Effective Cross-border Co-operation for Development of Employment Growths in Arad and Békés County –

Labour Market Comparison

2019

ROHU 406: CROSSGROWING

Effective cross-border co-operation for development of employment growths in Arad and Békés County

Békés County Foundation for Enterprise Development

The project was implemented under the Interreg V-A Romania-Hungary Programme, and is financed by the European Union through the European Regional Development Fund, Romania and Hungary.

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1. EXECUTIVE SUMMARY

The study examines and compares the labour market of Arad and Békés counties within the framework of the project *„Effective Cross-border Co-operation for Development of Employment Growths in Arad and Békés County”.* The study discusses the examined topic in four content units. Following the Executive Summary and the Introduction, *Chapter 3. Conceptual Framework for Research* provides the theoretical foundation for the study. Quantitative data from sources other than own resources are included in *Chapter 4 Quantitative analysis of the employment situation*, and *Chapter 5. Qualitative analysis of the development of employment growth* contains the results of the very own data collection of the study. It concludes with a Summary and Evaluation. In *Chapter 6 Conclusions and Recommendations* the results of the research are summarized.

Assuming a border region on the border of two countries, many cases of power relations may arise. The balance of power is first shaped by which of the two states is more advanced (general economic development); in addition, consideration must be given to the degree of development of the border region in relation to the state: more advanced, average or underdeveloped, peripheral. In the latter case, the centre cities of the border region are weak, or it lacks centres – that is, there is no big city with the appropriate level and quality of services that can adequately serve the communities in the surrounding region. The above cases establish a total of nine types of power relations, sometimes with different dominance relationships.

Modelling cross-border relationships

Dominant Party: A, B or (A) B / A (B) (Unclear)		A more developed border region of state "A"		
		developed	average	peripheral
Border region of less developed	developed	1. A	2. (A)B	3. B

state "B"	average	4. A	5. A	6. B
	peripheral	7. A	8. A	9. A(B)

Community law and international law are the two major areas of cooperation between States and their entities. Community law covers the regulation of the European Union by decree, supplemented by national implementing legislation, and international law consists of mainly the framework conventions and charters of the Council of Europe, bilateral and multilateral treaties and local and regional treaties.

The legal basis for the cross-border cooperation of Hungary and Romania is the following international conventions besides the European Union acquis, with effect from the dates specified in the table.

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Entry into force of major international conventions

	European Charter of Local Self-Government	Madrid Convention	Protocol no 1 to the Madrid outline convention	Protocol no 2 to the Madrid outline convention	Protocol no 3 to the Madrid outline convention	Additional Protocol to the European Charter of Local Self-Government
Romania	01.05.1998	17.10.2003.	(05.05.1998. only signing)	(05.05.1998. only signing)		
Hungary	01.07.1994	22.06.1994.				(16.11.2009. only signing)

The European Union supports cooperation in several policy areas, in addition to the general objectives of regional policy, the operation of INTERREG programs is proof that integration is truly determined to strengthen interregional cooperation

The empirical research of the study analyses the cross-border cooperation of the two counties of the Hungarian Romanian border region, Békés and Arad counties, it explores and compares the labour markets of the two counties (or their larger geographical units, depending on the variables examined) in order to develop employment. The theoretical model of the research coordinates contexts that cover vertical examination levels, labour market participants in the two areas under study, multidisciplinary aspects of the study and besides all these, the underlying variables as horizontal dimensions of the research.

The research model of the study

		Actors			
		employees	employers	other actors (e.g. state, social organizations)	
Context	county	Effective Cross-border Co-operation for Development of Employment Growths in Arad and Békés County			legal
	regional				administrative
	state				economic
	interstate				further considerations
		Population processes / Population composition / Economic data and performance / Workforce activity / Economic sectors / Unemployment / Income and earnings / Situation of business enterprises / Additional Human Resources Factors			
		Variables			

Aspects

After considering the methodological possibilities (primary-secondary data collection, deductive-inductive inference, quantitative-qualitative research method) that arise in the study, we used a mixed, complex methodology in the study.

Methodological solution of the study

	Research methodology	
Form of data collection	Secondary • State data collection [Hungarian Central Statistical Office (HU), National Institute of Statistics (RO), Eurostat (EU)] • Data tables for scientific research (Hungarian, Romanian and English publications)	Primary • • In-depth interviews with stakeholders with professional expertise and experience in the field • anonymous interviews with actors with partial information in the area, representatives of the scientific field
Way of recognition	Quantitative data processing • comparative graphs, maps, charts • Comparison of calculated values: mean, median, standard deviation, etc.	Qualitative analysis • analysing the content of interviews • thematically sorting and comparing experiences from interviews with

	• Comparison with primary information	secondary data
A way of logical inference	Inference Outline the trend of a given phenomenon based on a large number of statistical operations on a sample containing only numerical values	Induction Based on the unique experience of a small sample of more detailed content, inferring overall trends

As a verbatim transcript, Section 11.2 *Interviews of primary research* contains some of the results of the qualitative analysis carried out by content analysis, based on primary, own data collection and processing. The other part is not available as a transcript, in this case a summary of the content was made.

Details of primary data recording

Name and position (organization) of interviewee	Type of interview	Date of interview	Place of Interview
Andrea Kranowszky Nagy office manager (CED Central European Economic Development Network Nonprofit Ltd. Arad Office)	in-depth interview	2019.09.13.	Arad, Romania
Péter Skapinyecz manager (CED Central European Economic Development Network Nonprofit Ltd.)	in-depth interview	2019.09.13.	Arad, Romania
Embassy employee (anonym interview) (Embassy of Romania in Hungary)	informal conversation	2019.09.13.	Arad, Romania
president Gheorghe Seculici (Chamber of Commerce, Industry and Agriculture Arad)	in-depth interview	2019.09.13.	Arad, Romania
representative of the academic and academic spheres with significant previous public job creation experience (anonym interview)	interview	2019.09.19.	Budapest, Hungary
Hungarian researcher active in the academic sphere, with some relevant specialty (anonym interview)	interview	2019.09.19.	Budapest, Hungary
researcher with expertise in regional research, university senior (anonym interview)	interview	2019.09.20.	Budapest, Hungary
a methodological expert in economics (anonym interview)	interview	2019.10.02.	phone interview
expert researcher with expertise in regional research and impact assessment (anonym interview)	informal conversation	2019.10.02	Budapest, Hungary
Iustin Cionca President of the Chamber (Arad County Council)	interview	2019.10.06.	Arad, Romania
Imre Pántya Head of Department (Békés County Government Office Department of Social Security and Employment)	interview	2019.10.07.	Békés, Hungary
Tivadar Orosz president (Chamber of Trade and Commerce of Békés,	interview	2019.10.08.	phone interview

Hungarian Romanian Section)			

Eleven in-depth interviews, interviews, and informal conversations were conducted between September 13, 2019 and October 2, 2019 with officials from Hungarian and Romanian organizations (mostly senior executives) relevant to the subject of the study, as well as representatives of the academic and scientific field. Part of the interviews was included in the study anonymously at the request of the interviewees; these are referred to on the basis of the interviewee's position. The detailed experiences of the interviews can be found in Section 5.2.1. *The results of the primary research*.

Detailed results of large-scale quantitative analysis based on secondary, international, and scientific comparative data through statistical operations is shown in Chapter 4 *Quantitative analysis of the employment situation* and its sub-chapters and sub-points. For verifiability of data and related calculations made and for the extension of investigation, detailed charts of the study were inserted in 11.3 *Detailed tables of secondary research*, in order of the research. Besides, a concise summary of the study, integrally related to primary research, is presented in subsection 5.2.2. *Related results of the secondary research*

Evaluation tables were used to summarize the results of the two methods of empirical research – quantitative and qualitative.

Quantitative assessment of the employment situation

EU: The European	Horizontal examination dimensions

Union average is more favourable M: Hungarian data are more favourable R: Romanian data are more favourable R/M: countries are identical –: no data at that level / dimension		1. Population processes	2. Population composition	3. Basic economic data and performance	4. Labour force activity	5. Employment capacity of economic sectors	6. Structural and regional characteristics of unemployment	7. Income and earnings of employees	8. Business operations	9. The social, educational and health status of human resources	TOTAL
Vertical examination levels	A. European Union Data	EU	R/M	EU	EU	EU	R/M	EU	–	–	EU
	B. National data	M	R	M	M	M	M	M	R/M	M	M
	C. Regional data	R	R/M	R	M	M	M	M	R/M	M	R/M
	D. County data	R	M	R	M	–	M	–	R/M	–	R/M
Total		R	R/M	R	M	M	M	M	R/M	M	M

According to the horizontal (per indicator) aggregate evaluation, Hungary outperforms in case of 5 out of 9 indicator groups, Romania is clearly in favour of 2 sets of indicators. The results of the countries are almost identical for 2 sets of indicators. According to the results of the vertical (at the territorial level) cumulative assessment the European Union average is more favourable for 5 indicator groups and in case of 2 sets of indicators, it is less favourable than the average of Hungary and Romania; therefore, the sum of the two countries examined is below the EU average. At the national level, Hungary has a better performance in the case of 7 indicator groups. In the case of regional and county data, we considered that due to the slight difference, regions and counties would be subject to the same evaluation no more favourable side was found at these test levels.

In the final summary, Hungary's position in the labour market is more favourable based on the analysis of quantitative data, however, this assessment was carried out without any consideration of the underlying phenomena, but solely with the statistical data in mind. Another important fact is that no weight was assigned to each indicator group, that would reflect the importance of the given indicator group, therefore, the results are

really only numerical differences, not content development. The two counties, regions and countries examined showed significant differences only with a small number of parameters, their labour market position is almost the same.

For the qualitative study, a simplified evaluation table was prepared, because the interviews with our interviewees were focused on the labour market, basically as labour market actors at a territorial level.

Qualitative assessment of the employment situation

		Horizontal examination dimensions		
		Workforce	Businesses	State
Vertical examination levels	County data	Both counties have significant labour shortages, low levels of mobility, language and skills gaps	Lack of human capacity, low-intensity business cooperation, but most of the previous co-operations were successful	Existence of legal constraints, lack of high-level cooperation agreement, but successful application for Community funding, the states take their share in joint development

The most common phenomenon in the workforce is the high level of labour shortages and the low level of labour mobility, especially across borders. In addition, lack of language skills and inadequate training hinder cooperation, finally, the lack of vocational qualifications, the presence of shortage professions and the need to strengthen the vocational training system arose in both countries.

Businesses generally experience a lack of capacity, which, due to the lack of human resources, already manifests itself in production and service provision. Cross-border business-to-business cooperation is not common but several good practices have been mentioned.

From the state's side, the biggest problem is the legal and administrative barriers in various areas (mainly taxation, licensing, border crossing), in addition, the need for closer economic relations between governments was a frequently mentioned demand. EU-funded

projects for the development of the border region give cause for optimism, whereby the State's own contribution can also lead to the strengthening of relations.

Finally, in the broader context of the Hungarian Romanian border region, we summarized the findings of the examination of the employment situation, the format of which is the SWOT (or GYELV) analysis commonly used in economic research, with which we organized our findings in this area as external and internal factors, as well as positive and negative experience.

Based on the SWOT analysis, there are several ways to improve the labour market position.

- So-called S-O strategies are known that exploit existing opportunities through strengths.
- S-T Strategies use strengths to protect against threats.
- W-O strategies use opportunities to overcome weaknesses.
- And W-T strategies eliminate escalation of threats by reducing threats.

SWOT analysis of the employment situation in the Hungarian Romanian border region

	Helps the attainment of the objectives set		Hinders the attainment of the objectives set	
Strengths		Weaknesses		

	• high demand for labour • lively entrepreneurship • high support attractiveness (peripheral region on both Hungarian and Romanian side) • Whitening the economy by promoting entrepreneurship • limiting / reviewing access to social care • the launch of several youth labour market programs to help the inactive to get to active status • connection with the trans-European transport network • extension of the dual training system • Ratio of minimum wage and guaranteed minimum wage levels to subsistence levels	• early drop-outs from education and training • lack of local vocational training centres, and internal company training • low territorial mobility • few opportunities to move from public employment to the primary labour market • unfavourable economic structure (high proportion of agriculture and industry, low rate of service and R&D sectors) • migration of skilled labour from the border region to the centres of the countries and abroad • increase in the pace of population aging • a clearer demarcation of new OKJ and higher education courses, Development of OKJ accountability (creditability) in higher education
Characteristics of the labour market environment	Opportunities • favourable geopolitical position (eastern EU entry, east-west transit country) • high demand for labour • Community grants • improving the quality of service provided by the labour organization, • providing personalized employment services, • active labour market programs funded by EU funds • taking greater account of the demand side of the labour market in both adult and dual education • more flexible labour law, facilitation of cross-border work and business conditions • an attractive tourist destination that can strengthen economic restructuring and the expansion of the service sector	Threats • population decline, including the decline in the working-age population • increase in the burden on the pension system • migration • labour market and social frictions resulting from a multi-ethnic composition • population aging process (inadequate age structure) • the suction effect of certain EU countries with higher wage levels on certain groups of workers • the situation of disadvantaged groups in the labour market (mainly the Roma minority)

2. INTRODUCTION

Border regions were not given a particular attention in state-building in Central and Eastern Europe, neither during the period of state socialism nor after the change of regime. There were no major deployments of industry in Hungary and Romania during these periods (Lengyel, Szabó and Végh, 1998), thus, there was no particular basis for the development of relations between the countries at a time when the co-operation of neighbouring territories irrespective of state borders became more and more important in the economy.

Recognizing the problem of territorial disparities and its inhibitory effect on integration, the European Union has long been focusing its regional policy on reducing disparities between levels of development within and between countries. Interreg applications are one of the tools for this, the aim of which is to contribute to economic modernization and growing competitiveness through an interregional co-operation, in the field of innovation, knowledge-based economy, environment protection and risk management.

Along these objectives, the Interreg V-A Romania-Hungary Programme - which is implemented in the period 2014-2020 - supports the cooperation of the Romanian Hungarian border region. The programme is funded by the European Regional Development Fund, which is complemented by national co-financing from the two participating Member States. During open calls for proposals within the framework of the programme, such joint cross-border cooperation project proposals receive grants that are targeting the priority axes of the programme.

Chart 1: Priority Axes of Interreg V-A Romania-Hungary Programme

Number of Priority Axis	Name of Priority Axis	Total budget of Priority Axis
1.	Joint protection and efficient use of common values and resources (cooperating on common values and resources)	48,50 million Euro
2.	Improve sustainable cross-border mobility and remove bottlenecks (cooperating on cross-border accessibility)	34,99 million Euro
3.	Improve employment and promote cross-border labour mobility (cooperating on employment)	55,07 million Euro
4.	Improving health-care services (cooperating on health-care and prevention)	57,03 million Euro
5.	Improve risk prevention and disaster management (cooperating on risk prevention and disaster management)	9,55 million Euro
6.	Promoting cross-border cooperation between institutions and citizens (cooperation of institutions and communities)	4,01 million Euro

Source: interreg-rohu.eu

For each project, one partner institution or organization will be designated as the lead beneficiary, assuming responsibility for the implementation of the project. A partnership must be made up of at least two partners, with at least one partner from each participating country. All partners must carry out their activities in the eligible program area.

Project ROHU-406, „*Effective Cross-border Co-operation for Development of Employment Growths in Arad and Békés County*" is linked to Priority Axis 3. Its main objective is to achieve a development for border residents, which helps increase employment, meet the demand of businesses on the labour market and eliminate labour shortages, all of which are common problems in the area. Its Lead Beneficiary is the Békés County Enterprise Development Foundation (Hungary), the beneficiary of the project is Chamber of Commerce, Industry and Agriculture Arad (Romania). The total budget for the project is EUR 1,139,428, of which EUR 968,513.80 is the community funding from the European Regional Development Fund

Project activities (database, events, communication materials, equipment procurement and renovation) contribute to the general and specific objectives and to the improvement of the employment situation in the Hungarian Romanian border area. The purpose of the project is to provide up-to-date information on investment areas and other data through a database. Furthermore, many professional events allow the labour market actors (both demand and supply side) to establish close links with each other. Thus businesses and investors can find workforce, while employees can find quality jobs on either side of the border. The main results of the project contribute to the achievement of Program level indicators. The activities described above contribute together to the development of the labour market and the economy in the area concerned, and to mobilize businesses and the general public and to strengthen cross-border relationships.

Within the framework of the above project, the analysis described in this study examines and compares the labour market of Arad and Békés counties. In addition to focusing on the human side of the labour market, the employees, we also considered it important to examine the situation of other players in the labour market; factors that contribute to employment growth. Therefore, in the empirical study, besides the employee side, the indicators and groups of indicators describing the performance of enterprises, certain sectors and the national economy also received a role. The results of the empirical study are summarized in two forms, according to the nature of the examination. We created a scoreboard to facilitate the statistical results of the secondary study based on secondary source data, where we analyse and compare the labour market situation of the vertical survey levels (country, region, county) along horizontal survey dimensions (9 categories in total). The results of the primary survey based on primary own data are summarized by labour market participants, and we similarly evaluated these in the form of a scoreboard.

In most cases, the source of our non-own data collection is the available public database of the Statistical Office of the European Union the Eurostat. Part of its data comes from the national statistical authorities' data releases. Reliability and credibility were the primary criteria for selecting the main source, and secondly, international comparability. For data on more marginal topics, we used not only official or governmental but also scientific research resources. In some cases, comparisons could only be made up to the regional (to a lesser extent national) level. This is in most cases true due to the fact that

data on a single subject are kept confidential by the national statistical offices, thus, these data are not provided to Eurostat or published on their websites.

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Source: author's own editing

The study discusses the examined topic in four content units. Following the Executive Summary and the Introduction, *Chapter 3. Conceptual Framework for Research* provides the theoretical foundation for the study. Quantitative data from sources other than own resources are included in *Chapter 4 Quantitative analysis of the employment situation*, and *Chapter 5. Qualitative analysis of the development of employment growth* contains the results of the very own data collection of the study. It concludes with a Summary and Evaluation. In *Chapter 6 Conclusions and Recommendations* the results of the research are summarized.

3. CONCEPTUAL FRAMEWORK FOR RESEARCH

The theoretical basis of our research is formed by three research directions: the labour market, which is the focus of our research, cross-border cooperation, which provides a specific context for the labour market and finally, employment promotion, which defines the content of the investigation as the purpose of the investigation. Below we discuss the theoretical instruments of these three strands prior to the empirical examination.

3.1. The labour market as an area of intervention

The present study basically examines a segment of the labour market that is defined in space and time. For this reason, the theoretical instruments of the intervention area will be set out below from the perspective of the study, defining the aspects to be taken into account for the development of the research framework.

When designing labour market interventions, interventions must be modelled in a schematic space, which in this case takes the form of exchanges between employees and employers as two actors of different statuses. Exchanges are both a way of selling labour and gaining wages and livelihoods for the person selling labour, and on the other hand of meeting labour needs and sustaining production, producing goods. This flow of labour, its connections with the employer, is called labour allocation and reallocation (Galasi, 1982).

The state of the labour market - in relation to which intervention needs to be planned - depends on basic categories such as labour demand, supply and wages. The normal state of the market, or considered to be it, is an imbalance in which demand and supply conditions are not consistent. Demand and supply of labour at a given wage level ideally means that the workforce (as a supply side) will find a job, and the employer (as the demand side) will find work (Galasi, 1982). However, this idealistic model of the labour

market does not exist in reality, and this circumstance justifies interventions aimed at improving the matching of supply and demand.

Labour market imperfections are basically caused by inadequate or limited competition and not, or not entirely rational behaviour on the part of the actors. The causes of an already imperfect labour market are more structured (László, 1996):

- the first is the composition of the labour force, as labour supply is not homogeneous but structured, made up of units of different characteristics along different demographic, educational, and personality conditions, which, taken as a whole, do not make the available workforce generally quantifiable in terms of quantity or quality
- the labour market is quite structured, a network based on the relationships of a large number of actors, with constraints for each actor; such is the limited transparency of relations, as no actor can bear full transparency. this lack of information is compounded by the limited flexibility of the market, which is mainly reflected in downwards inelastic wages; furthermore, mobility in the market is limited both spatially and professionally, so a given workforce can benefit from a well-defined geographical and occupational category
- in addition to constraints, time delays exacerbate labour market imperfections, since even with perfect information, market players would not be able to react in time, and delayed action will not be optimal at that time
- there are technical, financial and other insurmountable barriers to the interchangeability of capital and labour.
- the actions of the labour market actors are not entirely chosen freely, and in many cases, decisions are determined by negotiation of interests, collective agreements and further interaction processes
- and finally, since optimizing the sale of labour is not only in the interest of the individual, but also of social and socio-political interest, the labour market is more dominated by state-driven market influences than other markets, thereby another player's preferences are integrated in the formula of market competition

Intervention in the labour market therefore takes place in a fundamentally information-less environment with many barriers and constraints. In this environment, the relevant factors are the main categories of the labour market, namely the demand and supply of labour, the two endpoints of imperfect conditions, unemployment and lack of workforce, and the unemployment rate based on all these factors, the most plastic measure of the labour market, the aspects of which are examined in the following subsections.

3.1.1. Production factors, supply and demand in the labour market

It is worth starting the examination of the labour market as the primary intervention area of the project with the basics of the labour market from the microeconomic point of view, the examination of the factors of production. According to the known model, in a freely chosen market of the national economy, the production of goods is carried out by using a combination of different inputs in an appropriate combination. These factors can be grouped according to their role in production as follows (Kurtán, 1996; Tömpe 1993):

- natural resources,
- labour,
- capital, and
- entrepreneurship.

In addition to the above grouping, it is also common to separate production factors by origin, which distinguishes between primary and capital factors (Molnár, 1993). The former includes labour and natural resources, while the latter includes capital goods produced and capital available in the form of money and securities. Of course, people play a key role in the labour market, however, according to the relevant economic view, man is not the object but the subject of processes. Nevertheless, the work he does is the most important resource, helping to produce the additional resources needed for production

The demand of the labour market can be considered as derivative in the words of Kopányi (1993), because the demand is characterized by the given market situation of the

player supporting the demand, otherwise, the level of demand depends on the production of the goods. The level of employment thus depends on how much good can be produced in the economy and how much labour is needed to produce all these goods. From an economic point of view, the amount of labour is equal to the marginal product, that is, the potential for growth in the amount of additional labour used. As a result, demand for labour increases in a given market as long as the marginal revenue from additional labour is greater than the cost of labour.

Demand for labour is thus highly dependent on the quantitative and qualitative indicators of the market in which labour contributes to production. Of particular importance are the factors that can influence the relationship between supply and demand. According to Galasi (1994), the following factors may influence demand conditions in a given market:

- exchange of employee cohorts (generations) in which a significant number of employees of a given generation leave the labour market at a certain age, while members of another generation enter that market
- technological development, which in itself is capable of changing supply and demand, but can also have a significant impact on the need for replacement of the cohort if outgoing workers can be supplied with efficiency improvements by those remaining in the labour market (in this case, new entrants will be pushed out of the demand for potentially vacant jobs)
- the economic boom itself can have a significant impact on the demand for labour, and a large increase in labour demand, depending on the extent of the additional demand, may not always be provided by the available capacity on the labour market or in the short term;
- wages have a clear and direct impact not only on the supply side, that is, on workers' employment preferences, but also on the demand side; the deviation of the real wage level from the equilibrium wage level can have two effects: if real wages fall below the equilibrium wage level, we are talking about a fall

in labour demand, or otherwise (at higher real wages than the equilibrium wage level), employment will increase

- Finally, consumers play a significant role in demand, as employers shift the higher cost of labour to consumers and thereby reduce consumption, the next element of the chain reaction will be a lower demand for labour by employers, which again leads to lower employment and higher unemployment

Based on the above, labour market demand is dynamically evolving in a multidimensional space, as a combination of factors affecting it, as a result of economic fluctuations, individual and group preferences of the players, and as a result of their own business decisions

The supply of labour is equal to the population to which individuals work under specific pay conditions. In a national economy, this number equals the active population in the country. In case of a smaller unit of survey (such as a county) it must be based on its narrower population. The migration effect is also of great relevance to the present research. In the form of internal migration, this means labour that can be mobilized from other areas of the national economy. More important, however, is the influx of foreign labour from other countries, which creates additional supply in the given labour market. Of course, the same phenomenon is also evident in the outflow of domestic labour, and this two-way migration can obviously improve the supply and demand conditions of the labour market by providing a richer supply in terms of quantity, quality and structure on the market.

Chart 3: Factors determining labour supply

Shaping factor	Explanation
Population Movement Processes	Quantity and composition of the population (socio-demographic factors)
Workforce size	Number and proportion of individuals able to work in all aspects (age, education, ability)
Willingness to work	The choice of individuals fit for work to work based on individual preferential choices

Source: Matiscsákné Lizák (2012: 89-90)

Demographic trends largely shape labour supply by determining the amount of labour available in the labour market at a given time and how this amount changes as a result of natural loss, reproduction and relocation (immigration, migration)[1]. On the other hand, demographics also include the socio-demographic characteristics of the population, such as the proportion of men and women, age structure, social status, etc.

Within the context of population, the proportion of the particular age groups within the total population is of particular importance in this study: if birth rates decline, and life expectancy increases, the proportion of the inactive older population leaving the labour market is increasing, and the young labour force entering the labour market is decreasing, leading to long-term unsustainable conditions. One of the basic theses of state-funded pension schemes is that the budget for those entitled to state benefits is covered by a certain percentage of income withdrawn from active workers. However, the level of benefits cannot be maintained with a continuously increasing number of the supplied, and a steadily declining workforce. This foresees various changes in social policy legislation, such as raising the retirement age or reducing the amount of benefits.

All of these factors therefore have a significant impact on the supply and demand side of the labour market by determining the supply side of the labour force and the demand side of the volume of consumption.

In fact, the size of the workforce is also determined by demographics, which includes within the total population the proportion of who are in demand on the labour market based on their qualifications, age, ability and other factors. So, in order for the exchange of labour to take place in the market, it is necessary to have a worker with the right conditions; the state of the workforce is significantly influenced, for example, by when (more precisely at what age) it enters the labour market and by how long (again, until what age) is it available for the employer.

[1] For example, a combined study of the crude birth rate, general fertility rate, crude death rate, life expectancy can be used to estimate the absolute amount of future labour.

The latter intervals are also influenced by public policies that indirectly shape the labour market, for example, by declaring compulsory schooling and retirement age – the lower entry thresholds of stepping into the market and the upper limits of staying there. Similarly, the general condition of the workforce may be influenced by health status, which in turn depends on health policy. Based on all this, demographics show the potential size of the workforce, within this, the workforce covers individuals who are actually able to work.

In addition to this - that is to say, the availability of labour through demographics and workforce characteristics - in order for a worker-employer exchange to take place the employee must be willing to do the work. It is a matter of individual choice, in which the individual decides how to spend his or her free time, as well as on the type, duration and content of work, and thus develops his or her own preference, which also determines the decision to make. The willingness to work differs from one society to another, for example, if the share of tertiary education in a society is significantly increased, improving both the quality of the workforce and, inevitably, the fact that better-qualified workers enter the labour market later (due to time spent in education). But public intervention, for example, can also be important if, for example, by structuring welfare benefits, it encourages women workers to advance or delay childbearing or to have more or fewer children. (which also reduces the time spent on the labour market) (Gábor, 1998).

The two end-points of supply and demand are unemployment and labour shortages. conflicting phenomena within the same market, in this case the labour market, which constitute the two extremes of labour markets operating under imperfect conditions. While in case of the former, there is a shortfall or disturbance in the demand side, in case of the latter there it is present on the supply side. In the following, these two phenomena and the relative definition of the two phenomena are discussed in the light of the topic discussed.

3.1.2. Unemployment and labour shortages

In economic terms, unemployment refers to the excess of labour supply over labour demand. In this way, it is present in all societies and markets, as well as in one county of two particular countries, since no market has the perfect balance (or only a very short time

horizon); however, when examining the composition of the unemployed, several types can be distinguished. For example, Samuelson and Nordhaus (2012: 307) formulated the question that real unemployment refers to those who have no job but are willing to work (and are actively seeking work), thus they are included in the labour supply of the given sector, state, etc. Unemployed and unwilling to work are, of course, those outside the labour supply.

Related to this is the widely accepted definition by the International Labour Organization that a person is considered to be unemployed if it works less than one hour a week, is neither employed nor self-employed (that is to say, it does not constitute a ground for refusal if he has a negligible income), but in the meanwhile, he is searching for a job and if he would find one, he would be able to do it, meaning that the willingness and the ability to work are both present at the same time (OECD, 2003).

Another type of breakdown (Kovács, 2010) distinguishes between voluntary and involuntary unemployment. Voluntary unemployment does not lead to employment at a given wage level because there are other alternatives for the labour force; then there is actual labour supply and demand, but the two are not consistent. In the case of involuntary unemployment, at a certain real wage level, a worker would take work, but the sale of labour does not take place, for example due to lack of demand or due to skills or other disadvantages.

The traditional division of unemployment is the distinction between frictional, structural and cyclical unemployment. Friction unemployment generally has a short-term effect and is caused by changes in the labour market or in the economy as a whole or in its subdivisions (in this way, it can even be voluntary if, for example, the workforce is moving within the country or across borders before taking up a new job). Structural unemployment, on the other hand, is a non-voluntary form of unemployment and is caused by structural changes in the economy - changes in past labour supply or demand, such as a declining region or a profession - that distances the needs of these two sides. Finally, cyclical unemployment occurs when cyclical trends in the economy bring about changes (albeit of a shorter duration) similar to structural unemployment.

The relationship between the above distinctions is illustrated by a new division of unemployment combining the former causes - in the form of duration of unemployment. The table below breaks down unemployment into short and long term and their macro and micro causes, specifying the causes of each type.

Chart 4: Types and causes of unemployment

Duration of unemployment	Level of causes	Causes
Long term unemployment	Macro level causes	aggregated economic performance
		different structure of labour supply and demand (structural unemployment)
		state regulation
		higher than equilibrium wages (minimum wage, unions, effective wages)
		demographic processes
	Micro level causes	low level of education
		poor health
		backward area
Short term unemployment	Macro level causes	labour market movements, structural changes in the economy (frictional unemployment)
		economic downturn (cyclical, business cycle unemployment)
	Micro level causes	personal preferences

Source: Urbánné Mező (2017: 15)

At the same time, unemployment can be broken down not only into qualitative but also in age categories. In this sense, young unemployed people, typically people aged between 15 and 24, who are not seeking work can be distinguished. The latter statement is necessary because if a 15 to 24-year-old young person is looking for a job even if he participates in full-time education, (because for example he takes part in part-time training, or wants to work besides full-time education) they should be statistically classified as

youth unemployed. In the meanwhile, if the same young person is not looking for a job, then it should be classified among the economically inactive.

For a variety of reasons, the supply of labour outstrips the demand for labour in the labour market, which is leading to unemployment. In examining the macro and micro causes, we have only considered those cases where these effects lead to an increase in supply or a decrease in demand. In the equilibrium state of the labour market, demand equals supply, but imbalances can also be a factor not only in unemployment but also in inadequate or abundant labour supply. These conditions are called labour shortages.

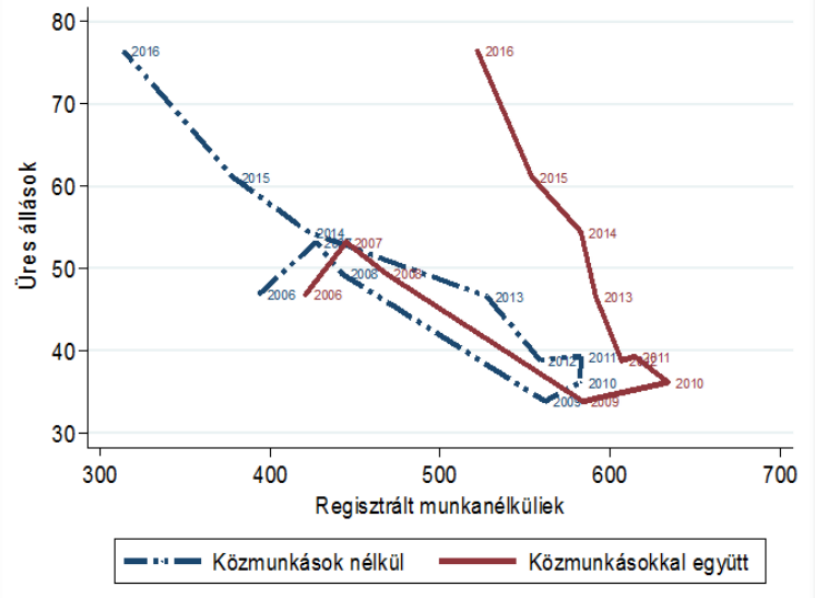
In a more accurate wording „labour shortage is a persistent labour market imbalance between supply and demand, where demand for workers outstrips the supply of those who are able and willing to go to work at a given time and place at a given wage and working conditions" (Barnow and colleagues, 2013: 3) Wages and working conditions should therefore be mentioned first and foremost among the causes of labour shortages. However, labour shortage, like unemployment, is not a homogeneous phenomenon; we distinguish several types of it.

