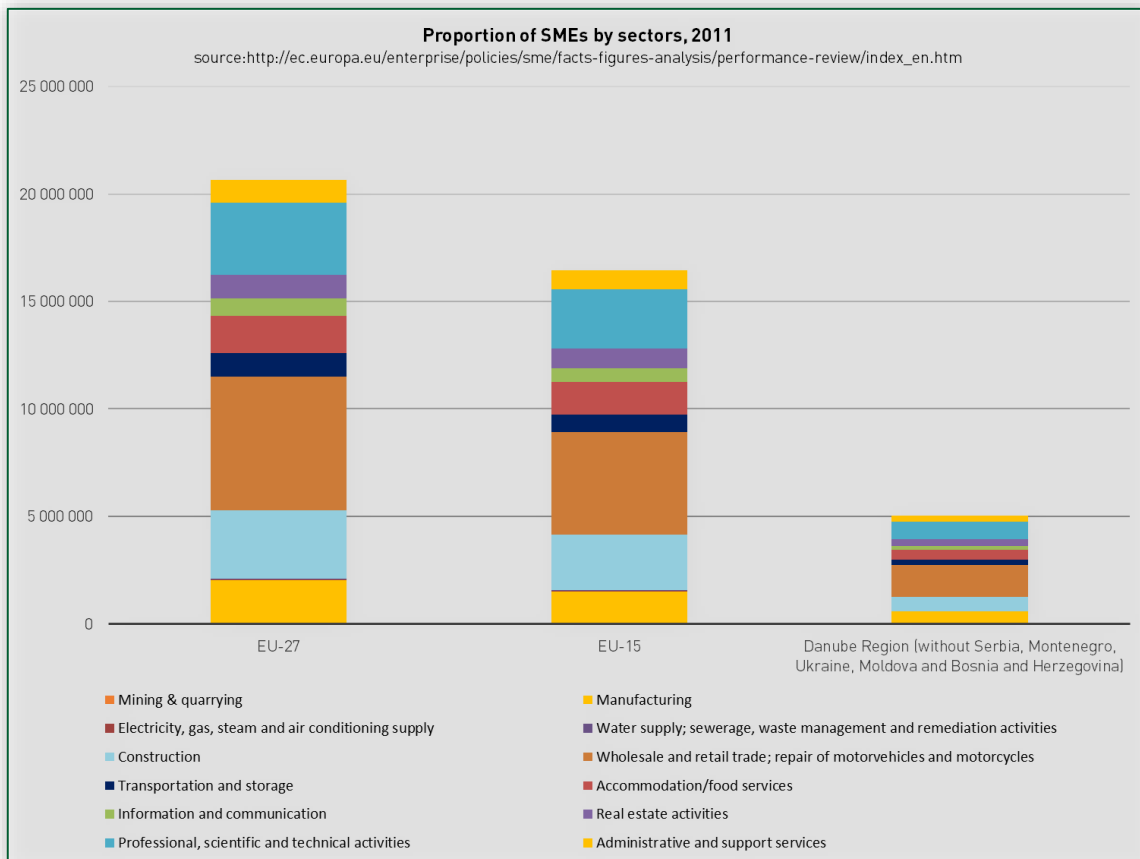


Figure 20: Proportions of SMEs by sectors, 2011

The demand crisis, started by the end of 2008, had a significant effect on the SMEs of the Danube Region. Due to the decrease of sales and capacity utilization SMEs draw on the already limited internal funds to finance their working capital and increase the level of debt. The most pressing problem for 15 per cent of SME managers in the EU and 19 per cent of SME managers in the Danube Region was the limited or sometimes practically non-existent access to finance. Thus the financing problem is placed second alongside competition in the ranking of most important company problems.

Generally speaking, loans are the main source of external SME finance and loan schemes, especially guarantees, tend to have a much larger impact in terms of the number of firms affected. Venture capital and similar schemes, on the other hand, are more restricted. Other sources of finance such as private placements, listings on the regulated exchanges or issuing of bonds are not usually available for the majority of SMEs. However, there is some research evidence that there is a lack of awareness among medium-sized firms about opportunities in debt capital markets which could be away to diversify funding sources for them.

The extent to which enterprises are able to thwart these negative effects depends strongly on competitiveness and innovation performance of their home countries. The decline in overall demand impacts negatively almost three-fourths of all enterprises in the countries that are considered to be modest innovators (practically all those outside the EU plus Bulgaria, Romania, Croatia and to a lesser extent in Hungary and Slovakia). At the same time, it is also a handicap for less than half of the SMEs in countries that are considered to be the innovation leaders (Austria and the two southern provinces in Germany, Baden Württemberg and Bavaria, both being innovation leaders even within their own country) or fairly innovative ones (the Czech Republic, Slovenia and, with strong sectorial and regional limitations, Hungary). Apparently, more innovative economies suffered less from the economic crisis than less innovative ones, innovative enterprises, as well as enterprises from more innovative countries, more often reported employment growth and had higher employment growth rates. There has also been a strong correlation between the level and dynamics of internationalisation, innovation and the development of employment. Internationally active SMEs are more innovative and report higher employment growth.

Last but not least, there is also a clear size class effect: smaller enterprises more often suffered more from the negative effects of the crisis than larger enterprises. This is consistent with the fact that after the outbreak of the crisis in 2008, SMEs' employment decreased more than that of large enterprises. This effect is valid in the case of all European SMEs in general and in the majority of SMEs in the Danube region in particular.

### 3.12 Rural Development

Rural areas dominate the territory of the most EU member states and they are home to a significant share of population. At the same time their importance in terms of gross value added and employment gradually becomes less significant. The average income is lower than in urban areas, while jobs and services are fewer. Land abandonment is closely linked to peripheral regions as local populations decline due to demographic ageing, the outward migration of younger persons and the lack of economic and social opportunities. More centrally located rural areas increasingly have to face the urban sprawl thus being subject to increased environmental pressure without benefiting fully from the process. All rural areas need to diversify their range of economic and social opportunities in the future in order to improve their employment potential, income levels or access to services and developing new transport, information and communication infrastructures.

The Danube Region is rather varied in terms of rural development: the share of the population in predominantly rural areas is over 50 per cent in Slovakia and some other non-EU countries (Western Balkans and Eastern Europe), while in Germany, the Czech Republic, Slovenia and Austria it is below 10 per cent. The share of predominantly rural areas in total employment is between 40 and 45 per cent in Slovakia, Romania and Bulgaria while in Germany, the Czech Republic, Slovenia and Austria it remains between 5 and 15 per cent. Otherwise, the rural regions of Austria, Slovenia and Slovakia generate approximately over 35 per cent of the total GDP, while the non-EU countries of the region have over 50 per cent of total economic activity in their rural areas.

The proportion of elderly people increased in all countries in the region. In rural regions, only Slovakia has a clear positive balance, whereas the others count less than 65 young person for every 100 elderly inhabitant. The highest employment rates in the primary sector are experienced in the rural regions of Romania (41.5 per cent) and Bulgaria (32 per cent) while this sector provides less than 5 per cent of rural employment in Germany and the Czech Republic.

In the rural regions of all remaining countries in the Danube region, with the exception of Bulgaria and Romania, the non-agricultural sector produced more than 90 per cent of the total value added: the highest rates among rural regions are found in the Czech Republic and Germany both above 97 per cent. Beside traditional farming, there has been a shift in secondary activities such as contractual work, forestry, processing farm products and renewable energy production. Tourism and related activities, notably construction, distributive trades, food and beverage services and transport services, also play an even more important role in rural economies. Austria represents almost 10 per cent of total EU rural tourist accommodation facilities.



### 3.13 Transport infrastructure

The development status of transport infrastructure is reflected well by the density of the road network. Germany and Slovenia have the densest networks; Austria, Croatia and Hungary are also connected to the surrounding regions with relatively dense networks. Bratislava is characterised by outstanding values, but in other regions of Slovakia and in the overwhelming majority of the territories of the Czech Republic, Romania and Bulgaria, the network is seriously underdeveloped. In contrast to the western half of the programme territory, the core network elements and international connections in the Balkans and the Eastern European region have only been built over the recent decades. Not only is the density of the network insufficient here, but the capacity of the roads as well.

Huge territorial inequalities can be observed in road traffic between the economic and transport hubs of the western and central areas and the southern and eastern peripheries. Based on forecasts, road transport traffic is expected to increase considerably along the Stuttgart–Munich–Vienna–Budapest, the Ljubljana–Zagreb–Belgrade–Sofia–Istanbul, and the Vienna/Bratislava–Brno–Prague axes. This means that the Rhine–Danube and the Baltic–Adriatic trans-European transport axes together with the hubs of the Czech Republic, Vienna, Bratislava and Budapest as such are likely to gain further weight concerning road transport.

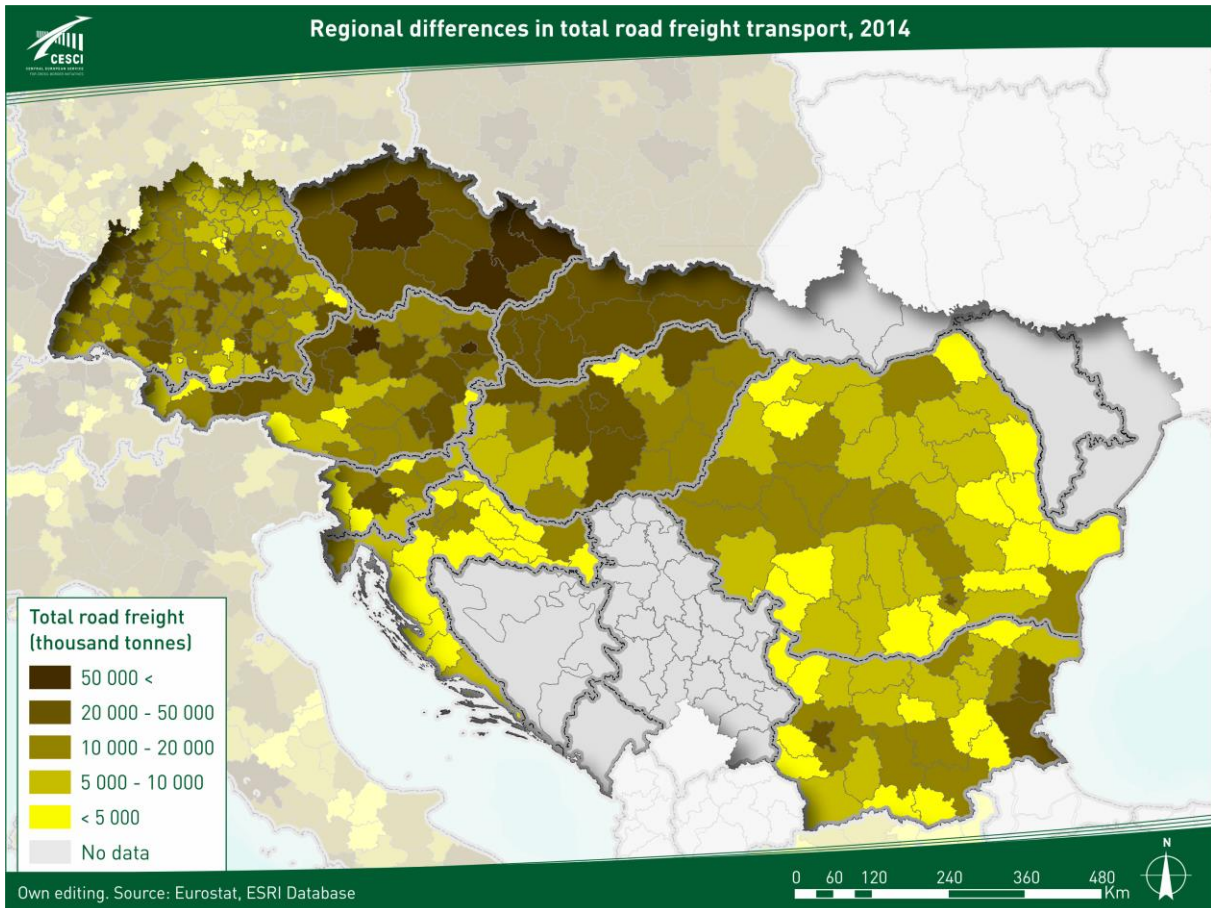


Figure 21: Regional differences in total road freight transport, 2014

Inequalities in the railway network are much less extreme than the differences of road (and mainly that of dual carriageway) network. The density of the railway network is outstanding in the Czech Republic, Hungary, Austria and Slovakia and in Northern Croatia, beside Germany. The quality and capacity of the network is traditionally lower in Southeast Europe, this being especially true for Bosnia and Herzegovina, Dalmatia, Southern Serbia and Montenegro.

In rail passenger transport, the uniformity of the eastern regions is only interrupted by the regions of Ostrava, Vienna and Central Hungary beside the Munich–Stuttgart–Mannheim and the Munich–Nuremberg lines. Based on Figure 22, the Rhine-Alpine and (to a much lesser extent) the Scandinavian-Mediterranean axes emerge.

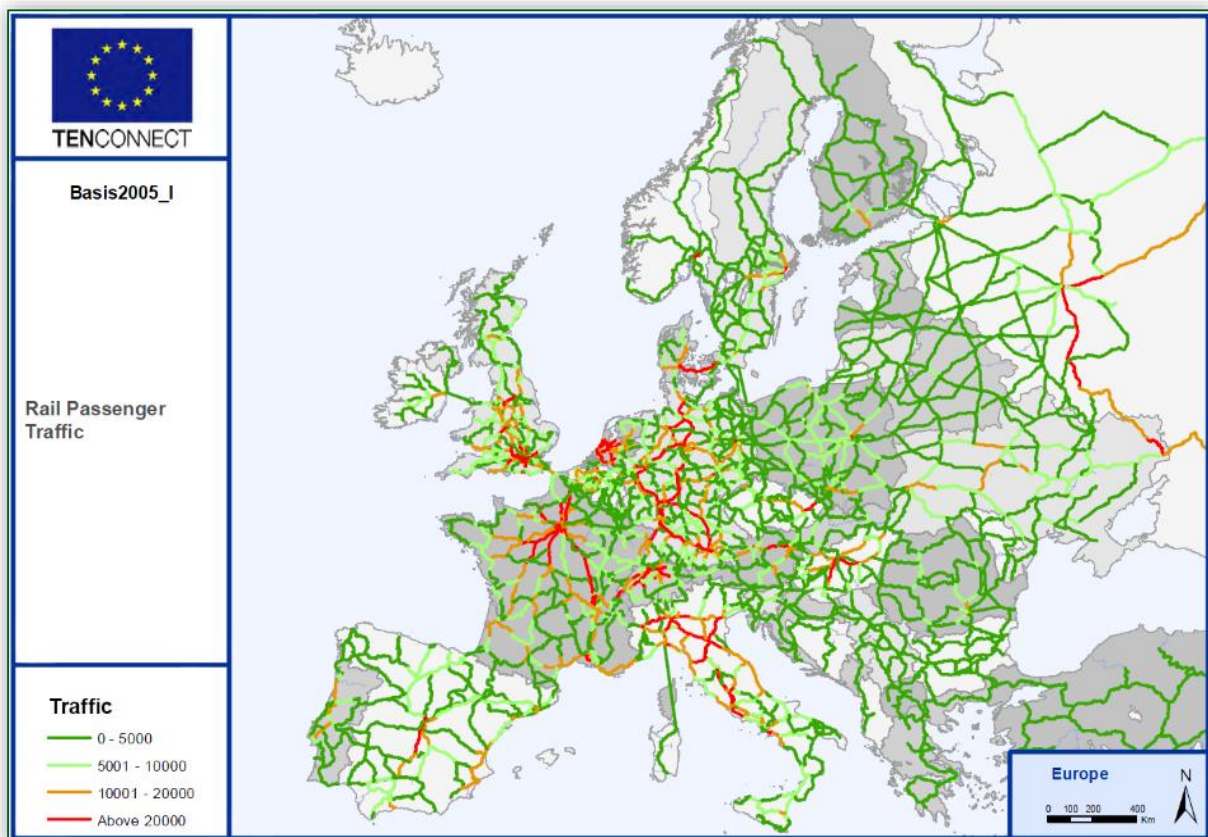


Figure 22: Volume of rail passenger traffic in Europe<sup>10</sup>

Contrary to passenger transport modes, inequalities in rail freight transport among the countries of the Danube Region are not significant; only the Rhine area and the Vienna-Linz section have remarkably higher freight traffic volumes compared to the entire macroregion.

However, trans-Balkan rail connection, which would be important for the strengthening the cohesion of the Danube Region, is a bottleneck. The weakness of these connections has led to disadvantageous consequences for the entire continent. A rail link between the marine ports

<sup>10</sup> [http://ec.europa.eu/transport/wcm/infrastructure/studies/2009\\_12\\_ten\\_connect\\_final\\_report.pdf](http://ec.europa.eu/transport/wcm/infrastructure/studies/2009_12_ten_connect_final_report.pdf)  
page 218

of the Adriatic Sea (Trieste, Rijeka and Koper) and the port of Constanța at the Black Sea, as well as the Mediterranean and the Rhine-Danube axis, would be of key importance for the states of the Danube Region, together with the integration of important ports and road-rail terminals.

Romania, Serbia and Austria play a key role in the water freight transport of the Danube River Basin, while the volumes of Croatia, Bosnia and Herzegovina, Moldova and Ukraine are marginal, and the Czech Republic, Slovenia and Montenegro have no Danube port. A significant proportion of the Danubian freight traffic originates from transit in the cases of Germany, Slovakia, Hungary, Croatia, Serbia and Bulgaria. The East-West difference is shown in the higher share of the domestic traffic and export volumes of the eastern countries and the high rate of import of the western countries.