In particular, the literature distinguishes between quantitative and qualitative labour shortages. Quantitative labour shortages occur when the amount of available labour - that is to say, the supply - does not, in absolute terms, cover demand in the labour market. In this case, there are no hard-to-fill vacancies on the market for which, of course, there are not enough candidates for the given salary level, so there are no so-called shortage professions; instead, the widespread quantitative deficit leads to a generally low unemployment rate.

In the event of a quantitative shortage of labour, there is both a relatively high unemployment rate and a high number of vacancies. As opposed to quantitative unemployment, this is not a general phenomenon, but a shortage of labour in certain professions and trades, we are speaking about inappropriate working conditions, wage expectations, and other disruptions (Reymen, 2015). Qualitative labour shortages are thus the result of two simultaneous unfavourable phenomena (job vacancies and unemployment), which also show the "tightness" of the labour market. This is measured by the ratio of the number of job vacancies to all jobs and the unemployment rate, the so-

called Beveridge indicator. (Tóth, 2017: 6). Representing the Beveridge index over a given time horizon (values calculated at each instant) provides the Beveridge curve, which is a suitable representation of the tightness of the labour market over time.

Figure 1: Presentation of the Beveridge curve for a given labour market



Source: Hungarian Central Statistical Office Database

With a tight labour market – or a high ratio of unemployed/vacancies - a small number of unemployed have more vacancies, then there is over-demand, and in contrast to this,, more jobs are provided to fewer workers, there is oversupply, and labour market conditions are loosening. In the example above, the number of registered unemployed increased steadily between 2006 and 2010, while the number of vacancies decreased (albeit to a lesser extent), so the labour market returned to a more relaxed state, then, after 2010, until 2016, the number of registered unemployed decreased and the number of vacancies increased, so the market tightened. Job vacancies were higher for jobseekers compared to the original 2006 starting point, although the number of registered unemployed increased, but the market was tighter compared to the starting point. The sample statistics calculated without public workers show a particularly tight picture, with a significant number of jobs, the number of unemployed is at a record low in the years under review.

On the other hand, the aim of employment development is to improve the tightness of the Beveridge curve by providing the right number of people of working age with the right number of jobs to become employed. Of course, the above study can not only be carried out on the labour market of a whole country; studies of specific sectors or regions are also of great relevance.

The reasons for the shortage of labour depends on the characteristics of any geographical unit, but however, the literature distinguishes some characteristic triggers (Szucs, 2017). The first of these in Europe is the shrinking population, including the greater decline in the economically active population within the overall population. Gradually aging populations are now a common problem in developed countries, the increasingly broader exodus from the labour market also places significant responsibilities on the labour market for the sustainability of the national economy, however, leaving of an age group is important in terms of labour shortages, as it can also eliminate the occupations often pursued by this age group in a short period of time, creating skill shortages of these occupations. In addition, it causes so-called "residual" labour shortages when, for a given period, the number of outgoing workers is much higher than the number of people entering the labour market.

Text box 1.: Residual effect on the Swedish labour markets

The literature on residual effects is relatively limited, Skans (2005) examines the effects of changing age structure on the labour market in Sweden. His study notes that labour market balance is significantly influenced by residual unemployment, that is, changes in the composition of the labour demand side, and in what way these change (what frequency and composition). His research further concludes that this phenomenon is definitely loss-making for the national economy, the only winners are those of the younger, more recent age group entering the labour market, who are replacing a larger, older, exiting group, and in this way they are able to achieve higher wage standards in a market that is experiencing sudden labour shortages

Source: Nagy and Kónya, 2017

Emigration is another such cause, although it affects other strata of society and country; as a general rule, the migration effect causes a shortage of labour if it affects those with a higher level of education, affected by labour demand.

In addition, structural factors, which were already known in the case of unemployment, may also cause labour shortages, so if the education and training of the unemployed do not correspond to the potential employers, despite the higher number of unemployed, the active population may develop labour shortages. Finally, the exhaustion effect of the public works market can also be mentioned: the function of public works programs is basically to bring people excluded from the labour market back to the world of work, however, policies sometimes have the opposite effect, as public workers are "stuck" in programs, so in addition to generating significant additional costs for the state, they generate labour shortages.

In addition to those involved in public work programs, there are other social groups that are considered to be particularly vulnerable to employment and should be included in a dedicated program. These include women workers, people with disabilities or unskilled foreign immigrant populations. (OECD, 2010; OECD, 2012).

3.1.3. Employment and employment policy

Employment policy - policies to increase employment and the various employment indicators - essentially concerns only a small proportion of the total population of a country or, in the case of research, of a limited geographical unit. Of course, in order to define employment that is integrally linked with unemployment, and to define the target group for increasing employment, the concept of the whole population must be taken as a starting point.

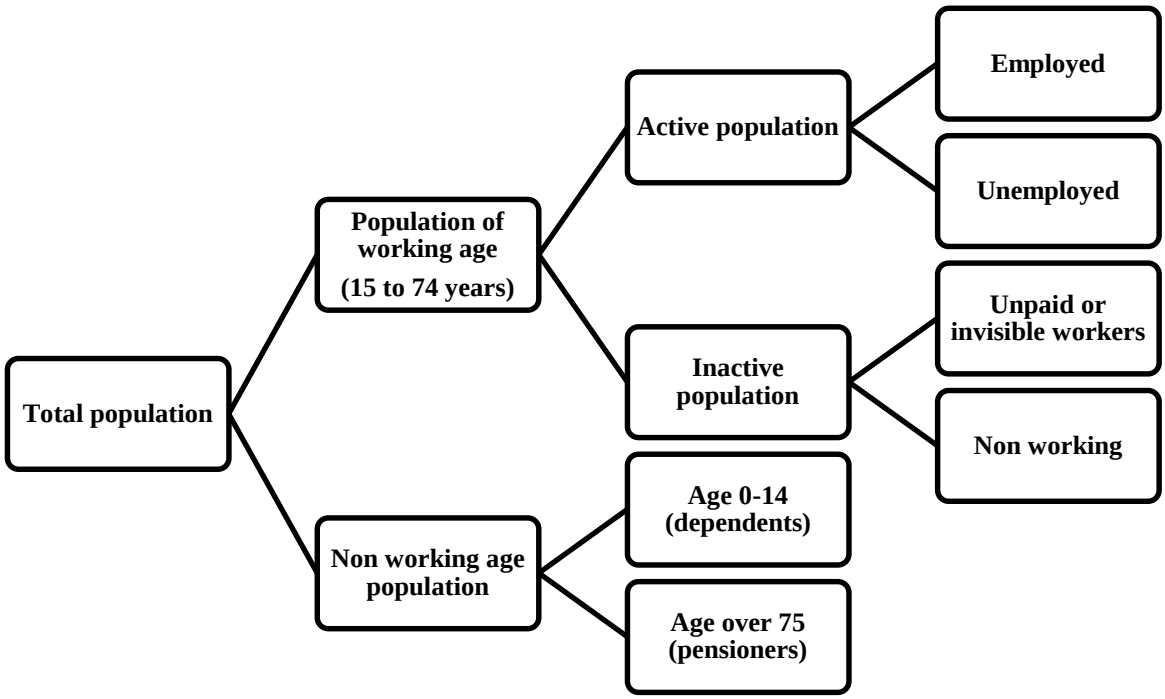
At first reading, the population can be divided into two groups: working age and non-working age. The former category is basically based on the declared age definition and follows a uniform pattern in the developed countries of the world (Eurostat, 2014), which includes the population of 15 to 74 years. By definition, non-working age includes children under the age of 14 and persons over the age of 74. The working age population (15 to 74) can then be divided into economically active and inactive population. Importantly, the inactive population is not equal to unemployment; they do not sell their labour in the labour market and thus are not employed, but are not considered unemployed. These include members of society who are either not paid for their work (they are not looking for

work in this way) or are jobseekers who cannot find a job. Households, students, and pensioners are mostly the inactive.

Narrowing the target group further, the economically active population is divided into the employed and the unemployed. The former category - that is, the employed - includes persons aged 15 or over who are in employment, whether or not they are actually working; the latter condition makes workers in the category who are on leave (for example, on holiday, education or training) part of the category.

The following figure illustrates the structure defined above in order to determine employment, which divides the entire population into groups based on their work relationship, thereby identifying the social group relevant to employment, at the same time, the target group for the purposes of the present research. According to the figure, this target group is the economically active working age population of at least 15, but under 74 years of age.

Figure 2: Groups of the population of a country according to their employment relationship



Source: Eurostat (2014)

When discussing employment, it is also necessary to address the quality aspects of employment, meaning that, in an ideal sense, employment means working conditions that meet the requirements of decent work, and other employment is not considered desirable. Decent work (Ghai, 2003) is, which provides the worker with a decent income and job security, and provides the worker and his family with social protection, provides an optimal opportunity for personal development and social inclusion, freedom of expression; the opportunity to participate in important decisions that affect life; and finally, equal opportunities and equal treatment between men and women.

The counterpart of decent work that ensures these requirements is the employment contracts leading to illegal or irregular employment and precarious employment. This includes all forms of employment that do not meet the requirements of decent work, with less serious misconduct in the case of precarious employment. However, employment can be considered standard if it establishes a full-time, indefinite and employment relationship; and atypical if an element of the work is implemented in a non-standard form (eg temporary work, part-time, verbal contract). Atypical employment is not necessarily illegal

or irregular, that is, unfair, but these are more common in this format in countries around the world. (ILO, 2015a).

As a result, the promotion of standard forms of employment which meet the requirements of decent work should be pursued when increasing employment. All state interventions aimed at increasing employment and improving certain indicators fall within the scope of employment policy. Employment policy, like other policies, is a set of tools in the context of a given public task; in the present case, this task is to positively influence the labour market in terms of actors.

According to some views (see Kovács and Ráczné Lehóczky, 2011: 45), labour market policy is an area separated from employment policy, however, the present study classifies labour market policies in a coherent way with employment policy, including all its economic and social dimensions.

The aim of the policy is to help people who have been disadvantaged for some reason and who have lost their jobs in the market through corrective mechanisms designed to help them gain access to the profession. The first of its two main principles is to increase the standard of employment, which means increasing the number of legal jobs, in this way, on the one hand, job creation is the focus of employment policy. Another of its main principles does not focus on job growth, but on employees, with the goal of reducing unemployment and filling as many available jobs as possible.

The toolbox of employment policy in each country is divided into two parts: active and passive tools. The most significant difference between these two sets of assets is while active employment policy instruments aim to influence the current state of the labour market, there is no such objective for interventions in the form of passive instruments. The former deal with preventive and follow-up measures, ie the prevention and management of market negative effects, while the latter provide the livelihood support for the unemployed with no incentive. Both groups of assets are intended to reduce tensions arising from

market failures, with active assets based on a longer-term solution, active contribution and passive assets based on temporary, out-of-employment activities.

Chart 5: Active and passive employment policy instruments in the Hungarian legal system [2]

Active employment policy instruments	Passive employment policy instruments
Labour market services and employment aid • Labour market services Promoting trainings • Promoting trainings • Training Aid Additional subsidies to promote employment • Subsidies for employment growth • Support for jobseekers to become entrepreneurs • Support for job creation and job retention • Support for labour market programs	Benefits for job seekers • Job searching benefits for the job seekers Benefits for job seekers • Unemployment benefit • Pre-retirement jobseeker's allowance Reimbursement of expenses

Source: Law IV of 1991 on employment assistance and unemployment benefits, Pap (2014)

As can be seen from the list, the range of active employment policy instruments is much wider in Hungary, there are several tools on this side of employment policy that can help prevent, address and resolve employment tensions in many ways. Labour market services include, for example, labour market and employment information, job, career, job search, rehabilitation and local (regional) employment counseling, and job placement services.

Promoting training affects many employee statuses (jobseeker, beginner jobseeker, receiving rehabilitation allowance, termination of employment, public employment, GYES / GYED, employed), in addition, training aid is provided in the form of a salary supplement or a supplement to the salary and reimbursement of expenses. Means of

[2] A detailed version of the table can be found in the annexes.

support for further employment includes support to become an entrepreneur, support to work in the public interest, support for job creation and job retention; support for self-employment; bearing employment-related contributions and supporting the employment of people with disabilities, support for labour market programs and support for non-standard forms of employment.

Chart 6: Active and passive employment policy instruments in the Romanian legal system

Active employment policy instruments	Passive employment policy instruments
Allowances for people with disabilities • courses • advisory service • supported trial and notice period • exemption from tax • financial support for employers • promoting a protected workplace Employer support for fresh out of school workers • one time 12 month support Public benefit work programs • supported application for employers Aid for the employment of unemployed persons over 45 years of age Additional employer allowances • employing workers living at greater distances • support for work that is of benefit to the community • employing disadvantaged young people aged between 16 and 25	Benefits for the unemployed • employees who have been dismissed doe to incapacity for work • employees left without workplace • employees who were without a job without their fault • • workers made redundant due to the winding-up of their employer without a legal successor • students aged 16 or over in educational institutions or auxiliary schools

Forrás: a munkanélküli-ellátási rendszerről és a foglalkoztatás ösztönzéséről szóló 76/2002. sz. törvény

The summary of the employment policy instruments in Romania shows that a support structure similar to that in Hungary has been put in place in the country. The main differences with regard to active assets are their level of detail and the benefits and allowances for many types of employers. In addition to the usual tools (courses, counselling, etc.), there is a strong emphasis on involving the employer side employers are made interested in reducing labour market tensions in the form of benefits for

disadvantaged groups. Special mention should also be made of support for those who have recently entered the labour market.

On the side of passive assets, similarly to the Hungarian regulations, there are cash benefits, cumulatively entitled 'Assistance to the unemployed', whose target group is the unemployed for various reasons. In addition to the more common reasons, benefits also apply to (former) employees in special cases, such as the dismissal of the employer without a legal successor, or if the employee (for example, due to prolonged recovery after an accident) becomes able to work after being incapacitated, but cannot find work due to the time lost.

Based on the above, Hungarian and Romanian employment policies have similar priorities and tools, which also support the employment of disadvantaged groups. Thus, a particular employment-enhancing development is expected to have similar positive effects in both countries. Regarding this project, it is a particularly important aspect that it doesn't intend to carry out a development that is national, more specifically within the country, but in a partnership, it seeks to improve the employment conditions of a county in the two countries with parallel goals. Therefore, below we examine the second conceptual basis of the research, cross-border cooperation.

3.2. System of cross-border cooperation

To outline the taxonomy of cross-border cooperation, the first step is to define the border area (s), perhaps in a strange, perhaps grotesque, yet necessary way. The law does not serve as a reference in this case; there are no clear interpretations for the exact definition of border, border areas or relationships in the documents of the essentially supranational European Union, the international forum also involving states, the Council of Europe, or relevant international organizations, such as the Association of European Border Regions. This area, at least in international law, does not fall under the sphere of written law, the legal framework for cooperation is not governed by uniform, binding rules of the same nature on both sides of the border, the relations are filled with legal content by the respective states' own legislation.

Cooperation is thus divided by the respective sovereignty of the countries on either side of the border (Baranyi, 2009), it is also up to national legislation to alleviate this state of affairs and to establish links of a higher level and quality. Of course, not only internal law, but also the bilateral (or multilateral, depending on the specific border area) agreements between the states of the border region have a significant influence on the quality of the relations. In addition, it is worth noting that cross-border institutionalized cooperation (that is, legal or measures or agreements without legal effect) can not only be concluded by central government, in most countries the political leadership of sub-regional units is also mandated.[3] Behind these, however, is the state acting as a guarantor and they are based on inter-state relations (thus, it is not possible to institutionalize relations between lower-level units where there is no such link between states).

After all, the literature can provide an appropriate a starting point for defining the concept of a border, though of course it is not officially recognized by states. In material terms, there are several kinds of boundaries; natural (defined by rivers, mountain ranges, etc.) and artificial (designated) boundaries; economic and cultural boundaries, defined by homogeneous units; borders drawn by ethnic, linguistic and religious homogeneity; closed, partially open and open borders for border interoperability. In addition, special categories such as the subsequent, antecedent, overlap and relic boundaries are found in the literature. The sub-sequential boundary is drawn by the population and development of the area; in the case of the antecedent border, on the other hand, first the boundaries were drawn, and then a distinction was made between the areas. In the case of overlapping boundaries, areas with different characteristics are separated and the relic boundaries denote earlier, obsolete boundary remnants. Legal borders are internationally recognized by individual (not just

[3] This power extends to the municipal level; this is the case, for example, of twinning arrangements between settlements of a similar size and population and of greater geographical distance. These collaborations, declared in principle but not by official documents, have no legal force. However, they have the potential to significantly strengthen the links between the participating municipalities, especially those of a human and cultural, but even economic nature, and to lay the foundations for smaller cross-border projects. For this reason, the European Union and its bodies now explicitly support the establishment of town-twinning relationships, not only in principle but also financially.

neighbouring) states, while the conceptual boundaries have been set by some parties, they are only visible on certain maps, are not uniformly recognized. As you can see, the boundaries can be very diverse as opposed to their homogeneous appearance, and their precise definition thus encounters serious obstacles and allows only a much generalized formulation.

According to Paulov (1985), boundary is both a tool and a result of spatial differentiation; the result of the ideas Demek (1984), in which opinions independent from the natural environment - political, religious etc. - are expressed, but which still affect the natural environment, thus boundaries are the natural representations of non-natural concepts. Following Böröcz's (2002) illustrative definition the frontier "is the sum of the points at which society harnesses and / or relaxes technologies to break up state sovereignty". Thus, in line with our previous definition, this means that state sovereignty basically separates geographical areas and does so with the border. So the natural state is non-cooperation, however, economic, social and other interests dictate that adjacent regions maintain active relationships with each other. especially if they belong to different states, which have different strengths, so comparative[4] advantages can be exploited. At the same time, the border as a dividing line can be not only a negative but also a positive factor among the regional areas (Kosov and Vovenda, 2011), because it is easier to recognize the benefits of cooperation through separation.

After clarifying the concept of border, it is necessary to define the border region before knowing the details of the cooperation. Along the solid foundations that have just been laid, such regions can easily be described as two sides covering the country's borders. Interpretation is complicated by the diversity of regions, which in turn depends on the form

[4] The term mentioned many times comes from economics, and more specifically from international economics. The comparative advantage model says that if, in our case, a country has an advantage in the production of a particular product, service or other goods in the economic sense, these particular goods will be produced (and used or exported) by the given country, as the other country(ies) will have a comparative disadvantage with respect to the same goods. However, the other state(s) also have or may have an advantage over other commodities that they will (or for them, are worth) producing

of interregional cooperation. According to Hardi (2009), the forms of cooperation can be statistical design, functional homogeneous or nodal. The first approach, according to the European Union's regional policy, identifies adjacent NUTS regions located on either side of a state border. The classification is not backed up by requirements for effective cooperation between the regions concerned; border regions within the meaning of NUTS are thus merely contiguous territorial and statistical units. The functional homogeneous border region is much more accurate than this approach, which again, according to Hardi (2009), is an area along the border whose economic, social and many other positions are significantly influenced by the existence of a state border. Finally, the functional node approach adds to this the fact that areas along the border need to be in actual interaction with one another.

Based on all of this, a border region means if the regions are located on both sides of the border, the existence of the border affects the existence and operation of the regions, and if these areas are actually interconnected, they cooperate with each other. Cross-border co-operation between border regions is based on a kind of convergence: recognizing that co-operation between the two geographical units, despite being under the jurisdiction of another State, has positive returns, which means the cohesiveness of the two brings a comparative advantage to both parties. Cross-border relations are based on these factors: complementarity and economic relations and positions.

Assuming a border region on the border of two countries, many cases of power relations may arise. The balance of power is first shaped by which of the two states is more advanced (general economic development); in addition, consideration must be given to the degree of development of the border region in relation to the state: more advanced, average or underdeveloped, peripheral. In the latter case, the centre cities of the border region are weak, or it lacks centres – that is, there is no big city with the appropriate level and quality of services that can adequately serve the communities in the surrounding region. The above cases establish a total of nine types of power relations.

Figure 3: Modelling cross-border relationships

Dominant Party: A, B or (A) B / A (B) (Unclear)		A more developed border region of state "A"		
		developed	average	peripheral
Border region of less developed state "B"	developed	1. A	2. (A)B	3. B
	average	4. A	5. A	6. B
	peripheral	7. A	8. A	9. A(B)

Forrás: saját szerkesztés Hardi (2009) alapján

In the first case, the developed border region of the also more developed state will dominate over the developed border region of the less developed state – compared to its own development. Of course, the same applies if the border region of the less developed state is of average development (4) or peripheral (7). In a border region with an average level of development of a more developed state (for example, which does not have a clearly strong headquarters), the developed region of a less developed state may benefit slightly more from cooperation (2) than a more developed state, whereas if the border regions of both states show average development, the dominance will continue to be over the more developed state (5.). In case of a peripheral border region, the less developed state cannot gain advantage over the average level developed border region of a developed state; the more developed state is dominant. The dominance of the less developed state can be clearly identified only if the border region of the more developed state is clearly weak and can be considered peripheral, for example it does not have a regional centre. In this case, a less developed state can enter into an effective co-operation in case of a developed, average, even peripheral border region.

Of course, the above theoretical model can be applied to a resource (for example, and above all, the workforce) in general, or to a specific indicator (such as labour shortages, education, etc.), taking into account the current economic situation. Applying the above statements to the Hungarian or Romanian border region is an example for almost every model; however, the power relations in the Hungarian-Romanian common border region are not clear. A more in-depth examination of the countries of the region in the current

research may point to the development of power relations and the dominant party, before that, however, it is worth pointing out the various internal contexts of the cooperation (development, types and purposes), and the theoretical background and principles behind collaborations and their development.

3.2.1. Theories and principles of cross-border cooperation

The theoretical background of cross-border co-operation examines how and in general why co-operation develops, what are its driving forces, and what approaches are taken to the issue. In the age of globalization, particular issues arise in relation to this topic; for example, the extent to which nation-states have to give up their sovereignty; the extent to which they should allow cooperation with other states and, on this basis, what are the criteria for good cross-border cooperation. The starting points of the subject are the already mentioned sovereignty, the ability of states to govern themselves with full autonomy and independence, and to exercise their power without influence, and concepts related to this concept. After all, through co-operation with other states across their borders, states actually give up part of their sovereignty in order to engage in mutually positive activities with the other party, which is also affected by their sovereignty.

The concept of sovereignty is still a controversial concept in the theory of the state; for example, the question of relative and absolute sovereignty has relevance for the present day (and from the practical point of view of research). Famous thinkers of absolute sovereignty (such as the English philosopher Thomas Hobbes and the polytheist Jean Jacques Rousseau) argued, at the outset of the theory, that only a state free from all external influences could be considered sovereign. The task of the state is precisely to limit this sovereignty, since the unlimited power, the absolute power, allows arbitrariness. Proponents of modern, relative sovereignty theory, on the other hand, argue that sovereignty (state independence, independence) can never be complete; completeness is

always hindered by physical, ethical, logical, and other constraints. States operate on the territory of other states, thus creating dependencies in which no state can be considered as completely sovereign.[5]

Therefore, if full sovereignty does not exist - and would not be optimal - then there is scope for the attaching of states. For the purpose of describing integrations, there have also been several kinds of theoretical trends that mostly circulate about which form of integration is most appropriate for states. The theories were structured according to their perception of the role of states in integration and their perception of the appropriate governance and control mechanism of integration. Three major trends have emerged in this field: functionalism, state-centeredness, and comparative policy doctrines. Functionalism theory states that integration in the desired form is driven by the interests of the participating states, and while compromises are needed for proper performance, decisions are essentially shaped by the opinions and interests of the political elite. By contrast, state-centered tendencies, by their very name, believe that governments play a decisive role in the proper form of integration and represent nation-states.

The cooperation established this way is thus based on agreements between the governments of the nation states. Comparative policy doctrines do not focus on individual actors (political elites, governments), but the processes that drive integration. Successful integration is thus seen as a process whereby Member States act not directly for their own sake but for the sake of integration, which indirectly benefits all the states involved in the integration. This theory also states that the emphasis is not on the state level, but on other levels outside it: the supranational level, where larger-scale decisions are made by consensus, and at the sub-national level where professional decisions are made in multi-stakeholder areas in specific areas.

[5] In this sense, for example, international trade is also a sovereignty lowering factor, since the trading state is dependent on demand from other states if it wants to sell; and on supply, if it wants to buy. In reality, the states considered most sovereign are most embedded in the mechanisms of international trade

The principles of multilevel governance and subsidiarity prevail here, the former demonstrating the ability of lower levels of decision-making in their own areas to make decisions that are favourable to the state, and subsidiarity[6], which was originally the call for the restriction of nation-state decisions by the community, has now become a major argument for regionalism. Thus, the traditional nation-state approach has come under pressure from two directions: a supranational trend emphasizing the benefits of supranationalism and a nation-state emphasis on regionalization. Furthermore, in accordance with the principle of subsidiarity, not only the involvement of local and regional actors in cross-border cooperation should be encouraged, but also their role as leaders and creators, in fact, subsidiarity can thus be considered as a fundamental principle of cross-border cooperation.

When establishing relationships, there are additional ethical norms that need to be respected by the parties, both the directly cooperating ones and cooperating states. According to international recommendations on this topic (Association of European Border Regions, 1995), partnership is such a principle; which not only says that there should be an equal relationship between the parties involved, but that cooperation should contribute to the actions of the Member States, not only complementing but supporting them. Equally important is the greater involvement of local communities in shaping the cooperation, which represents another dimension of partnership.

Finally, possible areas of cooperation play an important role in the system of cross-border relations. The following table shows the typical points of cooperation in which two cross-border areas should cooperate and expand their existing relationships.

[6] The principle of subsidiarity states that decisions should be taken at the level of decision-making where there is the greatest competence available to make these decisions. It is easy to see that those who oppose integration could easily argue that the most optimal decisions for a given nation-state are made by the leaders of the nation-state and not by supranational bodies. Later, by demonstrating the form of integration, subsidiarity took on new content, and has proven that decisions really need to be made at the most competent levels, however, this also applies to the levels within states, so the theory has favoured the independence of the regional and local levels. (Vizi, 2007)

Chart 7: Areas of cross - border cooperation

1. non-productive sector	• the most advanced in particular in the fields of culture, social activity in the settlements and educational affairs, • the future requires the possibility of exchanging qualified staff within the structure of educational affairs (study forms, textbooks), • coherent action in the field of healthcare against drug dependence and drugs in border regions, establish a system of health cooperation in the event of epidemics and natural disasters, including the establishment of legal, financial and administrative conditions, • they ensure in the field of culture the dissemination of information on regional culture on both sides of the border, the establishment of regional cultural institutions, the organization of joint presentations and exhibitions, tourist publications, books and the organization of joint sporting events.
2. tourism	• developing common concepts for the use of the cross-border space for tourism • developing common concepts in the field of tourism infrastructure, national parks and, in particular, spatial development, designing and implementing cross-border tourist trails and intensifying the use of bathing facilities • development of a common tourism database and information system, • modernization of the tourist base to bring it up to the standard of Western European countries • active cooperation in the joint presentation of the region
3. transport infrastructure	• Cross-border cooperation is one of the most important areas of activity • Inadequate technical condition and structure require a systemic solution to the common needs of the region's economic life, connecting to the national road network and the implementation of joint projects • optimizing road transport, including the conditions for handling passengers and goods in transit, increasing the overall safety of transport in the event of natural disasters and accidents and the elimination of potentially dangerous activities (risky enterprise) • coordination of civil protection, training of security units in the border region and development of communication systems
4. economy	Improving the economic structure should be ministered by guided economic policies and employment policies, which are based on: • systematically activating the social and economic development of villages, cities, districts and counties forming part of border regions • cooperation of small and medium-sized enterprises, development of relations between manufacturers and suppliers on both sides of the border; expanding financial and advisory infrastructure; developing a coordinated catalogue of companies and production programs in border regions, including information for entrepreneurs and potential investors, • ensuring the regular elaboration of socio-economic statistics in the cross-border region, • developing and publishing legal manuals with a common outline and explanation; • creating a common market for innovation and investment opportunities, keeping a common register of job vacancies and unemployed persons, carrying out joint programs in this area and creating an investor-friendly environment.
5. agriculture	• this sector of economic activity appears only sporadically in the analysis of prerequisites, however, it is of great importance for the aesthetic value of the landscape, for rural tourism and agro-tourism, in addition to the traditional hunting and fishing activities, the intensity and scope of plant

	and animal health cooperation measures on their practical implementation across borders is increasing.
6. environmental protection	• the common objective of cross-border cooperation in this field is the effort to seek a common basis for sustainable development leading to the preservation of biodiversity, with respect to the fact that the current level of cognition clearly highlights the spatial continuity of border areas; that is, the need for joint management and resolution of environmental degradation caused by agricultural, construction and other activities. These objectives will be served by the process of developing a common environmental strategy, the establishment and updating of a cross-border environmental database, the principles and standards of nature conservation (TANAP, PIENAP, POLONINY), standardization of the principles of natural resources management and active cooperation in the field of forestry.

Forrás: Lukčo (2013: 17)

Economic co-operation is basically established in the field of the present research which aims to improve the economic structure of the two participating countries by reducing the shortage of labour through cooperation between border regions.

3.2.2. Development, type and objectives of cooperation

The dynamics of cross-border co-operation in Europe over the last centuries are comparable to the movement of a pendulum that is constantly moving, taking up different positions between two endpoints for a short period of time and rapidly changing its resting point. "Technologies for the breaking down of state sovereignty" mentioned in the scientific definition of the border was a very desirable and frequently used tool in the era of the European empires, before the territorial solidification, it was not at all clear where the border of the realm actually was. Frequent military campaigns, migration, land swaps between rulers, or border conflicts between smaller territories have made the position of borders uncertain, but it was not possible to establish permanent boundaries at these times. As a result of extremely long and complex processes, the image of Europe, which is somewhat similar to today, has evolved over centuries, in which states have already been able to maintain a certain level of stability in relation to their borders (Lukčo, 2013).

Although borders have always played an important role in European politics -beyond the defensive functions, these frames, the size of the area they surrounded, showed the power of a ruler - from time to time, the emphasis shifted from land occupation to the

preservation of territories and the rule within solid geographic frameworks. This endeavour drove the peoples and leaders of Europe in the 18th and 19th centuries, when nation-states became more prominent than the former extensive, imperial character. The emergence of nation-states took many forms, somewhere smaller units that seceded from the larger empires either got or gained sufficient autonomy, at other times, the unification of territories and their close alliance led to the establishment of an independent statehood

Of the consequences of nation-state relations consolidating in Europe, the formation of permanent boundaries is the most important; however, after the separation of states and the realization of sovereignty, the idea of cooperation began to gain greater publicity in the mid-20th century, where the need for cross-border cooperation was at the forefront. They recognized that cooperation with the surrounding areas was increasingly necessary for the development of areas along the borders, which were generally far from the centre of the country and were less economically viable, regardless of the state of the surrounding areas. It also contributed to this idea, that by bringing together settlements and peoples of the border, recognition, acceptance and thus peace are more likely to be guaranteed to the States in question, which also results in the consolidation of the borders. In the early days, these collaborations were still aimed at solving particular problems that were rooted in the needs of the population.

The first alliances in the century were made by Germany with neighbouring states such as the Netherlands and France, later these federations extended their cooperation to more and more areas, and with the deepening of European integration, cross-border cooperation has also received a major boost. In the 1970s, this led to the formation of the Association of European Border Regions, but this trend has also affected the European Union's regional policy, where in the beginning border regions were increasingly emphasized, then, with the establishment of the European Regional Development Fund, the elimination of regional disparities in development has become one of the main objectives of integration (Halás and Slavík, 2001). Alongside the European Union's aspirations, international law has increasingly drawn on agreements aimed at boosting cross-border relations (such as, and above all, the European Outline Convention on Trans frontier Co-operation between Territorial Communities or Authorities, the so-called Madrid Framework Convention and its additional protocols), but, within the European Union,

support for cooperation has taken many forms. For example, the INTERREG and PHARE programs served this purpose. Of course, other organizations were also involved in supporting the cooperation.

Among the types of transnational cooperation, the first step is to systematically locate cross-border cooperation. There are three types here, according to the geographical extent of the cooperation Gasparini (2004):

- transnational co-operation: By its very name, it means cooperation between entire states, usually organized around a specific topic, typically with the initiative or coordination of international organizations (such as the Council of Europe);
- Interregional cooperation: the collective name for forms of sub-regional cooperation also includes links to specific topics, however, participants are limited to certain actors (organizations) per country;
- cross-border cooperation: in a specific geographical area, across but within a certain distance from the borders, over a wide range of topics, or declared on all topics of interoperability, with multiple actors.

Cooperation between the Hungarian and Romanian parties investigated in the present study is of the third type, namely, cross-border cooperation. Rather than based on the management of co-operation, Gabbe (2011) distinguishes relationships based on if they have an autonomous administrative structure, a kind of autonomous organizational identity. There are basically two types here:

- institutionalized: in case of the first type, the co-operation has its own institutional frames, these organisations operate on their own budget and carry out their goals in their own names.
- not institutionalized: in the second type, the focus is not on the organizations but on the goals to be achieved, therefore, the parties do not usually establish a cooperative organization, but do so within their own organizational framework, which is not usually solely for the purpose of cooperation.