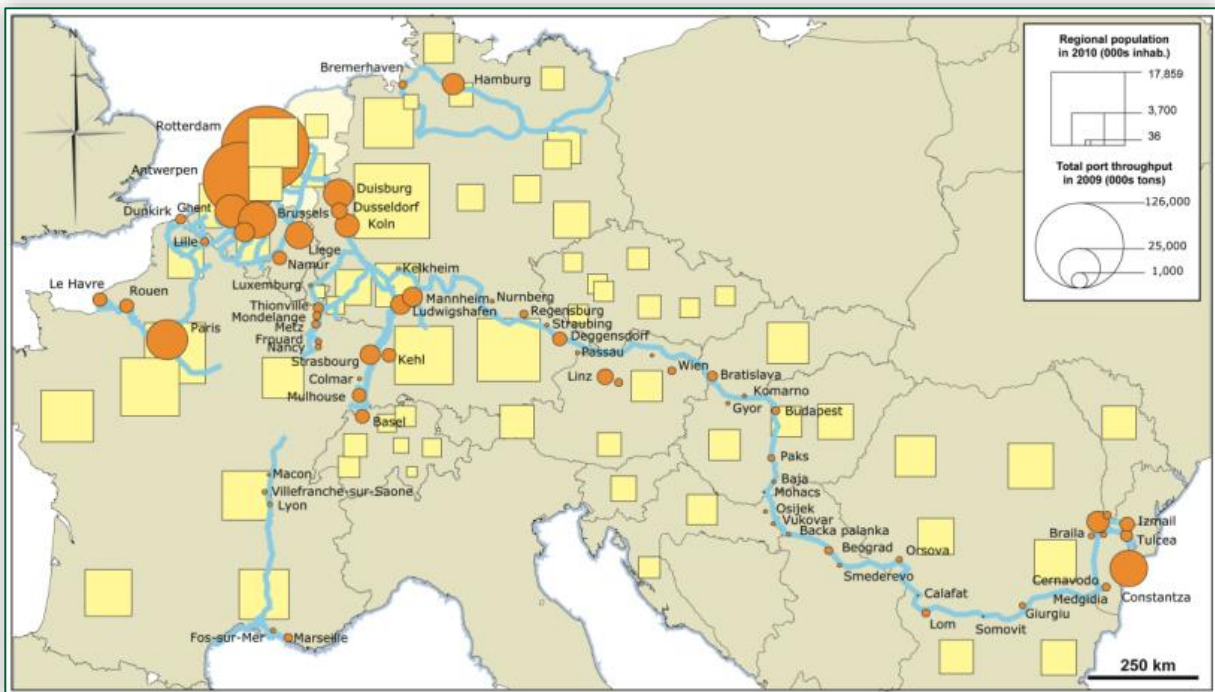


Figure 23: Full capacity of the ports of the Danube in 2009<sup>11</sup>

The OECD-paper on “The Competitiveness of Global Port-Cities: Synthesis Report” clearly outlines the regional inequalities in the full capacity of the ports on the Danube. The largest traffic volumes are largely concentrated at the two end points of the Danube waterway (e.g. Mannheim, Ludwigshafen, Linz, Brăila and Constanța) and, to a lesser extent, in the intermediate section of the river, in the ports of Vienna, Bratislava, Budapest, Belgrade, Smederevo and Ruse, having well-built port and freight transport infrastructure.

<sup>11</sup> <http://www.oecd.org/gov/regional-policy/Competitiveness-of-Global-Port-Cities-Synthesis-Report.pdf>  
Page 71 cargo

There are major inequalities in the macro-region regarding the use of clean, safe and quiet vehicles. The vehicles sometimes do not reach the EU standards; their average age are two or three times higher (especially in the Balkans and in Moldova and Ukraine) and have old propulsion systems compared to the German and Austrian vehicles that are increasingly hybrid and electric.

As for the potential multimodal accessibility, again, the strong East-West inequality is quite manifested. From the perspective of economic cohesion, the German regions are firmly integrated in their broader surroundings and the various other transport modes meanwhile Austria, the Czech Republic, Slovenia, Slovakia and Hungary are in a transitional position. The accessibility of the capital city regions is favourable, in contrast, the accessibility of the East and Southeast is very poor; a quasi-homogeneous region is found here with far fewer links to the European economy. The lack of intelligent transport systems and the multimodality ensuring continuous and rapid transport represent additional problems here. The lack of multimodality hinders the deepening of East-West and North-South economic ties and the development of network economy.

### **3.14 Tourism**

A conventionally strong relationship characterises the internal tourism traffic of the Danube region between Austria and Germany, towards Austria from the Czech Republic, Hungary and Slovenia and to Croatia from Slovenia, Serbia, Austria, the Czech Republic, Slovakia and Hungary. Moldova, Ukraine, Bosnia and Herzegovina are greatly left out of the macro-regional level international tourist traffic, but the share of Romania and Bulgaria are also below potential needs.

The capacity of tourist accommodations is high in the western states of Austria, in Istria and in certain border zone German territories. In the central and western countries, the touristic accommodation capacity is higher in the western parts of the countries than in the East. In the eastern countries, this territorial pattern is reversed: the eastern seaside have far superior capacities than the Western parts. While the high level touristic facilities are widespread available in the West, such capacities and services are highly concentrated in the East on specific regions as well as resort areas.



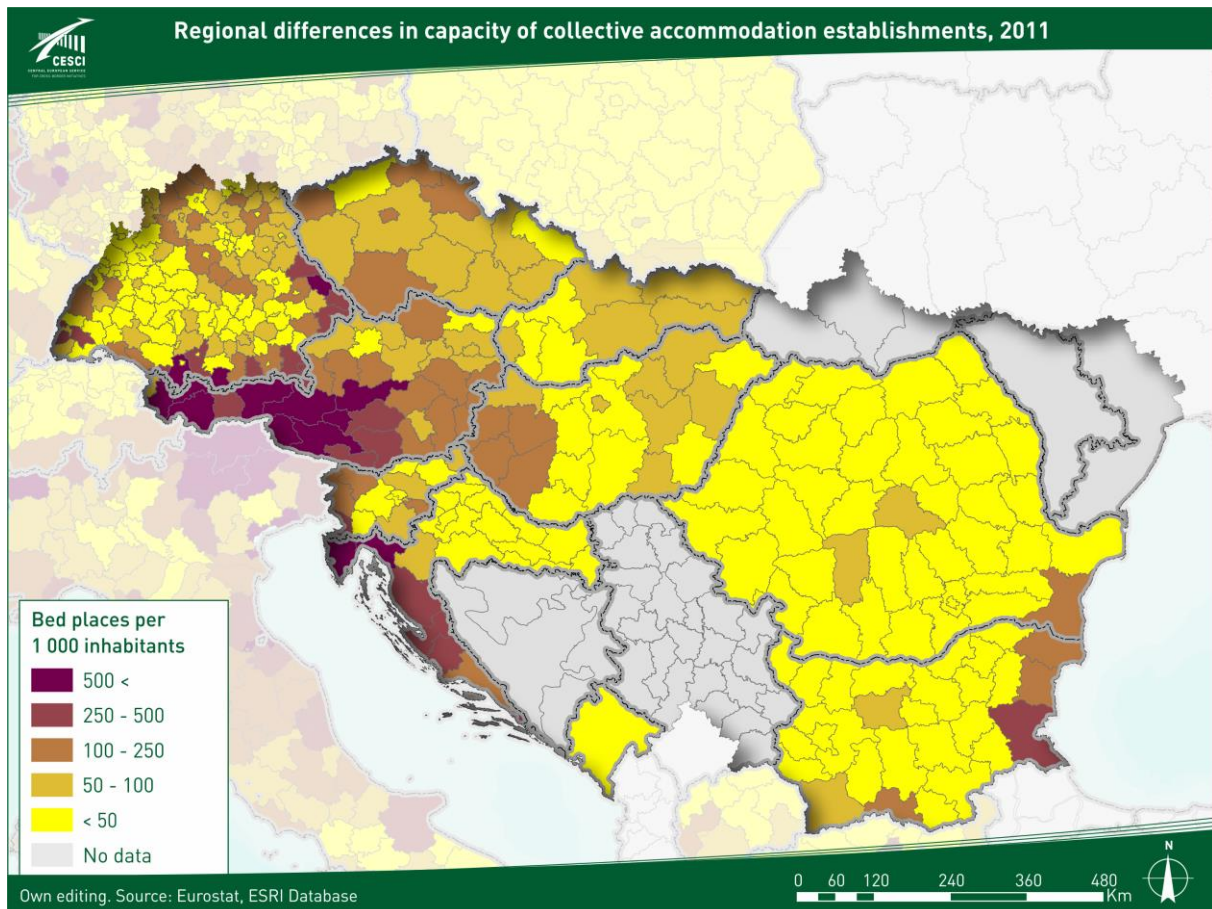


Figure 24: Regional differences in capacity of collective accommodation establishments, 2011

The territorial inequalities, outlined by the number of guest nights, are quite similar. Austria and Croatia are the most important host countries (with 12 000 and 8 000 guest nights/1 000 inhabitants, respectively) with a high concentration on mountainous and seaside resorts, the states of Tirol and Salzburg in Austria and Istria and Dalmatia in Croatia which stand out by far in comparison to any other areas of the Danube Region. The strength of the tourism functions of the two states is indicated by the fact that both countries are among the most popular European destinations; the former ranking 5<sup>th</sup>, the latter 8<sup>th</sup>. In comparison to Croatia, half as much less of the guest nights are spent in Slovenia, the Czech Republic and Germany on average. It is also worth to mention the outstanding role of Vienna and Prague, both being among the ten most visited European cities. These countries are followed by Hungary, Slovakia, Bulgaria and Romania at last. In spite of spatial shifts between 2007 and 2011, no significant restructuring has taken place on the touristic market. The most marked change took place in the appreciation of Adriatic Croatia and the Bulgarian coastline and the recession of certain regions of the Czech Republic.

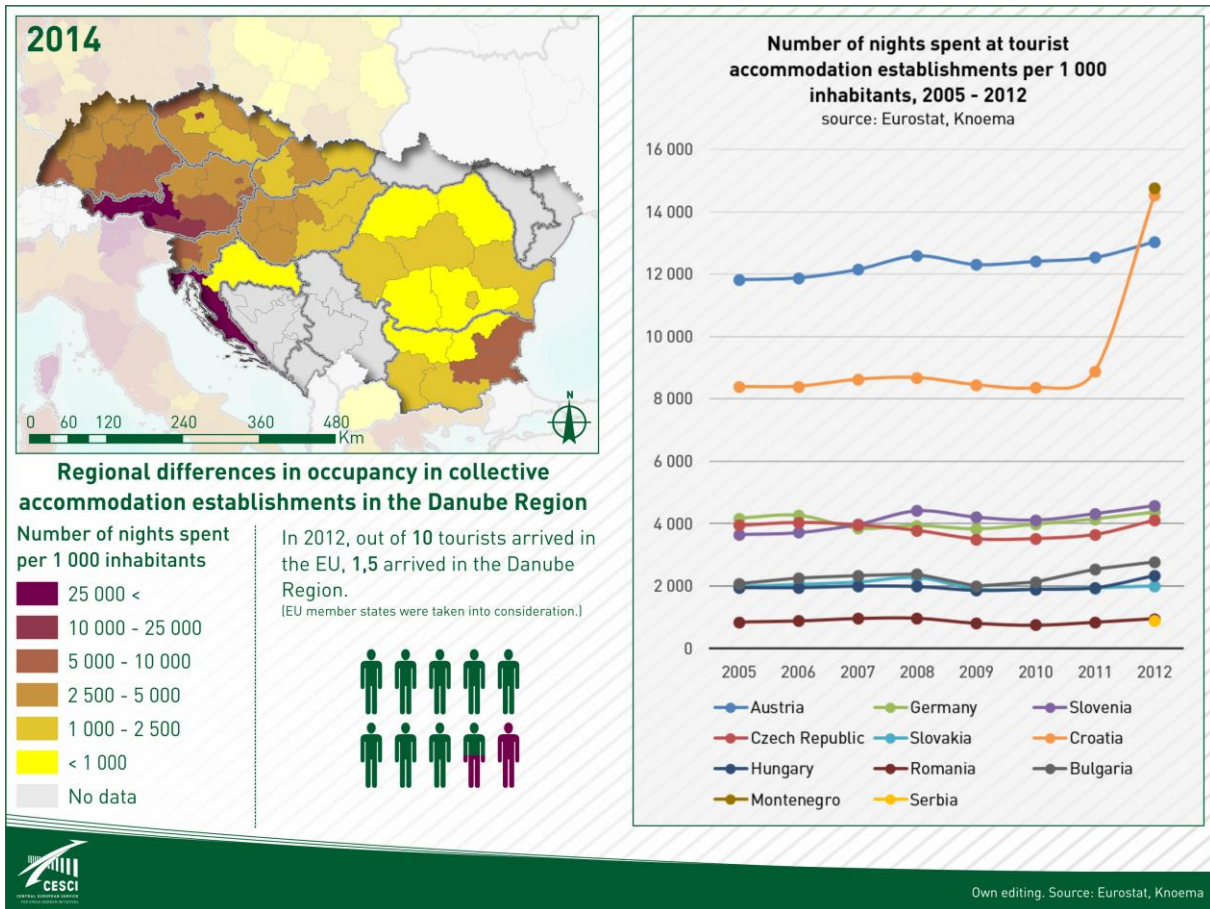


Figure 25: Number of guest nights per thousand of the population in the Danube River Basin

### 3.15 Research and Development

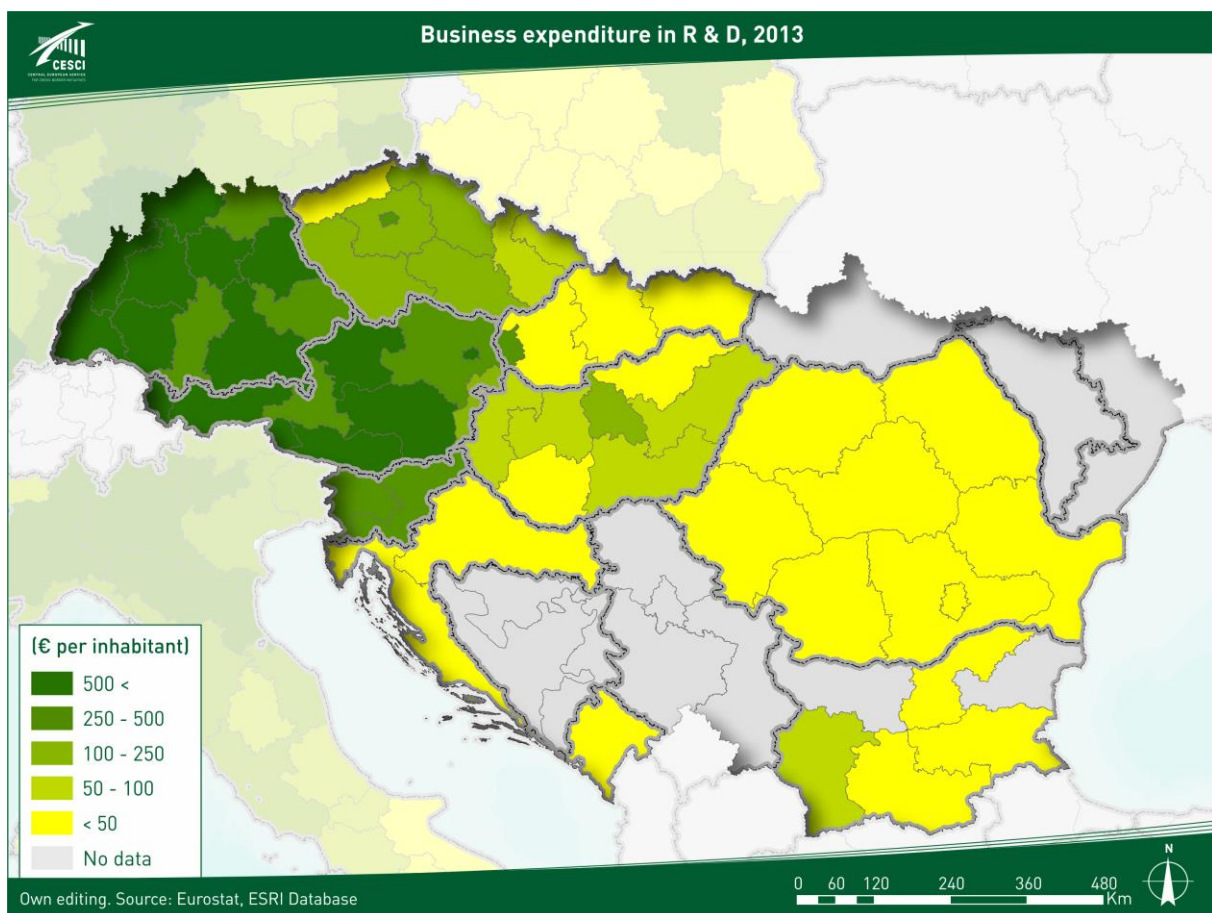
The competitiveness of Europe as a whole is greatly determined by the resources allocated to research and development. In general, the Danube Region is characterised by uneven distribution and a generally low level of the resources of R+D.

On the basis of total intramural expenditure on research and development there are two distinct subregions unfolding here. Expenditure in Germany and Austria (EUR 600 to 1.000) is outstanding even in an all-European comparison and only Northern Europe and Luxembourg come ahead of them in this respect. Eastwards from these two countries the per capita expenditure is far below the required level, it does not even reach EUR 150 (with the exception of the Czech Republic and Slovenia).

In terms of the share of research and development expenditures in the entrepreneurial sector the backwardness behind Western and Northern Europe is less notable. Role of Germany is still overwhelming, in contrast to this Austria appears in a somewhat unfavourable situation, whereas Slovenia and Hungary seem to enjoy a little more favourable position. The enterprises of Bulgaria and Serbia lack capital therefore they are unable to allocate significant financial

resources to innovation activities which could safeguard competitiveness and a growth potential in the modern economy.

The size of factor based resources allocated to research, development and innovation is not only a significant indicator of the level of economic development achieved but also an important basic pre-condition of economic catching-up process and convergence. However, in comparison to the EU average of EUR 510 of research and development expenditure per capita in 2011, the figures for those on top of the group-ranking were in Slovenia EUR 436 (85 per cent of the EU-average) in the Czech Republic they amounted to EUR 274 (53 per cent), in Hungary to EUR 120 (23 per cent). The expenditure of Romania, Bulgaria and the other countries in the Western Balkans were all below 15 per cent of the EU-average. On the other hand, the same figures for Austria and Germany (EUR 983 and EUR 900 per capita, respectively) amounted to near the double of the EU-average.



*Figure 26: Business expenditure in R & D (€ per inhabitant), 2013*

The exceptionally high level of economic development, modern economic structure, forward-looking policies in the field of research and development at provincial levels in both all-European and world economic comparison is highlighted, among others, by the fact that R & D expenditures in Baden-Württemberg in 2009 amounted to EUR 1.520 per head, in Bavaria to EUR 1.040 per head. It is worth mentioning that the figures of the capital of Baden-



Württemberg, Stuttgart (above EUR 2.000 per head) and that of Upper Bavaria containing the city of Munich (more than EUR 1.800 per head) were even more outstanding.

The combined average expenditure of the 28 member countries of the European Union hardly exceeds 2 percent of the total gross domestic product. The target figure of the Europe 2020 Strategy 3 percent of the GDP by 2020.

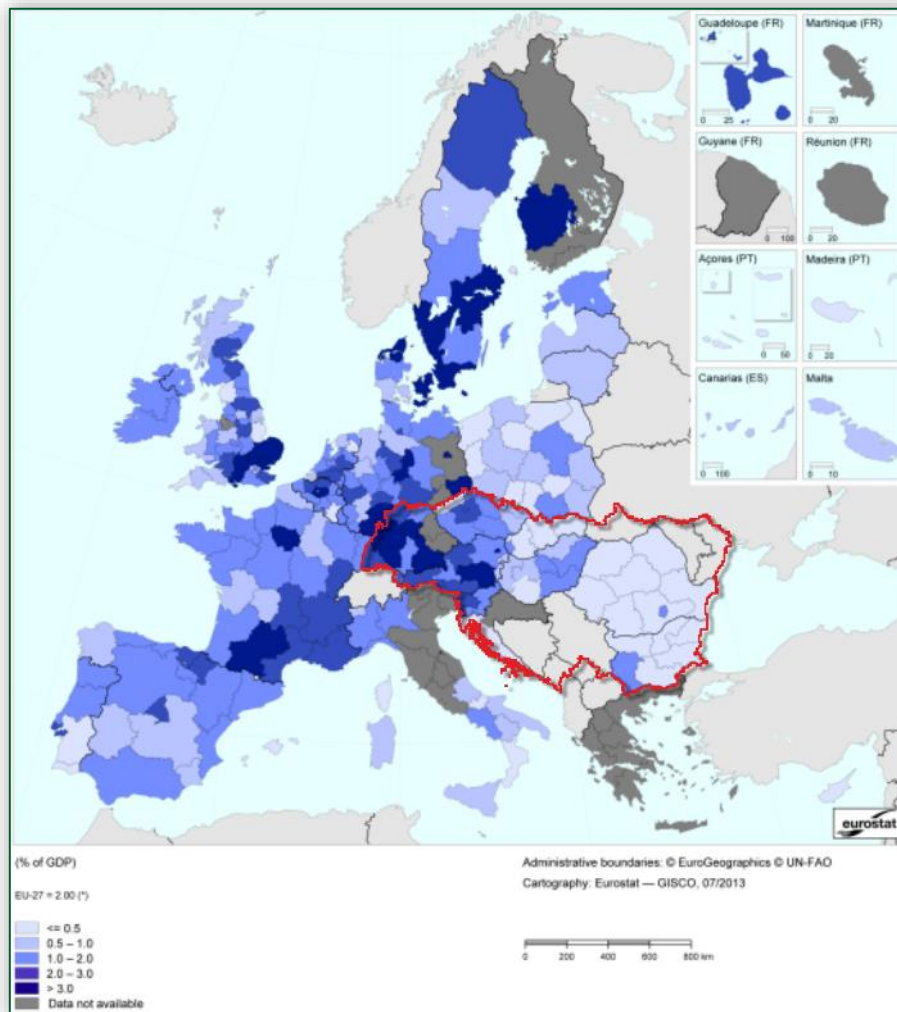


Figure 27: R & D expenditure as % of GDP, 2010 (Serbia (2011): 0,77; Bosnia and Herzegovina (2011) (RS): 0,3); Montenegro: 1,2; Moldova (2010): 0,36)

Among the individual Danube Region countries, in Hungary the R & D figure for Budapest and its region (Central Hungary) is EUR 250 per capita which is twice as high as the country average, but it reaches only about half of the total EU-average. In terms of the share of R & D from the GDP in Hungary it is about 1.6 to 1.7 per cent. A similar trend is visible in the cases of Prague (2.15%), Vienna (3.93%) and Bratislava (1.14%), all three reaching about one-and-a-half to two times higher levels. Albeit at a much lower level, research and development intensity in the region of Bucharest (1.09%) is also in line with the trends highlighted above. It deserves; however, special attention that the R & D expenditure in the NUTS2 region of Western Slovakia

(2.64%/GDP) is, on the one hand, way above the EU-average in this field and, on the other hand, it is more than twice as high as that of the Slovakian capital and its surroundings. Western Slovakia is well known for having caught up very quickly, through its full economic and business integration to the highly developed German, Austrian and Czech economic area within the last decade.

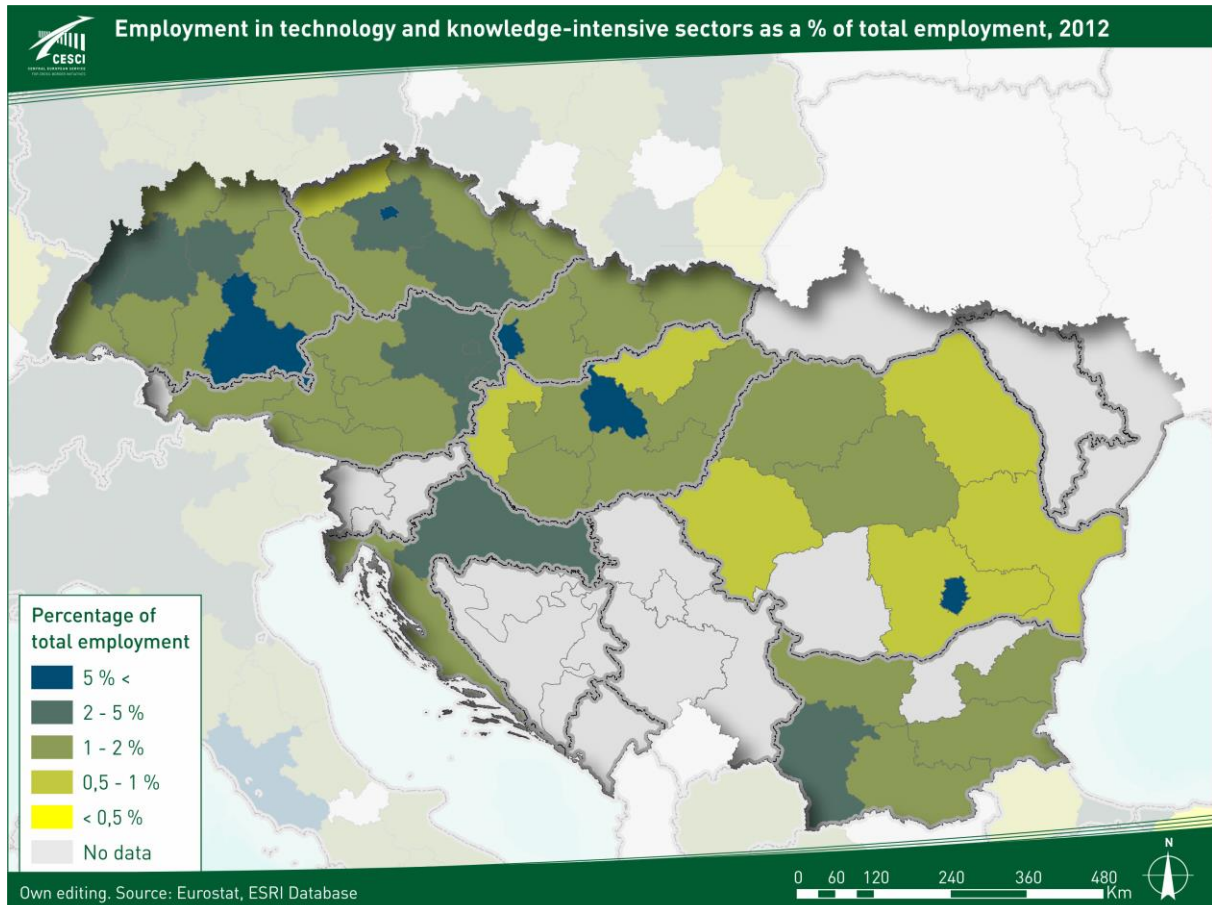


Figure 28: Employment in technology and knowledge-intensive sectors as a % of total employment, 2012

Besides the regional differences in R & D expenditure, shifts in the figures and rates concerning enterprises, scientists, developers and special personnel in this field are also significant as they suggest that East-West inequalities mentioned earlier are also manifested in the relative weight of research and development in employment. According to this, Germany plays a leading role as far as the proportions of researchers and scientific experts, specialists in the total economically active population are concerned. Austria, the Czech Republic, Slovakia, Hungary and Slovenia also have relatively favourable indicators within the larger image. Especially the regions of the capital cities and their surroundings seem to stand out in this respect and this phenomenon is especially true in the eastern and southeast parts of the programme area. Thus, the lag of the Danube Region behind, either the EU15 or the enlarged European Union, is considerable.



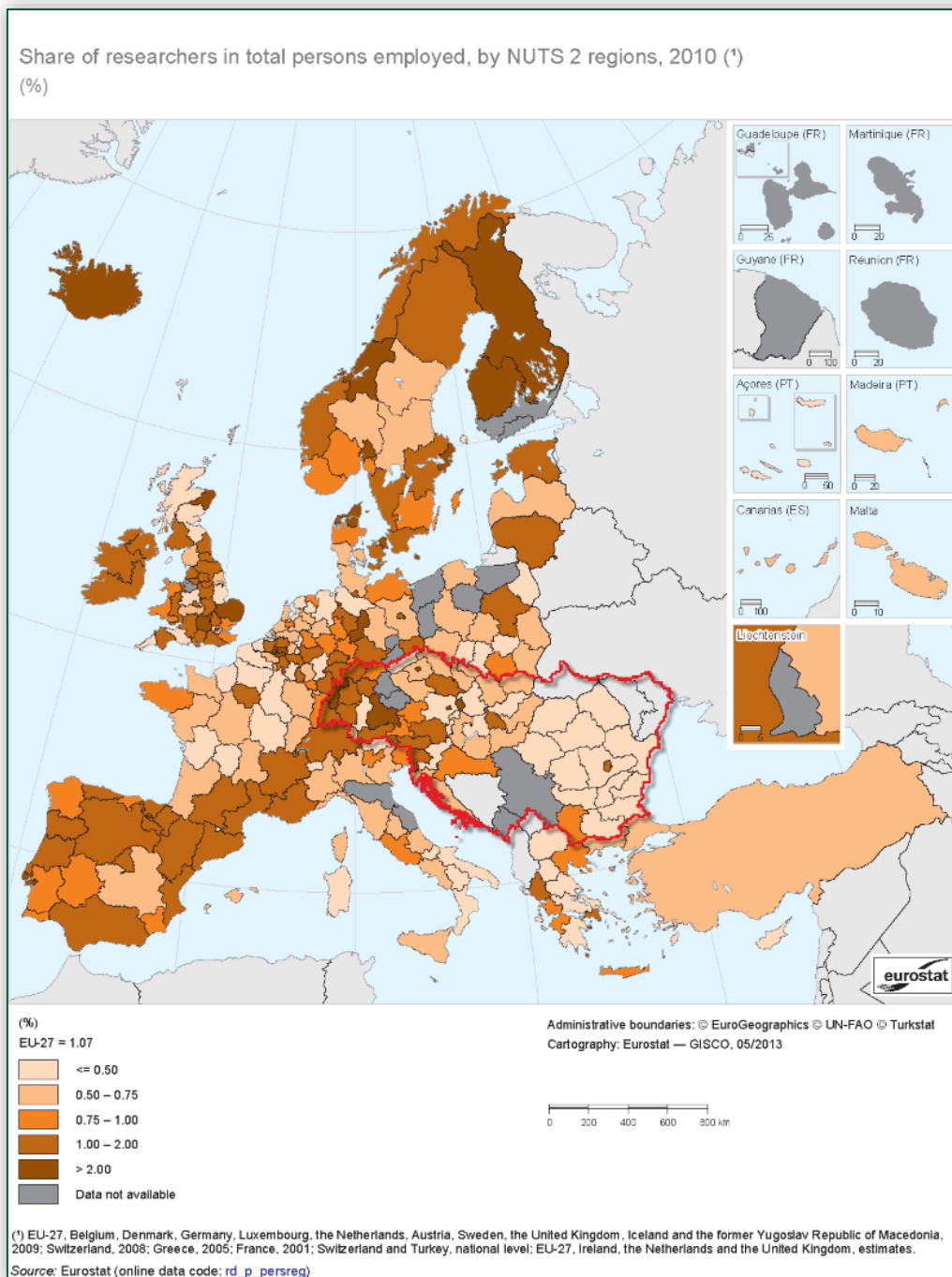


Figure 29: Share of researchers in total persons employed, by NUTS 2 regions, 2010  
 (Vojvodina: 2,55; Belgrade: 6,5; Šumadija and Western Serbia: 0,83; Southern and Eastern Serbia: 1,2)

As far as the share of researchers in employment is concerned, the western part of the region, first of all Germany and Austria are fully in line with the other Western European and Northern European countries which have wide scientific bases. The countries Southeast of Budapest form a separate group. The proportions of researchers in Germany, Austria and, partly, in the regions of the Czech Republic, Slovakia, Hungary and Slovenia reach favourable levels. In the case of

Bulgaria and Romania, only the capitals and the immediate surroundings stand out in this respect. All in all, the states in the East of the macroregion do not qualify as bearers of innovations yet. In their case, first of all the infrastructural conditions are to be established for the adaptation and dissemination of innovations.

### 3.16 Innovation and Higher Education

The organic relationship between higher education institutions and different centres of innovation, research and development is of utmost importance throughout Europe in general and in the national economies of the Danube Region in particular. It is especially true at a time when the world economy is undergoing rapid structural change and new players (whole continents and aspiring countries in these continents alike) are appearing on the horizon of global economic competition. Innovation, levels and structures of higher education, efficiency of workplace-related training, further education and life-long learning, and the efficiency levels of cooperation among these, have become one of the most important yardsticks of modern economic and social development in recent decades.

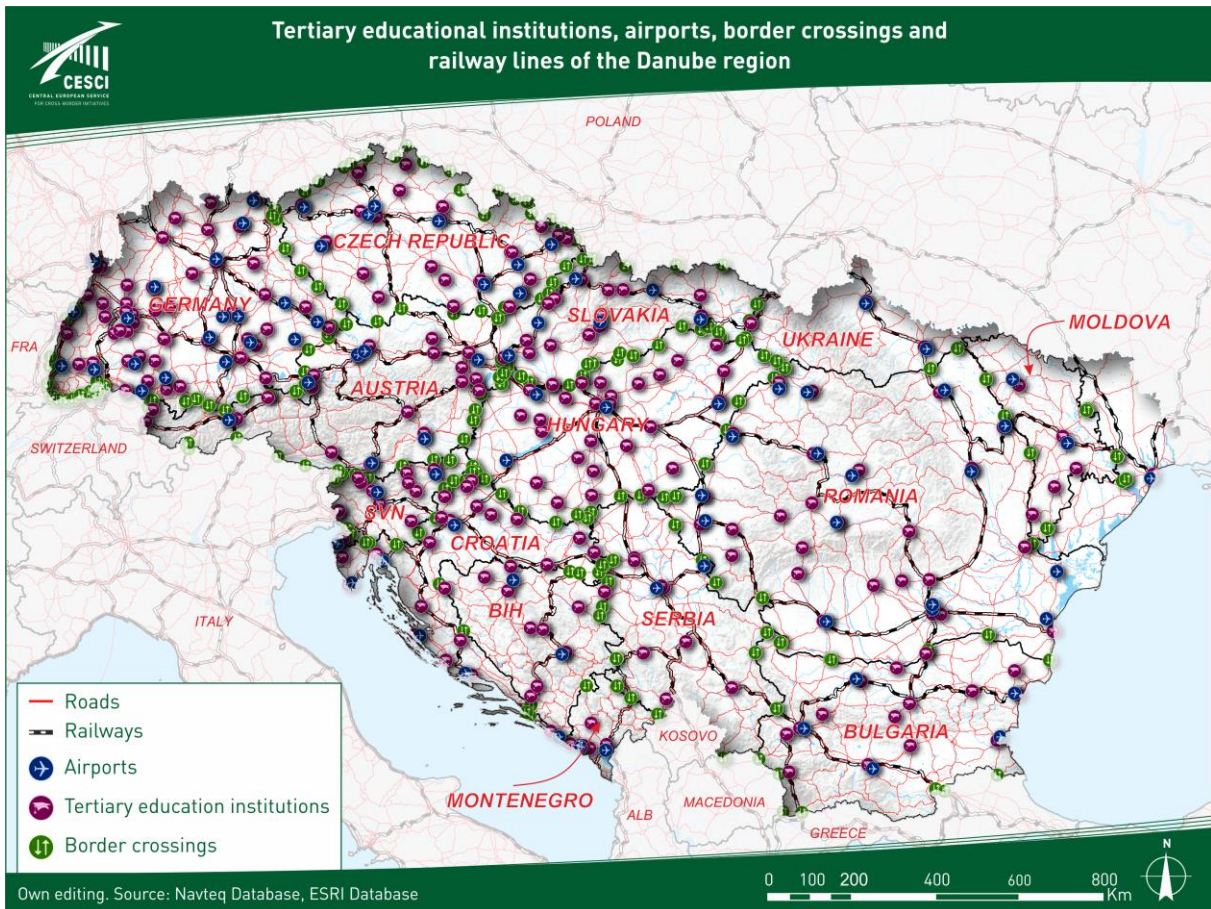


Figure 30: Tertiary educational institutions, airports, border crossings and railway lines of the Danube region

The tertiary educational institutions of the Danube Region are highly developed in the German-speaking area of the region, while the network is far thinner in the Southeast (Figure 30). The educational profiles also show a diverse picture. Compared to the total number of institutions, agricultural science prevails in Bulgaria, Hungary and Serbia. Arts faculties and social sciences reach a high proportion in Slovenia and Moldova, while in the case of economics, the educational network of the macro-region is quite balanced, except for Montenegro. The IT profile, important for information economy, promoting innovative and sustainable development is the strongest in Germany, unlike Moldova, Romania, Slovakia and Slovenia. Technical sciences are also of key importance for the establishment of economic development, with the German states leading in this field as well, in a sharp contrast to Moldova. For many countries of the region, attracting the electrical and automobile industry as an innovation-bearer sector is of great importance; hence the need to train appropriately qualified technical professionals in adequate numbers.

The promotion of natural sciences contributes to the installation of innovative industry branches of high added value (e.g. biotechnology) as well as adapting to climate change. Again, Germany puts the greatest emphasis on this field of science, while capacities of this profile in Hungary, Bosnia and Herzegovina and Montenegro have low shares.

Beyond the growing capacity and specialisation of tertiary educational institutions the performance of these institutions is also of great importance. The level of education, capacity and innovation potential of the particular universities provides a good basis for the internationally renowned Academic Ranking of World Universities (ARWU), also known as the Shanghai Ranking. Germany and Austria stand out both in terms of the number and the ranks of tertiary educational institutions. On the other hand, the situation of the states of the Eastern and Central European is unfavourable as only one university from the cities of Prague, Budapest and Belgrade (ranked 301-400), Szeged, Zagreb and Ljubljana (ranked 401-500) were listed in the TOP500 in 2013. Not a single institution has been included in the ranking from the Southeast European states, nor from Ukraine and Moldova.