The cooperation examined in the present research falls into the second type in terms of institutionalization, since the parties implement the objectives of the call within their own organizations or in the form of cooperation between the organizations, cooperation in this case is represented by the project organization and its officials.

Defining the general aims of the cooperation can also only be done in a comprehensive way. In most cases, cross-border cooperation aims at improving the quality of a certain socio-economic index or overall development of the regions represented, applications are therefore based on identified disadvantages (eg legal, economic, social, linguistic, cultural, religious) (De Sousa, 2012). In addition, the European Commission will from time to time declare the overall objectives for channelling aid: such as coordinated economic and social development and support for cross-border activities of the population. The Association of European Border Regions adds that cooperation is generally based on a long common history and, on that basis, deep-rooted social and cultural relations, the development of which is, in fact, one of the fundamental objectives of development.

3.2.3. Legal administrative background of the cooperation

Cooperation between States and their territories is fundamentally affected by formal, institutionalized arrangements which legally bind the parties involved in such cooperation. In the legal context of cross-border cooperation, there are many forms of declaring partnerships in law.

Chart 8: Legal background for cross-border cooperation

Institutionalized forms / **Legal Framework**	**Institutionalized organizational models**			
	• European Grouping for Territorial Cooperation (EGTC) • Other corporate entities with cross-border legal personality (EEIG, SE, SCE)	• Euroregion (e.g. EUREGIO D/NL) • Working community (e.g. Junta de Extemadura—Alentejo Working community) • Euroregional Cooperation Group (ECG)		
Community Law	Regulation by decree			

	(supplemented by national implementing legislation)
International Law	**Contracts at local and regional level:** e.g. • Mainz Agreement (between North Rhine-Westphalia and Rhineland-Palatinate)
	Bilateral and multilateral treaties: e.g. • Isselburg-Anholt Agreement • Vienna Agreement • Treaty of Hungary and Romania: Signed between the Republic of Hungary and Romania, in Timișoara, on 16 September 1996 on understanding, cooperation, and good neighbourliness (proclaimed by law with XLIV law of 1997)
	Council of Europe framework conventions and charters: • Madrid outline convention and its Protocol no 1, Protocol no 2 and Protocol no 3 • European Charter of Local Self – Government and its Additional Protocol

Source: Fejes (2010: 116)

The two main areas of cooperation are international law and Community law. International law is basically created by the states by means of agreements between themselves which are then formally recognized as binding on themselves, thereby giving legal effect to the content of the agreements. These efforts, unless they are bilateral or multilateral direct interstate agreements, are in most cases concluded under the aegis of an international organization. In the case of cross-border co-operation, the work of the Council of Europe is most decisive as an organization working to reduce or completely dismantle institutional barriers between states. It formed the first large-scale international document adopted by many states to facilitate cross-border cooperation.

The so-called Madrid Framework Convention was the result of a long preparatory work[7]. The nature of the Framework Convention is ensured by the fact that its explicit purpose is to define the framework of inter-state agreements, while respecting the sovereignty of the States, to ensure that, upon conclusion of the cooperation, to provide a solid legal basis for the content of the individual agreements. The challenge was that the member states of the Council of Europe have very diverse administrative structures, however, an international convention must simultaneously and fully adapt to these conditions. On this basis, the Convention could not have set a more ambitious goal than the outline of the frames, in particular because its entry into force required it to be adapted into the legal systems of the signatory States, and the ratification of the Convention, and the underlying legislation can impose conditions on States Parties. One of its important achievements is that it has provided a definition of cross-border co-operation, which is still not legally recognized but accepted within the framework of international law. According to the convention “transfrontier co-operation shall mean any concerted action designed to reinforce and foster neighbourly relations between territorial communities or authorities within the jurisdiction of two or more Contracting Parties and the conclusion of any agreement and arrangement necessary for this purpose”. As a framework agreement, it does not define requirements for the content of collabourations, as mentioned above, but does provide some suggestions for such content. These are the so-called "model agreements", which are also published in its Annex for the use in case of transnational cooperation and sub-national agreements. Examples of interstate agreements are as follows:

- Model inter-state agreement for the promotion of transfrontier co-operation,
- Model inter-state agreement on regional transfrontier consultation,
- Model inter-state agreement on local transfrontier consultation,

[7] Its official name: European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities – European Framework Convention on Transfrontier Co-operation between Territorial Authorities and Public Bodies, Madrid, 21 May 1980.

- Model inter-state agreement on contractual transfrontier co-operation between local authorities,
- Model inter-state agreement on organs of transfrontier co-operation between local authorities.

The following formats are recommended for cooperation between different levels of municipal units:

- Outline agreement on the setting up of a consultation group between local authorities,
- Outline agreement on co-ordination in the management of transfrontier local public affairs,
- Outline agreement on the setting up of private law transfrontier associations,
- Outline contract for the provision of supplies or services between local authorities in frontier areas (private-law type),
- Outline contract for the provision of supplies or services between local authorities in frontier areas (public-law type),
- Outline agreement on the setting up of organs of transfrontier co-operation between local authorities.

The Additional Protocols to the Framework Convention make adjustments and additions to the content of the original Convention which, based on the practical experience accumulated in the meantime, make the purpose of the document more effective. The First Protocol clarifies, inter alia, the definition of frontier areas, the second Protocol, on the other hand, contains additions concerning cooperation in non-border areas, and eliminating the mistakes of the past, the Third Protocol defined the concept of Territorial Cooperation Group, with which he recommends a more specific form of cooperation. Another major aim of the Council of Europe was to strengthen international cooperation between municipalities. As a result, under the Madrid Framework Convention the European Charter of Local Self-Government has already been established, a document extending the right of association to international level, which was subsequently associated with an Additional Protocol for reasons similar to those of the Framework Convention. Following the success of its efforts, the organization also began drafting a European

Charter of Regional Self-Government, but this work was not a success, to date, Member States have failed to agree on the content of the document on regional cooperation.

Among the international agreements covered by international law, the Council of Europe and the Madrid Convention, the Hungarian Romanian Basic Treaty deserves special mention, the „Treaty of understanding, cooperation and good neighbourli- ness (with appendix). Signed at Timisoara on 16 September 1996", which paves the way for cooperation between the two countries at local and regional level. In addition to inter-state agreements, arrangements have now been made at local level under the Framework Convention, for example between North Rhine-Westphalia and Rhineland-Palatinate.

In addition to international law, Community law also facilitates cross-border cooperation. Unlike international law, Community law means the legal sources of the European Union which apply to the Member States of the European Union and extend to them. The European Union supports cooperation in several policy areas, in addition to the general objectives of regional policy, the operation of INTERREG programs is proof that integration is truly determined to strengthen interregional cooperation. The establishment of the European Grouping of Territorial Cooperation (EGTC) as a form of cross-border cooperation with legal personality is further evidence of the efforts, agreements concluded in this context are therefore no longer subject to international law but to Community law. The disadvantage of the EGTC Regulation, as is generally the case for decisions taken at Community level, is that of the integration of Member States into their legal systems, whereby Member States may interpret Community objectives more narrowly than originally envisaged, and may incorporate EGTC regulations into their own legal order in this way.

Apart from the EGCT, there are now other company structures with cross-border legal personality in Community law, such as the European Economic Interest Grouping (EEIG), the European Company (SE), the European Cooperative Society (SCE), each of which provides a good opportunity for cross-border connections, however, practical experience shows that these forms of organization are not suitable for establishing long-term relationships.

The accession of Romania to the European Union in 2007 gave a significant impetus to the Hungarian Romanian border cooperation. Regional transformation in the country started a long time ago, between 1998 and 1999. The eight development regions established were not based solely on the borders of the counties, but in legal terms counties and local authorities have given their consent, since, the county councils concluded an agreement on the establishment of a region comprising their territory, to which the local councils gave their consent. The design already took into account the territorial nomenclature of the European Union at that time, the regions corresponding to the NUTS 2 level. After this, the opportunity was then given to join the international agreements, which were implemented by the surrounding countries during the period, along with Romania and Hungary.

Chart 9: Entry into force of major international conventions

	European Charter of Local Self-Government	Madrid Convention	Protocol no 1 to the Madrid outline convention	Protocol no 2 to the Madrid outline convention	Protocol no 3 to the Madrid outline convention	Additional Protocol to the European Charter of Local Self-Government
Slovenia	01.03.1997	18.10.2009.	18.12.2009	18.12.2003.	(16.11.2009. only signing)	(16.11.2009. only signing)
Austria	01.09.1988	19.01.1983.	18.06.2004	23.12.2006		
Ukraine	01.01.1998	22.12.1993.	05.02.2005.	05.02.2005		
Slovakia	01.06.2000	02.05.2000.	02.05.2000	01.02.2001		
Romania	01.05.1998	17.10.2003.	(05.05.1998. only signing)	(05.05.1998. only signing)		
Hungary	01.07.1994	22.06.1994.				(16.11.2009. only signing)
Croatia	01.02.1998	18.12.2009.				
Serbia	01.01.2008					

Source: Fejes (2010: 137)

Until today, most states in Central and Eastern Europe have acceded to the most important conventions. Typically, additional protocols with contentious content have been ratified to date only to a limited number. Romania joined the European Charter of Local Self-Government during the period of regional transformation, of which Hungary had been a member for about four years. Hungary acceded to the Madrid Framework Convention on

the basis of bilateral and multilateral cooperation in the same year, in mid-1994, Romania did so in 2003. Transposition of the Additional Protocols to the Framework Convention has not yet taken place neither in Hungary nor Romania, although the latter has signed the Convention some 20 years ago, it has not yet entered into force. Hungary has acceded to the Additional Protocol to the European Charter of Local Self-Government for about 10 years, but has not yet adopted legislation to enter into force. Slovenia is at the forefront in this respect, lagging behind only with the entry into force of the Third Additional Protocol and the Protocol to the Local Government Charter.

Interesting circumstance regarding the cooperation between the Hungarian and Romanian border areas is that Romania has made a strict reservation on the Madrid Framework Convention, in which it stipulates[8] that local and regional cooperation is only possible between frontier areas and makes any cooperation subject to an interstate agreement. In this way, the establishment of regional relations is also currently hindered between the two countries, since local or regional needs must receive national, central recognition before the cooperation begins, and in the case of non-border areas, the fulfillment of such needs is excluded. Hungary also made a reservation to the Convention[9], it specifies or narrows down the subjects of cooperation, which can thus be exclusively municipalities or public administrations.

[8] The exact text of the Romanian addition: „Romania states that the enforcement of the Outline Convention, mentioned in Article 1, is subordinated to concluding interstate agreements, and that the area of enforcing the provisions related to the transfrontier co-operation is strictly limited to the territory of the border counties." Declaration contained in the instrument of ratification deposited on 16 July 2003 - Or. Engl.

[9] The exact text of the Hungarian addition: „The Republic of Hungary hereby announces that until the recall of the present declaration the Hungarian authorities listed below are pronounced as those coming under the force of the European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities on the basis of the Paragraph 2, Article 2 of the Convention, in compliance with the decrees of the Hungarian Law: a.) the communal, urban, capital and its district and county self-governments; b.) the Metropolitan Public Administration Office or the County Public Administration Office." Declaration contained in a letter from the Minister for Foreign Affairs of the Republic of Hungary, handed over to the Secretary General at the time of deposit of the instrument of ratification, on 21 March 1994 - Or. Engl.

The legal precondition for more efficient and no less high-quality cooperation between the two countries would therefore be to allow for the lifting of restrictions on the territorial and subject areas of cooperation, thus opening the door to wider cooperation between both countries. Accession to the additional protocols, which already contain more precise wording, could fully address this problem from a legal point of view. Until this happens, there is in fact a legal gap in the relationship between the two countries: since minority organizations and local governments maintain active relations with the mother country in both countries (Hegedűs, 2006: 11).

3.3. Institutional framework and services for employment promotion

Employment policy is a key factor in influencing labour market trends. Processes are essentially determined by the labour market and its factors (labour, business, capital, etc.). Besides, however, each state builds institutions, processes and tools to deal with the tensions that arise (wages, employment, unemployment, etc.). The operation of the system is based on certain explicit or implicit principles, which vary from country to country. Such is the principle of the obligation to cooperate, according to which the labour market actors do not only cooperate with the state on the basis of legal provisions, but they also strive to cooperate with each other to eliminate the tensions that arise. In all cases, it is in the common interest to increase employment and develop it in different ways. All other ideas that are not closely linked to the labour market are linked to this main principle, for example, the prohibition of discrimination, which in this case states that the condition of hiring can only be the ability or qualification, and other factors - such as religious, ethnic, origin, etc. can’t.

Most of the services provided by the institutional system are free, or, in the case of financial support, they are adapted to current social needs, they are neither discreditably low (thus supporting the worker in maintaining the standard of living temporarily), nor too high (they do not generate social tension but encourage work). In addition to being free, another important factor is the goal of the institutional system, to which it adapts its tools, is to bring those excluded from the labour market for various reasons back to the world of

work, to create the conditions for them to achieve this goal. Thus, educational opportunities, as well as financial support act as an incentive to resolve employment tensions in the most natural way possible, and to have active labour market status as part of their personal lives.

3.3.1. Institutional system of employment

From the side of the state, in the logic of active and passive employment policy instruments, promoting employment means providing services in the field of access to work and employment support services, coordination and performing official duties. Therefore, modern states generally maintain a multilevel institutional network. Both in Hungary and Romania, the state has a long history of promoting and supporting employment the evolution of the current organizational structure thus reflects the result of a longer development agenda.

Chart 10: Levels and actors of the employment institution system in Hungary and Romania

	Hungary	**Romania**
Regulatory Body	National Assembly	National Assembly
Executive, strategy-making and planning body	Government	Government
Sector Manager	Ministry of Finance State Secretariat for Employment Policy and Corporate Relations	Ministry of Labour and Social Justice
Body(ies) designated for national tasks	State Secretariat for Employment Policy and Corporate Relations	National Observatory for Employment and Vocational Training, National Employment Agency
Body(ies) designated for territorial tasks	Labour administration bodies of the government offices of the capital and the county, Labour departments of district offices	County Employment Agency
Body(ies) designated for local	Local governments	villages, communes, cities,

tasks		municipalities

Source: author's own editing

In Hungary, besides the Parliament as regulator and the Government as the top executive body, the State Secretariat for Employment Policy and Corporate Relations of the Ministry of Finance carries out the employment policy tasks. As a sector manager, its responsibilities are very diverse, the State Secretary for Employment Policy and Corporate Relations is helped by Deputy State Secretary for Labour Market and Corporate Relations.

Figure 4: Organizational structure of the State Secretariat for Employment Policy and Corporate Relations

Departments	Osztályok
Labour Market Department	Labour Market Strategy and Implementation Division
	Division of Analysis and Wages Policy
Department of Labour Market Programs	International and European Union Coordination Unit
	Planning and Monitoring Division
	Program Execution Division
Labour Market Regulation Department	Regulatory Division
	Employment Law Division
	Division of Labour Law
	Division of Social Dialogue
Department of Labour Protection	Labour Inspection Division
	Occupational Safety Division
	Division of Working Environment
	Division of Labour Inspectorate Methodology and Information
Department of Employment Supervision	Employment Supervision Division
	Employment Supervision Methodology Division
	Division of Employment Information
	Division of Records
Employment Service Department	Division of Coordination and Development Programs
Key Corporate Relations Department	Division of Key Companies and Projects

Source: 3/2018. (IX. 5.) PM of the Ministry of Finance on the Organizational and Operational Regulations

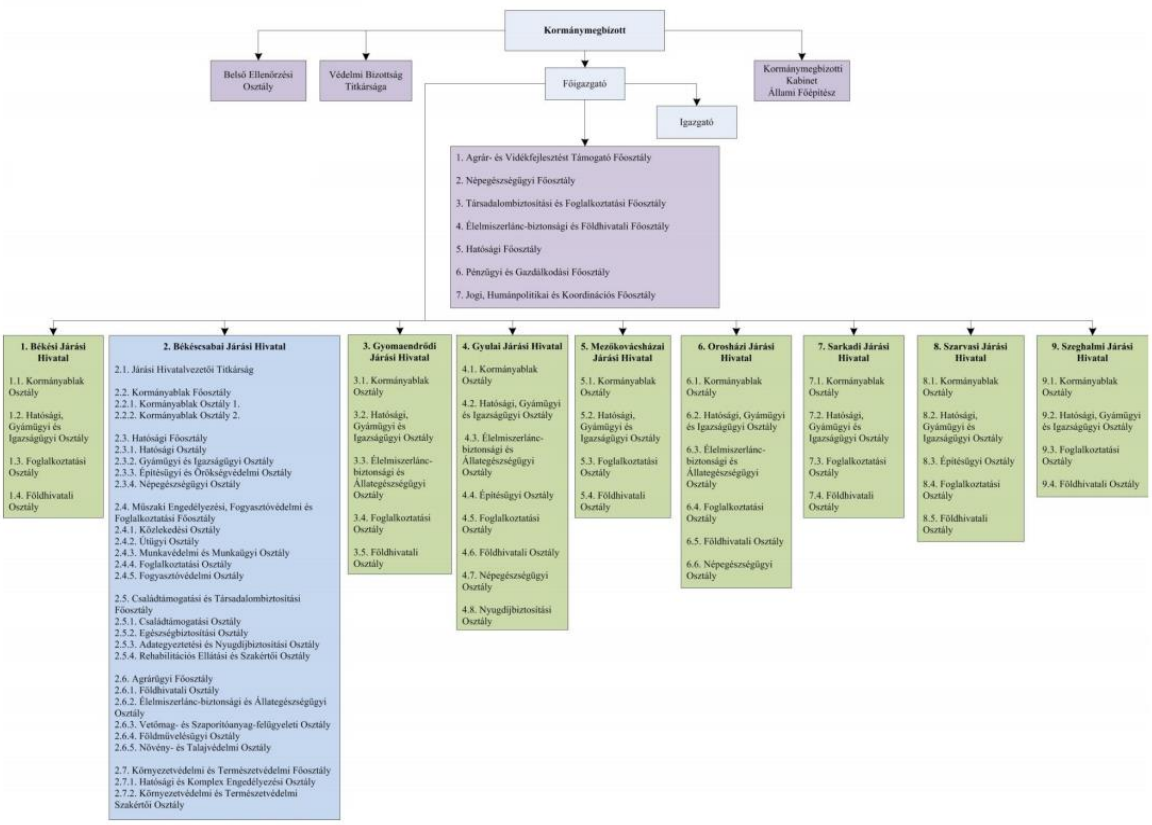
One of the most important tasks of the State Secretariat is to elaborate proposals for the sector, with special regard to the reconciliation of interests and social dialogue. It also represents the Hungarian government and the ministry in these forums, as well as in the meetings of the national forums for reconciliation of labour. An important task is to participate in the development of income and wage policy, which is not just about setting public sector wages, but also the development of government measures on private sector wages (this includes, for example, setting the minimum wage and the guaranteed minimum wage). In addition to the direct tasks of income and wage setting, the Secretariat also participates in the development of employment policy concepts, which outlines labour market policy measures in a broader context. The development of concepts, strategies and programs is not limited to employment policy, in addition, the State Secretariat also directs the development of proposals on, for example, unemployment benefits, labour market services, development of labour market training, employment and civil servant status, labour inspection and occupational safety.

The State Secretariat is also responsible for developing proposals to deal with emergency situations in employment (e.g. high unemployment or labour shortages). In connection with these tasks, it is involved in job creation, job retention, employment promotion and labour market programs. Another major function of the State Secretariat is related to companies of primary importance, relating to which it acts in order to improve their economic situation and increase their competitiveness, maintains relations. The departments of the State Secretariat carry out preparatory and coordination activities in relation to these tasks. Sectoral management functions are therefore concentrated within the organization of the Ministry of Finance. The employment policy area has a special State Secretariat, where labour market sector management is closely linked to business relations. In this way, the human resources and the parallel public tasks of the enterprises are fulfilled.

Under the state secretariat level, which is at the top of the employment institution system and has the role of sectoral leader, the Public Employment Service operates within the frames of the National Employment Service, which is, in fact, the most extensive state-run job placement organization at national level. Due to its organizational nature, the institution aims to facilitate access to job access and employment, and in the interest of this

goal, assisting jobseekers and employers alike in matching supply and demand. The Service does not carry out its functions through an autonomous system of administration, but within the capital and county government offices and district offices as their administrative body for labour matters.

Figure 5: Organizational structure of the Government Office for Békés County



Source: 39/2016. (XII. 30.) MvM on the rules for the organisation and operation of capital offices and county government offices

For example, within the organizations of the Government Office for Békés County[10], the Department of Social Security and Employment, under the direct supervision of the Director General, and the employment departments operating within the district offices, are responsible for promoting employment. Departments perform the following key employment-related tasks:

- providing information and counselling (including on labour law and occupational safety issues),
- coordination of central labour market programs,
- Implementation of employment and training programs financed by EU funds,
- development of own labour market services,
- collecting and analysing data on its own activities.

Local authorities are mainly involved in the organizational structure in monitoring local employment conditions, cooperating with higher authorities and performing local employment tasks.

The institutional system of employment in Romania is also multilevel and similar to the Hungarian institutional structure - the role of the Parliament and the Government is the same and unchanged. The sectoral management functions are carried out by the Ministry of Labour and Social Justice, coordinating and managing employment-related (employment, equal opportunities, social protection, etc.) policies based on Government guidelines. As part of its preparatory work, it develops documents on employment strategy, performs preparatory legal and codification tasks of legislation, controls them and carries out

[10] The detailed organization chart of the Békés County Government Office can be found in the Appendix.

significant legal harmonization work to ensure compliance with European Union law. Its workforce-specific tasks are listed below.

Chart 11: Main task groups of the Ministry of Labour and Social Justice

1.	Development of various policies, strategies, plans and legislative proposals in the field of employment and training
2.	Development, update and monitoring of national strategies for employment and continuous training
3.	Monitoring of vocational training and occupational activities
4.	Collaborate with other ministries and institutions to develop the National Qualifications Framework
5.	Proposing and implementing projects funded by the EU or other sources and implementing bilateral cooperation projects in the field of employment and vocational training
6.	Analyse and approve annual national employment and vocational training programs proposed by the National Employment Agency
7.	Defines performance indicators that form the basis of a contract with the National Employment Agency
8.	Maintains and updates the classification of occupations in Romania, provides suggestions for different users and qualifications, and organizes classifications for training program certificates.
9.	Coordinate and monitor the functioning of the National Employment Committee
10.	Controls the National Observatory for Employment and Vocational Training

Forrás: Szűcs (2012)

The National Observatory for Employment and Vocational Training is complementing the ministry's steering and strategy-building activities, which, through its information gathering and service activities, contributes to the observation and interpretation of employment-related processes and trends. In addition to its statistical tasks, it assists the industry with regular analyses and maintains regular contacts with state and non-state actors in the field. It therefore functions as a kind of information centre within the institutional system and does not have the role of independent decision-maker or executive in relation to employment.

The National Employment Agency is the national body of the organizational system serving the role of the labour office, subordinate offices include county offices and training centres. As opposed to the National Observatory for Employment and Vocational Training, the National Employment Agency is actively involved in improving the quality of the labour market and employment through its employment services and training. County

Employment Agencies under the national agency do some sort of mixed work, they also act as employment mediators and employment centres in relation to employment, they also provide counselling, legal assistance and other ancillary services to the workforce and the entrepreneur. Its priority is to provide, at county level, the services defined and developed at national level by the National Employment Agency. The task of the local level is similar to that of Hungary, the provision of information and cooperation between settlements of different statuses completes the system of employment institutions and its services.

The following section provides a more detailed overview of the services available within the institutional framework for promoting employment.

3.3.2. Labour market services

Employment promotion services have traditionally been classified as active employment policy tools, in Hungary and Romania as well. Services provided within the institutional framework of employment policy aim at reintegrating the unemployed into the world of work through various incentives and assistance - as opposed to passive tools, the purpose of which is solely to support the unemployed in cash and in kind in order to maintain the standard of living needed to find work and to return to work on their own. Services (tools) vary from country to country, but they are very similar, as the employment policy set of tools may operate in a limited number of ways in each state to encourage or assist the passive layers to work. Below we summarize the labour market services of Hungary and Romania, giving a brief insight – before the empirical study of the employment situation – on how the countries under review are currently trying to positively influence labour market trends and processes.

In Hungary, active labour market instruments are basically divided into six groups (Rákó, 2012):

- facilitating participation in training

- subsidies to increase employment
- support for the employment of people with disabilities,
- support for job seekers to become entrepreneurs,
- support for job creation and job retention,
- support for labour market programs, part-time employment

As it can be seen from the list, they want to use active tools to influence more than one participant in the labour market. Some of them improve the position of workers in the labour market by making them more qualified or by promoting the transition from employed to self-employed. The other part creates a positive situation for employers, for example by envisaging budget support to increase their workforce capacity. Employment of disadvantaged groups in the labour market is also encouraged by subsidies, affecting both the employee and employer side, by making the conditions for atypical employment (for example, part-time or home office) more favourable. Favourable conditions are created for employers to employ atypically employed workers. Employees are also encouraged to switch to non-traditional forms of work.

Facilitating attendance at training involves paying all or part of the cost of the training or supplementing the employee's earnings in some form, in all cases, for state-recognized training courses that are in line with current labour market needs, that is, there is a shortage of skilled workers over a given period. The financial background of the training is provided by the National Employment Fund. Within the group of unemployed, the target group for training is the disadvantaged in terms of the job market. Rehabilitation of people with disabilities should be particularly encouraged, and the young unemployed. In addition, support is provided for the return of parents of children to the labour market, for those who have lost their employment within one year, participants in public employment and whose regular employment cannot be ensured without training.

Employment growth grants are targeted at employers, wage and social security contributions may be granted after the recruitment of a disadvantaged worker. Under the law, support can be applied for up to half of the wages and contributions, this ration is slightly higher in the case of employing a person with a disability. Although the previous

services help integrate the disabled into the labour market, supporting the employment of people with disabilities helps them in a targeted way. In addition to wage subsidies, support for the employment of a workplace helper may also be claimed if the condition of the disabled worker requires it, or if the assistant is actively providing assistance in half or two-thirds of its worktime.

Support for jobseekers becoming an entrepreneur arises when a person becomes self-employed or joins a business (not as an employee). Persons registered as unemployed for more than three months receive a non-refundable grant up to a certain ceiling, although the regulation also demands the availability of own contribution, and stipulates security in the event of non-compliance in the future. Support for job creation and retention is normally required for the creation of new jobs, the retention, restructuring and modernization of existing ones. The form of support is also subject to a rent ceiling, which is supplemented by a support time limit. Labour market programs are also supported by the National Employment Fund for programs that are in line with regional employment objectives. Many types of atypical forms of employment are eligible based on individual agreements.

Finally, labour market services in a narrower context[11] include the provision of information (mainly on job opportunities and other labour market related and available data), job counselling (more proactive job placement, even in the form of a plan), career counselling (in case of career selection, leaving), job search counselling (on specific job search techniques), rehabilitation counselling (for those with disabilities, summarizing the above categories), psychological counselling (to deal with job-related psychological problems), and the mentoring service (for those in need of personal help).

[11] Services mentioned in Government Decree 30/2000 on labour market services and related subsidies (IX. 15.) GM can be classified here. In a broader sense, the above-mentioned financial and non-financial services that can be provided to employees and employers are labour market services.

In Romania, several bodies provide labour market services. For example, the National Observatory for Employment and Vocational Training associated with disadvantaged groups provides them with information on current labour market trends and job opportunities. The National Employment Agency provides much more extensive services to workers and employers. The main service groups are:

- courses, retraining,
- mediation between labour market actors,
- operating a support and service system,
- making professional recommendations,
- liaising with relevant stakeholders,
- implementation of supported programs.

The Agency provides information and advice to the unemployed, in addition to job-specific information, to develop the generic skills needed to find a job. It also provides job placement services, maintains a settlement-level database of job vacancies and records jobseekers, makes them an individual placement plan. It also organizes job fairs at specific intervals, also specific to a given staff where it brings together those offering and seeking a job. Vocational training and retraining are available free of charge to a specific group of people, similar to the Hungarian service. In addition to those with no practical experience, they also support the further training and specialization of professionals in order to find employment more effectively. Entrepreneurial advice and assistance are provided free of charge, especially for those who have also benefited from the preferential credit facility under the unemployment fund; information is provided in the professional fields (law, finance, marketing, etc.) required for starting a business. Special compensation is payable to those who start to work before the end of the unemployment benefit period, here, however, direct financial support can be considered an active, incentive tool. Finally, in order to facilitate labour mobility and flexibility, they also support those moving because of changing their job and long-distance commuters.

Employment services include support for the employment of career entrants, which puts those who want to enter the labour market in a favourable position. Financial support

can also be requested for the organization of further training, provided that real professional training is provided in accordance with the conditions laid down. Employing workers from disadvantaged groups (disabled, elderly, retired) are also supported. Favourable loans for small and medium-sized businesses is available when new jobs are created, and those employing student workers also receive financial support. The Agency also maintains an adult training program and mediates job opportunities abroad. County Employment Agencies provide service groups at county level for the national body, for the target groups.

4. QUANTITATIVE ANALYSIS OF THE EMPLOYMENT SITUATION

As a first step in the comparative study of the employment situation, the spatial delimitation of the study is performed. Since we assume that the cross-border cooperation between Békés and Arad counties and its success will be fundamentally influenced by the labour market processes in the general, wider geographical units, the Southern Great Plain and Western Romanian regions, Hungary and Romania and the European Union in general, spatial delimitation is done by geographical units. In this context, we mainly report features of economic geography and settlement structure, and analyse other relevant aspects, allowing the non-economic indicators of the counties, regions and countries on both sides of the border, as well as the similar indicators of the European integration to highlight the differences and similarities, along which the economic-type cooperation of the smaller areas should be evaluated.

Comparison of the two counties is then performed in a matrix system with horizontal and vertical directions of examination. Horizontal directions cover the allotment of the different categories relevant to the labour market actors.

1. Population Processes
2. Population composition
3. Basic economic data and performance
4. Labour force activity
5. Employment capacity of economic sectors
6. Structural and regional characteristics of unemployment
7. Income and earnings of employees
8. Business operations

9. The social, educational and health status of human resources

In addition, the study is conducted at a vertical level in four analytical dimensions of different depths.

Figure 6: Quantitative assessment chart of the employment situation

EU: The European Union average is more favourable M: Hungarian data are more favourable R: Romanian data are more favourable R/M: countries are identical –: no data at that level / dimension		Horizontal examination dimensions								
		1. Population processes	2. Population composition	3. Basic economic data and performance	4. Labour force activity	5. Employment capacity of economic sectors	6. Structural and regional characteristics of unemployment	7. Income and earnings of employees	8. Business operations	9. The social, educational and health status of human resources
Vertical examination levels	A. European Union data	Data from the 28 (19) Member States of the European Union (sometimes supplemented by candidate and Schengen states)								
	B. National data	Data for Hungary and Romania (sometimes supplemented by data from other reference countries such as Germany)								
	C. Regional data	Figures for Southern Great Plain and Western Romania								
	D. County data	Data for Békés County and Arad County								

Source: author's own editing

At the first level „A", European comparative data serves to compare each horizontal category more broadly with the 28 Member States of the European Union (in some cases with the 19 countries of the Eurozone, the candidate countries and the Schengen area), with outstanding or significantly lagging values in individual Member States. At this level of examination, we research if data from Hungary and Romania, or the European Union average, is more favourable. At the second level, „B", we compare the aggregate results of the countries under study, thus putting the performance of the two countries in the EU space in a narrower context. The third level, C, is for the regions under study, so that the reader can get a comprehensive picture of the values of the wider geographical units that

are already in the immediate vicinity of the counties. Finally, the last, the fourth level shows and compares counties, which are now comparable to regional, national, and EU values. At the fourth, vertical examination level „D", in addition to comparing the data of Békés County and Arad County, in some cases - if it is relevant - data from other counties of the Southern Great Plain and Western Romania region are mentioned as additional context.

In other respects, the study is conducted in a kind of onion model where the results of the wider geographical dimensions help to accommodate the results of the next, narrower geographical dimension – national values in EU values, regional values in national values etc. For some data, depending on the availability of data, some elements of the above model are ignored. The tables in the Annex are used for the ex post verification of the test and the data which are provided in detail for the sake of completeness.

The following subsections provide basic data for the countries, regions, and counties studied, indicators and groups of indicators that are integrally linked to the labor market are then listed in separate structural units.

4.1. Spatial delimitation of the research

The geographic focus of the employment situation survey are two Central and Eastern European countries, Hungary and Romania, and the smaller territorial units of these two sovereign, self-governing and autonomous communities, on the Hungarian side, Békés, which is part of the Southern Great Plain Region, and on the Romanian side, Arad county, which is part of the Western Romanian Development Region, The starting point for similar spatial researches is mostly the justification of what kind of theoretical starting points provide basis of the given geographical unit, that is, what reasons and principles lie behind the delimitation. And although the primary condition for conducting this research is a grant from the European Union, awarded to organizations in both countries, the cooperation between the two countries covers a much wider time-, spatial- as well as professional spectrum.

Cooperation between neighbouring states is now a traditional form of cooperation for two states, their primary purpose is to provide mutually advantageous benefits by crossing artificial borders, sharing the resources available to each country, or increase resource efficiency through joint use and collaboration. In Central and Eastern Europe, many motives make cross-country co-operation more attractive and desirable. The most common features are as follows:

- cultural similarity: the national policies of modern states also include care of those people of the same culture, staying across borders for a variety of reasons, speaking the same language as its mother tongue citizens within the scope of state (or national) care, in other words, affiliation to a nation does not require citizenship or permanent (or even temporary) residence in that country
- smaller geographical distances, artificial boundaries: the frontier areas of European states are in most cases no less densely populated than the internal areas of the countries, and there is no natural boundary (such as a mountain range or a sea) that prevents or hinders physical cooperation;
- mixed language environment: in many cases, the spoken language and the territory of a given country do not coincide, and this reinforces cultural similarity and is in itself a driving force for cooperation, therefore in border regions, there are mixed communities that speak the languages of two neighbouring countries or only the language of the country on the other side of the border
- Interoperable borders and connections: the transport infrastructure of European states is well developed, and interoperability is further enhanced by institutional links between states, for example, and above all, communities such as the European Union, which in practice by the Schengen agreements make the crossing of borders across borders simpler and faster. In addition, interoperable borders also bring about a revival of economic relations, as in other regions, it also affects the cross-border business activities of the region

under investigation by allowing the free movement of goods, services, capital and people.

The above considerations apply especially to the Hungarian Romanian border region. The geopolitical position of the two countries, the composition of their populations and their historical interrelations also warrant and enable future cooperation. And since joining the European Union, the two countries, along with the rest of the EU, are forming a coherent zone, within which the various forms of cooperation are now institutionalized. The common economic, social and infrastructure development objectives in the region can further strengthen these aspirations, which can also affect the links with more advanced regions.

Based on the above, the research covers the employment situation in Arad and Békés counties, adding that it analyses the positions of the two counties in their closer and more distant contexts. The subjects of the study are presented in three dimensions below: the own and relative position of countries in the wider context, regions with a narrower context, and the counties that are the focus of the research.

4.1.1. Countries of the research: Hungary and Romania

Hungary is located in the Carpathian Basin, bordered by the Carpathians, the Alps and the Dinaric Alps in central Europe. Its 93,023 square kilometres account for about 1 percent of Europe's total area. At the end of 2018, its population was officially 9,778 million, the average population density in the country is 105.1 persons / km2. The territorial and municipal structure of the country is governed by the Constitution of the country, the Fundamental Law. At present its territory is divided into 3 larger units (not functioning as an administrative unit and not having an independent organization), Western, Central and Eastern Hungary, namely Transdanubia, Central Hungary, the Great

Plain and North, within which we designate 7 regions for planning statistical purposes. The regions of Northern Hungary, Northern Great Plain, Southern Great Plain, Central Hungary, Central Transdanubia, South Transdanubia and West Transdanubia each contain 1-3 counties. The 1949-1950 territorial reform created a total of 19 counties[12] out of the 25 counties remaining within the country's borders, which are such territorial units, that consist of smaller administrative units.

Text box 1: previous year of Hungarian trade and economy

The most significant sectors of the Hungarian economy in 2018 were as follows: industry (25,9%), wholesale and retail, goods and passenger transport, accommodation and catering (18,5%), and public administration, defence, education, and human health and social care (16,8%).

Trade within the EU accounts for 82% of Hungarian exports (of which exports are 27% to Germany and 5-5% to Romania, Slovakia, Austria and Italy). As export outside the EU, 2% of Hungarian goods are sold in the United States, and an additional 2% in the Ukraine.

75% of the products imported to Hungary come from EU member states (25% from Germany, 5% from Austria, 5-5% from Poland and the Netherlands). As the non-Eu import regards, 6% of the products come from China, 5% comes from Russia.

Source: website of the European Union (2019)

By the division of the counties, such administrative territorial units integrating a certain group of settlements have been in operation since historical times until 1983 we call districts. After their dissolution their role was briefly taken over by the micro-regions, then

[12] Counties in Hungary: Bács-Kiskun county, Baranya county, Békés county, Borsod-Abaúj-Zemplén county, Csongrád county, Fejér county, Győr-Moson-Sopron county, Hajdú-Bihar county, Heves county, Jász-Nagykun-Szolnok county, Komárom-Esztergom county, Nógrád county, Pest county, Somogy county, Szabolcs-Szatmár-Bereg county, Tolna county, Vas county, Veszprém county és Zala county.

in 2012 the country's district structure was reorganized. A total of 175 districts were created within this framework, 6-18 in each county, with its own administrative structure and tasks and competences. The municipalities have the lowest territorial level below the districts, comprising a total of 3,154 settlements, of which 328 are towns, 119 are large settlements, 2,707 are municipalities and 23 are metropolitan districts.

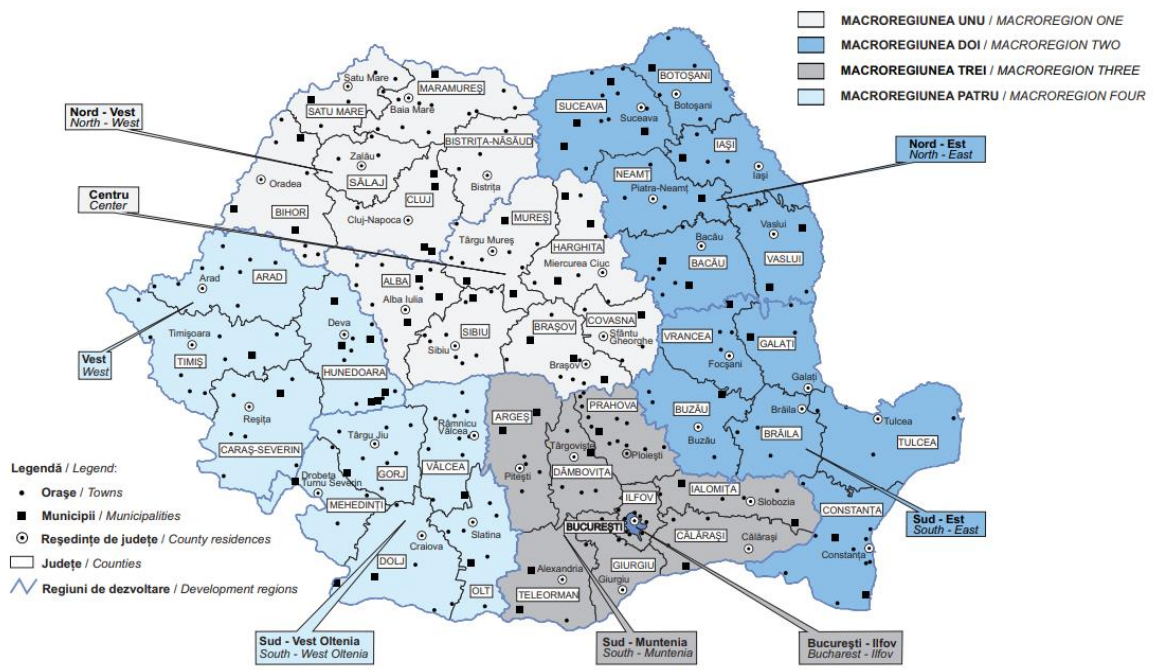
The capital of the country, Budapest, located in Central Hungary, within the territory of Pest County but legally independent of it, has a special position in several respects. In a politically geographical sense, it is an enclave - an administrative unit whose entire territory is surrounded by a non related county. In addition, Budapest has a unique in the country two-tier government system. 23 capital districts and their municipalities operate alongside, and not under, the Metropolitan Municipality, that are not in a relationship of subordination. The other atypical territorial unit in the Hungarian administration is the cities with county rights; among the 23 settlements are the seat cities of the counties, and 5 other settlements forming a territorial unit that is not geographically separate from the counties, but in contrast, they have special powers specific to the counties. This difference is also reflected in the structure of their municipalities.

Figure 7: The territory of Hungary, broken down by administrative and statistical levels

Source: GeoX (2019)

Romania is located in the geographical centre of Europe (south-eastern Central Europe), north of the Balkan Peninsula, in the arches of the Carpathians and beyond, in the lower part of the mountains. It is located on the lower part of the Danube (1075 km) with an exit towards the Black Sea. It has an area of 238,391 square kilometres and has a population of around 20 million according to recent measurements (according to the World Bank 2017 figures, it has a population of 19,586 million people) It is the seventh largest country in the European Union by area and population.

Figure 8: The territory of Romania, broken down by administrative and statistical levels



Forrás: Institutul Național de Statistică (2018)

The area of Romania is administratively divided into several levels, similar to Hungary: villages, communes, cities, municipalities and counties. The village is the smallest territorial unit with typical rural settlements. A commune is a territorial administrative unit consisting of a rural population united by local interests and traditional community relations, including one or more villages (one of which is the seat of the village). The city represents the residence of a more concentrated human community, it has an administrative function, with a diverse, structured population in many respects, with a population dominated by non-agricultural sectors. A municipality is a city with an important economic, social, political and cultural role, usually with an administrative function. The county is a traditional administrative territorial unit in Romania, comprising cities and towns, depending on the geographical, economic and social political context and the cultural and traditional relationships of the population.

Romania's regionalization changed from a former provincial position to a county system following a reform in 1968. The country was divided into 39, after further reforms, 42 counties including Bucharest municipality. In addition, 8 development regions have been created as territorial (non-administrative) units, which include several counties.

Chart 12: Border sections of Hungary and Romania

	Length of the border	Length (km)	Ratio (percent)
Hungary	Slovakia-Hungary	677	30,9
	Austria-Hungary	366	16,6
	Slovenia-Hungary	102	4,6
	Romania- Hungary	443	20,2
	Croatia- Hungary	329	14,9
	Border sections with European Union countries	1917	87,2
	Serbia- Hungary	151	6,8
	Ukraine- Hungary	133	6,0
	Border sections with countries outside the European Union	282	12,8
	Altogether:	2201	100,0
Romania	Hungary-Romania	443	17,7
	Border sections with European Union countries	443	17,7
	Bulgaria- Romania	608	24,2
	Ukraine - Romania	531	21,2
	Serbia - Romania	476	19,0
	Moldova- Romania	450	17,9
	Border sections with countries outside the European Union	2065	82,3
	Altogether:	2508	100,0

Source: Baranyi (2005) és The World Factbook (2015)

The territorial unit above the counties is the 4 macro-regions, which are not administrative units and thus do not have legal personality. Their establishment ensures the collection, compilation and transmission of regional statistics in a coordinated manner with the European Union at supranational level. The capital of Romania is Bucharest, which has about 1.8 million inhabitants and is divided into 6 administrative sectors, it is the most important political, economic, cultural and science centre of the country.

The length of the border sections between Hungary and Romania - despite the differences in size between the two countries - do not differ significantly. Hungary has a total border length of 2,201 km to neighbouring countries and Romania has a total length of 2,508 km. The major difference is due to the location of the two countries within Europe: Romania is currently the eastern gate of the European Union, therefore, of the

members states, it only shares a border with Hungary, 443 km. In contrast, Hungary is surrounded by member states in the west, north and part of the east, a significant part of its border sections (87.2 percent, 1,917 km) are thus considered as internal borders within the community. Romania, on the other hand, maintains external borders at a distance of 2.065 km (82.3% of its total borders)

Comparison of the two countries is possible from the point of view of the European Union in terms of statistical design nomenclature. This territorial classification subdivides the entire geographical area of the EU Member States according to uniform principles (roughly the same size in their respective territories, harmonizing with their respective administrative positions) for the purpose of comparability. The NUTS (Nomenclature of Territorial Units for Statistics) level 1, level 2 and level 3 and the LAU (local administrative units, former NUTS 4 and 5) level 1 and 2 cover the territories of the Member States from the smallest units in the EU Member States to the largest macro-regions. Starting in 2016, the European Union, based on practical experience, has created a single LAU level, eliminating the former LAU level 2.

The division is based on population. The nomenclature assigns different thresholds to each level, from which specific geographical, socio-economic, historical, cultural or economic circumstances allow derogations. A further rule is that the NUTS rank should be adapted to the administrative boundaries of the area, and where this is not possible, a single NUTS region should be created by merging several administrative boundaries. This is based on the fact that the administrative structures of the countries already reflect some form of cooperation, and this is likely to lead to similarly effective cooperation in the developed NUTS region.

NUTS 1 regions have a minimum population of 3 million and a maximum of 7 million; a region with a higher population cannot therefore be created unless special circumstances prevail, otherwise it must be further subdivided into smaller units. This level therefore covers large regions even in the case of larger population countries, up to a whole country size for smaller countries. The population of NUTS 2 regions is determined between 3 million and 800,000 people, which is still a significant population; in Europe,

for example, only a few capitals fall into the category; in all other cases, the consolidation of several territorial units is necessary to form such a region. NUTS level 3 has thresholds of 150,000 and 800,000, which is typically specific to some not too a big size county and some major cities per country, but typically to capitals. LAU is the level appropriate for the smallest territorial units: towns, communes, municipalities and cities, although, due to the structure that has been developed, there are significant differences within and between countries. [13] On this basis, the NUTS and LAU classifications of the countries examined are as follows.

Chart 13: Hungary and Romania NUTS and LAU classification in the European Union

	Hungary	Romania
NUTS 1	Statistical large regions: Central Hungary, Transdanubia, the Great Plain and the North	macro regions: 1. macro region, 2. macro region, 3. macro region, 4. macro region
quantity	3	4
NUTS 2	Planning and statistical regions: Central Hungary, Central Transdanubia, Western Transdanubia, Southern Transdanubia, Northern Hungary, Northern Great Plain, Southern Great Plain	Regions: North West, Centre, North East, South East, South Muntenia, Bucharest Ilfov, South West Oltenia, West
quantity	7	8
NUTS 3	Counties and Capital: All counties of Hungary and Budapest	Counties and Capital: All counties of Romania and Bucharest
quantity	20	42
LAU	Settlements	Communes, municipalities and cities:

[13] For example, according to statistics from 2016, the minimum population in Hungary is 10 (the smallest settlement), and the maximum population is 1 million 752 thousand (of the capital). The average population was 3.098, which, however, does not properly reflect the local level due to the high variance. In Romania, the same range is between 120 and 2 million 110 thousand, with an average of 6.983. Source: https://ec.europa.eu/eurostat/web/nuts/local-administrative-units (last download: 19.09.2019)

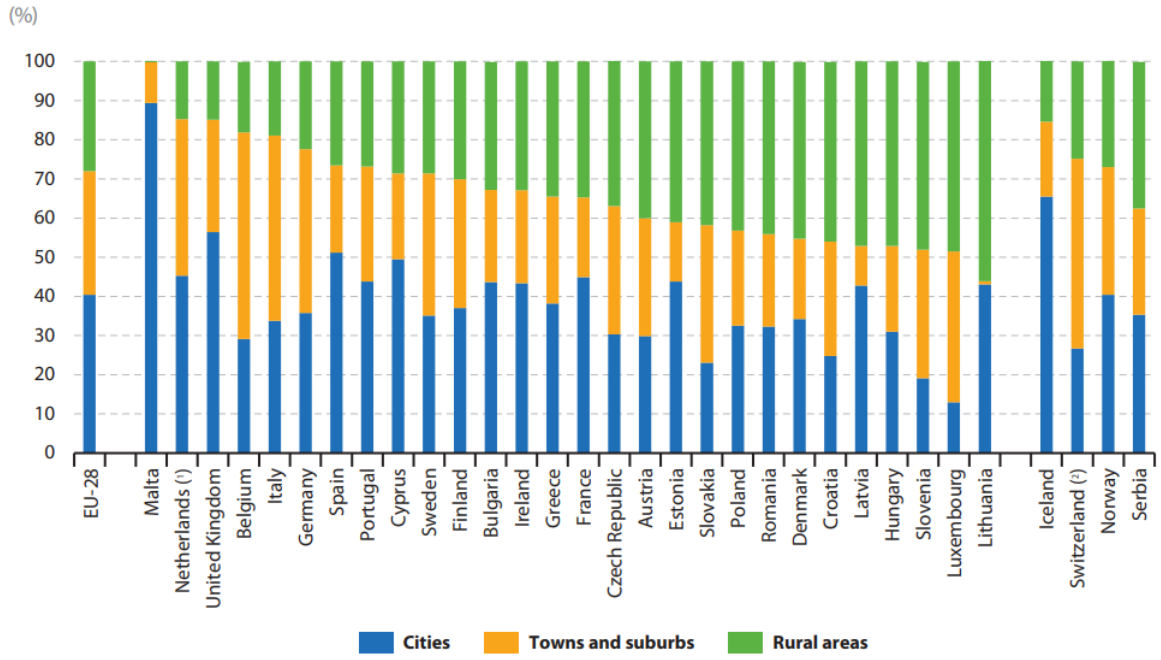
	All cities in Hungary	All communes, municipalities and cities of Romania
quantity	3.154	3.180

Source: Eurostat (2019)

There are many ways to determine the level of development of a country and its regional disparities within the NUTS nomenclature. In the present case, the degree of urbanization of the LAU level is taken as the basis for the regions under consideration, because it is well known that the presence of cities also means an abundance of services in the countries, low level urbanization (or rural character) means lower levels of service and development.

The proportion of cities within the European Union is around 40%, with significant differences between Member States: in the United Kingdom, for example, the proportion of urban areas is above average, at 56%, while in the eastern part of Europe it is lower. Western Europe is also not generally characterized by high urbanization (Belgium and Italy, for example, have values below average), On the other hand, east of the Central Europe line, values of 30 percent and below are typical. Hungary's value among these countries is 30 percent, while Romania's value is 31-32 percent.

Figure 9: Population distribution in the European Union by degree of urbanization



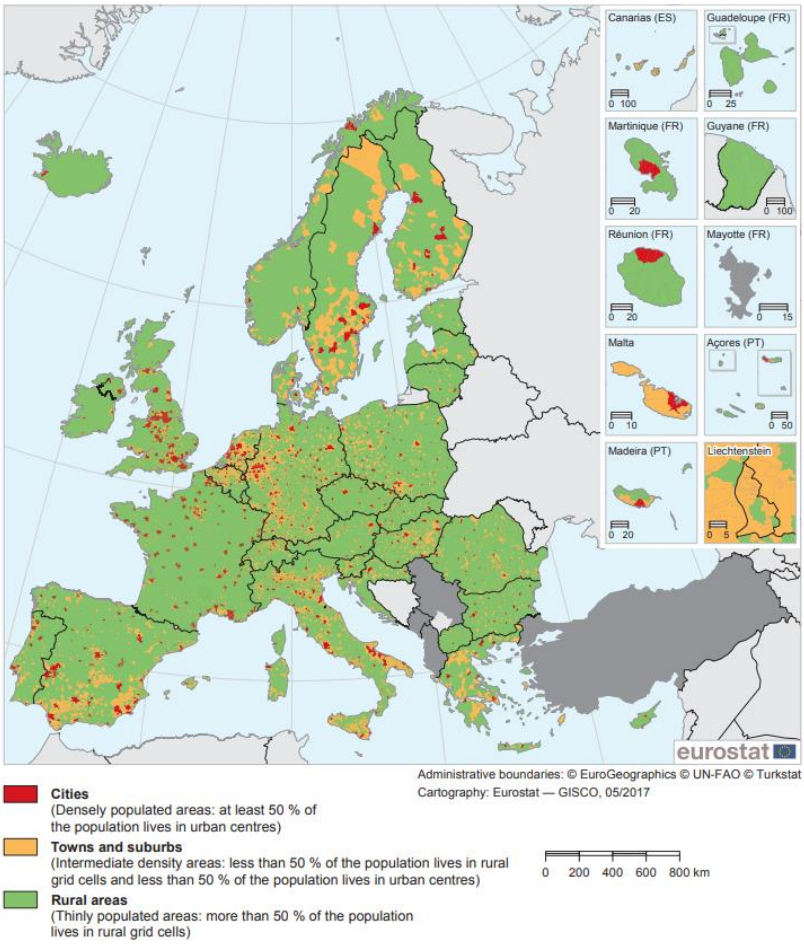
Forrás: Eurostat (2019)

However, the spatial location of urban and less urban areas is much more informative than average values, which can show the geographic distribution of urban development within a country. Although urbanization is a significantly simplified concept for determining development, yet it is telling to compare the spatial structure of developed and less developed states in this way, which shows a kind of network of where in each country are those areas where living conditions, quality of life, work-related characteristics (wages, working conditions, etc.) are better than average. Based on the databases and extensive analytical base of the Statistical Office of the European Union, urbanization is analysed in a triple division.

The map below shows the different levels of urbanization in Europe, divided into three categories: more than half of the population of a given LAU unit lives in urban centres in (large) urban areas, which also results in a higher population density (red on the

map), in urban and suburban areas, more than half of the population lives in rural areas and less than half in an urban centre (marked in orange), whereas in rural areas more than half of the population lives in rural areas (marked in green).[14]

Figure 10: Degree of Urbanization in European Union Countries by LAU Levels, 2018 (Urbanization Levels)



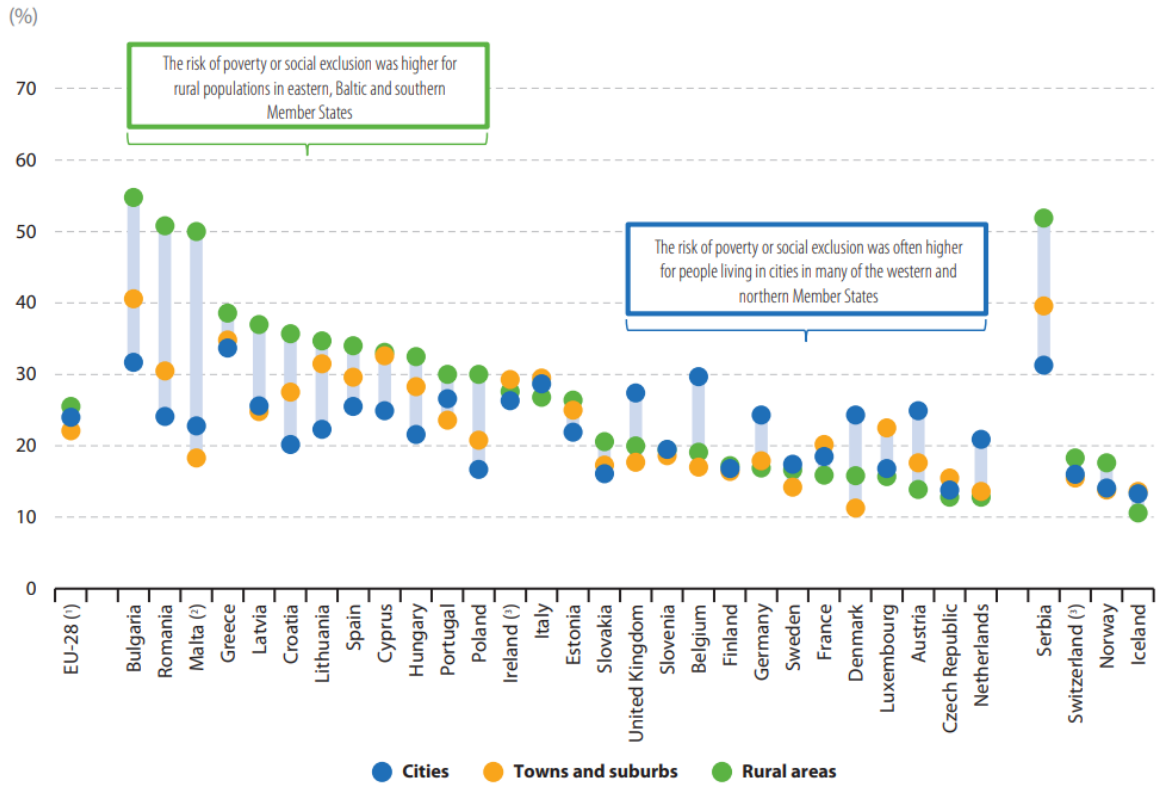
[14] It is an essential addition that population density of densely populated (urban) clusters is at least 1,500 inhabitants / km2 in EU view of urbanization in such a way that the neighbouring cells produce a population of at least 50,000. The population density in the middle-populated (urban) clusters is at least 300 persons / km2 and 5,000 inhabitants are produced by adjacent cells; areas below these values are called rural. Based on this, we can consider an area to be urban (marked in red on the map), if more than half of the population in neighbouring LAU units live in densely populated areas, small town, if half live in densely populated areas, half live in moderately populated areas and rural if the area does not meet any of the previous criteria.

Forrás: Eurostat (2019)

From the map above it can also be concluded that the territory of Hungary and Romania is generally only sparsely urban. Although there are plenty of small towns on the south-eastern (southern Great Plain) borders of Hungary, there are no big cities in the area, settlements with the characteristics of metropolitan life, which can be called regional centres. In the western region of Romania, small towns are also sporadic.

The rural way of life does not in principle mean a lower quality of life; the country's overall economic position is a major determinant of the standard of living of its citizens, regardless if they live in urban or rural areas. In the present study, however, we make the statement, which is in line with public opinion that higher quality of life requires more services for the general public and businesses, which obviously also means urbanization for the area.

Figure 11: Proportion of people at risk of poverty or social exclusion by degree of urbanization



Forrás: Eurostat (2019)

To prove that the urban lifestyle is more beneficial to the population, it is sufficient to examine only the proportion of the population at risk of poverty or social exclusion in the light of the above territorial classification. This indicator combines the presence of low income, labour intensity and material deprivation with the aggregation of relevant economic indicators.

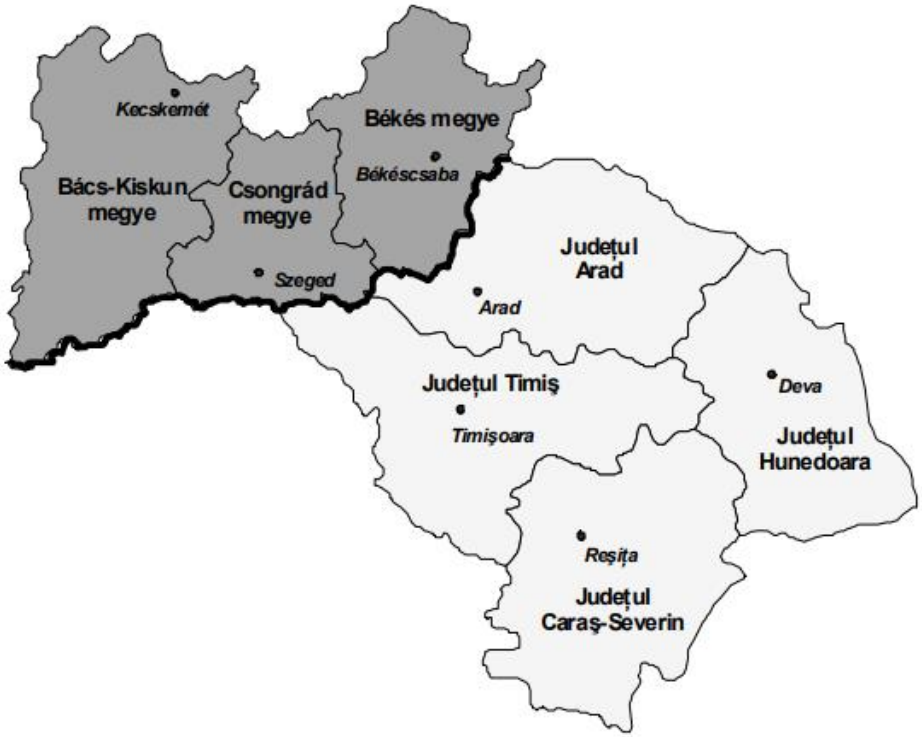
It can be seen, as the explanation of the figure shows, that in the Eastern, Baltic and Southern states the risk of poverty or social exclusion is much higher in rural areas than in urban areas. In Romania, the proportion of the respective population in rural areas is about 30 percent higher than in urban areas (in rural areas 55% of the population is affected, in urban areas it is 24%). In Hungary, the difference in development is 10 percent, such a higher percentage of the population is exposed to these dangers. The same value in Western Europe is lower in absolute value and shows an opposite trend: in more developed countries (e.g. UK, Germany, Belgium, Austria) the urban population is more at risk. The third group of countries (also referring to Western Europe) exhibit the same - and typically low - levels of threat at each level of urbanization. This includes, for example, Sweden, the Czech Republic and Finland. These countries are more homogenous in terms of urbanization and thus less vulnerable to the dangers of poverty.

Overall, there is no urban centre in a vast, large area of the border region which would provide services and human resources up to the level of self-sufficiency, compared to, for example, some Western European countries, where the urban networks clearly show the centre or centres of the countries. Rural life also carries the risk of poverty and social exclusion. Instead of rural areas becoming urban areas, cooperation, sharing resources and increasing efficiency between the less developed regions can provide an appropriate solution to this problem. The difference in regional development justifies the need for cooperation of the Hungarian border region in Romania, and the justification for the territorial delimitation of the research. However, this latter statement already leads to justification of the analysis of the regions to be analysed.

4.1.2. Regions of study: Southern Great Plain and Western Romania

The relationship between the two regions studied is most easily described by the concept of a border region already discussed in the earlier part of the study. Basically, a border region is an area - more precisely two adjacent regions - that is located on either side of a border, or, alternatively, two adjacent regions separated by a state border. In the case of the research, the study analyses a county in the Southern Great Plain of Hungary and one in Western Romania. However, the following sub-paragraph concerns a total of 4-4 counties of border areas on both sides of the border as regional context, which, for this reason, include parts of the Northern Great Plain region on the Hungarian side and the north western development region on the Romanian side.

Figure 12: Counties of the border regions under review and their seats



Source: Kovács and Szűcs (2011)

The total area of the Southern Great Plain Region is 18,335 km^2 and that of Western Romania almost twice as large, 32,033 km^2 the former covers about one-fifth of its own country and the latter one-sixth of its own country. The population of the Southern Great

Plain Region was 1 million 243 thousand in 2018, while the population of Western Romania was 1 million 784 thousand.

The state border section between them is 176 km long. The terrain of the regions is unchanged on the Hungarian side, since the Southern Great Plain region is located entirely on the Great Plain, while the western region of Romania is made up of flat soils and hills and mountains. Following on from the earlier analysis of the settlement structure of the two countries, of the two regions examined, the Hungarian side has larger towns and (by national comparison) larger towns and settlements, to which large farmland areas are connected. The Romanian side, on the other hand, is more characterized by the presence of smaller settlement units, most of which are organized into communes[15], and larger cities are also present.

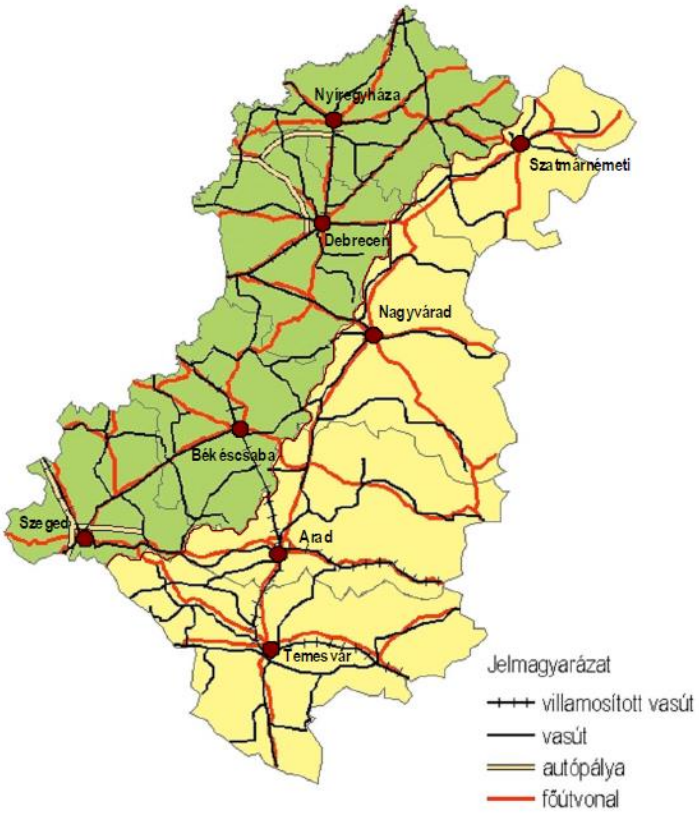
The centres of the regions are Szeged from the Hungarian side and Timisoara from the Romanian side. From north to south in Hungary Szabolcs Szatmár Bereg County, Hajdú Bihar County, Békés County and Csongrád County are located along the Romanian border. With the exception of Szabolcs Szatmár Bereg County, these counties form the Southern Great Plain region. On the Romanian side, Satu Mare County, Bihor County, Arad County and Timiș County are similarly on the Hungarian border, the western region of Romania is made up of the Arad and Timis counties, as well as the Caraș-Severin County and Hunedoara County, out of which the last two are not directly connected to the Hungarian border.

On the Hungarian side, every major city - Nyíregyháza, Debrecen, Békéscsaba and Szeged - is the seat of the four mentioned counties, of which Debrecen is the second most populous city in the country with about 200 thousand inhabitants, followed by Szeged with

[15] A commune in Romania is a territorial unit formed by the merger of several municipalities which usually has several villages without its own representative body, one of which plays a central role. Here is the joint representative body of the municipal community. In this way, it is similar to the joint municipalities in Hungary, where the headquarters settlement performs this central function over its associated municipalities.