The principal targets of student migration inside the European Union also reflect the attractiveness of university centres. The majority of the study-related migrations take place today within the Erasmus programme with the number of students increasing year after year. In the academic year 2011/2012, ten universities were listed among the TOP100 universities with the largest number of incoming students. Charles University (Prague) is at the 8<sup>th</sup> place, where, similarly to Masaryk University (Brno) students are present in large numbers from the neighbouring Slavic countries, especially from Slovakia. The faculties of Munich, Vienna and Heidelberg, with their renowned courses on European scale, extend their catchment area to several countries of the Danube Region. Two further universities of Budapest and one from Ljubljana were also listed, while Romania, Bulgaria and Slovakia were left out completely.

One fundamental characteristic of the differences in vocational training is whether the state in question has adopted the German type dual vocational training system. The East-West difference is apparent to the advance of Austria and Germany in the field of practice oriented trainings. Hungary has done a lot over the recent years to introduce the system, but the Czech Republic is further down this path than most other countries.

The large proportion of early school-leavers in the Balkans and the eastern regions is huge challenge, together with the appropriate coordination of education and labour market demand and the lack of professionals due to employment-triggered. Based on the experiences of the Leonardo programme, the most intensive and attractive vocational training connections are characteristic in Germany, receiving the most qualified professionals from the entire region.

### 3.17 ICT

In the course of the transformation of society into information society, the spread of information and communication technologies and the development of such networks is of decisive importance.

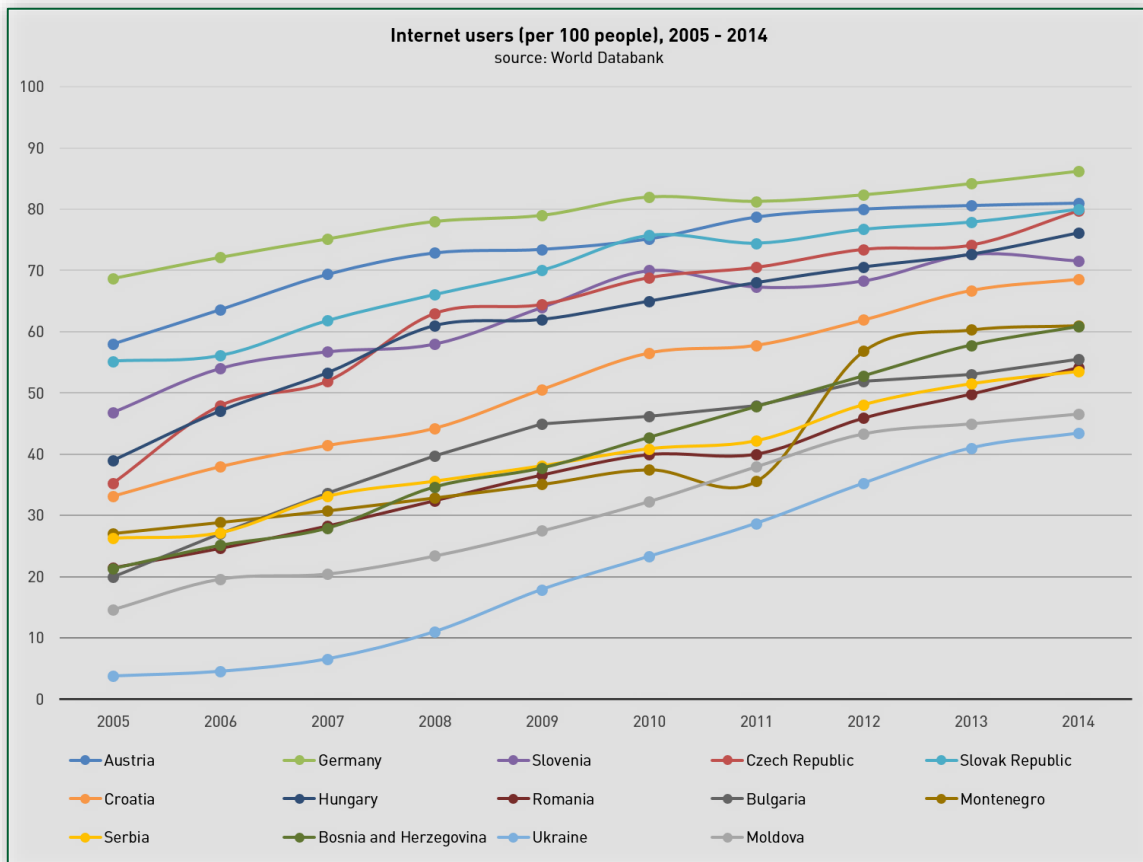


Figure 31: Change of the number of Internet users in the Danube Region between 2005 and 2014

Within the Danube Region, northwestern states are in an advanced phase. Germany, Austria, Slovakia, the Czech Republic, Slovenia and Hungary are leaders in the rate of internet users. The states of the Balkan Peninsula and particularly Moldova and Ukraine are lagging far behind, in spite of their rapid progress in the last few years. This means that not only the physical accessibility, but also the virtual accessibility of these countries is also problematic, and they cannot benefit from the opportunities offered by electronic commerce and the World Wide Web to boost their convergence.

### **3.18 Summary**

The internal economic and social cohesion of the Danube region is basically characterised by East-West inequalities concerning the economic status and the human resources of the countries of the macroregion. The western states, especially Germany, possess significant economic weight within the region, indicated its dominance in foreign trade, capital investment and technological transfer over the other countries of the macroregion. At the same time, the economies and societies of the eastern and southeast countries, despite their advanced transformation, possess marginal positions according to their economic status and innovation potential.

The East-West inequalities are apparent in the economic infrastructure and the connectivity of the transport networks, in the attractivity of training and education systems and within the usage of the infocommunication networks, among others, that are highly unfavourable from the viewpoint of the internal cohesion on macroregional level.

After having revealed the wider economic and social framework of the macroregion, in which the interventions of the EU regional development policy seek to contribute to the emergence of a coherent and balanced spatial structure, we now step forward to a lower scale, thus focusing on the regional and local scenes of cross-border interactions. In the followings we aim at introducing where the different borderland areas of the Danube Region are situated in the current spatial structure of the macroregion and to what extent they can benefit from their borderland locations and face the challenges of this very same geographic position.



## 4. Detailed analysis on the socioeconomic inequalities along the borders of the Danube region

### 4.1 Introduction – Borders and state territories

Borders have since long been identified as discontinuities in the geographical space as one can observe significant inequalities in economic and social terms between the two sides of the border even among largely homogeneous physical geographic conditions. As the British historical geographer Norman Pounds put it, 'Boundaries not only set limits to political obligations; they also set bounds of economic regimes. [...] one frequently finds abrupt changes at political boundaries, quite unrelated to the physical setting. Their explanation must lie with the contrasted economic and social policies pursued on each side of the line.'<sup>12</sup>

Differences on the neighbouring sides of a state border can at best be understood through the consideration of state territory as a 'container' in political, economic, cultural and social terms. Such a notion was elaborated by the British political geographer Peter J. Taylor<sup>13</sup>, having based his work on the concept of the compatriot sociologist, Anthony Giddens, who described the state as a 'power container'.<sup>14</sup> In his argumentation, Taylor suggests, that state territories became sole actors in the containment of power, wealth, culture and society through the use of four strategies of territoriality: waging wars, managing economy, giving national identity and providing social services. This effective 'omnipotence' of states was formally sacrificed in the Treaty of Westphalia, together with the principle of non-interference of foreign powers in the domestic affairs of individual states. Thereby, states would indeed be able to direct different internal policies, with no or few regard to those of the others, as presented by Pounds above. Through their internal policies, states targeted above all the conversion of the state area into one single economic and social unit, managed from a central seat of power. Accordingly, local and regional structures were largely subordinated to central ones and cross-border ties lost their importance to domestic ones. Therefore, the internal homogenization of state territories in these above terms usually was often coupled with the divergence of state territories along the borders. No surprise then, that state borders became the most spectacular places where significant socio-economic differences were and are still to be observed in the closest possible geographic proximity.

Border regions have always had distinct economic and social conditions since the emergence of modern territorial states. For various reasons, border areas were preferred neither by central

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<sup>12</sup> Pounds, N. J. G. (1990): *An Historical Geography of Europe*. Cambridge University Press: 4.

<sup>13</sup> Taylor, P. J (1994): *The state as container: territoriality in the modern world-system*. Progress in Human Geography 18: pp. 151-162.

<sup>14</sup> Giddens, A. (1985): *A Contemporary Critique of Historical Materialism*. Vol. 2. The Nation State and Violence. Cambridge: Polity Press, 399 p.

governments nor by meaningful economic actors when establishing economic activities with high added value or implementing large-scale infrastructural investments (except for defense-related facilities). Most important reasons for this relative ignorance are economic and strategic ones. From an economic point of view, border areas are usually the most distant places from the other parts of the country; therefore, they are at a competitive disadvantage compared to more centrally located areas, particularly because of higher transport costs (for a more detailed explanation see the works of August Lösch<sup>15</sup> or Herbert Giersch<sup>16</sup>). From a strategic point of view, border regions were thought to be too hazardous for greater investments, as these edges were supposed to fall at first in case of a possible foreign attack from the other side of the border. All in all, border regions remained more or less unfavourable and thus they are underdeveloped areas, except for special cases.

In the second half of the 20<sup>th</sup> century, with the continuous peaceful economic development of the countries of Western Europe and the reconciliation of the political relations among these countries on the one hand, and the restructuring of the international economic system from the sum of national economies into a profoundly interconnected global economy on the other hand resulted in the radical reassessment of state borders and borderland location as such. The continuously widening, deepening economic and political integration process, which subsequently led to the establishment of the European Union in 1993, targeted an open supra-state economic space where the free movement of goods, capital, services and labour force is ensured. With the scaling-up of the management of economy from state to global (or at least supra-state) level was due to the strengthening role of transnational companies, which were able to organise their activities without being confined to any sole national economy and gradually took over the control of international money flow. As for the barrier-free movement of people and merchandises, an important step forward was the removal of physical borders, set out in the Schengen Agreement (1985) and accomplished by the 1990s.

As a result of these above described processes, the formerly disadvantageous location of border areas turned into markedly advantageous as they were able to benefit not only from the dynamics of their own states, but also from that of the neighbouring one(s) as well. However, as we shall see, the volume of a possible upturn of a border region usually depends on many factors, such as the existence and the volume of economic inequalities and social differences between the two sides of the border, economic structure of the neighbouring areas, historical background, the features of physical geography and the location of the whole border region within the macroregional space, among others.

However, in spite of the new chances for border areas, the world's fundamental political geographic structure did not change: the international system is still built up by territorial

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<sup>15</sup> Lösch, A. (1954): *The Economics of Location*. Yale University Press, 520 p.

<sup>16</sup> Giersch, H. (1949 (1950)): *Economic Union Between Nations and the Location of Industries*. Review of Economic Studies, Vol. 17, No. 2, 87–97.

states. Therefore, as it will be presented in the followings, no cross-border region has yet seen the final disappearance of the border. Apparently, significant differences remain in existence between the neighbouring sides of the border as these areas are confined to different political, juridical, economic, monetary, etc. regimes and policies. One cannot deny the positive effect of the opening of borders, as some settlements on the less wealthy side of the border have indeed shown remarkable prosperity. Villages, towns and cities located directly at the border or in its close proximity were the most successful ones, especially if they are some kind of central places. However, if no deep structural changes occur, such an upturn can easily couple with a polarisation among the more and less successful settlements, as the most attractive places, especially on the wealthier side, may drain the resources of less beneficial places. Nevertheless, this process raises several questions about the changing spatial structure of borderland regions.

In the followings, a possibly detailed image is to be depicted on the entirety of border regions within the Danube Region, on supralocal (district) level. We are trying to point at the fact that border opening has resulted in fairly unequal spatial development on local and regional levels in recent decades. Though in some cases not enough data is at disposal, and plenty of methodological concerns may also arise (see: Chapters II.2. and II.3.), some basic characteristics and trends are supposed to be noticeable and they may give us valuable information on the restructuring of the border landscape. The most important questions to answer are the followings: what kind of general pattern characterises the spatial reconfiguration which unfolded along the borders in the last decades, on the one hand, and whether it brought along basically a win-win, a zero-sum or, as the case may be, a negative-sum situation for the neighbouring sides of the borders.

## **4.2 Overall image on the entirety of border regions of the Danube Region**

In this chapter the borderlands of the Danube Region are to be analysed and compared according to their development status. The delimitation of the borderlands was based on geometric attributes, namely on a distance basis. The basic entities of the analysis, designated as 'border areas', are local administrative units (predominantly LAU 2 entities in the Nomenclature of Territorial Units for Statistics) which are incorporated in district level entities of which the centroids do not lie farther than 50 kilometres from the borderline. This is the approximate distance which have been supposed to mark the limit of the border effect. In other words, these are the edges of the countries where the presence of the border has a significant effect on local and regional society and economy. Nevertheless, such a geometrical criteria clearly cannot claim to objectivity inasmuch as it is not about homogeneous areas neither in terms of physical geography nor in that of socio-economic spatial pattern. Moreover, as the administrative structures and their spatial delimitations are largely different in the distinct countries, the average size of the local entities are largely variable; therefore, the width of the

border zone shows remarkable differences from country to country, which results in significant asymmetries along certain borders.

The delimitation of the frontal zones is not only problematic from the asymmetric point of view, but also from holistic approach. Border regions can hardly be considered as stand-alone zones, being only characterised by the presence of the border and isolated from the central areas of their countries. This is certainly not the case in countries of smaller extent, such as Slovenia or Croatia, where the major part of the territory falls within the 50 km zone, but also in the most countries of the Danube Region this zone makes up a significant proportion of the overall surface. In contrast, taking into consideration each local level (LAU 1 or even LAU 2) entities of the Danube Region would certainly lead to a far too enormous and complex territorial scope and is unlikely to result in clear study outcomes and conclusions. Therefore, we opted for a territorially more focused investigation, while trying to eliminate the risks of performing a too much fragmented analysis.

A further concern is, already mentioned in the methodological part, that not every indicators are available for each country. Some indicators such as accommodation capacity, commuting or unemployment are not available either in the requested format or at all in certain countries. As a result, some borders tend to remain asymmetric in many of the analyses in terms of data coverage. This phenomenon is largely unfavourable but though necessary to tackle; therefore, our study did not aim to exclude imperfect data collections but rather to complete them with additional information from alternative sources.

In spite of all these burdens, we aimed at providing a possibly comprehensive insight into the socio-economic status of borderland areas within the Danube Region. We used a series of indicators, including indices for economic performance (accommodation capacities and their occupancy), demographic changes (birth and death rates, natural increase/decrease, population ageing), spatial pattern and movements of the society (population density, commuting, migration) as well as employment conditions (working-age inhabitants, unemployment), to reveal the differences between border regions. Through the consideration of the territorial patterns of these different indices we do not seek for an overarching general structure which may give an encompassing explanation for the entirety of the borderlands of the macroregion, though we do not exclude the existence of such samples either. We rather aim at pointing at the distinct characteristics of border regions in different contexts, and lay the ground therewith to the argumentation on how appropriate regional development policies at

community level should be elaborated, in order to enable local problems and challenges to be handled within their contexts.

### **4.3 Economic performance**

The economic status of an area can be measured in different ways and it may be characterised by a wide range of indices. However, methodological concerns, already mentioned multiple times in this study, largely restrict the number of possibly applicable indicators. The comparison of wages is not feasible due to different taxation systems in each country, whilst the number and size of enterprises would also be largely inefficient due to the differences in company registration systems and the lack of such data in many countries. Other sorts of indices, such as gross domestic product (GDP), are not at all available on local level entities.

In this present case, we opted for the use of indices on tourist accommodation capacities as well as on their occupancy in the measuring of economic performance. These data proved to be mostly accessible in all of the investigated countries and they are supposed to point at significant local features.

It is clear from the map that though border regions in general are rather unexceptional areas from the point of view of tourist capacities, some smaller areas may eventually reach high rate of supply in accommodation capacities (Figure 32). From this aspect mountainous areas and seaside areas obviously have a distinguished situation as they attract great numbers of tourists every year, though in the cases of seaside resorts it may eventually be unbalanced as of its seasonality.

Nevertheless, seashores within the Danube Region are all among the best-equipped areas concerning accommodation capacities. Both Croatia, Montenegro and Slovenia, as well as Bulgaria and Romania have indeed high values of lodging capacities in their seaside localities, though in the case of Romania, the most of the settlements lying at the coast fell off the investigation due to the distinct delimitation of border zones in this country. Though coastal areas are rather not strictly included within the classical category of border regions and their participation in cross-border cooperation initiatives is limited, some of their problems may also coincide with those of the areas along land borders; therefore, they may also be taken into consideration when enumerating the concerns of peripherally located frontal zones.