160 thousand. Nyíregyháza is the seventh most populous city in the country, with a population of 116 thousand, and Kecskemét with 110 thousand. Békéscsaba is the seventeenth city with a population of 59 thousand. Each settlement is a county seat and thus a city with county rights. On the Romanian side, the major cities in the regions - Satu Mare, Oradea, Arad, Deva, Reșița and Timisoara - also have a significant population. Timisoara is the third most populous city in the country with 319,000 people, followed by Oradea with a population of 196,000. They are followed by Arad, with a population of 159,000 according to the latest census, finally, the population of Satu Mare and Reșița is 102,000 and 96,000, according to the same data source.

Figure 13: Transport networks of the examined border regions

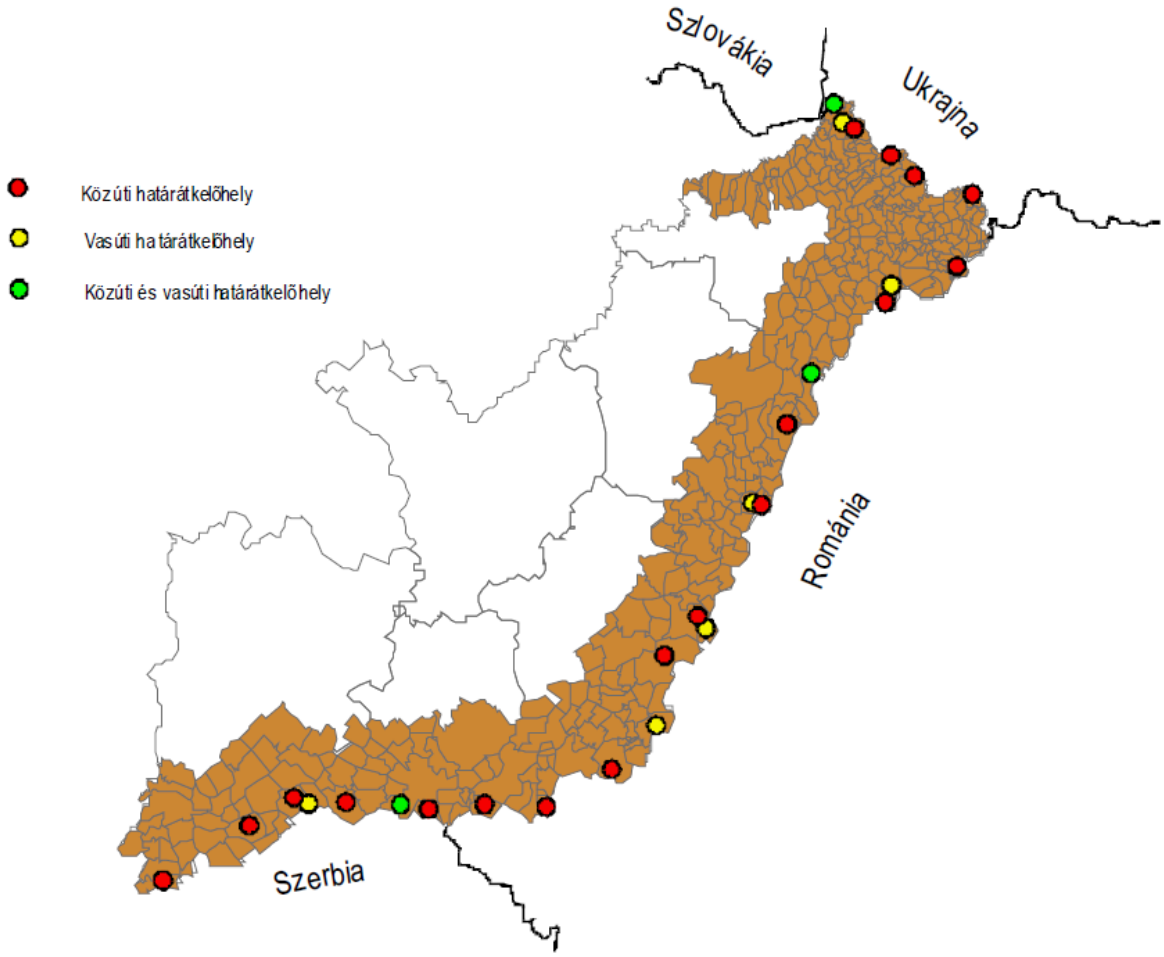


Source: KSH (2011)

The transport links of the regions show a mixed picture. Their geopolitical position is fundamentally favourable, the southern side of the region, more specifically the southern counties (Békés, Csongrad, Arad and Timis) are located on the southern European

transport routes. Although the highway quality road is predominantly located on the Hungarian side of the border, the area is often provided with main roads. Like the road network, the railway network is also dense, in addition to the interconnections between regions, road and rail links are connected to international networks in wider regions. These routes go west to Germany, east to Turkey and south to Greece. There are three airports in the two regions (Hajdú-Bihar, Arad, Timis), which also provide international passenger traffic. The shipping routes between the regions are limited, an exception is the corresponding sections of the Tisza, which made it possible to establish a port at Szeged. However, this port does not have a direct cross-border regional connection, however, the Danube waterway is also accessible.

Figure 14: Border crossing points of the examined border regions



Source: KSH (2012)

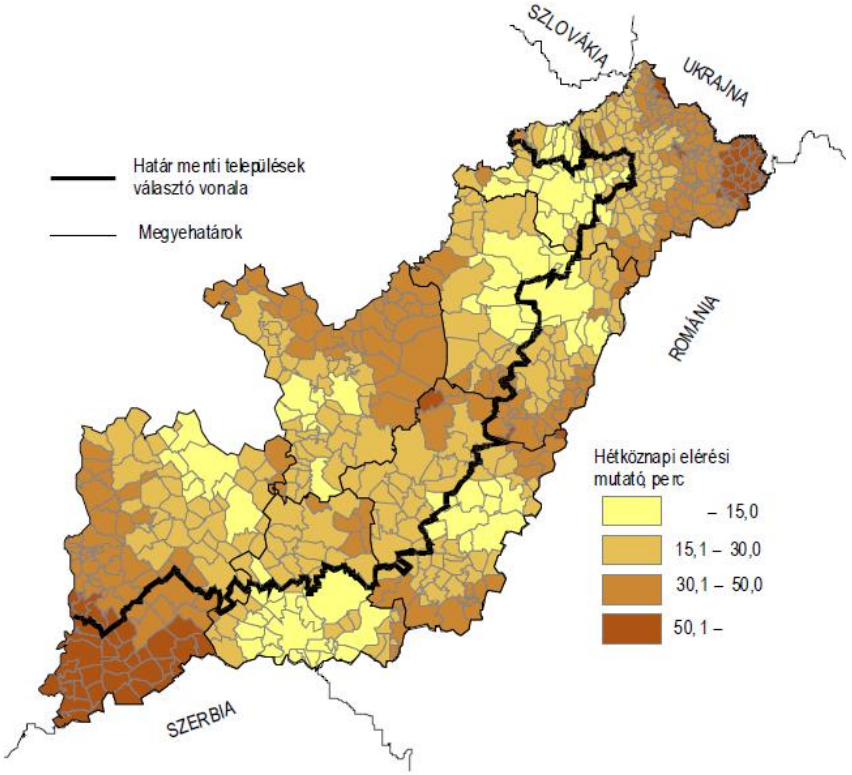
An important factor in analysing the connections between the border regions is how easily settlements of the regions in neighbouring countries can be accessed. There are currently 9 road border crossing points between Romania and Hungary, which provide easy access to the economic centres of both the Hungarian and Romanian border areas: the Csengersima border crossing towards Satu Mare can be reached on the main road 43, you can get to Valea lui Mihai on the 48 main road through Nyírábrány, the main road 42 leads to Oradea via Ártánd, and Arad can be reached via the main road 43 through the Nagylak border crossing. It is an important fact that, as Romania is not a full member of the Schengen Agreement, there is a one-stop border control system at the crossing points with Hungary, for which it is sufficient to present an identity card.

The issue of border crossing points is of the utmost importance in regional cooperation - and the development of the regions in general -, since the flow of production factors is broken by artificial borders, however, the Great Plains and the West have several border crossings that can be significantly improved, where not only passenger traffic but also freight traffic can increase significantly. This generally requires improving border crossing conditions (joining the Schengen area has largely solved this problem for the previously acceding EU Member States). On the other hand, the opening of further border crossings and the development of existing ones - in terms of capacity, throughput and rail and freight - is a generally working method.

Border crossing points are a good indicator of the quality of transport connections between countries, however, the characterization of road infrastructure in border regions also includes the accessibility of individual settlements by road, which mainly qualifies employment opportunities and is also relevant to start-up businesses. The relevant indicator is the so-called everyday access, which shows the time required to access a certain settlement from its closest regional centre by road, taking into consideration speed limits. The calculation is further structured since its value is partly determined by the nearest county centre and in half by the district centre minute average. Its absolute value, of course, is determined by the quality of the road infrastructure and how well the area is well-equipped with city centres. In addition, an important methodological addition is that the reach index of border settlements is generally higher than the national index, since the

boundary reduces the range of access (no inland city centres are located towards the border)

Figure 15: The daily access indicator of the border regions examined



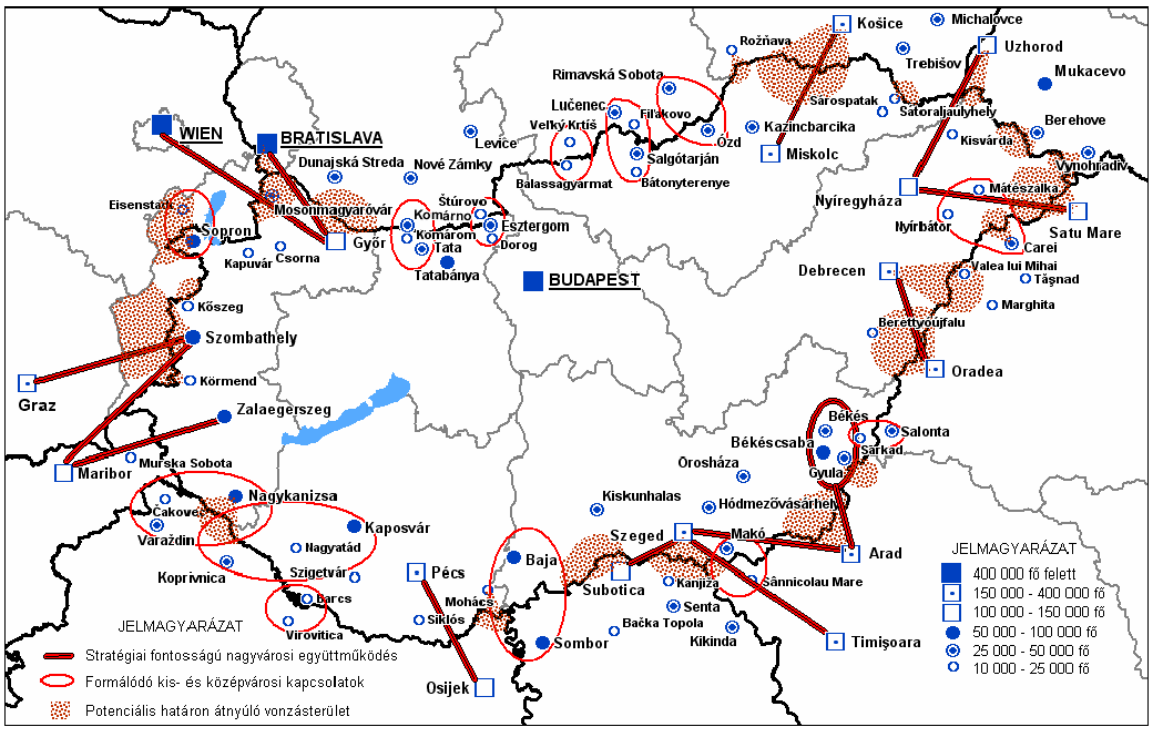
Forrás: KSH (2019)

An everyday access indicator is an effective method of classifying areas and delimiting peripheral areas. The distance from the junctions and isolation can be considered moderate in the Hungarian Romanian border area. The location of the road routes in the Southern Great Plain region provides average access at national level, 15 to 30 minutes is typical in the region, especially in Csongrád County. In the north of Békés County, less favourable values were measured. It is true for both counties that the accessibility of settlements around the county seats as nodes is favourable, but as the distance goes on the values decrease. Interestingly, the accessibility of the Hungarian border villages is worsening from east to west, so we have very favourable values at the Ukrainian borders with less than 15 minutes. The borderline with Romania is characterized

by these average values, while the accessibility of the border area with Serbia is less favourable.

In western Romania, the average accessibility of the border region is almost the same, with the significant exception that the standard deviation of accessibility is higher. As a result, Arad has the most favourable area with a daily reach of less than 15 minutes, while there are a significant number of settlements in the west - to Serbia - and to the east - towards Ukraine - between 30 and 50 minutes. It is common in both regions that access to small villages is unfavourable, due to the structure of the regions, improvement is not likely to happen. At the same time, however, it is also true that the high-reach areas along the Hungarian border were previously connected to nodes that are now separated by the state border (for example, Berehove, Satu Mare, Carei or the region of Subotica).

Figure 16: Potential cooperation in the Hungarian border regions



Forrás: Baranyi (2009)

The separation of the historically developed regional centres has thus been demonstrating its impact until today, as no new centres have been established in these

Hungarian regions for nearly a century, the isolation of the then isolated settlements has remained to this day. This fact confirms, from another aspect, that increasing cooperation between border regions has a positive impact on the whole region.

However, in addition to the regions lagging behind in terms of accessibility, the nodes of the two regions are also drawn using this method; the centres are between which cooperation is most optimal. As can be seen from the overview of the potential co-operation between the settlements, there is a possibility to establish many smaller and larger co-operations along the Hungarian border. However, the number of metropolitan and regional interactions is very low compared to all possible connections. Hungarian cities in the western and northern border areas (Zalaegerszeg, Szombathely, Győr) maintain contact only with a small number - usually one per city - of large cities abroad (e.g. Maribor, Graz, Vienna, Bratislava). In addition, many small and mid-city relationships are being formed (such as in the region of Nagykanizsa and Kaposvár towards Croatia, or in the region of Balassagyarmat, Salgotarján and Ózd towards Slovakia). On the eastern and southern borders, metropolitan co-operation is already dominating.

The axes of cooperation can be clearly identified in the Hungarian Romanian border region. In addition to those settlements that are larger at regional but smaller at the national level (for example, Sarkad and the more populous Salonta, or Makó and Sânnicolau Mare), the potential cooperation centres are on the Szeged-Timisoara-Békéscsaba-Arad Gyula line. In addition to the big cities in this circle, smaller towns in the area are also able to engage in co-operation, because the workforce here can be vital to business-to-business cooperation, in addressing temporary inequalities in national labour markets (unemployment, labour shortages).

On the whole, the relations between the two regions and their border region are satisfactory. There are settlements of considerable size and population on both sides of the border, with some nodes in the region standing out. The transport links between them include several alternatives; rail and air transport opportunities are present alongside road routes, along intra-regional routes to the borders of Europe. The number of border crossing points is also sufficient, although increasing the throughput of the crossing points is an

important development point for each border crossing. The daily access indicator for regional development indicates that outside the regional hubs (major cities) and their immediate surroundings, access to the area is medium to worse. Historical borders still have an impact, with some groups of settlements left without a hub centre, which can be solved by opening borders as fully as possible, while increasing the mobility of production factors. Opportunities for co-operation are given, at present the co-operation between the big cities dominates along the Romanian Hungarian border, whereas much of the border area of the Southern Great Plain and Western Romania is thus considered to be a cross-border catchment area, where the labour market and employment problems of the two countries can be solved with the cooperation of the two regions.

However, regions are essentially geographical units for planning statistical purposes, the establishment of co-operation thus requires the establishment of closer territorial levels. For this purpose, the municipal level provides a relatively appropriate framework. Apart from the limited (specific project-like) cooperation of large cities however, counties are the appropriate territorial level for lasting, long-term cooperation, besides, their optimum size and population make it possible to facilitate the cross-border activities of businesses along with the flow of labour, and the establishment of cross-border business cooperation. In addition, the current Community legal framework does not create obstacles to broad spectrum and time span cooperation between counties, not even in terms of capital flow. For the following reasons, as a narrower spatial delimitation of the present study, we will justify the narrower focus of the study, the analysis of Békés and Arad counties.

4.1.3. The Counties examined: Békés and Arad

Békés County is located in the south-eastern part of Hungary, statistically it belongs to the Southern Great Plain region. It is bordered by Jász-Nagykun-Szolnok county and Hajdú-Bihar county to the north and the Northern Great Plain Region; to the west by Csongrád County, which also belongs to the Southern Great Plain region. In the south and east there is a border with Romania at 140 km length, within that, to the north, with Bihor County, a north-western development region and to the south, it is bordered by Arad

County, which is part of the West development region in Romania. Békés county covers an area of 5,630 km2, or 6.1% of the country's total area. At the beginning of the year, its population was 334,000, or 3.4% of the country's total population. The population index was 98.8 percent in 2019, according to which the population this year was 1.2 percent less than a year earlier. The aging index - that is, the population over the age of 64 compared to the population under the age of 15 - after Zala county is the highest in Békés county in the country, here last time there were 138 elderly people per 100 children.

Figure 17: Békés county, divided by settlements and districts

Forrás: Térport (2019)

The population density of the county is low (59 persons / km2, as opposed to the national value of 106 persons / km2), nevertheless, in Békés the proportion of cities within Hungary is the highest: the proportion of cities within the total number of county settlements is 29.3 per cent and the urban population is 76.6 per cent of the total population of the county. These values are also more favourable than the national average, since

nationally, the proportion of cities is only 11.0 per cent and that of the urban population is 70.4 per cent. Of the 75 settlements in Békés County, 22 are of city rank. The proportion of settlements with more than 5 thousand inhabitants is 25 percent, as opposed to the national average, which was 9 percent last. Proportion of settlements in the endangered category in terms of settlement maintenance and survival is below 24 per cent (of which the number of settlements with less than 500 persons is just half, 12 per cent). The national average for the same indicator is 56 percent (of which 36 percent of all settlements are under 500).

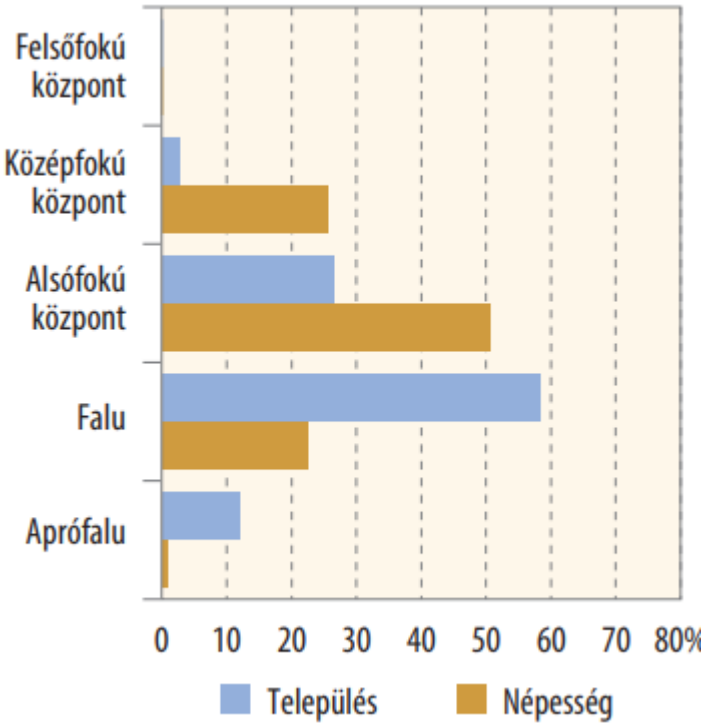
Chart 14: Data of the districts of Békés county

Name of the district	Seat	Settlement	Out of this, city	Population (soul)	Area (km²)	Population density (persons/km²)
Békéscsaba district	Békéscsaba	9	3	82 424	636,16	130
Békés district	Békés	7	2	37 259	525,24	71
Gyomaendrőd district	Gyomaendrőd	5	2	23 980	686,21	35
Gyula district	Gyula	4	2	41 579	413,22	101
Mezőkovácsháza district	Mezőkovácsháza	18	4	40 608	881,49	46
Orosháza district	Orosháza	8	2	51 392	717,18	72
Sarkad district	Sarkad	11	1	23 228	570,97	41
Szarvas district	Szarvas	6	2	28 558	485,06	59
Szeghalom district	Szeghalom	7	4	30 125	714,19	42

Source: KSH (2019)

According to the settlement hierarchy levels aggregated from local characteristics (for example, population, working hospital beds, number of school students in full-time education, etc.) in Békés County, there are two towns with the role of secondary centres, Békéscsaba with a population of 61 thousand and Gyula with a population of 31 thousand. The largest city in the county in terms of size is Gyomaendrőd. Thus, about one quarter of the county's population is concentrated in the Békéscsaba Békés Gyula settlement complex.

Figure 18: Distribution of settlements and population of Békés county by settlement hierarchy



Source: Gerse and Szilágyi (2015)

There are a total of 20 lower level centres in the county with a total population of 180,000, just over half of the county's total population; this category includes settlements with a larger population that reach the city rank, but with a smaller urban service. Their population is lower in the northern and southern parts of the county, with a minimum of 3,600 (Medgyesegyháza population). The 79,000 people in the 44 villages of the county make up about one-fifth of the county's population, according to the survey, a total of

3,177 people live in the 9 small villages, less than one tenth of the county's population. In addition to large cities and large villages, its settlement structure is characterized by extensive outlying areas, both in size and population. In addition to the scattered farms, there are farmsteads in street order, from smaller farmsteads to mansions.

Arad County is located in the western part of Romania and stretches from the Apuseni Mountains to the Maros and White-Körös line. It is bordered by Bihor county from the North and the North-East, Alba County from the East, Hunedoara County from the South-East, Timiș County from the South, and from the West, the the Southern Great Plain region on the other side of the Romanian Hungarian border, to a lesser extent by Csongrád and most by Békés County.

Figure 19: Arad County, broken down by settlement hierarchy

Source: cjarad.ro (2019)

The area of Arad County is 7.754 km2. At the time of the last census, the county had approximately 454,000 inhabitants, which means 2.12 percent of the country. The county ranks 6th nationally in this respect. The average population density is 58.7 persons / km2 and the distribution of men and women is 48.25 and 51.75 per cent. In terms of territorial

distribution, 55.07% of the population in Arad County live in urban areas (approximately 250,000 inhabitants), 44.93 percent in rural areas. The county is very diverse in its ethnic distribution; according to the latest available data on the topic at the time of the 2002 census, among them 379 thousand Romanians, 49 thousand Hungarians, 17 thousand Roma, 5.6 thousand Slovakians, 4.8 thousand Germans, 1.2 thousand Serbs, 0.8 thousand Bulgarian, and a number of other nationalities with fewer population live in the county..

In administrative terms, Arad County has 10 cities, 1 of which is a large metropolitan city (Arad as municipality), 9 other cities (Ineu, Sebiș, Chișineu-Criș, Curtici, Lipova, Nădlac, Pecica, Pâncota and Sântana); in addition, there are about 283 settlements in 68 communes, which make up the entire settlement network of the county. Its seat is Arad city.

Chart 15: Most populated cities in Arad County

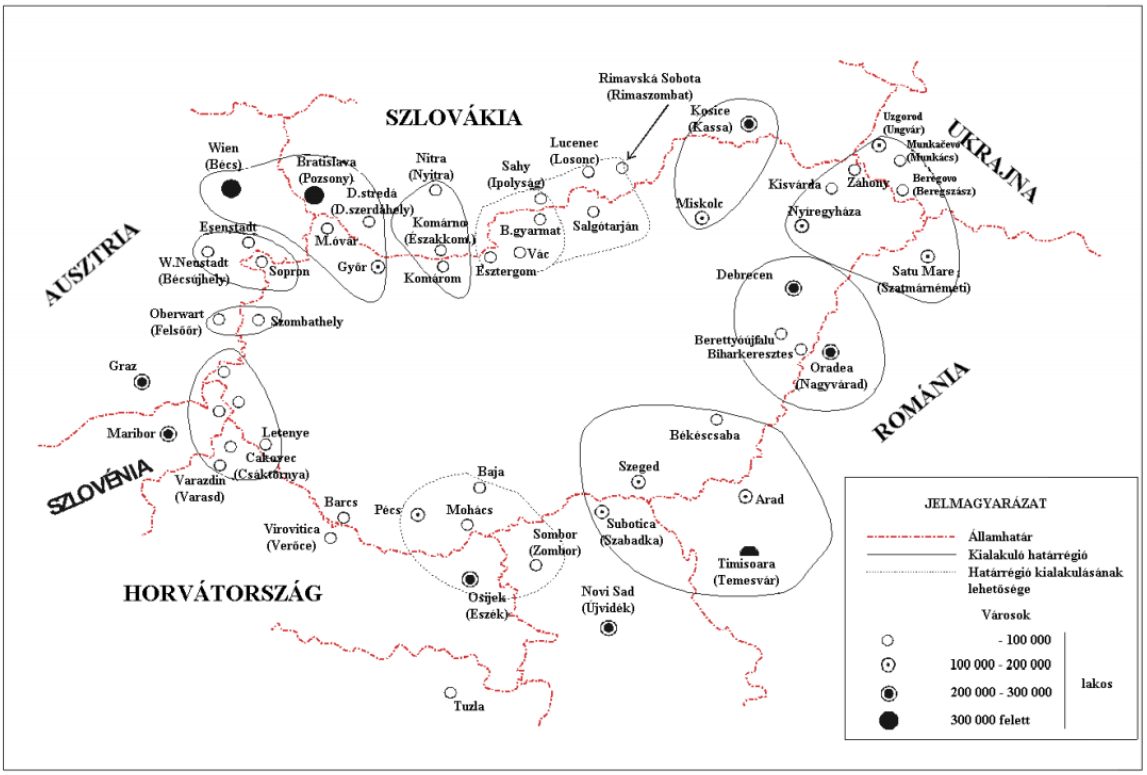
	Name of the settlement	Rank	Population (persons)
1.	Arad	city with county rights	172 824
2.	Sântana	city	11 617
3.	Pecica	city	11 452
4.	Ineu	city	9 312
5.	Nădlac	city	8 144
6.	Curtici	city	8 043
7.	Lipova	city	7 920
8.	Chișineu-Criș	city	6 556
9.	Vladimirescu	commune	6 355
10.	Pâncota	city	5 804
11.	Sebiș	city	5 343
12.	Zimandu Nou	commune	4 489

Forrás: Eurostat (2019)

The cooperation of the big cities of Békés and Arad counties basically determines the relationship of the Hungarian Romanian border areas. Baranyi's (2009) illustration clearly shows that along the Romanian Hungarian border the Békéscsaba Szeged Arad Timisoara axis is the most important cooperation- both in terms of population, position in the hierarchy of settlements or economic power of the cooperating cities. The relationship between Debrecen and Oradea is only two-fold. The cooperation between Satu Mare and Nyíregyháza is on the triple border, and their relationship cannot be evaluated in isolation from Ukraine.

The absence of a natural border between the two countries also plays an important role in the cooperation between Békés and Arad; the infrastructure of cooperation (flow of labor, goods) is influenced exclusively by artificial borders. Based on the city network of the border section, in the northern territories Oradea and Debrecen can be found as potential city network centres, which can be leaders of co-operations, and in the southern counties, Békés and Arad counties, and in particular Békéscsaba and Arad - though with a smaller population, but with a similarly favourable location - can clearly be the centres of cooperation.

Figure 20: Interregional cooperation in the border regions of Hungary



Source: Baranyi (2009)

Békéscsaba and Arad are the closest big cities in the Hungarian border region of Romania, the counties of Békés and Arad are at the longest interface in terms of border length. Cooperation between the two counties could be analysed on the basis of a number of indicators. Below, - given the complexity of co-operation - without striving for completeness we divided these indicators into ten groups, within which additional subgroups were formed in order to touch all aspects of the collaboration (actor, level, etc.) in the analysis. Among the indicators, following the basic demographic indicators, such indicators are shown that are adapted to economic trends, sectors, employment, unemployment, income, businesses and other aspects.

4.2. Population processes

Population change within a state is made up of several factors. The statistical balance between live births and deaths is called natural change in population; however, the population may change not only naturally but also by artificial migration. Migration

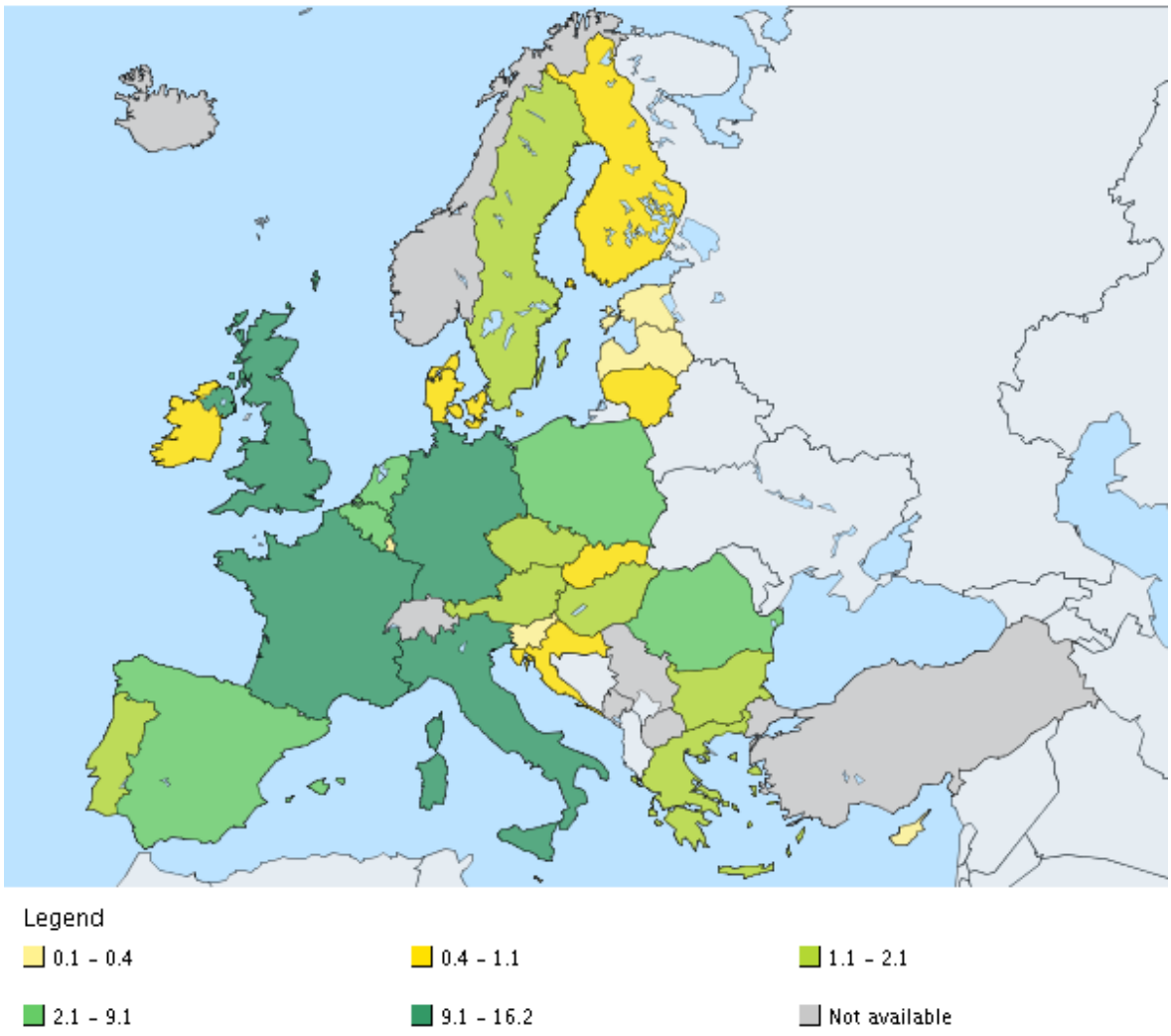
balance or net migration of the population, which is the balance of the population entering the country (immigrant) and those leaving the country (emigrant) is added to the natural change, which, taken as a whole, represents the total change in the population.

The economic, social - and last but not least labour market - importance of Hungary and Romania as Member States of the European Union is fundamentally determined by their place in the population ranking of the EU countries. The most important indicator for assessing the international weight of the two countries is the population, since the number of people of working age in a given country is - except for minor differences - directly proportional to the population. Employment of this active population results in the production of economic value or income. So basically, a larger population means higher income generation and greater economic power. In addition, increasing the population is a basic demographic objective for countries, politically, it is the key to survival of the nation.

4.2.1. Natural change in population

The map below shows the population share of each Member State in relation to the total population of the 28 Member States of the European Union.

Figure 21: Population of European Union countries as a share of total population of EU28, 2019 (%)



Source: Eurostat (2019)

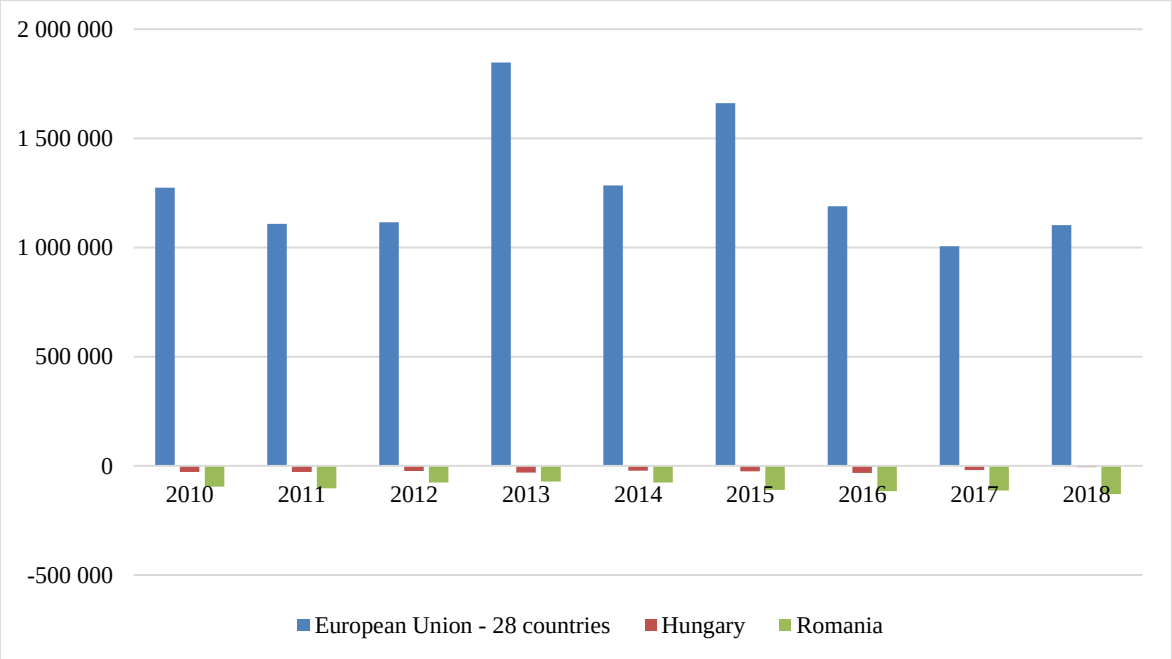
The map distinguishes a total of five population categories: Member States with at least 9.1% of the total population of the Union are included in the most populous category (top of the category is 16.2 percent, which is the share of the largest Member State, Germany). The Member States with maximum 0.4% of the population of the Union were in the lowest population category. Hungary, together with the other seven member countries, was placed in the third middle category out of these five categories, its population totals to 1.9% of the European Union.

This value has not changed significantly since the country's accession; due to the changes of population of the member states, from the accession in 2004 to 2013 this value was 2,0%, and from 2014 it has been 1,9%. Romania accounts for 3.8% of the total

population of the Union, placing it in the second population category of five Member States. Here again, the change in the proportion of the Member States is influenced by the change in the population of all the Member States, however, the dynamics of change also suggest other processes (for example, negative net migration, changes in birth and death rates) in case of a higher than average change in population.

Romania's population was still 4.1% of the EU population in 2008, before falling by 0.1 percentage points in 2010, 2014 and 2017. The deeper causes of the rate change are further explored. France (13.1 per cent), the United Kingdom (13.0 per cent) and Italy (11.8 per cent) have the highest population ratios besides Germany. After 20 years of increase, the total population of the European Union - which is currently about 512 million people - is forecast to decline steadily to less than 500 million (493 million according to forecast) persons by 2090.

Figure 22: Total population change of Hungary and Romania, 2010 2018 (persons)



Source: Eurostat (2019)

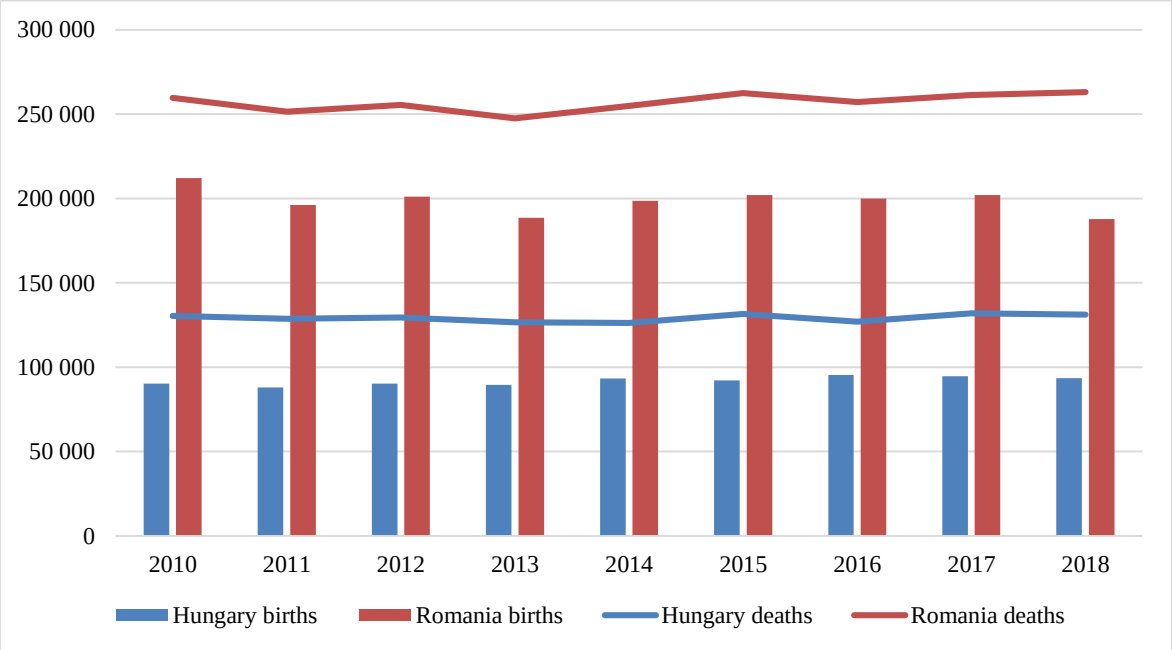
While the European Union as a whole has an average population increase of 1.0 to 1.8 million between 2010 and 2018, and the peak values of the trend are in 2013 (surplus of 1.848 million) and 2015 (surplus of 1.661 million), the population of the two countries

examined, Hungary and Romania, has shown a steady downward trend over the last nine years.

Hungary's total population in 2010 was 10,014 million, compared to only 9,772 million in 2018. The annual population decline of about 19-32 thousand people decreased significantly in 2018, reaching only 5,615. Romania also suffered a significant loss of population over the same period; the country, which had a population twice as many as Hungary - 20,294 million people in 2010 - decreased by 75-128 thousand a year.

According to the composition of the population change, the reason for the decline in population in the two states lies in the natural and / or artificial population change, i.e. the balance between births and deaths, immigration and emigration.

Figure 23: Natural population change in Hungary and Romania, 2010 2018 (persons)



Source: Eurostat (2019)

Examination of births and deaths shows that the balance of natural population change was negative in both countries, that is, more people died than was born alive. In Hungary, about 32 to 40 thousand people die each year due to natural processes. In Romania, the same

figure ranges from 45 to 60 thousand in the years studied from 2010, and reached 75 thousand in 2018.

Chart 16: Life expectancy at birth at tested levels, 2018 (age)

	Women	Men	Total
EU-28	83,6	78,2	81,0
Euro zone	84,6	79,3	82,0
Romania	79,1	71,7	75,3
Hungary	79,7	72,6	76.2

Source: Eurostat (2018)

The dynamics of natural population change are also significantly influenced by life expectancy at birth, which can also be used to measure population aging. In this respect, according to the latest available data, Hungary and Romania are in a similar position; both countries are below the average of the European Union and the euro zone, with a difference of 4.8 to 6.7 years.

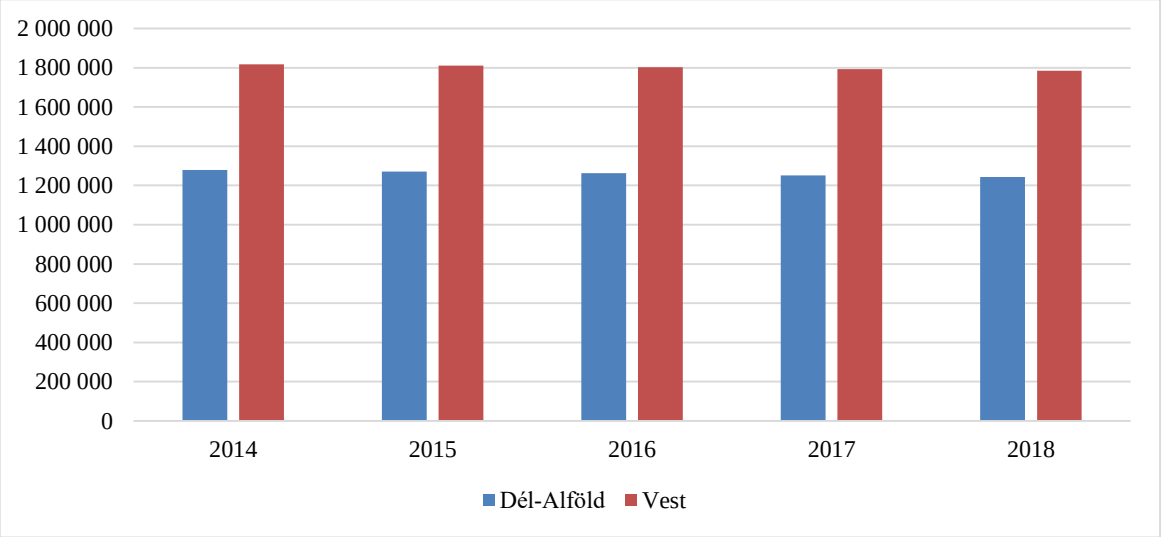
Chart 17: Population old-age dependency rates in the European Union, 2017 (%)

Population age group proportions	**0-14 years**	**15-24 years**	**25-49 years**	**50-64 years**	**65-79 years**	**80+ years**	**Population old-age dependency rate**
EU-28	15,6	10,9	33,8	20,2	14,0	5,5	29,9
Euro zone	15,2	10,7	33,3	20,7	14,2	5,9	31,1
Romania	15,6	10,8	37,3	18,6	14,3	4,3	26,7
Hungary	14,5	11,1	35,9	19,8	13,4	4,4	27,9

Source: Eurostat (2018)

Another common indicator used to measure population aging is the Old-age-dependency ratio, showing the rate of the elderly (aged 65 and over) to the active population (aged 15-64). Looking at 2017 data, closely related to life expectancy values, the European Union and the euro area average - that is, in the Union in general - show higher dependency rates than Hungary and Romania. The proportion of older people of active (working) age is particularly high among countries that use the single currency, and this puts a greater burden on pension systems.

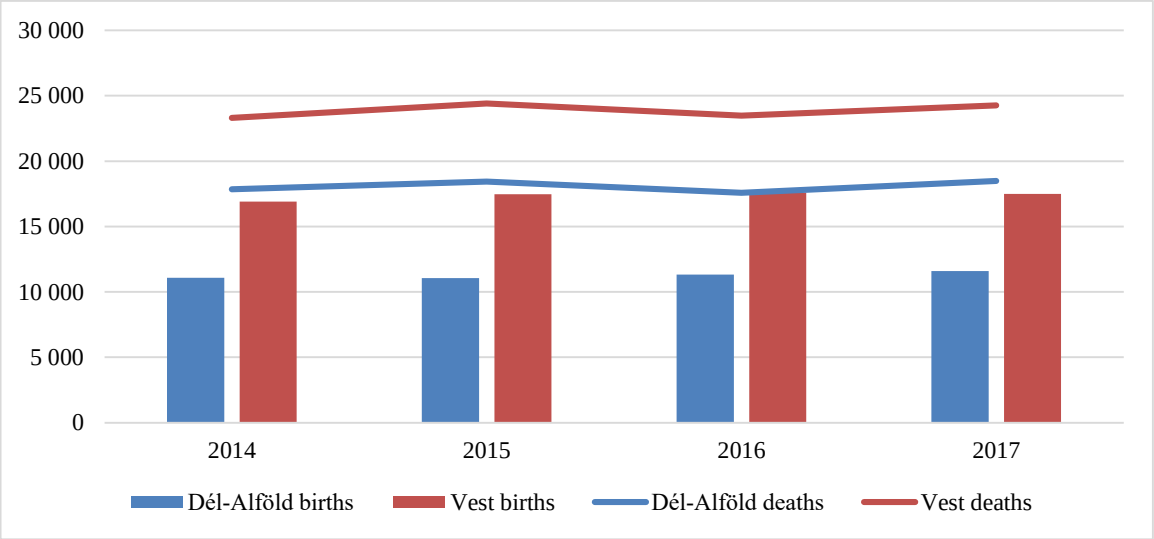
Figure 24: Population of the Southern Great Plain and West Regions, 2014-2018 (persons)



Source: Eurostat (2019)

Population ratios in the Southern Great Plain and the West region are changing in line with national trends. In the Southern Great Plain, the permanent population of 1,279 million in 2014 dropped to 1,243 million by 2018, with a continuous annual decline of 8 to 11 thousand persons. The population of the West Romania region declined from 1.817 million to 1.784 million in four years. Natural population change had a significant impact on all of this.

Figure 25: Natural population change in the Southern Great Plain and West Romania regions, 2014-2018 (persons)

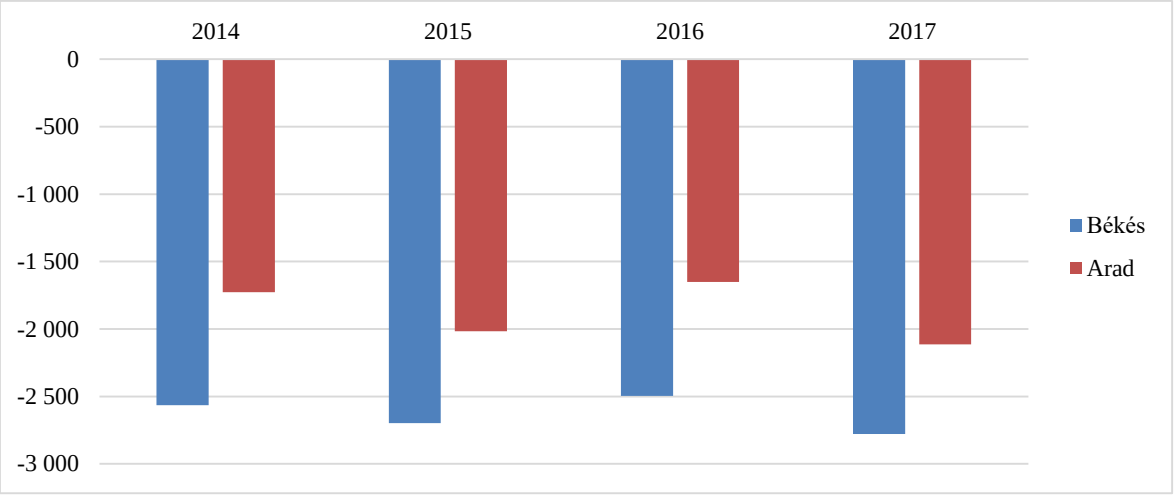


Source: Eurostat (2019)

The number of deaths in both regions exceeded the total number of births in each of the years studied. In the Southern Great Plain, there were 11,582 births for 18,473 deaths in 2017. In the same year, 17,497 children were born and 24,264 persons died in the West region. Examination of similar data in Békés and Arad counties shows that the population in both counties is constantly decreasing, however, the rate of natural decline was higher in Békés county in absolute terms.

Based on the difference in size between the two counties, assuming a proportional population change, the population of Arad county is expected to decline more, in contrast, in each of the last four years the population decline was higher in Békés county. While Arad County has an average population reduction of 1,600 to 2,100 people per year, in Békés there were 2,500-2,700 fewer people counted per year.

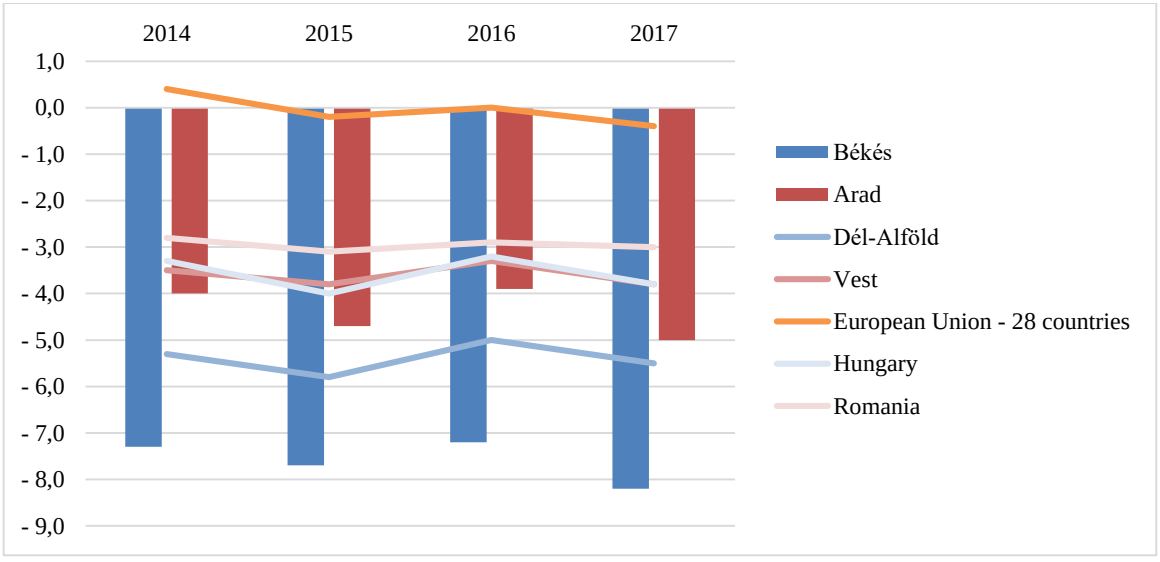
Figure 26: Natural population change of Békés and Arad counties, 2014-2017 (person)



Source: Eurostat (2019)

In order to compare the levels of natural population change processes, it is worth examining which research dimension (European Union Member States as a whole, Hungary and Romania, Southern Great Plain and West Romania, or Békés and Arad Counties) was most affected by negative population change.

Figure 27: Proportion of natural population change in survey dimensions, 2014 2017 (%)



Source: Eurostat (2019)

Comparison of the natural change rate of population by survey dimension shows a declining trend across the European Union: while in 2014 there was a 0.4 percent

population increase, from 2015 a decrease or stagnation (2016) was observed. The latest figures for 2017 show a 0.4 percent drop in the total EU population. At national level, the picture is slightly less favourable than at EU level: in Romania, the rate of natural change has risen from 2.8 percent to 3.1 percent in the last four years. Eloquently, within the country, the Western Romania region shows less favourable data for each of the years under review, the proportion of population decline was higher in the region than in the country as a whole. In 2014 and 2015 the difference was 0.7 percent, in 2016 0.4 percent, and in 2017 it was 0.8 percent, in all cases for the benefit of national values (which were more favourable than the regional value).

However, the population change rates of the Arad County are also less favourable than the values in the West region of Romania: In 2014, there was a 4.0 percent decline in the natural population, down to 4.7 percent by 2015. After a temporary increase, it improved to -3.9 percent in 2016, but reached -5.0 percent in 2017. Similar trends and correlations can be observed in Hungary: national values have fluctuated between -3.2 and -4.0 percent over the last four years, however, in the Southern Great Plain region there was a more significant negative change. In 2014, the region's population declined by 5.3 percent due to natural decline, and down to -5.5 percent in 2017. Similarly to Romania and Arad, the ratio of Békés County is less favourable than the regional values: in the county, the natural population decline has never been below -7.2 percent in the last four years, reaching -8.2 percent in 2017.

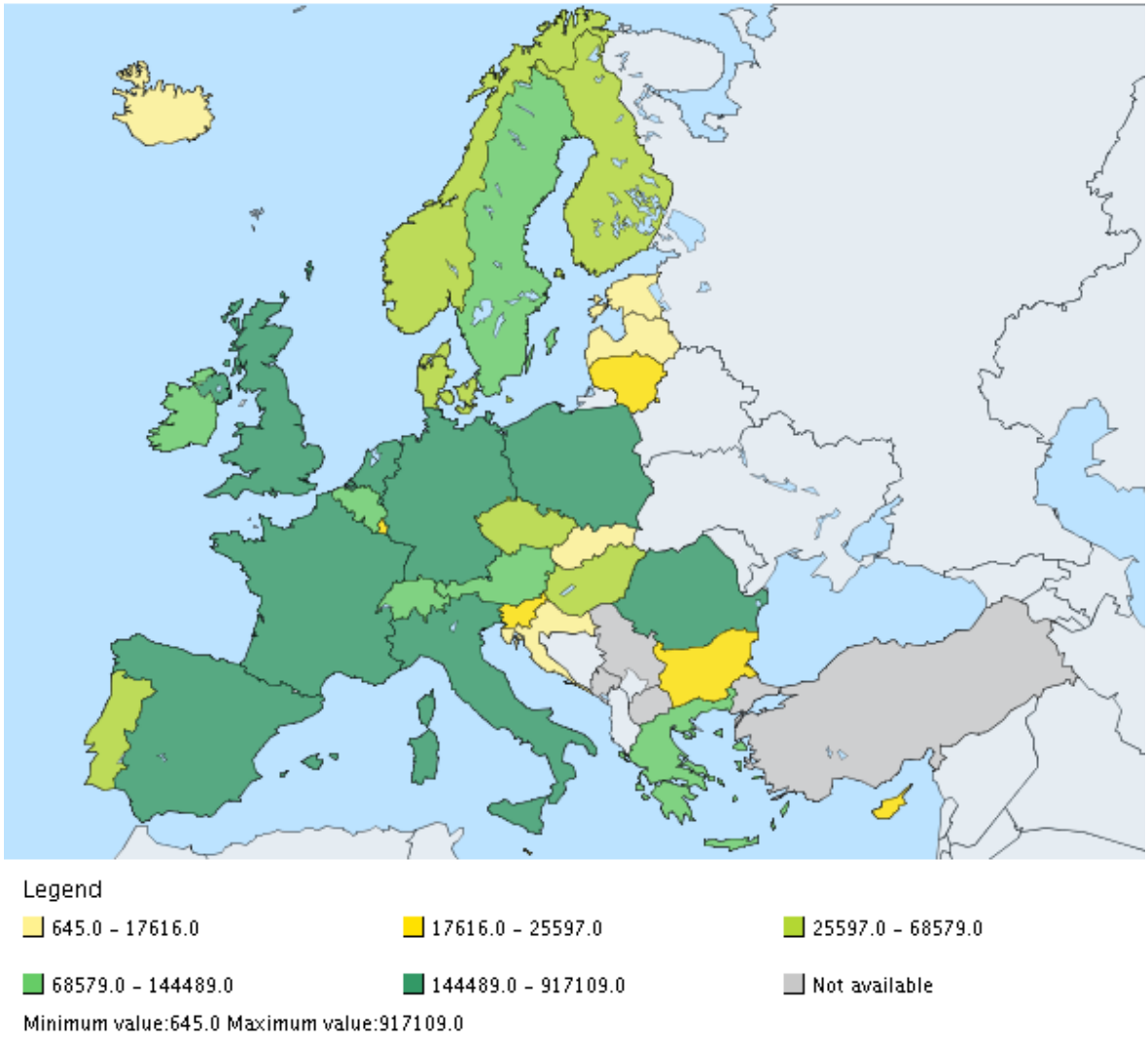
In addition to natural population change, the effects of artificial change may also play a role in the overall population trend of the areas under study: migration within the country, immigration to or emigration from the country. We will now examine these effects in the dimensions of the study.

4.2.2. Artificial population change

Another major source of demographic change is the artificial change of population, which is reflected in the balance of immigrants and emigrants in each country. In the

context of the European Union, under the Community legislation on free movement and persons and employment of EU citizens, we can call it immigration if it takes place from non-EU countries.

Figure 28: Number of immigrants, 2019 (persons)

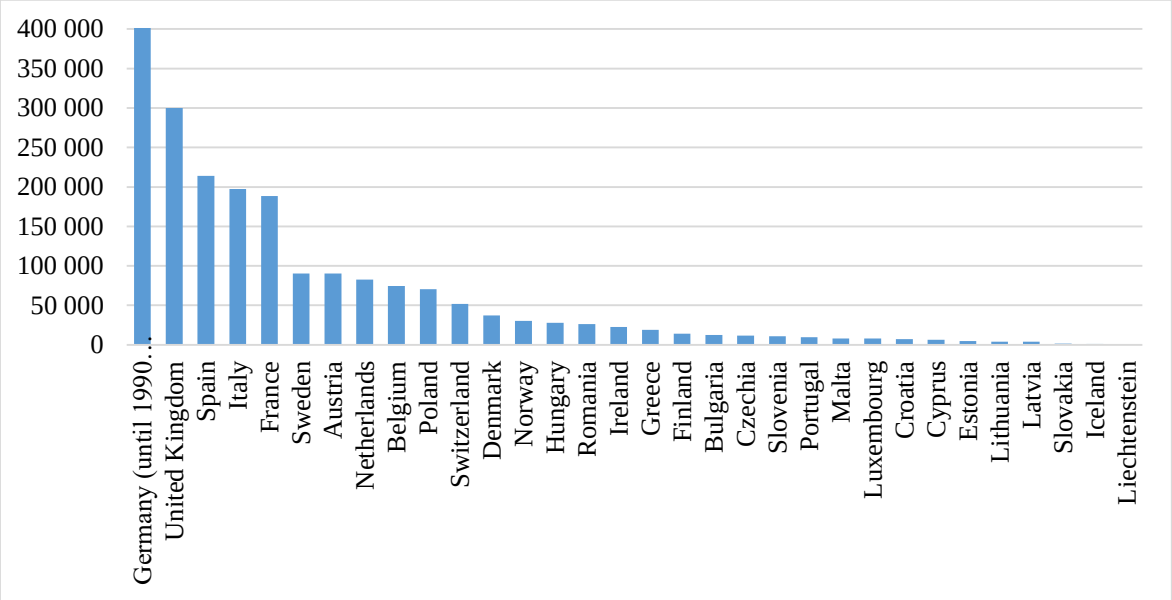


Source: Eurostat (2019)

Immigration data for the European Union for the last measured statistical year 2017 show that the countries of destination for non-EU citizens are mainly Western and Northern European countries. The main destination country for immigration remains Germany, which received 917,000 long-term residents (not transit, education etc) from outside the Union this year. With a value of 644,000 people, the UK also stands out as a

migration destination, furthermore, Spain (532,000), France (369,000) and Italy (343,000) are popular destinations. In Eastern European countries, fewer people arrive for long-term stays, the standard deviation between countries is much higher than the Western European values.

Figure 29: Immigrants from non-EU countries at the peak of the migration crisis, 2015 (persons)



Source: Eurostat (2019)

The international migration trend of recent years is of particular importance when analysing the impact of migration on population processes, therefore, it is worth analysing these processes separately before presenting the results of the national levels. The figure above shows, similarly to the map of the European Union, the number of persons registered with the immigration authorities of a state for permanent residence.

As it can be seen, Western and Northern European countries were the main target countries for large-scale migration from non-EU countries in 2015, the most intense year of the migration crisis. At the top of the list is Germany: to the centre country of immigration, nearly one million people arrived in 2015 for long term stay (this value is emphatically not the total number of immigrants, but the number registered with the authorities). All other target countries have significantly lower values. Next in line is the

UK, where 300 thousand people registered, 213 thousand in Spain and only 197 thousand in Italy (one-fifth of the persons arriving in Germany)

Poland is the first country in Central and Eastern Europe, with only 70,000. The number of registrants in Hungary is 28 thousand, in Romania it is almost the same, 26 thousand. However, the values do not adequately reflect the actual migratory pressure and the costs involved. The migratory routes have always passed through those countries that are borders of the European Union, thus, Italy was the entry point for sea routes and Hungary for land routes.

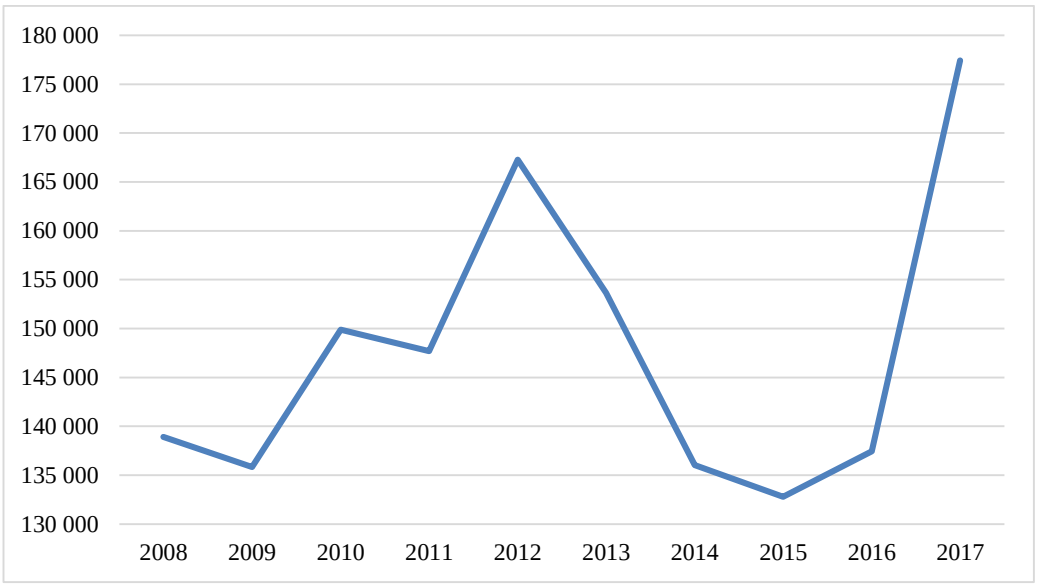
Chart 18: Number of immigrants to Hungary by age group, 2013-2017 (person)

	2013	2014	2015	2016	2017
Less than 15 years	3 025	4 817	4 748	3 589	3 948
From 15 to 19 years	2 385	3 420	3 403	3 342	4 101
From 20 to 24 years	6 382	8 212	8 956	8 664	11 095
From 25 to 29 years	6 597	8 619	9 557	8 970	11 472
From 30 to 34 years	5 092	6 969	7 652	7 205	9 352
From 35 to 39 years	4 248	5 960	6 401	5 675	7 468
From 40 to 44 years	3 198	4 764	5 288	4 487	6 170
From 45 to 49 years	2 346	3 463	3 843	3 663	4 692
From 50 to 54 years	1 591	2 500	2 488	2 425	3 446
From 55 to 59 years	1 450	1 993	2 055	2 120	2 512
From 60 to 64 years	1 244	1 771	1 799	1 651	1 847
65 years or over	1 410	2 093	2 154	1 827	1 967
TOTAL	38 968	54 581	58 344	53 618	68 070

Source: Eurostat (2019)

An in-depth analysis of immigrants, not only those from outside but from inside the EU, shows that the largest number of people who arrive for long-term stay in Hungary are of working age, about one third of all immigrants are between 20 and 29, the number of people under the age of 15 and over the age of 65 (non-working age) represents about 10% of all immigrants.

Figure 30: Total immigrants to Romania, 2008-2017 (persons)

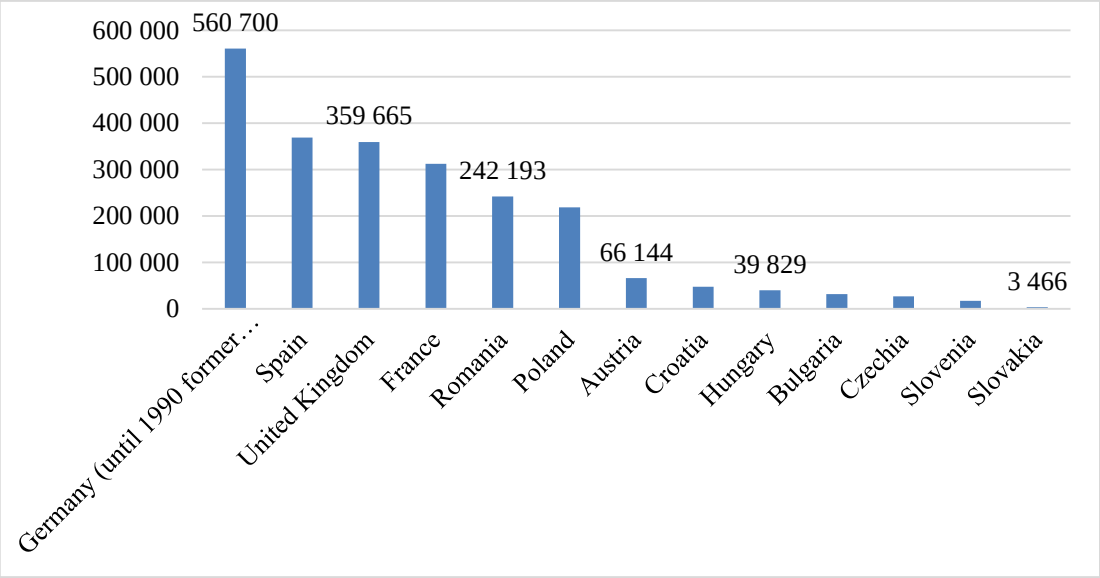


Source: Eurostat (2019)

The same values are not available for Romania by age group, it is interesting to note, however, that the total number of immigrants (inside and outside the EU) is in the opposite direction of the international immigration wave, which peaked in 2015 from about 2013, then it has subsided significantly in recent years. In Romania, by contrast, 2015 was the lowest point in terms of immigration, by 2017, on the other hand, there has been a strong increase in the number of immigrants - about 30 percent.