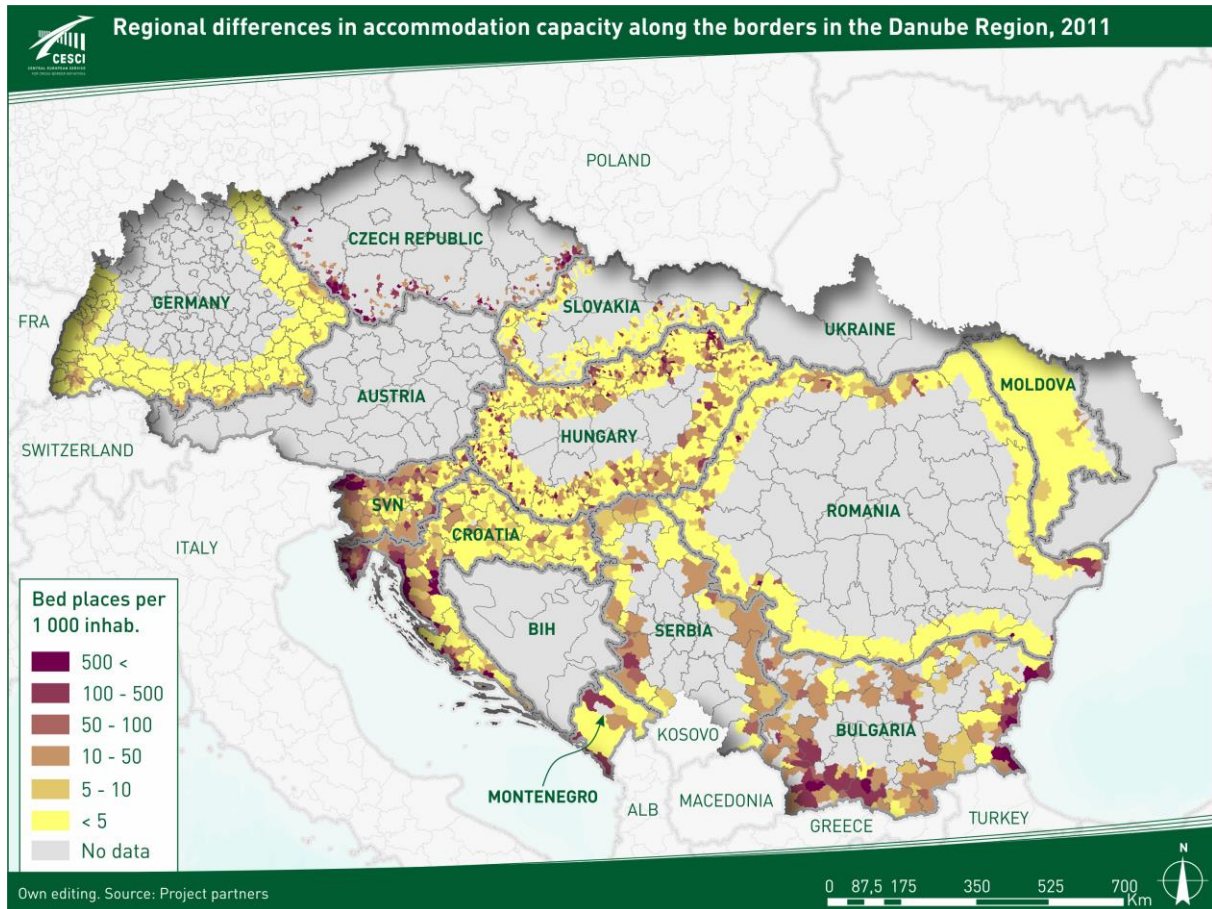


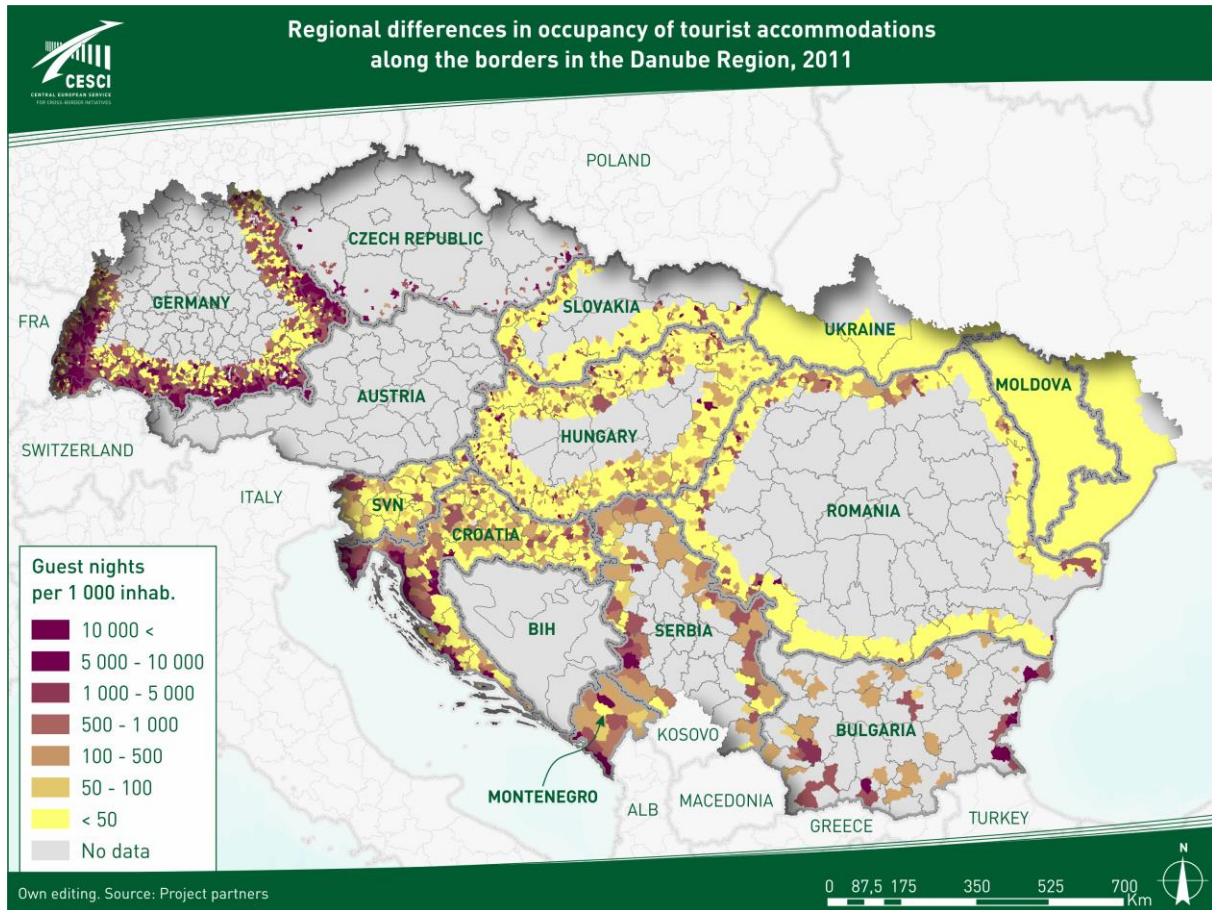
Figure 32: Regional differences in accommodation capacity along the borders in the Danube Region, 2011

Data source: National statistical offices

Mountainous areas are rather present in the Danube Region than seaside areas are, accordingly their impact on border regions is obviously more significant. These areas are considerably noticeable on the map, as they usually show higher values than neighbouring localities farther from the border. A great example for this situation is the southern border of Bavaria, southeast Germany, where settlements lying at the very proximity of the border tend to offer a much higher amount of bed places than the ones 15-20 kilometres apart do. As we shall see, the rates of bed places per 1 000 residents is not outstanding in the Bavarian mountain resorts, compared to other countries, the fact that these localities form a largely coherent zone. This zone is supposed to continue on the Austrian side though the lack of data does not enable us to see it in statistical terms.

Similarly to the Bavarian case, the mountainous areas of Slovenia, predominantly around the Slovenia-Italy-Austria triborder, and at the borders of the Czech Republic, though scarcity in data does not enable a comprehensive view on the entirety of the border zone. Border zones with high supply in accommodation capacities can also be found on both sides of the Serbia-Montenegro border, as well as on the southwestern borderlands of Bulgaria. Other border regions, such as the northern frontal areas of Hungary and those of Romania, among others,

are also above average in the terms of bed places but the spatial pattern of the localities with remarkable supply volume is largely dispersed. This pattern points at important inequalities among neighbouring settlements which may result from distinct local characteristics either in economic, social or even physical geographic terms.



*Figure 33: Regional differences in occupancy of tourist accommodations along the borders in the Danube Region, 2011  
Data source: National statistical offices*

The capacities of accommodation facilities provide us with a fine overview on the opportunities and conditions of the touristic sector, but they refer only indirectly to real economic performance. The occupancy of tourist accommodation is a better indicator in this respect (Figure 33). This key figure shows the actual number of incoming guests along with the duration of their stay, or, with other words the volume of revenue produced.

The effective use of touristic overnight stays show a largely different spatial pattern than accommodation capacities do, at least in the case of border regions. Similarly to bed places, touristic stays also largely concentrate on seashores and mountainous areas. Focusing only on this latter this time, we can see that the basic pattern is largely similar between the two images, significant differences can be observed in the terms of intensity.

The southern borders of the German federal state of Bavaria were mentioned above as localities which offered a relatively high, but not exceptional rate of bed places. Concerning the volume of incoming guests by contrast, the importance of this zone is outstanding: guest nights often exceed 10 000 per 1 000 inhabitants, whilst the rate of bed places remain under 50 per 1 000 inhabitants in most of these towns and villages. This means that, in average terms, the touristic capacities in this borderland region are booked for at least 7 month in a year. The volume of touristic stays is largely similar at the Bavarian side of the Germany-Austria-Czech Republic triborder, despite the fact that capacity rates are somewhat lower than in the Bavarian Alps. This suggests an even higher efficiency of room rental. At the same time, the rate of guest nights also reaches high rates on the Czech and likely on the Austrian sides; however, in the absence of data the volume cannot be revealed.

By and large, the pattern of the occupancy rate of tourist accommodations is largely identical to capacities. The Alps in Slovenia, the coastal areas in Croatia, Montenegro and Bulgaria, and some mountainous regions in Croatia, Serbia, Montenegro and Bulgaria have relatively high values, though in this latter case the lack of complete datasheets does not enable us to establish whether they are typical or rather exceptional elements within their broader environment.

In contrast to these above areas, borderland areas in the eastern countries of the Danube region, specifically Ukraine, Romania and Moldova seem to form a largely contiguous zone where the rate of incoming tourists tends to remain low. The only exceptions are the Western and Northwestern areas of Romania, where the territorial pattern of capacities and incoming tourists is much more similar to that of Western neighbour Hungary, presented later in this chapter. The relative insignificance of tourism is in line with the low rate of touristic capacities meaning that low demand is coupled with low supply in these regions. Though in the cases of Ukraine and Moldova, inequalities among localities is hidden, as we were forced to use data from regional level, it is highly probable that only greater urban centres are significant actors in tourism. In contrast, Romania has in general very low values in the southern and eastern areas. This is certainly interesting in the case of the southern borders of Romania, where the Romanian settlements with marginal touristic importance are neighbour to Serbian and Bulgarian localities having significant accommodation capacities and numbers of guests.

As mentioned above, the borderlands in the central countries of the Danube Region show a distinct pattern which can be interpreted as some kind of transition zone between east and west. Greater urban centres, such as the Hungarian and Slovakian capitals among others, and other popular localities have significant capacities and attract large number of incoming guests as a results whilst other, mainly rural areas suffer from the lack of such opportunities. As a result, differences within tourism contribute to the increasing of inequalities between local level entities.

All in all, the two above analysed indices on tourism drew up a characteristic image on the economic performance of border regions within the Danube Region. In spite of the scarcity on appropriate data a more or less threefold division can be revealed. The western part of the

Danube Region, namely the two German federal states (Bavaria and Baden-Württemberg), Austria and the Czech Republic seem to have more or less dynamic border regions in the terms of tourism. Apart from these countries, we can also find peripheral regions with favourable conditions for tourism such as in Slovenia, Croatia, Montenegro and Bulgaria, though positive effects are territorially limited. The remaining borderlands of these countries, together with other ones in the central part of the Danube Region, including Hungary, Slovakia and western Romania, show more dispersed pattern with significant inequalities between neighbouring localities. The third type of border regions is rather characteristic in the eastern part of the macroregion, including eastern Romania, Moldova and Ukraine. In these regions borderlands have a significantly more difficult situation than in the others as they can only hardly benefit from tourism which is often considered as a possible way out of backwardness.

In the followings, we are laying a special attention to the question to what extent this threefold structure is true in other socio-economic investigations.

#### **4.4 Demographic changes**

The use of indicators on demography are important part of our investigation. They do not only depict the composition of society in the distinct territorial entities along with its evolution, but they may also refer to a series of social attitudes, personal well-being or even economic success/failure. Normative approach suggests that countries and regions ought to show a slightly positive natural increase rate with a possibly harmonic age structure, dominated by the middle age group, to be regarded as ideal. In contrast, regions and countries with fast growth or remarkable decrease, as well as with a high proportion of younger and/or elder age people, are widely considered as areas with unfavourable situation. Though it is not an intention of this current investigation to subject this approach to criticism, we aim to point at the fact that such conditions do not necessarily reflect on the overall image of the distinct borderland areas.

If we have a look at the territorial pattern of birth and death rates, we must face a highly a contradictory situation (Figure 34). Whilst birth rates tend to show a more or less geographically dispersed pattern, death rates are rather characterised by a slope-like macroregional structure, rising from the west to the east.

In the terms of birth rates, relatively few strong territorial tendencies can be revealed. The volume remains under 15 per 1 000 inhabitants throughout the whole Danube Region and there remain relatively few border areas which attain higher values. Such localities can be found in the southern parts of the Czech Republic, south-eastern Slovakia, in northeastern and southwestern Hungary, western Romania as well as in the western and southwestern borderlands of Ukraine, though this time meso-level entities were used due to the lack of relevant data on local level. On the other hand, birth rate remain below 0,5 % in numerous localities from different parts of the macroregion. It is all about rural areas with few and distant urban centres, where the shortage of jobs and thus long term perspectives for youth often



result in their selective migration which lead to the decrease of the number of birth. Such areas are present in almost all of the Danube Region countries, but they form more or less contiguous zones in eastern Bavaria, south-eastern Austria, south-eastern Slovakia, in northeastern and southwestern Hungary and western Romania, among others. The cases of Hungary and Slovakia are by far the most interesting ones as the localities with the highest and lowest values can be found in the direct neighbourhood of each other. In both cases, it is about rural areas which are not only peripheral in geographic but also in socio-economic terms, and localities are overwhelmingly populated by underprivileged social groups including ethnic minorities (mainly romani people) and retired people with low revenues. The dominance of the former group usually results in high fertility rates, while the latter one is marked with low fertility rate, coupled with higher death rates, as we shall see later on. Nevertheless, these extreme differences between neighbouring localities can be explained with local characteristics of historical legacy rather than with an established general formula.

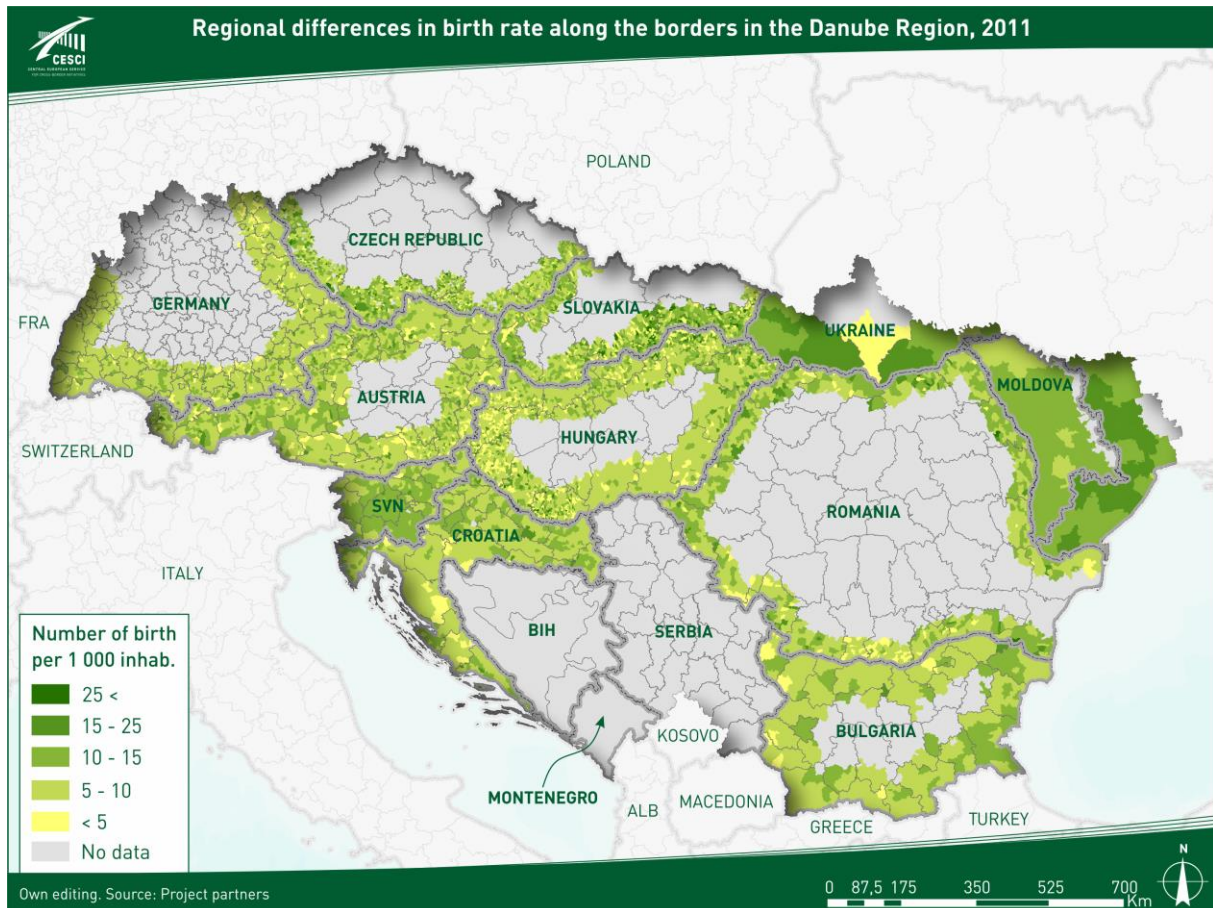


Figure 34: Regional differences in birth rate along the borders in the Danube Region, 2011

Data source: National statistical offices



In contrast to fertility numbers, death rates seem to show a rather explicit macroregional tendency for border regions (Figure 35). The map shows a somewhat straightforward slope from the west to the east, on the one hand, and a fairly sharp division along the Slovenia-Croatia, Slovenia-Hungary and Hungary-Austria border whereas Slovakia is quite distinctly separated into two parts, a western edge with lower rates and the southern border with a more elevated average volume, with the exception of the very eastern section, which is to be outlined below.