Emigration, the opposite of immigration is an artificial migration process, which means the permanent relocation of citizens to foreign countries and not temporary stays for purposes of employment, education, relatives or tourism.

Figure 31: Number of emigrants in the European Union, 2017 (persons)



Source: Eurostat (2019)

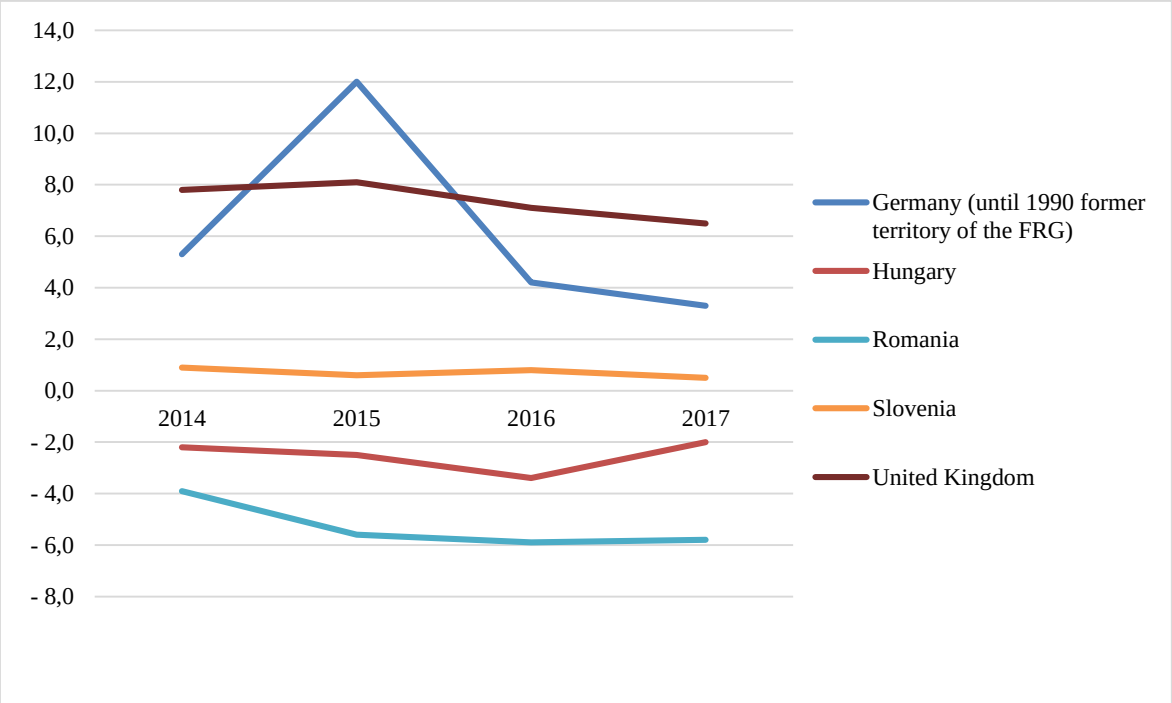
According to the relevant results, the number of emigrants in the traditional countries of immigration is also high, however, in the case of Hungary and Romania there is a significant difference in the number of emigrants. While 39 thousand people left Hungary 2017, in Romania the same figure was 242 thousand. In addition to the datas of the intensive - or less intensive - inward and outward artificial population movement, the migration balance (the balance of the two sides) is able to illustrate the population development of a country.

Natural (births and deaths) and artificial (immigration, emigration) population movements, on the whole, show trends in the population of countries, where the total change is equal to the sum of the balance of the two categories.

4.2.3. Change of total population

The total population change rate shows how the population has changed (how much and in what direction) each year as a proportion of the total population of the countries.

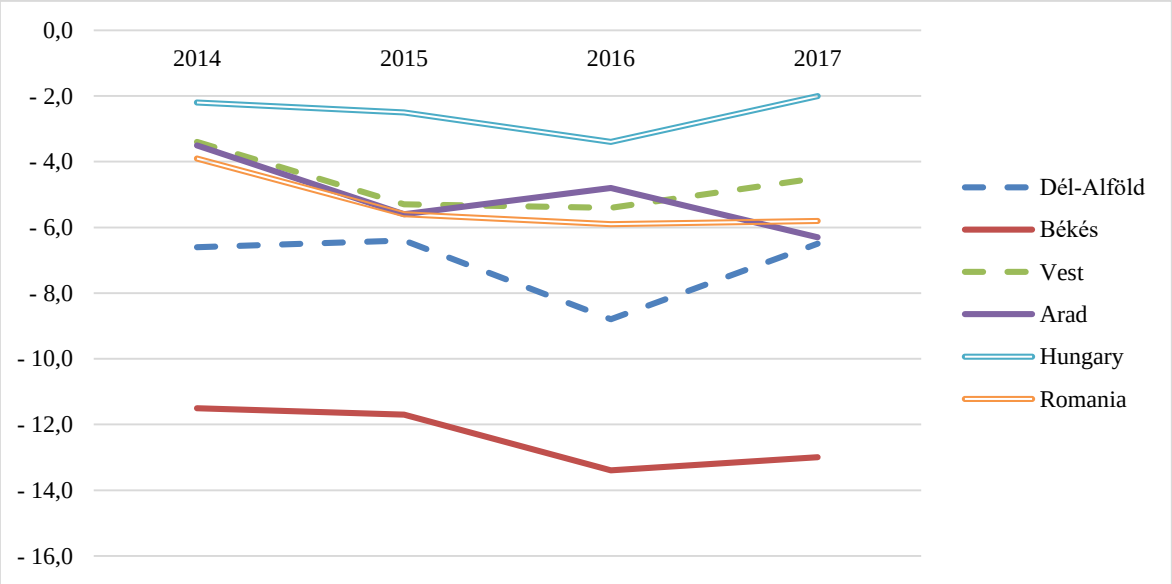
Figure 32: Population change as a percentage of the total population in some European Union countries, 2014-2017 (%)



Source: Eurostat (2019)

The graph shows population trends in three countries with different trends over the last four statistical years. Of these, Germany and the United Kingdom have witnessed intense population growth. In Germany, for example, the total population grew by 12.0 percent in 2015, and although its intensity has declined significantly in recent years, it has never been below 3 percent in any year. Accordingly, the United Kingdom is experiencing a more subdued but steady population growth. Alongside the growing population group, stagnating countries include Slovenia, which has not experienced significant population growth, but the natural and artificial population processes did not cause a decline in population either. In Hungary and Romania, however, the population is declining year by year; Hungary has experienced annual declines of -2.0 to -3.4 percent, In Romania, on the other hand, the rate of decline is more significant, between -3.9 and -5.9 per cent annually.

Figure 33: Population change in survey dimensions, 2014 2017 (%)



Source: Eurostat (2019)

When comparing the dimensions of the study, there is an overall decrease in the total population. The results of the last four years of all other research dimensions are less favourable than Hungary's just discussed result. The population of the West Romania region has changed roughly in line - slightly better - with the changing population of Romania, while in the Southern Great Plain there was a decline of -6 to -9 percent. Of the population of the two counties surveyed, Arad County moved along with Romanian regional and national data until 2015, then, after a slight upturn until 2016, it fell below -6 percent in 2017. By contrast, Békés County continuously suffered a population decline of more than 11 percent, which, according to the latest 2017 data, stands at 13.0 percent annually.

4.3. Population composition

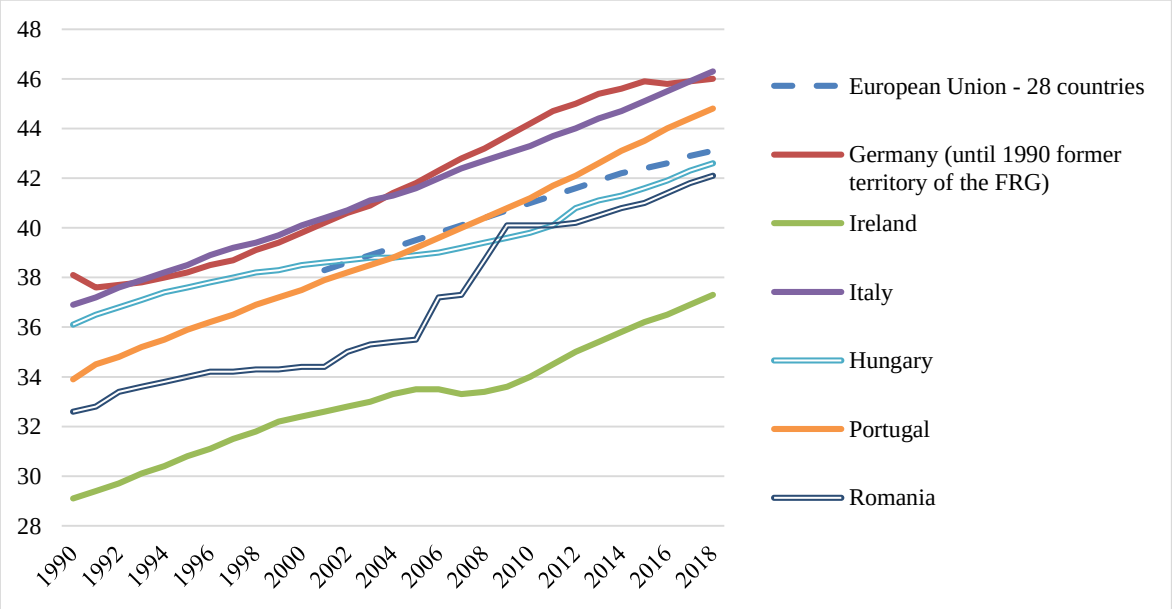
Within the total population, as well as the natural and artificial population changes, the labour market situation of a country is significantly influenced by the characteristics of the population which determine its employability. Below, we examine two of these many characteristic groups of factors: age groups of the population and groups at a disadvantage in the labour market. The results are capable of pointing out such non-traditional economic

development points that can positively influence the employability and labour market position of a given geographical unit.

4.3.1. Age structure

The first element of the age-related analysis was the average age of the population in the European Union countries. The indicator allows for an effective comparison between countries as a basis for examining the age structure in terms of the average employability of their inhabitants, and the general trend in age in the country (society is aging or rejuvenating). For comparison, we used the median age of the population; the age that divides the population into two numerically equal groups, with half of the population being younger and the other half older.

Figure 34: Median age of population in certain EU countries, 1990-2018 (age)



Source: Eurostat (2019)

The results clearly show that Europe 's population is constantly aging, even regarding only the last twenty years. The average (median) age of the European Union in 2001 was

still 38.3, rising to 43.1 in 2017. With a small number of Member States with a favourable value - for example, Ireland, whose population is still only 37.3 years old of average-, there is a significant number of Member states - generally in Western Europe – with a population age above the EU average. The situation is particularly unfavourable in Italy and Germany, where the average age of the population is 46.3 years and 46.0 years respectively. According to this, most of the current population is middle-aged or older, and their proportion has increased year by year, and this trend is expected to continue in the future. Expected trends show that in some countries (e.g. Portugal) the population is showing an above-average aging trend (Portugal's population was aging below the EU average before 2008 and, after the turn of the trend, it was moving closer to the most aging countries by 2018). As opposed to Portugal, the aging of the Hungarian population was above the EU level until about 2004, then, after a shorter favourable period, it approached the EU average in 2018. Romania had very positive values in 1990, However, between 2002 and 2010 (especially between 2007 and 2010) there was an intense aging phase. Then, after a brief easing, the country is now converging with the EU average.

Changes in the structure of the population are also reflected in the increase in the average age, however, for the deeper analysis of the labour market prevalence, it is necessary to examine the age structure of the population.

Chart 19: Population and population ratio by age group in the Southern Great Plain and Western Romania, 2019 (persons)

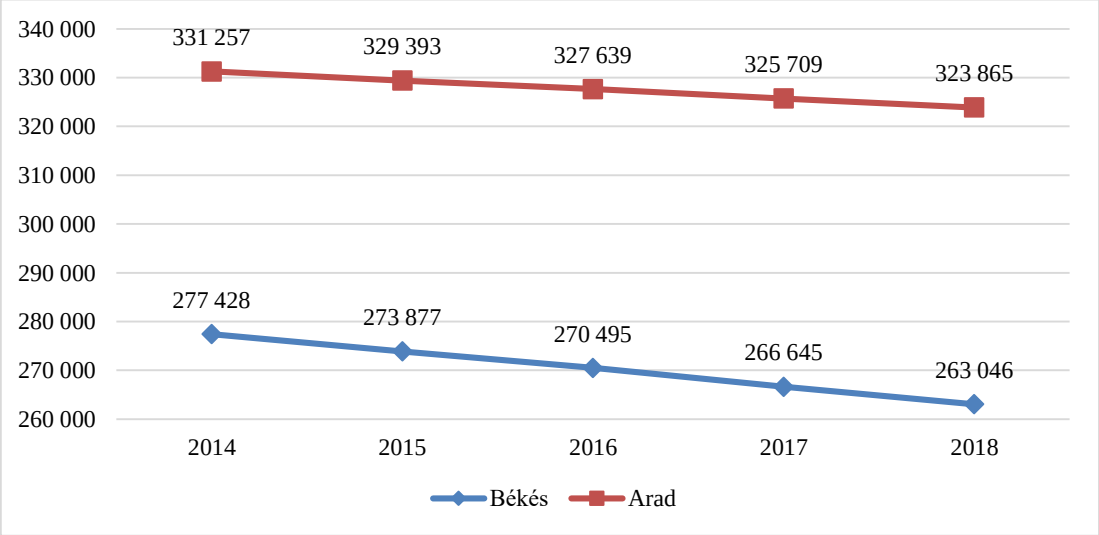
	Southern Great Plain	Southern Great Plain ratio	Western Romania	Western Romania ratio
Less than 5 years	54 540	4,22%	85 387	4,63%
From 5 to 9 years	54 923	4,25%	84 807	4,60%
From 10 to 14 years	60 700	4,70%	87 683	4,75%
From 15 to 19 years	63 516	4,91%	89 096	4,83%
From 20 to 24 years	74 927	5,80%	91 762	4,97%
From 25 to 29 years	77 571	6,00%	126 683	6,86%
From 30 to 34 years	71 897	5,56%	127 162	6,89%
From 35 to 39 years	84 312	6,52%	131 584	7,13%
From 40 to 44 years	103 144	7,98%	140 089	7,59%
From 45 to 49 years	90 202	6,98%	150 452	8,15%
From 50 to 54 years	79 592	6,16%	113 321	6,14%

From 55 to 59 years	79 362	6,14%	111 739	6,05%
From 60 to 64 years	97 186	7,52%	129 332	7,01%
From 65 to 69 years	80 598	6,23%	109 747	5,95%
From 70 to 74 years	63 269	4,89%	74 056	4,01%
From 75 to 79 years	48 844	3,78%	61 072	3,31%
75 years or over	108 126	8,36%	131 622	7,13%
Total population:	1 292 709	100%	1 845 594	100%

Source: Eurostat (2019)

In addition to the national total population, the age structure of the examined regions is analysed on the basis of the latest comparative data. According to this, in the regions of the two examined counties, the proportion of the working-age population (aged 15 to 74) in the Southern Great Plain is nearly one million (965 thousand), while in Western Romania it is about one and a half times as much (1.395 million). It is a more explicit data for comparison, that three quarters of the population (74.69%) in the Hungarian region fall into this category, and in the Romanian region it is almost the same (75.58%). Besides the regional data, the more focused, time-series county data already reveal some of the phenomena experienced in the two examined areas.

Figure 35: Working age population of the examined counties, 2014-2018 (persons)



Source: Eurostat (2019)

The number of able-bodied people has decreased over the last five years. In Arad county, there are 8,000 fewer people of working age in five years, while in Békés the

decrease was almost its double, 14 thousand people. Considering the age composition of the county population, we can conclude that the absolute number and proportion of people of working age are constantly decreasing in both counties. Between 2014 and 2018 in Békés, it fell by 17 thousand, 14 thousand of them were of working age; out of the drop of 8,600 in Arad, 86 percent of the total decline (7,392) were of working age. The two ratios show that the lack of people of working age is a major problem in both counties, which has both aging and migration related causes.

In accordance with the theoretical presentation of the study, it should be noted that the number of people of working age does not mean the totality of those who actually work with their workforce on the labour market. Excluding the inactive population (for example, domestic workers or those who do not want to work), only a fraction of the active population (the employees) represent actual, in this case county workforce and capacity. The unemployed who make up the other part of the active population are those who also want to find a job, but for a variety of reasons, their supply of workforce does not meet demand there, meaning, the meeting will not become an agreement and work. Based on the above, the potential number of employees does not consist of the number of people of working age, but of those workers who actually appear on the labour market, who actually work or who are excluded from the labour market. In the following, we examine the latter category, the labour market disadvantaged groups.

4.3.2. Disadvantaged groups on the labour market

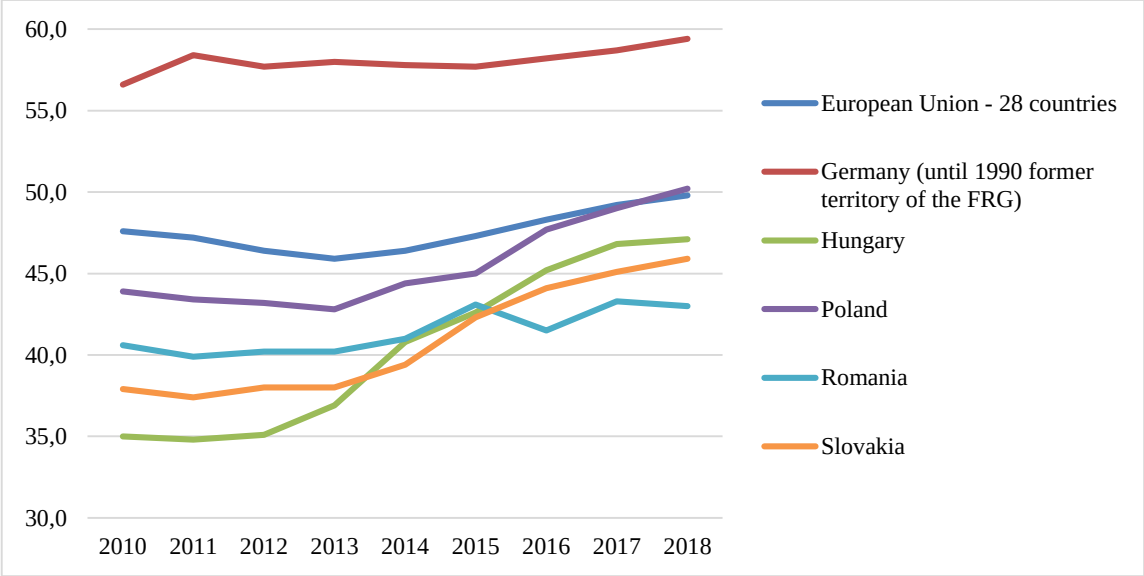
Disadvantaged are those individuals, groups, territorial units or other entities, if they are in a less favourable economic, social or other comparable situation with respect to the reference average. From the point of view of individuals and the labour market, disadvantage means more than average employment, or employment on non-average (but less favourable) terms. From the point of view of individuals and the labour market, disadvantage means more than average difficulty of employment, or employment on non-average (less favourable) terms. The disadvantages of the groups examined below are mainly due to the disproportionate participation in the occupational structure and the

difference in income. The groups studied, generally identified as disadvantaged in labour market research, are:

- career entrants,
- the elderly,
- belonging to a non-majority nation (ethnic group)
- people with disabilities

However, in some cases, recent statistical results are not available for the study of disadvantaged groups in the labour market, in particular the relationship between ethnicity and employment. The national reporting obligation to Eurostat does not extend to this; the labour market context of ethnicity can be summarized from the results of the census and scientific research.

Figure 36: Employment of young people (15-29) at all levels of education and training in certain Member States of the European Union, 2010-2018 (%)

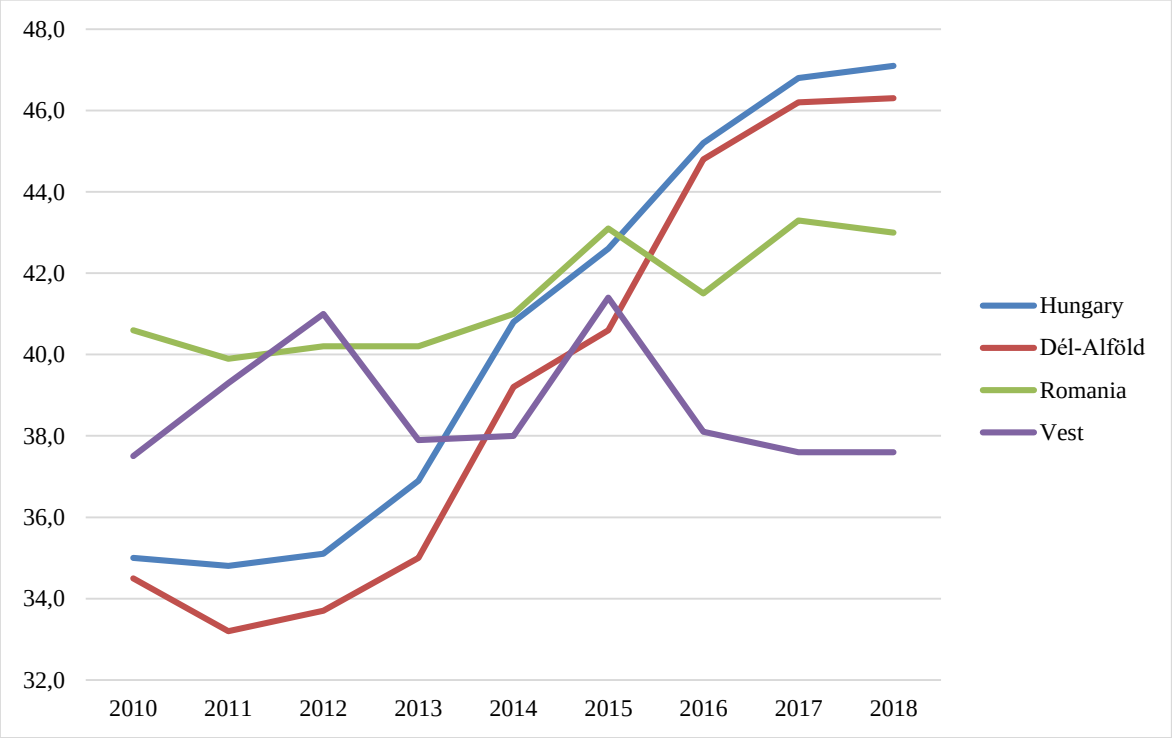


Source: Eurostat (2019)

Significant differences can be observed in the employment rates of young people when examining certain Member States of the European Union. The national average over the last decade has fluctuated in the range of 45 to 50 percent, regardless of educational attainment, however, Member States' own employment performance in this area shows a

very wide variation. This also means that there are markedly different employment cultures in each state. Of course, the start of employment is significantly influenced by the educational conditions (for example, early school leaving rates) and the regulatory environment (such as compulsory education). In Germany, young people are employed at a significantly higher rate than the EU average (56 59%), and eastern Member States have lower rates. Romania has fluctuated between 41% and 43% in recent years, although there is a slight improvement compared to 2010 and 2011. Hungary had a lower employment rate in 2010, however, from 2012, it started to improve significantly, the 35% employment rate among young people rose to 47% in six years.

Figure 37: Employment of young people (15-29 years old) irrespective of educational attainment in the regions and countries surveyed, 2010-2018 (%)



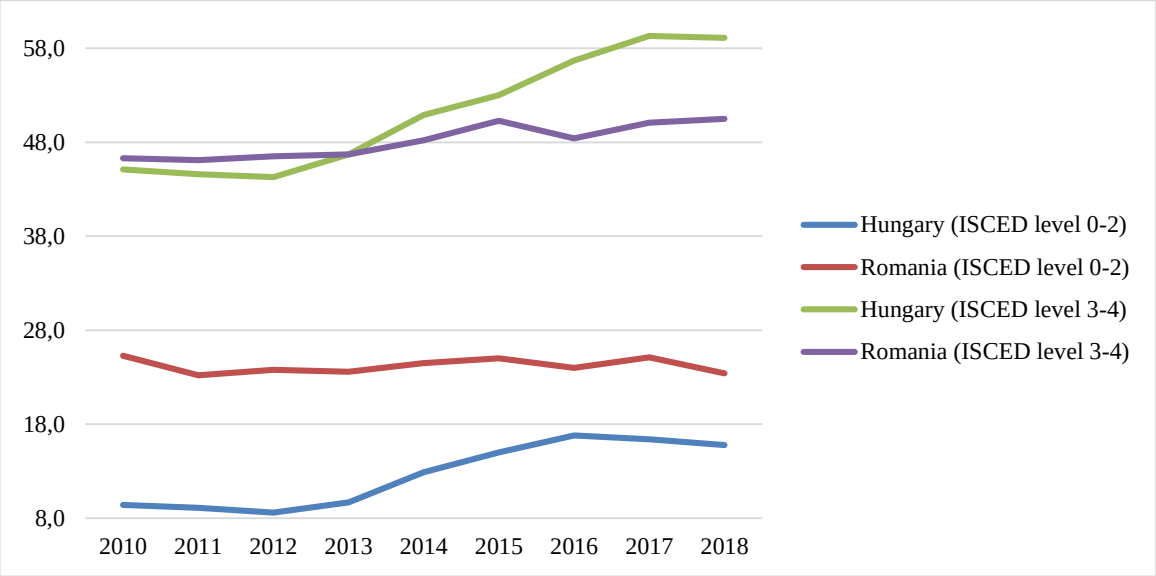
Source: Eurostat (2019)

Significant fluctuations in youth employment rates can be seen in the examined counties. Employment in the Southern Great Plain is adjusted to Hungary's national data, the 32-33 percent values here again improved to 46 percent by 2018. However, data for Romania and the Western region of Romania divide throughout the period under

examination, the current national youth employment rate of 43 percent is nearly 10 percent lower in the region.

Getting young people into work is a major challenge for national (and community) policies, Unemployment is more likely to be avoided with appropriate, marketable and market-supported education. In addition to matching supply and demand, the level of education supported by government policy also plays an important role. This can be solved by job opportunities based on education levels.

Figure 38: Employment disparities between educational attainment levels among young people (15-29 years old), 2010 2018 (%)



Forrás: Eurostat (2019)

Employment rates by level of education[16] show that both in Hungary and in Romania, those with at least upper secondary education with a specialization are much

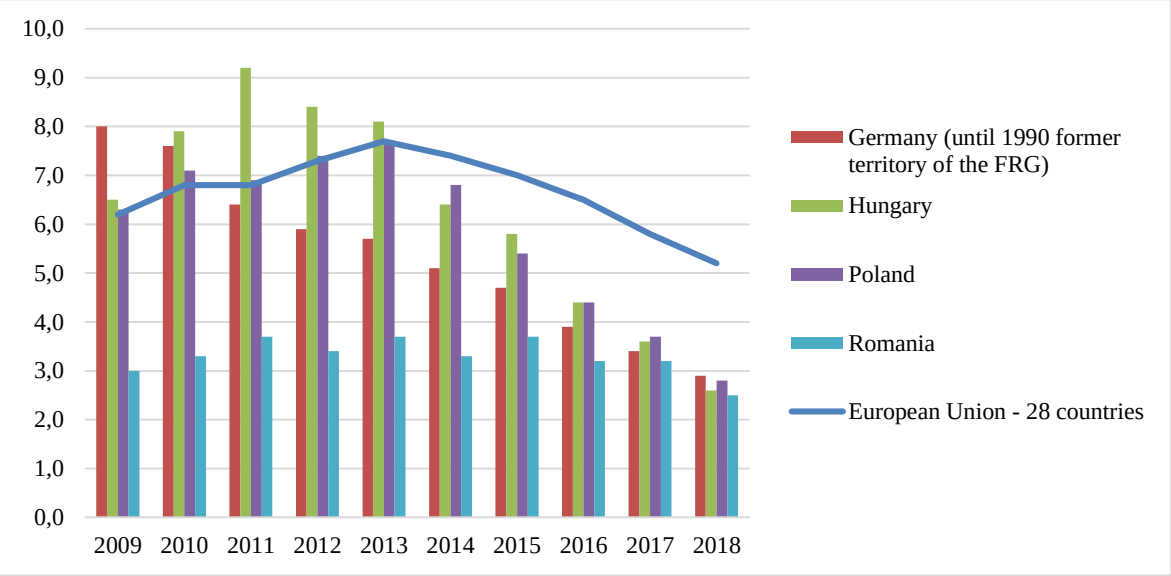
[16] The European Union uses its own statistical system to describe education levels, as it does in case of the classification of territorial units. The seven levels of the so-called ISCED system (0 to 7) denote each qualification level, from persons who have not undergone any form of school education to persons who have undergone training leading to a scientific degree. The levels of the system are stacked as follows:

- ISCED O – Pre-primary education
- ISCED 1 – Primary education or first stage of basic education

more likely to be employed than those unskilled or with the maximum basic skills. The employment rate gap by educational level has been around 20 to 35 percent in recent years, with Hungary having a more significant employment gap than Romania. In some years, the employment of the better-educated in Hungary was 45 percentage points higher than that of the lower-skilled. In Romania, the same proportion is between 20 and 25 per cent.

Disadvantaged workers include those over 50, who are no longer disadvantaged because of their workplace experience, but because of their age when looking for and getting a job.

Figure 39: Unemployment rate for older people (55 64) in the European Union and certain Member States, 2009-2018 (%)



- ISCED 2 – Lower secondary education or second stage of basic education
- ISCED 3 – (Upper) secondary education
- ISCED 4 – Post-secondary non-tertiary education
- ISCED 5 – First stage of tertiary education (not leading directly to an advanced research qualification)
- ISCED 6 – Second stage of tertiary education (leading to an advanced research qualification)

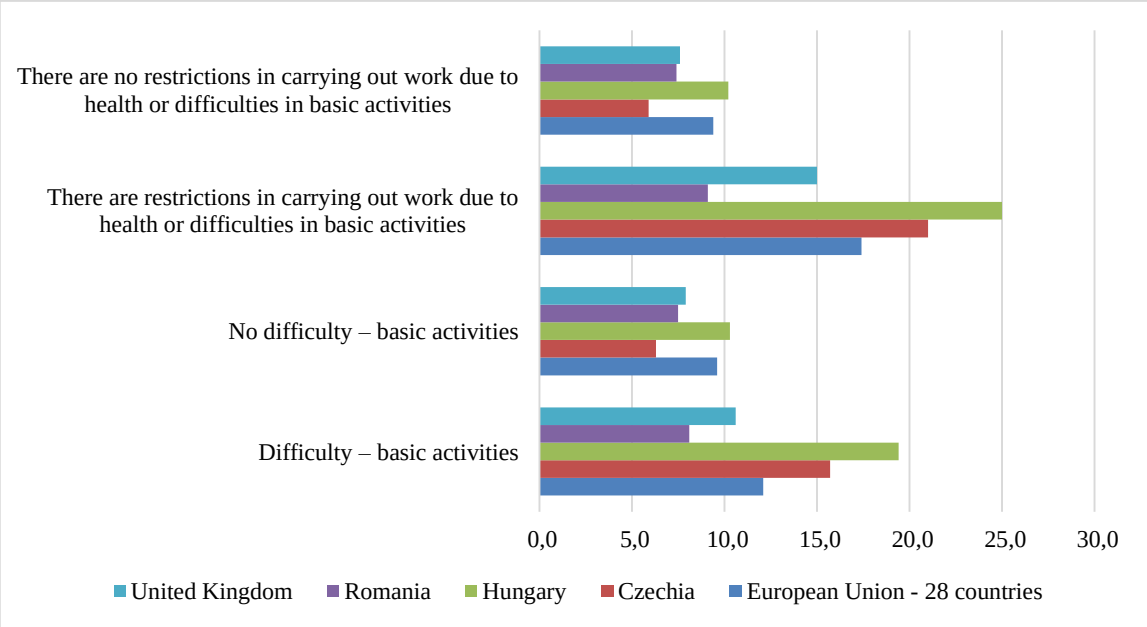
For the two countries examined, the 0-2 levels represent a maximum of a vocational education and skill training, 3 to 4 levels to obtain a general certificate of education in a grammar school, or in case of a 4+1/2 years vocational high school, the general certificate of education combined with the skill training. (source: Hungarian Institute for Educational Research and Development)

Source: Eurostat (2019)

The rate of unemployed persons over 55 also varies considerably between Member States. The European Union average for this indicator was still just over 6% in 2009. The downward trend continued until 2013, when the 7.4 percent unemployment rate fell to 5.2 percent by 2018. Meanwhile, of the countries for comparison in Germany, the rates were initially unfavourable, and since 2011 they have been consistently below the EU average, just like Poland. In Hungary, unemployment of older people was above the EU average until 2013 and is now below 3%, similar to Romania. Which, on the other hand, was significantly more favourable than the EU average or the other Member States examined in each of the years examined. The unemployment rate of the elderly was never higher than 4 percent in any year, currently - in line with the general trend – it is below 3 percent.