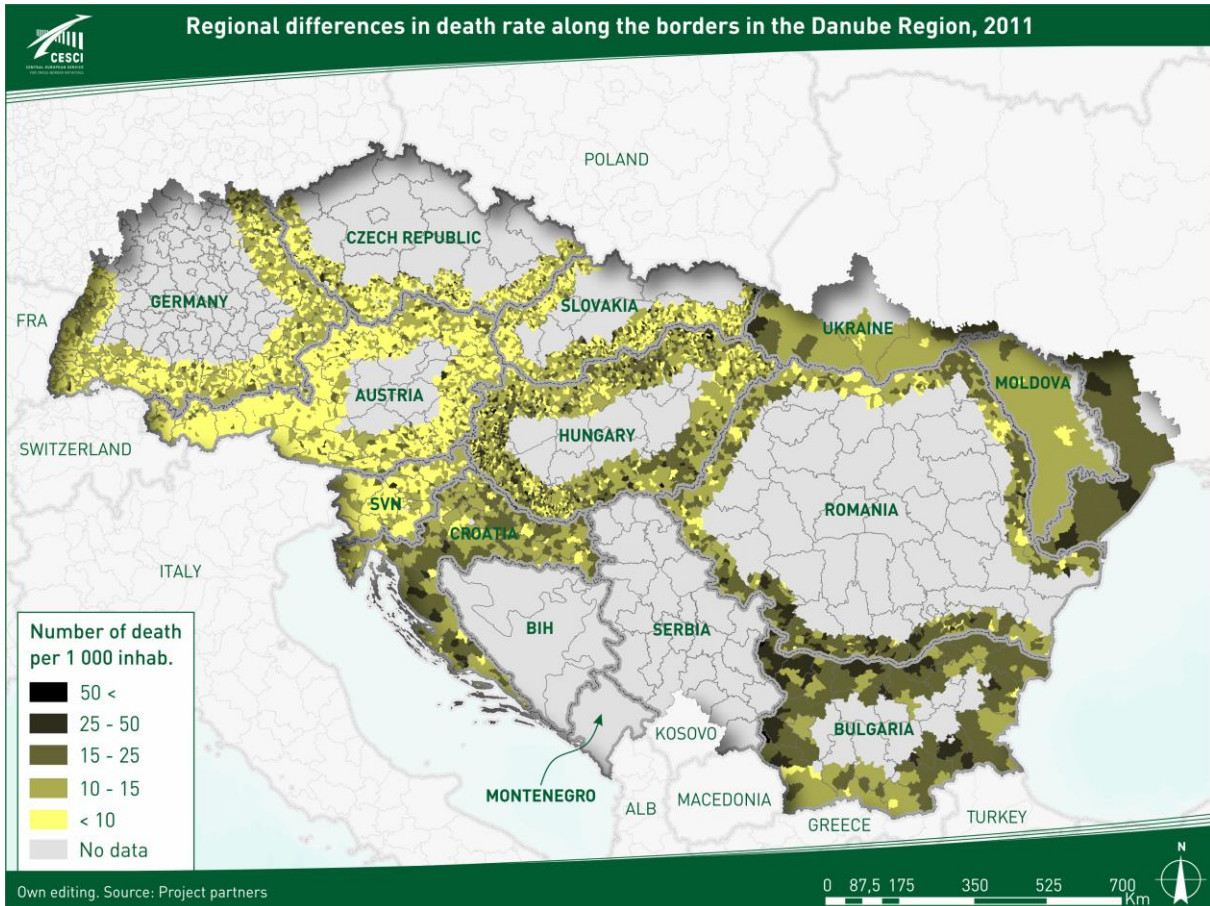


Figure 35: Regional differences in death rate along the borders in the Danube Region, 2011

Data source: National statistical offices

In spite of the well-established claim for a general formula describing a West-East slope on macroregional level, the geographic pattern of death rate shows a series of local and regional particularities which do not fit entirely this image. Starting from the western edge of the macroregion, we can notice once again that the outer edges of the southern German federal states of Bavaria and Baden-Württemberg are exceptions within their broader environment, as these predominantly rural borderland areas have less favourable figures than localities in general in these two states. Apart from the Rhine Valley which is an outer border of the Danube Region these are the eastern borderlands of Bavaria that show mostly the patterns of a contiguous substandard zone, with even less favourable death rates as on the neighbouring Czech side.

Surprising anomaly can be observed in the western border regions of Hungary where death rate is in general fairly higher than in on the neighbouring sides of the state border. When zooming within the region, it occurs that higher death rate is a characteristic feature of smaller localities whilst urban centres usually have low or at least moderate rates. This points at an increased urban-rural bipolarity which is fairly characteristic in the region.

As mentioned above, a positive anomaly is observed at the eastern part of the Slovakia-Hungary borderland, both on the Slovakian and the Hungarian sides; however, in Hungary the lowest values can be found rather eastwards. It is about predominantly rural areas, though important regional centres are also present here, such as Košice in Slovakia and Nyíregyháza in Hungary. These areas suffer from a peripheral situation both in geographic, economic and social terms, along with the difficulties resulting from the collapse of traditional heavy industry on the Slovakian side as well as the crisis of the agricultural sector on the Hungarian side. Both areas are inhabited by a large number of romani people living in deep poverty, though characterised by a fairly young age structure which result in low death rates compared to a growing population.

The comparison of the spatial dynamic of these two above datasets already presumes some basic characteristic features of the spatial pattern of natural increase and decrease. As these above two indices show largely different geographic configurations, the spatial image of the resulting population change is also expected to bring about a fairly complex image.

At first sight, the map on natural increase/decrease (Figure 36) suggests a traditional west-east slope where the highest rates are characteristic in the western areas and the average volume shows a more or less continuous decrease eastwards. This is largely similar to the macro-level geographic pattern of death rate which is quite obvious, considering that birth rates do not show such a distinct territorial configuration. Nevertheless, the influence of outstanding birth rates can also be revealed on the map.

As we have already seen, the southern federal states of Germany show a largely twofold image. While the borderlands of Bavaria and Baden-Württemberg have in general favourable position, rural entities in the direct neighbourhood of the state border are usually characterised by natural decrease. This is especially true along the border between Bavaria and the Czech Republic where the German side is dominated by shrinking localities whilst the situation is rather balanced at the Czech side. As we shall see later on, this is largely in line with the differences of ageing index and its economic and social implications. It is also interesting to see a similar rupture at the Bavaria-Austria border as Austrian localities show a slightly increasing population in contrast to the decreasing German side. Nevertheless, this basically favourable demographic condition of Austrian borderlands is largely characteristic in the proximity of Germany, but not necessarily in the case of other border zones. Demographic situation is rather stagnant in the Austrian borderlands along the Slovakian and Slovenian borders, whilst natural decrease is overwhelmingly typical at the borders with Czechia and Hungary. Thus, demography

is largely in line with the overall economic and social conditions of the neighbouring region on the other side of the border.

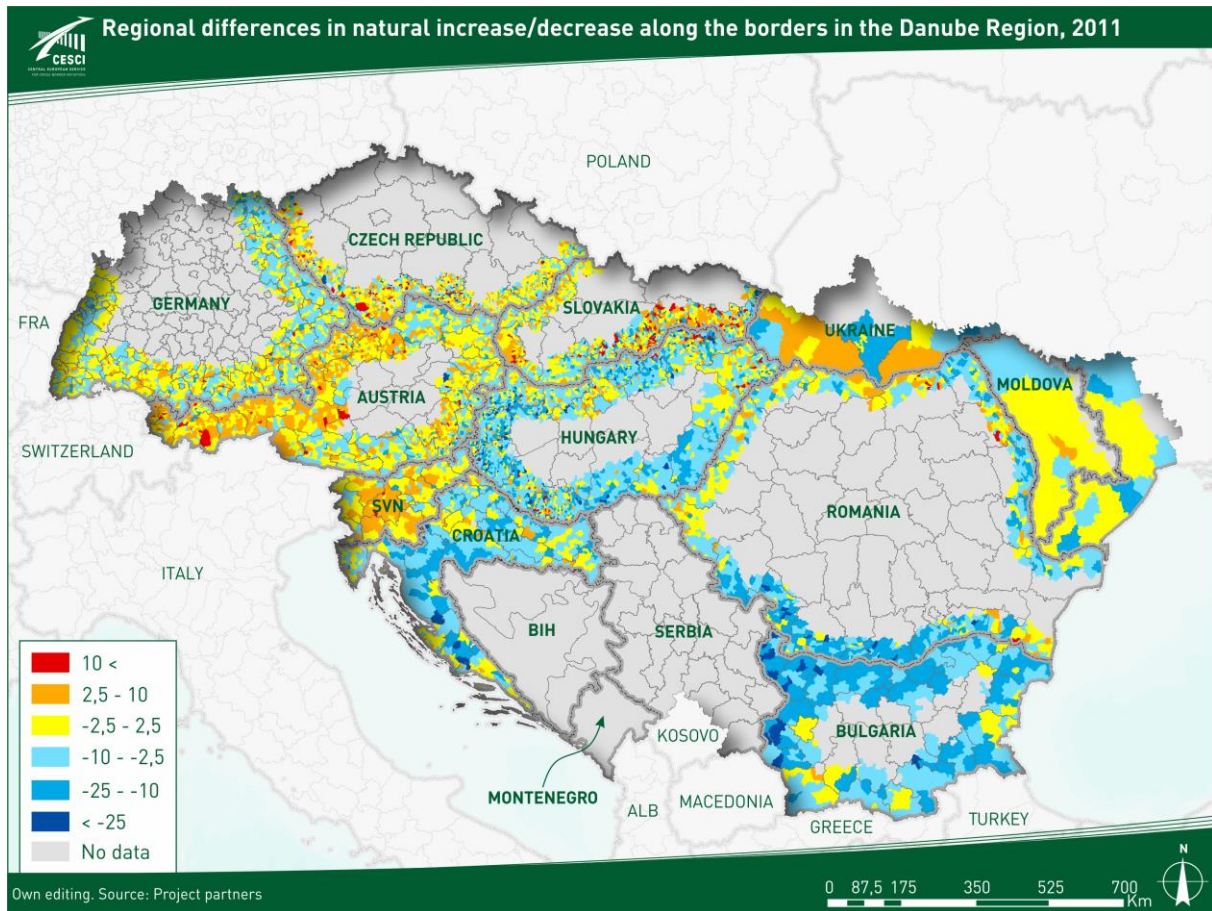


Figure 36: Regional differences in natural increase/decrease along the borders in the Danube Region, 2011  
Data source: National statistical offices

Among the former socialist countries, only Czechia and Slovenia tend to show an overall positive balance in their border zones. Slovakia has an intermediary situation in this respect, showing population increase in the western and eastern ends, but decrease along the southern border. The slightly positive balance of Western Slovakia is largely due to the presence of the capital city region which attract younger people, contributing thus to the relatively high birth rate while death rate remains low as a result of the favourable living conditions. The decrease along the southern border zone occurs in predominantly rural areas where significantly high death rates are coupled with the mass emigration of young people. In contrast, the borderlands of Eastern Slovakia are characterised by high population increase, mainly due to high birth rates, already presented above. The same phenomena is present on the Hungarian side of the respective border section, though to a much smaller extent due to higher death rates and, as we shall see, advanced population ageing.

By and large, the eastern countries of the Danube Region face the challenge of population decrease. Only some smaller areas can be considered as exceptions, such as some localities in western and northwestern Romania as well as in Ukraine and Moldova, though in the case of these latter two countries the inadequate level of accessible territorial data prevent to show the differences between urban centres and rural hinterlands.

Apart from birth, death rates and resulting population changes, population ageing is also an important indicator of the demographic situation when it comes to the analysis of social conditions in the light of long-term processes. The rate of elderly people does not only depict the actual composition of the entire population according to age groups, but it may also shed light on life conditions and on actual, as well as future economic challenges. Such challenges usually result from the greater imbalances between larger age groups and it can hardly be treated. However, it is important to see which are the major problems with which the borderlands of the Danube Region are, or will likely be concerned.

The overall territorial pattern of population ageing depicts a largely diverse image. In contrast to the most of the above presented indices, population ageing does not tend to show a characteristic macroregional pattern, but rather distributed one where the rate of elder people is defined by regional features much more than by the geographic position within the macroregion.

The borderlands of the westernmost areas, namely those of the two German federal states show outstanding values in population ageing. The highest rates of elderly people can be found in the mostly rural localities in close proximity to the border line along the River Rhine, in the Bavarian Alps, as well as in north eastern Bavaria. These same zones were also characterised by relatively high death rates and natural decrease which are obviously interrelated with population ageing. However, similarly to other above presented indices, the volume of elderly people shows a significantly lower degree on the Czech and Austrian neighbouring localities of the respective borders, compared to the Bavarian side. This refers to the more progressed outmigration of young people from rural areas in Germany, whilst neighbouring countries are yet less concerned by this challenge. Nevertheless, other borderlands of Austria in the north and the southeast are rather characterised by ageing population, in line with the population decrease already presented above.



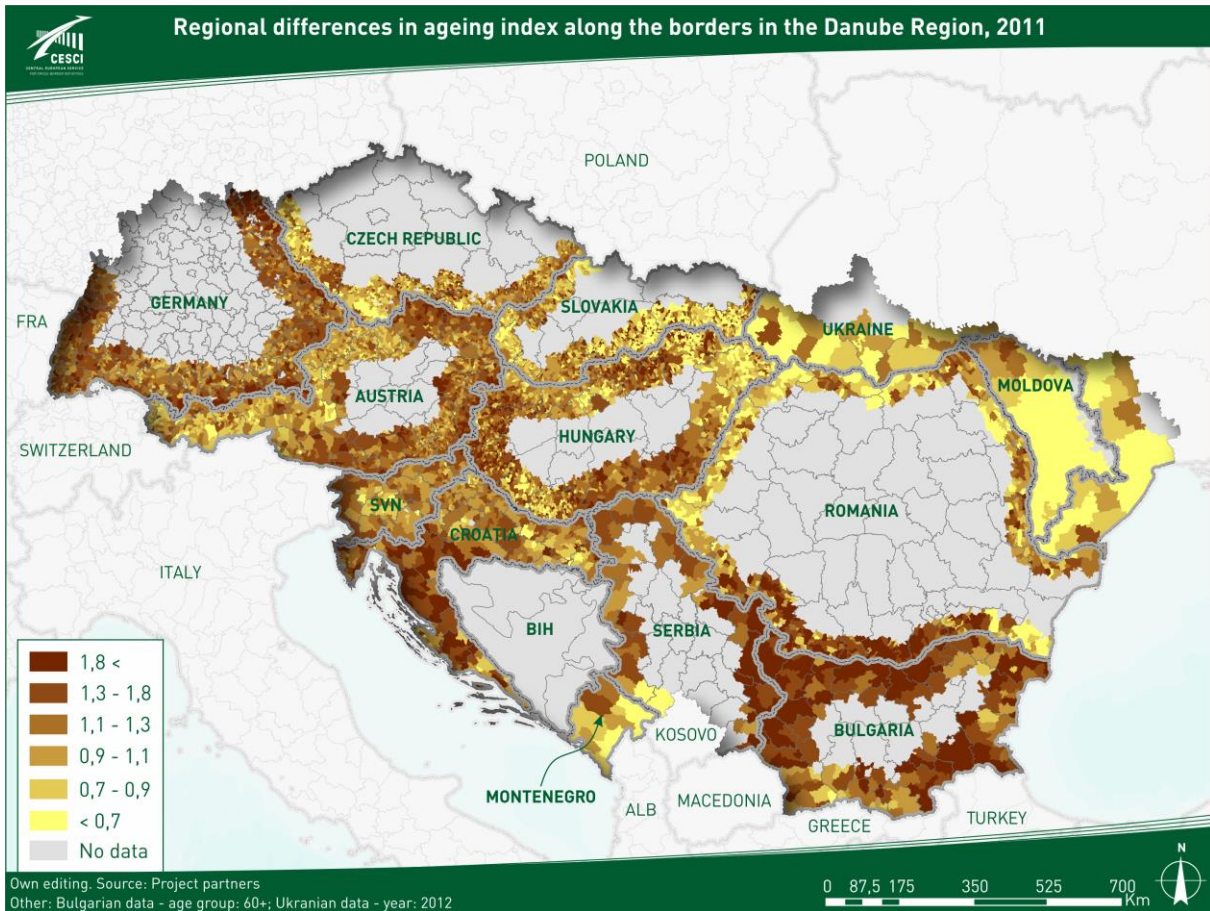


Figure 37: Regional differences in ageing index along the borders in the Danube Region, 2011  
Data source: National statistical offices

In the central areas of the macroregion, ageing population is more or less a general phenomenon, whilst borderland areas with outstandingly high, or even low, economic performance are characterised by markedly young age structures. This latter is the case around capital cities such as Bratislava, Budapest, Ljubljana and Zagreb, or even regional centres such as Timișoara in Romania which all constitute highly important economic centres within their own countries. On the other hand, impoverished rural areas with high birth rates, such as southwestern and northeastern Hungary, eastern Slovakia or eastern Croatia also have relatively young population.

Moving toward the eastern part of the macroregion, largely twofold image is revealed. The borderlands between Bulgaria, Romania and Serbia are by and large characterised by aged population. These mostly rural areas with scarce connections and infrastructural conditions all face the process of mass outmigration of younger generations, thus deepening the economic and social crisis of these rural zones. Population structure is somewhat younger in the eastern seaside areas of Romania and Bulgaria, where industrial and service sectors offer more favourable employment conditions.

In contrast to these south-eastern borders, the situation of the north-eastern areas of the macroregion is somewhat different. Population ageing is less progressed, especially in Moldova

and the southwestern regions of Ukraine, however local-level imbalances remain undisclosed as datasets are only available at district level. The relatively young age structure is in line with the moderate death rates and favourable birth rates, hence these borderlands seem to have relatively balanced age composition. Nevertheless, younger population is largely confined to urban centres whilst rural areas tend to have rather aged population.

As a conclusion, one must see that from a demographic point of view the borderlands of the Danube Region show a great complexity. Only some of the border zones can be treated as peripheries in the traditional sense, mainly in the easternmost and westernmost countries. In more centrally located countries, the actual situation of the distinct borderland areas is much less defined by their geographic location within the country, but rather by their position within the larger economic and social space. Historical traditions may also have a significant impact on demographic conditions though this present analysis is not enough far-reaching to be able to reveal these factors.

#### **4.5 Spatial pattern and movements of the society**

In the course of the assessment of borderland areas it is interesting to see which areas are attractive from an economic point of view and which ones are not. The capability of certain places in attracting people is well indicated by a series of indicators on population, such as population density, on the one hand, and the spatial movements of the population, like commuting or migration, on the other hand. Population density points at the volume of the mass of people who expect to find employment in, or around, a defined locality. At the same time, commuting and migration may indicate important economic centres which are able to attract people from farther areas. What makes the difference between these two phenomena is their scope: commuting targets (urban) centres which can be reached from one's home within an affordable travel time for daily basis, whilst migration occurs when the appropriate workplace falls outside the daily travel scope of the employees. In line with this disparity, the latter one refers to a stronger attractiveness.

In terms of population density, border areas are generally considered as slightly densely populated areas, or at least show lower values than their domestic average. As already presented earlier, border areas have always been less attractive for people throughout history than more centrally located areas, and this is especially true since the emergence of modern states, which put a more or less significant emphasis on economic and political centralisation. However, due to the radical changes of borders in the 20<sup>th</sup> century, many formerly centrally located areas and urban centres found themselves at or near the border. On the other hand, important processes that have been triggered since the second half of the 20<sup>th</sup>, such as globalisation and European integration, resulted that the significance of location in geographic space has been shifted and modified. Position of cities/areas and their importance within the domestic territorial framework were overwhelmed by larger economic space. This

reassessment of the relative geographic position had a deep spatial restructuring as a result and thus it contributed to the growing attractiveness of a significant number of borderland areas.

In the aftermath of these processes today we have a rather complex image on population density within the border regions of the Danube Region (Figure 38). It is remarkable that no general pattern can be revealed for the entire macroregion; however, some basic features are premised. First of all, population density is generally higher in Western Europe than in the east, the volume of population density shows a decreasing trend eastwards. Nevertheless, we cannot speak about a straightforward descent as rural areas in the west and urban agglomerations in the east largely disturb such a model. Secondly, land relief tend to play an important role as mountainous areas are less inhabited than flatter ones. In contrast, there is no straightforward link between elevation and density volume as hilly areas in Germany, Austria, the Czech Republic or Slovakia are more densely populated than many plain areas in Hungary, Romania or Bulgaria. Third, proximity to domestic capitals also presupposes higher values in population density, but this is not of decisive importance either. For example, we can find zones with remarkably low values within the very close reach of the cities of Budapest and Vienna, while eastern Bavaria or north-eastern Hungary have relatively elevated population density despite the lack of powerful urban centres.

Starting from the west, we can see that the two German federal states show significantly high values in population density. Traditional industrial areas as well as touristic destination, such as the Rhine Valley or the Lake Constance, show outstanding values, while hillier rural area in the very proximity of the border, mainly in southern and eastern Bavaria, are the least frequented zones. Nevertheless, despite this descent within Bavaria towards the east and the south, the borders with Austria and the Czech Republic are relatively sharp ones in statistical terms. With the exception of north-western Austria, including the city of Salzburg, as well as the region of Innsbruck in the southwest, the Austrian and Czech sides of the border are significantly less populated than the German side. This is not only in line with the rural and mountainous nature of these edges, but also with the weak attractiveness of neighbouring German areas falling within the scope of daily commuting. Therefore, the presence of an economically stronger neighbour have surprisingly limited impact on the popularity of border areas, especially on the Czech side.

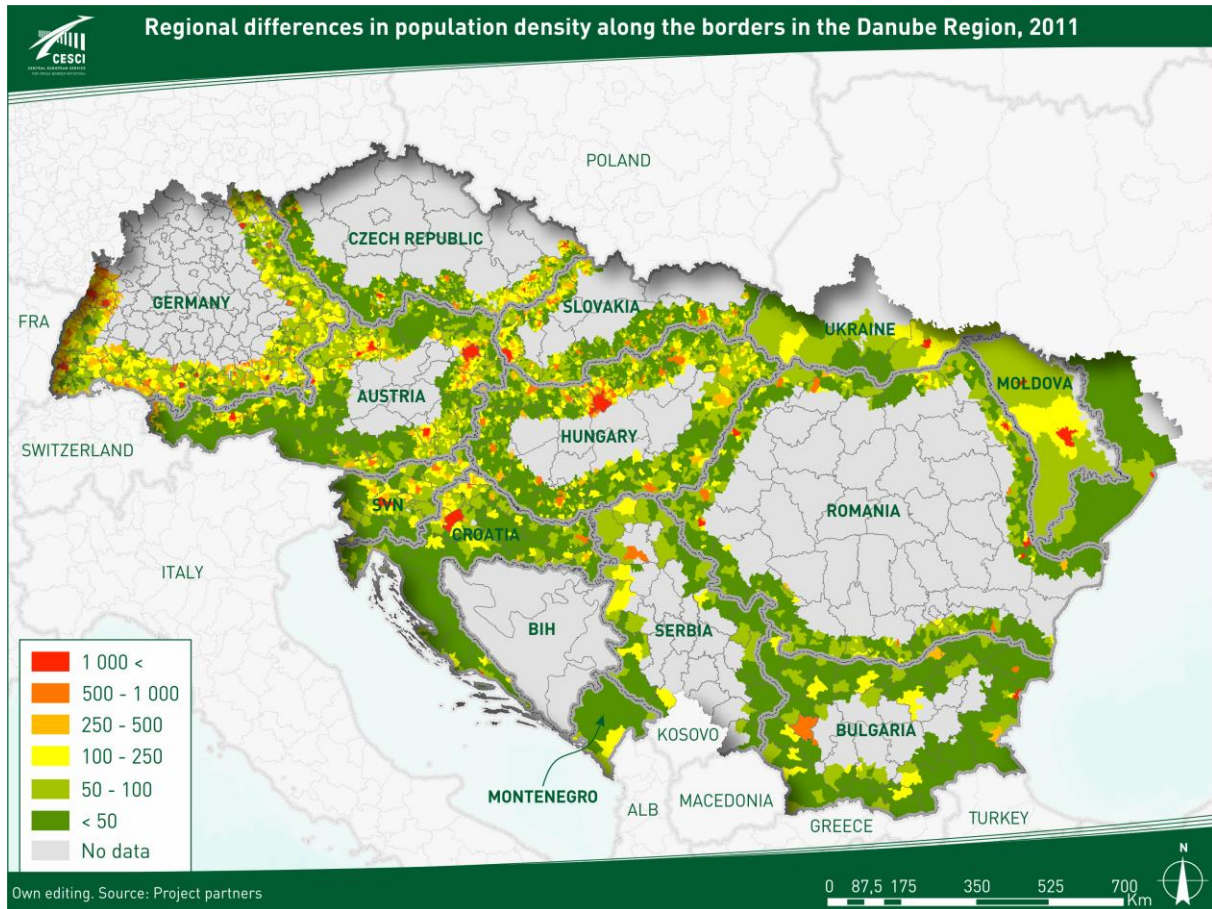


Figure 38: Regional differences in population density along the borders in the Danube Region, 2011

Data source: National statistical offices

A different image can be observed at the eastern edge of Austria where the cities of Vienna and Graz have significant impact on the border areas in their proximity. Both cities have a counterpart centre on the neighbouring side of the border, namely Bratislava on the Slovakian side and Maribor on the Slovenian side. The domestic hinterland of these centres complete those of the Austrian ones, therefore population density is relatively high on both sides of the Austria-Slovakia and Austria-Slovenia border. However, this is not the case with the border in Hungary, as in these zones, both sides of the border are traditionally characterised by agricultural rural areas with few, but growing urban centres.

By all means, the central areas of the Danube Region show a complex image in terms of population density. On the one hand, the hinterlands of capital cities and regional centres usually show relatively high population density. Beyond the above mentioned cases at the eastern edge of Austria, capital cities such as Budapest, Ljubljana or Zagreb, and regional centres, such as Košice or Miskolc, establish densely populated zones around themselves. An interesting case is the Czech Republic-Slovakia border, which is accompanied on both sides by relatively densely populated areas without any single outstanding regional centre. This area has undergone industrialisation already in the 19<sup>th</sup> century and is traditionally characterised by a



great number of small and medium factories, which contributed to the emergence of small, but numerous urban centres. On the other hand, the central areas of the Danube Region are mostly characterised by slightly populated borderland areas. These are, as mentioned above in the case of the Austria-Hungary border, generally rural areas with agricultural heritage and due to the relative weakening of the sector, they remain unattractive for potential settlers. The borderlands of Hungary, with the exception of the above mentioned smaller parts, largely belong to this category, but eastern Slovakia (apart from the Košice agglomeration), eastern and southern Croatia as well as western Romania are also scarcely inhabited.

The borderlands at the eastern edge of the Danube Region are characterised by low population density with the exception of some important urban centres though appear as island-like peaks. Such city areas are Bulgarian and Moldovan capital cities, Sofia and Chişinău, and regional centres such as Varna and Burgas in Bulgaria, Galaţi and Iaşi in Romania as well as Chernivtsi and Odessa in Ukraine. As in other former analyses, the lack of data on local level entities, especially in Moldova and Ukraine, may hide the outstanding role of some significant cities behind the likely favourable values of some meso-level entities.

All in all, population density is a fine indicator for the economic situation of the distinct localities. It is also favourable that the necessary datasets for this indicator are widely available in most countries. Unfortunately, this is not true for more dynamic indices such as flow data on commuting. This phenomena is not registered in each countries and even if datasets are available from neighbouring countries their outcomes are likely not comparable. In our present case, datasets on commuting are available in seven of the thirteen countries. Subsequently, this does not enable a correct analysis; therefore, we could not take this indicator into account.

In contrast, the figures on migration have considerable relevance from the point of view of economic situation in borderland areas. Though the positive or negative balance of migration as well as its volume is an outcome of multiple factors, labour market situation is by all means decisive. High or at least increasing demand on labour force generate pull effects in and/or around the respective localities, whilst low or decreasing demand reinforce push effects. However, due to a series of other influencing factors, such as the structural characteristics of real estate market or unattractive salaries, the process is not straightforward, in many cases local particularities are more effective.

In general, borderlands of the Danube Region show a very mixed pattern in terms of migration balance and rate (Figure 39). In contrast to the majority of images, the spatial structure of migration volume shows relatively few contiguous zones sharing the same trends, but it rather depicts characteristic disparities on local level within tighter regions. Apparently, differences in migration are closely linked to urban-rural divide as urban centres are more attractive with their higher job supply, while rural localities are usually concerned by unidirectional population outflow. However, this general trend is often perturbed by the presence of larger urban agglomerations, often affecting the other side of the border as well.

In the westernmost areas of the Danube Region, settlement density in general is much higher than elsewhere in Central and Eastern Europe. In line with this, the borderlands of Germany, Austria and, to some extent, the Czech Republic show relatively balanced patterns in terms of settlements with different trends. This means, that these areas are composed of several growing urban centres, a fair number of neighbouring localities with more or less balanced migration figures and a moderate number of shrinking localities. However, larger zones of meaningful outmigration can be identified along the Austria-Czech Republic border as well as in the mountainous areas of southern Austria and in central Slovenia.

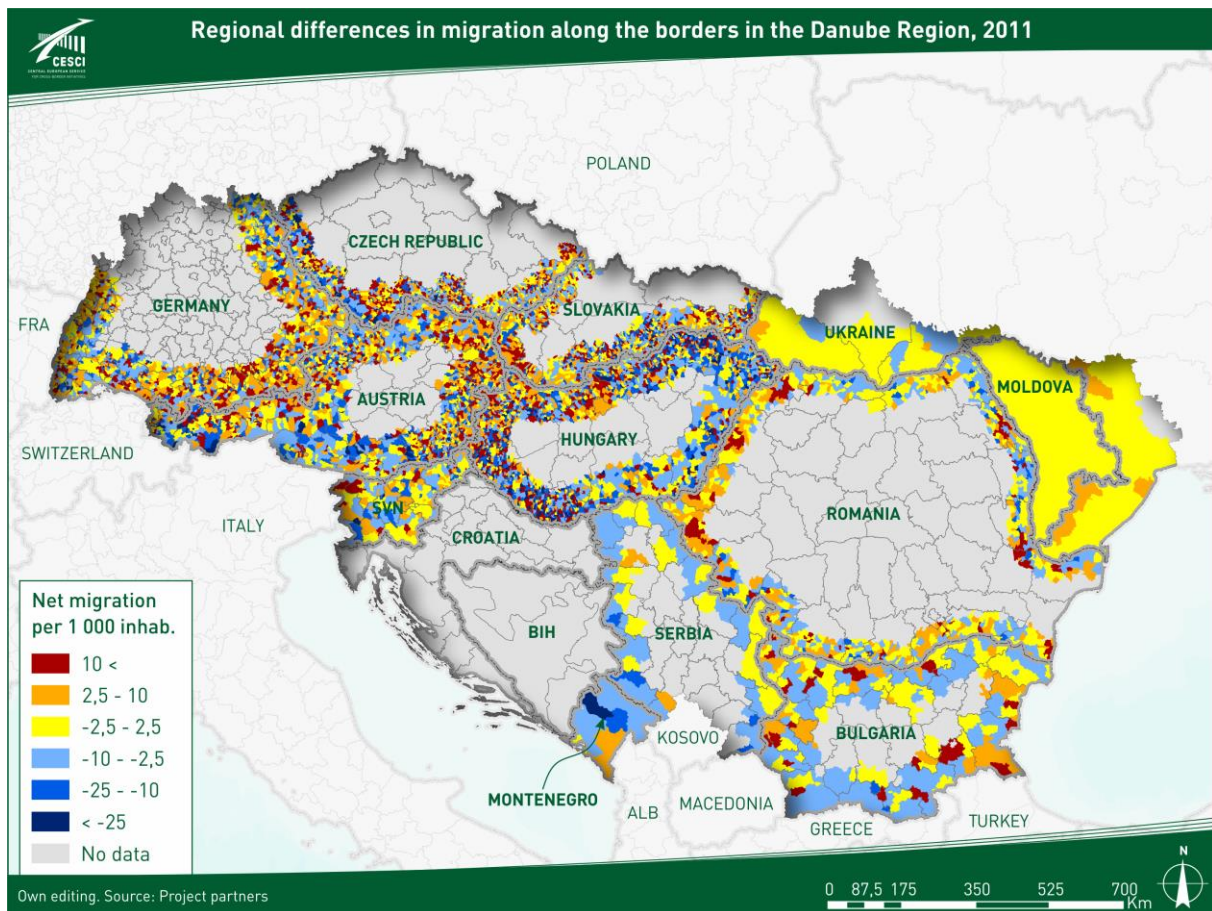


Figure 39: Regional differences in migration along the borders in the Danube Region, 2011  
Data source: National statistical offices

In the central areas of the macroregion, the presence of larger urban centres has a great importance for migration trends. Capital cities, such as Bratislava or Budapest, and regional centres, such as Timișoara in Romania or Košice in Slovakia, are significant actors in this matter. Taking into consideration that these cities have several hundred thousand or even more than a million inhabitants, the positive rate they showed in recent years meant the inflow of tens of thousands of people. Moreover, these urban centres not only attracted people themselves, but they affected the localities of their hinterlands, which also saw a more or less dynamic upturn in the number of inhabitants during the same period. Apart from these agglomeration areas, a series of local centres throughout the countries of the Central Danube Basin also underwent

significant growth. In some cases, such as in Western Hungary or Western Romania, a change was enabled by the new economic environment resulting from the gradual opening of the border in recent years and the opportunity of cross-border commuting was also attractive for incomer residents. However, local centres in economically less dynamic areas, e.g. Northeastern and Southwestern Hungary, have increased the number of inhabitants at the expense of the neighbouring localities which often resulted in unhealthy overconcentration and growing imbalances.

In the eastern and southeastern part of the Danube Region, borderlands are largely affected by outmigration. Exceptions are Ukraine and Moldova which show a more or less balanced image on regional level; however significant differences between urban centres and rural areas are obvious. Some significant urban centres, such as Galaţi and Iaşi in Romania, Vidin and Ruse in Bulgaria, have experienced substantial growth in recent years. What is more, a fair number of localities in both countries showed a balanced image in terms of migration. Nevertheless, the most localities in these borderlands were concerned with shrinking population, due to massive outmigration. The same challenge was even more serious in Montenegro and Serbia, where majority of borderland areas are profoundly affected by the outflow of people, and only a few urban hinterlands, like the Montenegrin capital Podgorica, were able to attract incomers.

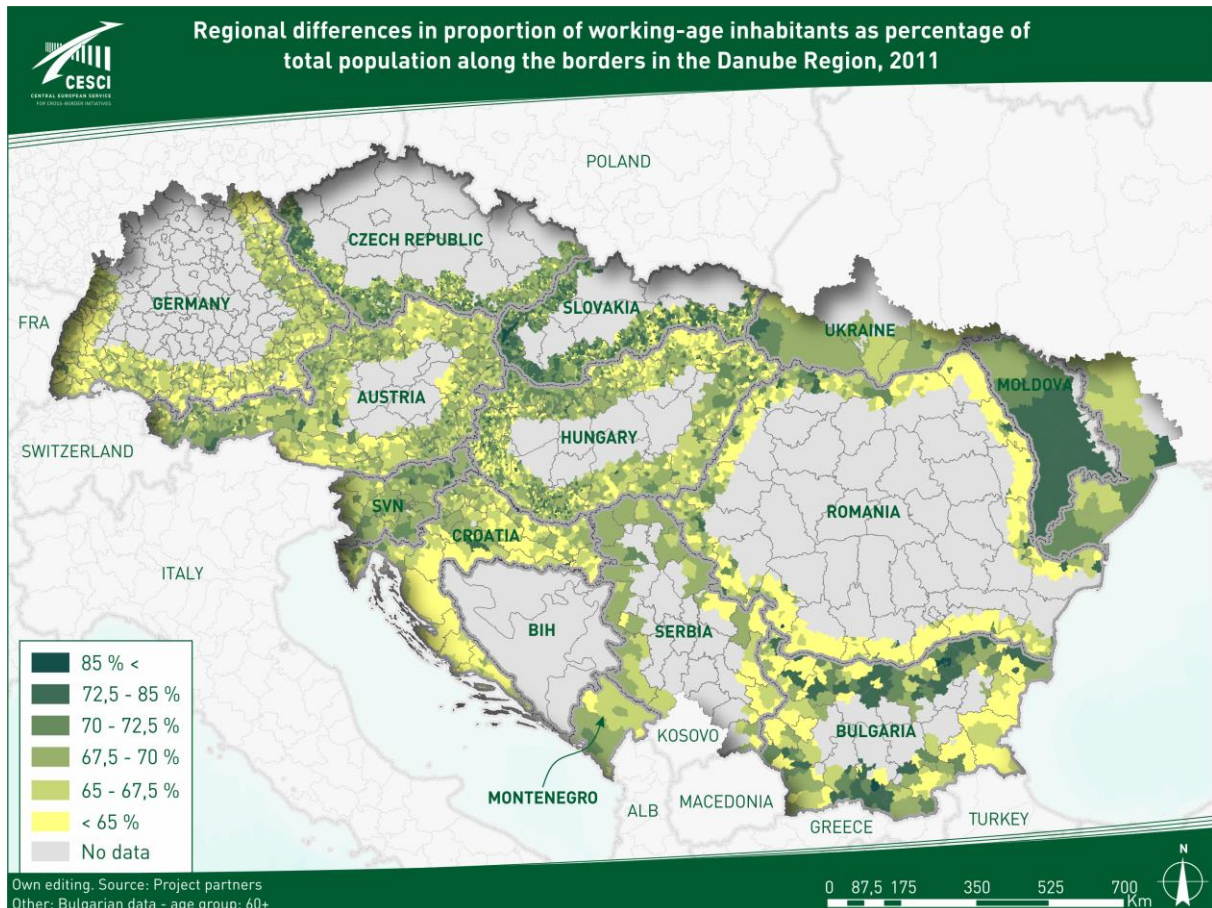
Simply, one can see that the movements of society in the geographical space and the resulting territorial patterns show a threefold structure for the entire Danube Region and thus they point at the most important economic attributes characterising the macroregion. The westernmost areas are more or less balanced in economic terms. Obviously, smaller settlements are not able to provide with the same employment conditions as urban centres do; nevertheless, they did not lose their entire significance to these latter ones. As a result, the territorial pattern of population and the attractiveness of certain places are not homogeneous, but they show a healthy composition. In contrast, the central areas of the macroregion are characterised with huge urban-rural disparities which point at the fact that urban centres, especially larger ones, were much more able to benefit from the opening of the borders, while in many rural borderland areas and slightly dynamic local central places enabled to accumulate the out-migrants of the hopelessly lagging smaller villages. Last but not least, in the easternmost countries, along with southern non-Member States, the borderland areas are contiguous zones of outgoing migration, targeting mainly distant places such as the national capital or even more Western Europe. At the same time, a few centres were able to achieve a positive balance rate through an overwhelming oligopoly of workplaces.

#### **4.6 Employment conditions**

The image on the economic and social conditions of the borderland areas may be completed by the actual and possible participation at the labour market. The most common indicator is employment rate which is widely used to refer to the economic performance of a country, a



region or a locality, thus this normative approach couples low unemployment rates with favourable economic performance. Nevertheless, it shall be noted that the proportion of unemployed people is not only influenced by economic features, but by a series of socio-cultural factors, too. Another frequently applied figure is the rate of working-age inhabitants, indicating the volume of the workforce at disposal as well as its expected shifts in the following decades. From the point of view of economy, the indicator reflects on the present and future assets of labour market and economic growth.



*Figure 40: Regional differences in the proportion of working-age inhabitants as percentage of total population along the borders in the Danube Region, 2011*  
 Data source: National statistical offices

Starting the latter one, the territory of the Danube Region shows complex territorial pattern in terms of labour force, which is not necessary in line with the general macroregional economic structure. The proportion of working-age people is higher in the central areas of the Danube Region than in the westernmost and easternmost parts of the macroregion; however, zones with outstanding values can also be found at the very edges.

The German federal states of Bavaria and Baden-Württemberg have relatively moderate values, compared to the entire macroregion and border edges that are especially characterised by low values, mainly on the southern and northeastern border areas of Bavaria. This is in line



with population ageing and the outmigration of the youth, already mentioned in the case of these zones above. Higher values are largely attained in and around meaningful urban centres, such as Passau or Regensburg, in the Bavarian case. In contrast, the Austrian and Czech sides are characterised by much higher values. Especially the neighbouring Czech side shows high levels of possibly active population which refers once again to the attractiveness of the German side in terms of economy and livelihood. This also true for the Czech side of the Austria-Czech Republic border unlike the Austrian side of this same border which in some rural zones show markedly low values. Although to a limited degree, the same can be said about the Austria-Slovenia border, where the Austrian side is in general characterised by a lower rate of working-age population than the Slovenian one; although, both borderlands are predominantly rural areas.

In the central part of the Danube Region, the borderlands of Slovakia show mostly increased rates of active-age population. This is largely due to the border location of the capital city of Bratislava which encounters a significant economic dynamism and is therefore attractive for working-age incomers. This belt of economically emerging areas extends all along the northwestern part of the country, thus it exerts its influence on the Slovakian side of the Czech Republic-Slovakia border. Unlike these westernmost areas, the southern and eastern borders of Slovakia are characterised by a rather dispersed pattern. Here, urban settlements and their close neighbourhood have higher shares from working-age population, while more peripheral rural zones are characterised by modest values, as a result of ageing population, low birth rates and outmigration of youth. Ultimately, this leads to significant territorial imbalances within relatively short distances. To a limited extent, the situation is largely the same in northeastern and southwestern Hungary, where elevated and diminished rates may be found in the close proximity to each other. Otherwise, a common structure for the countries of the Middle Danube Basin is that that capital city regions and other important cities have outstanding (or at least above-average) values, in sharp contrast to the low values of contiguous rural zones. This is especially true for Hungary and its southern neighbours, though regional differences are relatively moderate in Slovenia.

The eastern part of the Danube Region does not show a straightforward image, but is marked with obvious differences between the distinct countries. This time, only regional level statistics are available for Ukraine and Moldova; therefore, local level analysis is not enabled for these countries. Nevertheless, it is clearly noticeable, that urban centres and agglomeration areas show the highest values. In Ukraine, the cities of Uzhhorod, Chernivtsi and Odessa stand out in this respect, whilst the presence of the capital city of Chişinău in Moldova significantly raises the average of the southern part of the country.

The same phenomenon, namely the outstanding role of urban centres, is even more outstanding in Romania, where the eastern and southern borderlands are mostly characterised by rural areas with low rates of working-age inhabitants and few towns and cities with prominent figures. Fine examples for these peaks are the already mentioned Galaţi and Iaşi at

the Romania-Moldova border, Tulcea at the Ukrainian border, or Călărași at the Bulgarian border. In contrast to this, Bulgarian borderlands are far less polarised in this matter. Urban centres, such as Vidin or Montana in the northwest or Silistra and Dobrich in the southeast, tend to show outstanding values, while a wide range of less urbanised localities, mainly in the west and the south, have significant rate of active-age people. Nevertheless, this is to some extent controversial to formerly presented relatively high death rates and ageing index therefore this phenomenon may only be explained through the investigation of local particularities.

As for the indices of labour market, taking into consideration unemployment rate as an indicator for the economic conditions is quite common; however, the use of this indicator meets several difficulties, thus it must be carried out with restrictions. Unemployment rates are produced through different methodologies; consequently, they are only slightly comparative between distinct countries. Even the subject of measurement is varied: some countries enumerate all people from working-age population who do not have fixed jobs whilst others focus only on registered unemployed as well as job seekers and ignore otherwise significant groups such as university students or people with seasonal job. Moreover, unemployment is not always in such a strong correlation with economic success or failure, respectively, as it is often suggested by the purely technocratic view. Employment rate is not only about pure economic conditions, but it expresses a series of social, political and cultural features of society which might include social/moral concepts, political intentions and/or cultural traditions. Subsequently, the normative approach of unemployment, that links the indicator of low unemployment with successful macroeconomic structure and economic growth, may not be validated. Nevertheless, the differences among the borderlands of a distinct country can point at interesting territorial structures and imbalances within the respective country. Therefore, we aim at following such an approach in the investigation of the unemployment figures of the Danube Region.

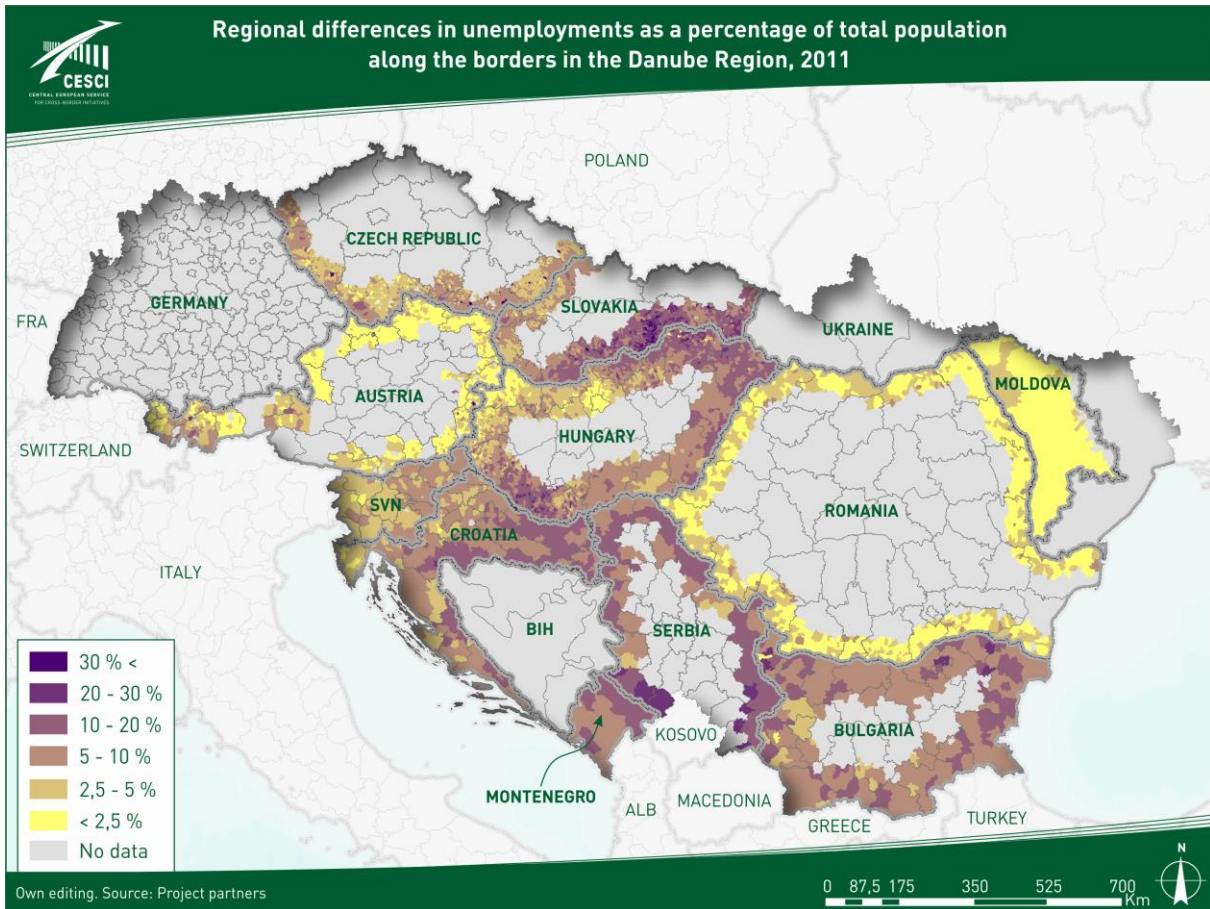


Figure 41: Regional differences in unemployment as a percentage of total population along the borders in the Danube Region, 2011  
Data source: National statistical offices

In line with the above described concerns, the area of the Danube Region does not show the traditional west-east slope in terms of unemployment rates, as it is often suggested by the great majority of analyses dealing with socio-economic imbalances on European level. Although, the lack of data for Germany and Ukraine prevents us from having an encompassing overview on the entire macroregion, hence the data at disposal enables us to have an insight on some significant features of the territorial pattern of unemployment.

Considering this time Austria, as the westernmost part of the Danube Region, one must admit that unemployment rates are among the lowest ones in the borderlands of the country. However, employment figures are not necessary confined to the western areas of the country but much more along the northern borders. In contrast, the neighbouring Czech side of this border is characterised by significantly higher unemployment rates. Moreover, rates are largely homogeneous in both urban and rural sites in northern Austria whilst these values are much more disperse in the Czech Republic where rural edge areas are more concerned with employment than urbanised areas farther from the border. This same pattern goes for the Austria-Slovenia border as well unless than Slovenia is largely monocentric in terms of low unemployment rates, concentrated around the capital city of Ljubljana.

The countries of the central areas of the macroregion show relatively straightforward images. Both Slovakia and Hungary have their most favourable figures in the proximity of the capital cities as well as in their westernmost areas which two largely coincide in the case of Slovakia. As for the other end of the scale, highest unemployment rates may be found in southwestern and northeastern Hungary and in the eastern part of the southern borderlands of Slovakia, already mentioned as zones with multiple challenges. In eastern Slovakia the Košice agglomeration stands out as an exception, providing with reasonably good employment conditions in its tighter hinterland. Countries in the south such as Croatia and Serbia show somewhat lesser internal equalities; however, significant patterns may also be revealed here. In Croatia, the capital city agglomeration of Zagreb as well as the Mediterranean seaside zones are characterised by moderate unemployment rates whilst mainly rural and peripheral borderland areas along the Croatia-Bosnia and Herzegovina border together with the eastern Croatian historical region of Slavonia are facing an increased lack in workplaces. In Serbia, borderlands with more intensive interactions, such as the Hungary-Serbia border, tend to have lower unemployment rates, along with areas of touristic attractiveness (at the southern part of Serbia-Bosnia and Herzegovina) or significant industrial sites (at the southern part of the Serbia-Romania border). Other border regions, mainly those having weaker connections and less favourable economic structure, are in contrast much more concerned with unemployment. This goes for Montenegro as well; although, small size of the country and the relatively great extent of territorial entities prevent us from having a more detailed insight on domestic spatial imbalances.

The eastern part of the Danube Region is considerably hard to be assessed through the use of unemployment rates. Relevant datasets are lacking or at least inaccessible for Ukraine, while figures from Moldova and Romania are largely inaccurate for detailed. The most prevalent problem is that rural population with even minor agricultural affiliations are not considered as unemployed. As a result, rural areas tend to have extremely low unemployment rates which do not automatically mean high rates of employment but rather the outflow of active-age inhabitants. Only Bulgaria can be evaluated on the basis of its figures on unemployment rate. Here, the wider area of the capital city of Sofia can be seen as a dynamic edge with relatively favourable labour market figures, whilst northern and southern borderlands are marked with significantly worse numbers. The southern borderland, a mountainous and predominantly rural area, seems to benefit in certain localities from increasing tourism which may help in the economic restructuring of the peripherally located zone. The northern border, in contrast, is much more concerned about the crisis of traditional industry which affects more heavily some urban centres, as shown by the map (Figure 41). Relative concentration of the unemployed in cities with considerably good accessibility and potentials (such as the River Danube) proves that unemployment problems are basically of structural nature.

By and large, we can confirm that employment figures tell less about overall economic patterns within the Danube Region than about domestic inequalities. Due to already outlined methodological concerns, the distinct sides of the border cannot simply be compared on the



basis of these datasets; therefore, we opted for the assessment of the economic geographical position of borderlands within their country. This is also supposed to have much relevance as it enables us to differentiate between more and less dynamic edges and to identify their situation within the larger area. To a limited extent, these indices may reflect the intensity of cross-border interactions as well; however, we do not suggest that higher economic performances automatically result in an increased volume of flows across the border. In other words, cross-border flow is directly influenced by a series of other factors, both quantifiable (e.g. salaries, currency rates) and non-quantifiable (e.g. language skills, neighbourly relations) ones, which are not taken into account this time.

## 4.7 Summary

Thought not awaited at the beginning of our investigation, more or less a straightforward general trend may be revealed on the socio-economic conditions of borderland areas on local level within the Danube region. This trend suggests that geographical spaces from the west toward the east are increasingly polarised in terms of social and economic inequalities on local level within the more or less contiguous zones along the distinct border sections. In the westernmost countries, including Germany, Austria and Slovenia, borderland areas are rather characterised by layered territorial structure which means that the more the localities are at the proximity of the border, the lower their socio-economic statuses are ranked. Nevertheless, territorial inequalities tend to remain relatively moderate in these centre/periphery distributions, largely due to the considerably harmonious settlement structures including numerous small and medium urban centres.

Going eastwards means the increasing spatial polarisation of socio-economic conditions in geographical space. In the central areas of the Danube Region, contiguous zones of localities with either predominantly favourable or basically unfavourable figures are rather typical whilst zones of transition between these two characteristic types are usually tight. In countries such as Hungary, Slovakia and Croatia and also the Czech Republic, in spite of this latter's western location, science and technology together with services and workplaces are concentrated in capital cities and regional centres as well as in their direct hinterlands. Nevertheless, it is true that inasmuch as these urban centres are located in the relative proximity of the border, they significantly influence the socio-economic conditions of the borderland area and exert influence on the neighbouring side of the border. At the same time, in borderlands with weak or lacking urban centres, the whole zone is usually concerned with the very same social and economic challenges. This results in twofold dividedness of the Central Danube basin, where successful cross-border cooperation initiatives and borders with few interactions exist equally.

The easternmost areas of the macroregion including eastern Romania, Moldova and Ukraine, along with the southern rim areas of Serbia and Montenegro, socio-economic concentration in urban centres is even more increased; therefore, predominantly rural borderland areas usually

suffer from peripheral situation in various terms. Few urban centres are located in these areas and many of them are concerned with structural economic and social problems, thus their capacities for the stimulation of cross-border interactions are limited. Nevertheless, as the opening of the borders has not yet reached such an advanced degree in this part of the Danube Region as it has already been accomplished in the central and western areas, a straightforward and uncritical comparison is reasonably misleading. However, the survival of administrative burdens, along with other significant barriers, such as the lack of appropriate physical infrastructure, mark considerably tight limits for present and future development policies for these areas.

In the course of the analyses, we have taken a fairly wide range of socio-economic indices into account, all of which contributed to gain the widest possible perspective on borderland areas. The figures on tourism showed us that though the sector is widely considered as a possible way out of backwardness, the spatial extent of the zones, benefitting from the positive effects of the sector, is yet limited. Accordingly, resulting from other factors, demographic conditions and processes, the spatial pattern and movements of the society as well as the changes in employment also pointed at remarkable differences in borderland areas, both on small and large scales.

## 5. Conclusions

### Borderland areas: an inhomogeneous category

As insisted in the introductory chapter of this present study, the regional policy of the European Union and especially the new approach of macroregional level intervention should not ignore the shifts of regional and local level inequalities. This is certainly important in the case of borderland regions as the reactions of these areas are of decisive importance in the question whether the actual territorial policy and its implementation is appropriate or not. Cross-border cooperation initiatives are often and widely considered as the laboratories of European integration. Indeed, not only institutionalised bodies, but also the presence and volume of spontaneous interactions also refer to the fact whether European integration has a tangible added value in the respective border area or not.

Taking into consideration that physical borders within the Danube Region saw a large degree of opening in the course of the last decade both on physical and administrative terms, even if it was less far-reaching in the eastern part of the macroregion, the changes are seen critically by the normative approach. The lack of positive changes is usually considered as a sign of failure as it refers to a situation where the social, economic and political actors of the respective borderland area were not able to benefit appropriately from the potential removal of the physical barriers. However, blaming local and regional actors for this is considerably misleading: this is a result of the inadequacy of domestic and community policies at the same time. As we attempted to present, and repeatedly insist in this study, borderland areas are very different in their socio-economic conditions; therefore, their opportunities are supremely varied accordingly.

All in all, the most important shift in the border regions of the Danube Region was the increasing concentration of population and economy in space, and border regions only benefitted from this process if they had meaningful central places in the proximity of the border. This may be considered as a short answer for our initial research question, namely what kind of general pattern characterises the spatial reconfiguration which unfolded along the borders in the last decades. Spatial concentration as a process is in general difficult to be handled by cross-border spatial planning alone; nevertheless, the elaboration of appropriate policies is of decisive importance. This study aimed at laying the ground for a debate on why “one-size-fits-all” solution proposal from the EU level cannot be accepted and more generally on the question to what extent EU policies are able to achieve real advancement in the stimulation of cross-border interactions in areas with deep socio-economic concerns. What is for sure that the mapping of local problems and resources should be carried out appropriately and the involvement of the most possible levels of policy and decision making is essential.

# **Crossing the borders**

## **Studies on cross-border cooperation within the Danube Region**

2016

ISBN 978-963-12-4756-5

Published by  
Central European Service for Cross-Border Initiatives  
H-1067 Budapest, Teréz krt. 13.



MINISTRY OF PUBLIC ADMINISTRATION  
AND JUSTICE

**The Research was supported by the  
Hungarian Ministry of  
Public Administration and Justice**