The European Union last carried out a detailed assessment of the labour market situation of people of working age with disabilities in 2011. The survey categorized people involved in unemployment in two ways: whether they have difficulty in carrying out the activities necessary for their daily subsistence (basic activities), or if they are restricted from working because of either their state of health or any difficulty in performing basic activities (that is, they can only work in a job with certain characteristics).

Figure 40: Unemployed people with disabilities in the European Union and certain countries, 2011 (%)



There are no restrictions in carrying out work due to health or difficulties in basic activities

There are restrictions in carrying out work due to health or difficulties in basic activities

No difficulty – basic activities

Difficulty – basic activities

Source: Eurostat (2019)

According to the results of the survey, people with disabilities are in a much better position in Romania than in Hungary. Nearly 20 percent of those in difficulty in their daily living activities were unemployed in Hungary, in the same category; the rate of people excluded from the labour market was estimated at around 8% in Romania. The EU average was about 12 percent there. Romania has generally performed well in each category, the biggest difference though, was among those people who are restricted at work by their health or their difficulties arising regarding their basic activities. On average, 17% of them were unemployed in the EU, just one quarter of this percent in Hungary and only 9% in Romania.

In addition to the young, the elderly and the disabled, the fourth disadvantaged group in the labour market consists of people of non-majority nations. This means those who have been disadvantaged because of their ethnicity in the fields of hiring, working, advancement in the workplace or other employment-related circumstances. There is no

official data collection on the relationship between ethnicity and labour market disadvantage. In this respect, the censuses including ethnicity, and topic-focused research provide the basis for further study.

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Chart 20: Hungarian population in the border regions

Name of border region	Name of the unit within the border region	Proportion of Hungarians (%)
western Slovakian Hungarian border region	Dunajská Streda District	83
	Komárno District	69
	Nové Zámky District	38
	Levice District	28
eastern Slovakian Hungarian border region	Rimavská Sobota District	41
	Rožňava District	31
	Trebišov District	29
	Lučenec District	28
	Veľký Krtíš District	27
	Revúca District	22
	area of Košice	13
	Košice I-IV	4
Ukrainian Hungarian border region	Berehove District	76
	Uzhhorod District	33
	Vynohradiv District	25
	Mukachevo District	12
	Khust District	5
	Tiachiv District	4
Romanian Hungarian border region	Satu Mare	35
	Bihor	26
	Arad	11
	Timiș	8
Serbian Hungarian border region	North Banat District	47
	North Bačka District	44
	Central Banat District	13
	West Bačka District	10
	South Bačka District	9
	South Banat District	5
	Srem District	1

Croatian Hungarian border region	Osijek-Baranja	3
	Virovitica-Podravina	0,3
	Koprivnica-Križevci	0,1
	Meñimurje	0,1
Slovenian Hungarian border region	Pomurska	5
Austrian Hungarian border region	Burgenland	3

Source: Census data of countries

The importance of the issue is well illustrated, for example, in the case of the Hungarian minority abroad that in some areas more than four fifths of the population declared themselves Hungarians at the time of the census. Extremely high rates are found in the western Slovakian Hungarian border region (highest in the Dunajská Streda District), and the lowest rates were in the Croatian Hungarian border region at the last national survey. In this respect, the Romanian Hungarian border region is in the middle of the scale: the Hungarian population has the highest proportion in Satu Mare (35%), followed by Bihor (26 percent), Arad (11 percent) and Timis (8 percent). Because there is no reliable research on their employment, and because in Hungary there is a significantly smaller proportion of minorities representing the population of border countries along the border regions, we do not analyse the labour market situation of border minorities in neighbouring countries below. [Among them, Romanians in Hungary live in a district directly adjacent to a borderline (Kopint Tárki, 2010: 55)]. Instead, a common point between the two countries in terms of ethnicity and the labour market is investigated. This is the employment situation of the Roma minority.

According to the literature, this part of the population is traditionally considered differently in the labour market. Therefore, it should be treated separately in the examination of employment: in their case, the lack of language skills is not the starting point of the difficulty, since they are generally citizens of the country of employment who speak the language perfectly and declare themselves Roma. However, cultural differences tend to lead to lower employment figures, and they are more likely to experience

discriminatory situations in the labour market. The existence of these phenomena in the examined regions can be inferred from the statistical data on Roma employment from various sources.

Chart 21: Distribution of employed population by main occupational group and nationality in Romania, 2011 (%)

	Total	Romanian	Roma	Unknown
Leaders and legislators	2,6	2,4	0,2	5,6
Experts and intellectuals	15,2	15,5	1,4	16,8
Technicians and craftsmen	8,1	8,0	3,8	11,5
Administrative officials	4,1	4,0	0,7	17,3
Workers in services and commerce	13,5	13,3	8,3	17,3
Workers in agriculture and forestry	23,8	25,5	35,1	3,1
Skilled workers	14,2	13,9	13,5	12,2
Machine operators, mechanics	8,1	7,9	7,9	9,4
Unskilled workers	10,3	9,6	29,1	17,8
Total:	100,0	100,0	100,0	100,0

Source: Veres (2015:122)

As you can see from the table above, non-Romanians (Roma in the above study) are significantly underrepresented in jobs with higher social status. In the Romanian and Roma employment rates of the main occupational groups in each row, the difference is always multiple, to the Romanian side in case of higher status occupations and to the Roma side in case of lower status. For example, thirteen times as many Romanians as Roma are employed within the group of leaders and legislators, but the number of leaders within society is relatively low. What is more striking is the main group of unskilled workers, in which almost three times more Roma work than Romanians. In addition, Roma are slightly overrepresented in agriculture and forestry.

Chart 22: Percentage of people employed in Romania by nationality in different labor market positions, annual averages (%)

	Year	Romanians	Romas	Total
Entrepreneurs, employers	2000	1,3	0,6	1,4
	2006	1,5	1,0	1,4
	2012	1,2	0,0	1,4
Self-employed	2000	26,6	49,8	26,8
	2006	25,4	50,8	25,6
	2012	24,0	51,5	24,2
Employees	2000	55,2	20,2	55,3
	2006	56,8	21,9	56,9
	2012	58,6	24,7	58,6
Helping family members	2000	16,8	29,4	16,5
	2006	16,5	27,0	16,2
	2012	16,1	23,6	15,8

Source: Csata (2017)

Labour Force Survey data from three dates confirm that Roma are significantly underrepresented in several labour market positions in Romania. For example, among entrepreneurs and employers, the 2012 survey did not identify anybody as Roma, however, due to the small number of elements, the reliability of the results is also limited here. The number of employees is significantly lower than that of the Romanian population, however, there are more self-employed and more helping family members. The latter may be explained by seasonal employment.

The difference in the labour market position of the Roma and non-Roma population can also be proved on the basis of Hungarian employment data. Data from the 2015 publication Annual Labour Force Survey of the Central Statistical Office point to another characteristic of employment inequality, the higher rate of unemployment.

Chart 23: Unemployment rate of people aged 19-64 in Hungary according to some important criteria, 2015 (%)

	Has been unemployed	Currently Unemployed	Total affected by unemployment	Never	Total	oy men

	once	several times			Has never been unemployed	Has never worked	Percent	Thousand persons	
Not Roma	20,1	10,2	7,4	37,6	55,6	6,8	100,0	5 801,4	7,0
Roma	15,3	26,2	29,9	71,4	15,6	13,0	100,0	226,8	33,6
Did not Answer	17,0	6,6	1,0	24,5	73,6	1,9	100,0	10,3	...
Total	19,9	10,8	8,2	38,9	54,1	7,0	100,0	6 038,5	7,8

Source: Central Statistical Office (2016)

According to the survey, the Roma minority in Hungary has been unemployed two and a half times the average (26.2 percent vs. 10.2 percent for non-Roma). The most striking difference is in the number of currently unemployed, to which about one third of Roma people answered yes, the national average is 8.2 percent. Based on all this, 71.4% of the Roma are affected by unemployment, almost twice as many as the non-Roma. More than one in two respondents said they had never been unemployed before, in the case of Roma, this ratio is more than one in six respondents. Overall, the national unemployment rate was 7.8 percent in 2015. For non-Roma it was slightly more favourable, at 7.0 percent, while the proportion of Roma people is nearly five times that, 33.6 percent.

All these figures and results illustrate, on the one hand, that the employment situation of the Roma minority in both countries needs to be improved, on the other hand, they have significant labour reserves in the labour markets of both countries. This would also improve the economic data and performance of countries, including regions and counties. The latter data will be examined in the following subsection.

4.4. Basic economic data and performance

Labour market status is significantly influenced by the economic performance of a country, the level of income available to economic operators. Because the labor market itself is identifiable as a space for exchanges between actors of the same status, labor mobility, supply and demand conditions are influenced by the current situation of the actors; at a given wage level they offer and get jobs if their own situation justifies it. Therefore, below, economic performance is examined at several levels, from the perspective of the national economy as a whole and of households.

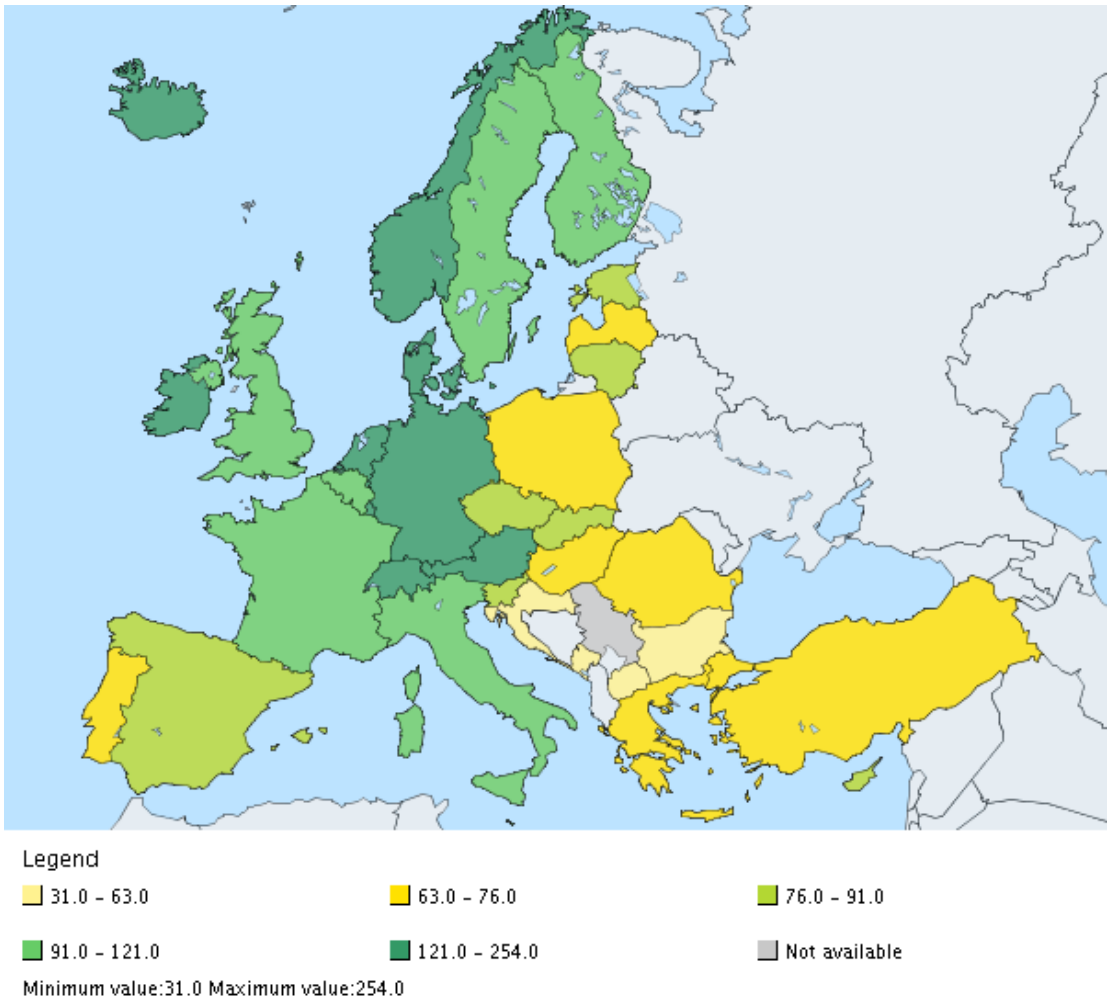
4.4.1. National economy

The performance of a country, or a smaller entity, consists of several components, all of which are required to be evaluated together to make the performance measurable and comparable. The system of so-called national accounts is a system of macroeconomic statistical accounts covering national economic activities, which is capable of accounting for economic performance. Some of its elements are presented below along with the results of the study areas.

Gross domestic product (GDP) is a measure of economic activity, the most basic indicator for measuring and comparing countries' incomes. In its simplest definition, it means the value of all goods and services produced, less the value of the goods or services used in their creation. In addition, the activities of the Member States of the European Union are defined in purchasing power parities (PPS), which, when calculating GDP, also takes into account the price level and exchange rate movements of the countries concerned, thus giving a better comparability of the individual values. The calculation makes it possible to measure relative activity using an index value based on the average performance of the 28 countries of the European Union, giving it an index value of 100. If a country has an index greater than 100, its GDP per capita is higher than the EU average, and vice versa. So base numbers are thus expressed in PPS, a "common currency" which

eliminates differences in price levels between countries, making it possible to compare significant differences in GDP between countries[17]

Figure 41: Per capita GDP at purchasing power parity in the European Union, 2018 (EU28 average = 100)



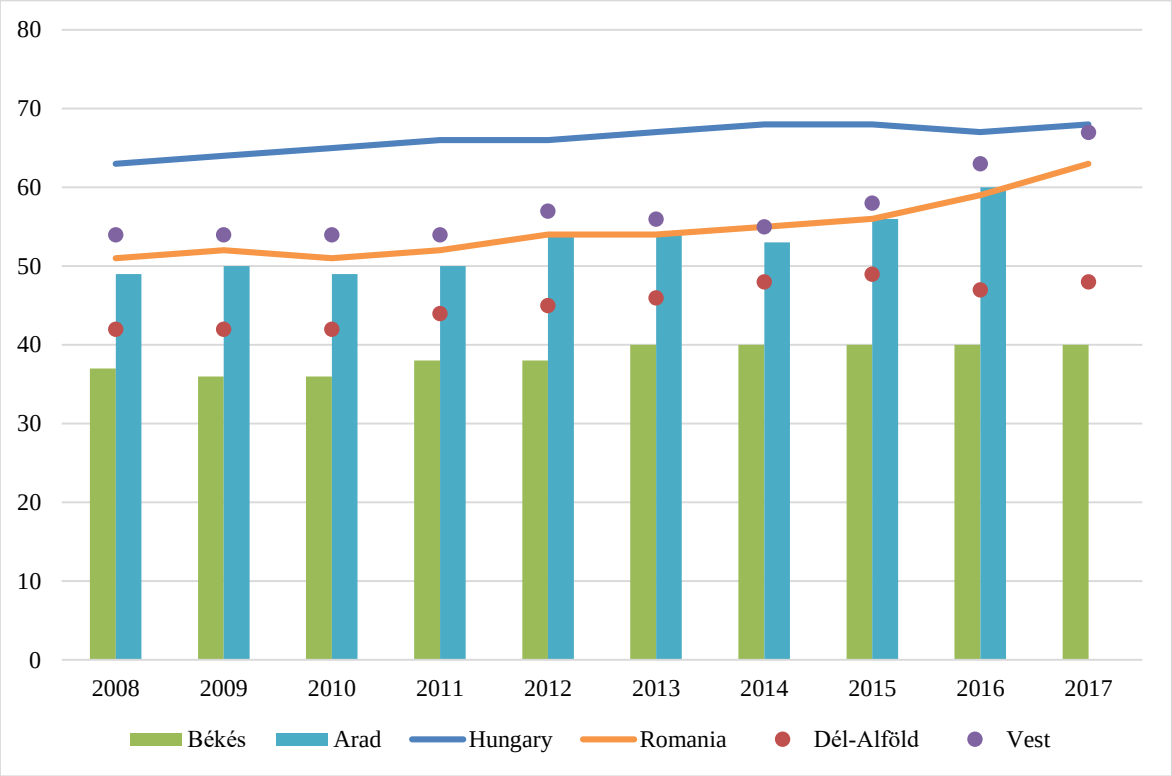
Source: Eurostat (2019)

According to the results, per capita GDP in Western Europe is higher than the EU28 average only in some countries. In this respect, Luxembourg is at the forefront with its

[17] It is an important aspect of evaluation that the index calculated from PPS data and expressed in 100 in case of EU28 countries was intended for cross-country comparisons, not for time comparisons.

value of 254 (which means that its combined economic performance is two and a half times the EU average), besides, Ireland scored 187 points, Norway 150 points and Germany 123 points. In addition, Italy scored 95 and Portugal only 76. The countries of Central and Eastern Europe typically represent 60 to 90 percent of the EU average, giving them the same number of points for the performance of their economies. For example, Poland scored 71 points in 2018, Slovakia 78 points and Croatia 63 points. Hungary's score in the same year was 70, Romania's 64.

Figure 42: GDP per capita at market price in PPS as a percentage of the EU28 average, 2008-2017 (EU28 average = 100)



Source: Eurostat (2019)

GDP per capita, also in purchasing power parity as a percentage of the EU28 average show that national data in both states is more favourable than lower territorial units. The start of the period from 2008 to 2017 coincides with the outbreak of the global economic crisis, but the investigation units have apparently retained their position in subsequent years. Hungary's values increased by 1-2 percentage points between 2014 and 2014, then stagnated between 2014 and 2017, that is, Hungary's share of total GDP production in this

period was about the same as the EU28 average. The Southern Great Plain is one of the poorest performing counties in the country, which is confirmed by the data. In fact, during the period under review, the region was almost exactly 20 percentage points behind the national average every year.

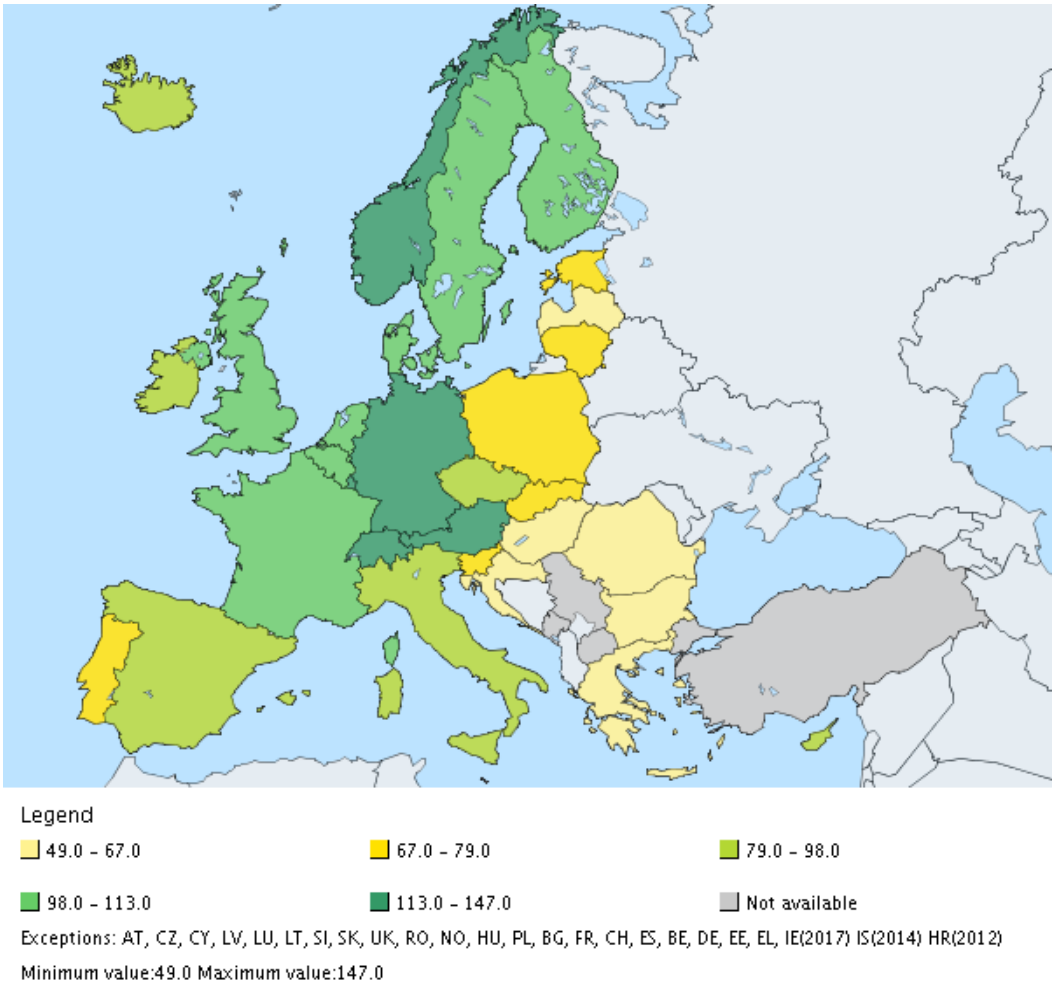
Compared to the regional performance, Békés county is 5-9 points behind. Romania has lower national per capita values, and the trend in GDP production since 2008 is significantly different from Hungary. It was in a stagnating phase until 2012, followed by a slow increase between 2013 and 2015, increasing its results by 3 and 4 percentage points compared to the EU28 GDP average in 2016 and 2017. The most significant difference between the Western Romanian development region and the Southern Great Plain region is that, with the exception of one year, it was slightly above the national average, with a 4-percentage point difference in the last two years. Arad county showed a performance that was moderately behind the regional result, and its lagging was even smaller behind the national average. In 2016, it also outperformed the national average (by 2017, we have no county data).

At national level, Hungary was initially ahead of Romania by 12 to 14 percentage points. In 2016 and 2017, the gap narrowed to 8 percentage points, then to 5 percentage points, with the two countries apparently converging. In terms of regional performance, the Western Romania region performed better every year, the difference was 10 to 12 percentage points until 2013. Then, with the significant strengthening of the western Romanian region and the stagnation of the Southern Great Plain, the latest measured difference is 19 percentage points. The situation is similar in Békés and Arad counties. The latter had an advantage of 12 to 14 percentage points, rising to 16 percentage points in 2015 and then 20 percentage points in 2015.

4.4.2. Households

However, income can be recorded not only at the level of the national economy, but also at the level of the basic units of economies, the households. Among other things, the households' disposable income indicator serves this purpose, consisting of income from work and social benefits in cash.

Figure 43: Households' adjusted gross disposable income per capita in EU28 average (EU28 = 100)

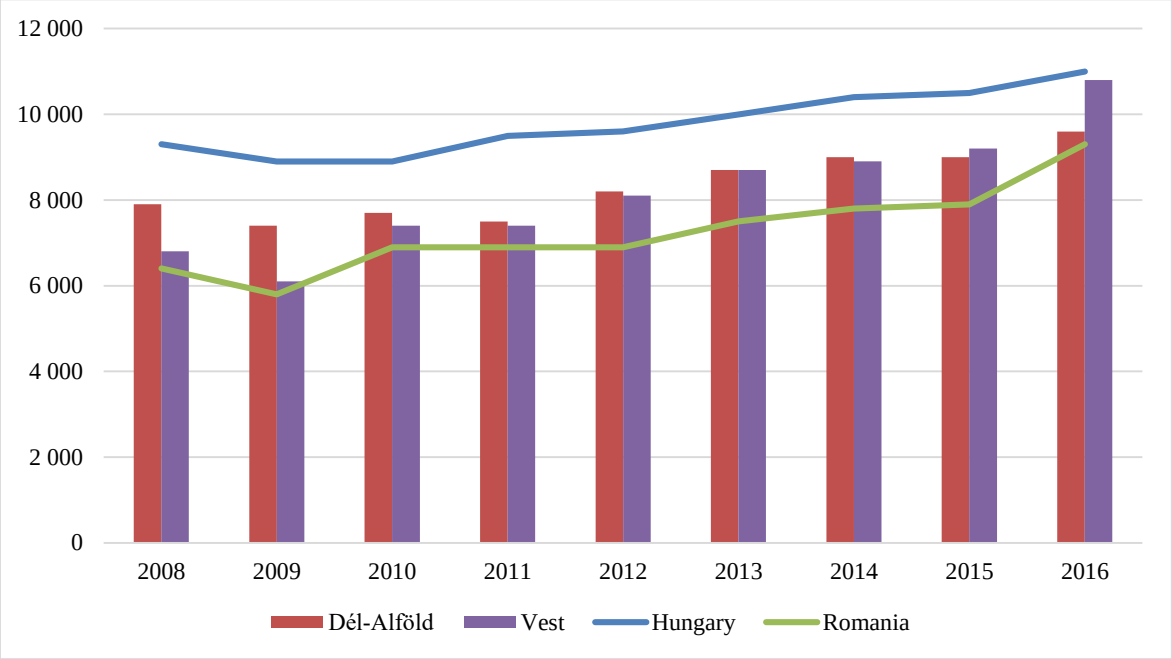


Source: Eurostat (2019)

Household income situations vary widely across EU Member States. Although prices adjusted for purchasing power parity show much more discreet values than the differences in national income, however, there are multiple differences between countries. Luxembourg, a leader in national income, received a value of 147, that is, the per capita income of households is almost one and a half times the average of the 28 Member States of the European Union, somewhat behind - within the 121-128 area - are Germany, Norway and Austria. All of the Central and Eastern European countries are below the EU average, with Hungary at 65 and Romania at 58, that is, the per capita income of

households reaches almost two thirds of the average EU household in Hungary and more than half in Romania.

Figure 44: Household disposable income at purchasing power parity in the dimensions examined, 2008-2017 (currency unit)



Source: Eurostat (2019)

The income situation of the households of the countries and regions in question is also given on a parity basis, adjusted to the 27 countries of the European Union by differences in price levels and exchange rates (the unit of measurement is the ratio of the currency units of the countries). The results show that the situation of households is constantly improving, and the catching up with the EU average is clearly identifiable. Initial currency unit levels have increased significantly at national and regional levels. After the abandonment of the 8,000-currency unit band in 2012, regions were catching up to the national level by 2016. Therefore, the households there are not in a worse position than the national average. In the case of Western Romania, the values of the region exceed the national values. Comparing to the European Union situation, there is a significant growth path both at national and subnational level, the households of the two countries are dynamically increasing their incomes.

4.5. Labour force activity

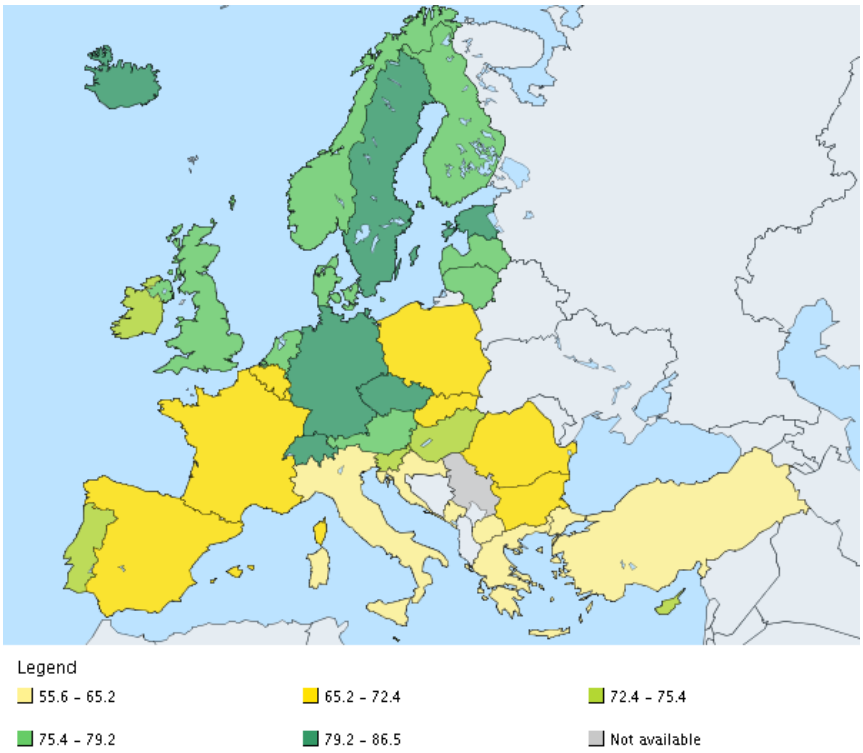
Labour market activity of the population is a factor influencing equilibrium; the economically active population, as well as the proportion of the employed and the unemployed influence the wage level and determines the performance of the labour market. In the following, we examine the different dimensions of employment and then analyse other factors affecting employment in the areas studied.

4.5.1. Employment rate

First, we look at employment, its national scale and differences within the country.

The map below shows the proportion of the population aged 20 to 64 in employment relative to the total population of the same age group in that country (outside the EU, within the candidate and Schengen countries as well). As you can see, in this regard there is a trend among countries, which states that peripheral geographic states - which means not only the member states of the eastern but also those of the western end - are marginalized in terms of the labour market as well, and have lower employment values.

Figure 45: Employment rate among the working age population (20-64 years) in the European Union, 2018 (%)

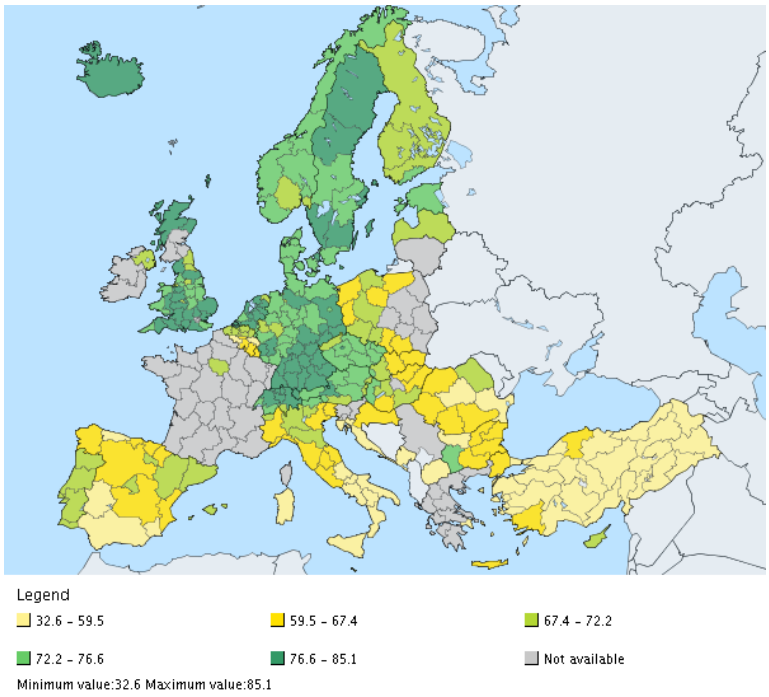


Source: Eurostat (2019)

Within the values scattering between 55.6 and 86.5 percent, some countries employ more than three quarters of their active population (at least one hour a week), while outward from this centre we see lower employment values. Employment rates in Germany, the Czech Republic and Sweden exceed four fifths of the active population (Just 79.9 percent in Germany), but in Spain and Italy the values are only around two-thirds (67% for the former and 63% for the latter).

Hungary was slightly behind the centre with a 74.4 percent employment rate in 2018, and in Romania, the employment rate of the active population is 69.9%.

Figure 46: Employment rate among the working-age population (15-64 years) in the regions of the European Union, 2018 (%)



Source: Eurostat (2019)

Regional employment rates show differences within the country, on the basis of which the regions can be most effectively separated into areas that are disadvantageous or advantageous in terms of the labour market. In almost all countries such areas[18] or axes can be identified which are considered to be more advanced or underdeveloped than the national average.

Text box 2: Italy's North-South employment axis

A common example for the domestic economic-employment fault line is Italy, where southern areas tend to struggle with lower employment and higher unemployment (for example, in Sicily, the employment rate was 40.7% at the last measure), while in the middle areas there are slightly more favourable values. The

[18] We also must note that the map shows the 15 to 64 age group (as opposed to the national summary map). Therefore, employment figures include school attendance, lifestyle and other aspects. For example, with higher participation in higher education, students of working age will not participate in the labour market until their studies are completed, but then, they do higher value-added work than those who, for example, are already working in a lower value-added position at the end of their compulsory schooling.

northern part of the country produces data not comparable to the southern areas (in the region of Emilia-Romagna, the employment rate of people of working age was close to 70% in the last measured year). The North-South dividing line was characteristic of this area even in the early days of history. Despite multiple attempts the standard of living in southern Italy has not been able to catch up with northern Italy for hundreds of years, it can only be referred to as average in Europe. The situation is exacerbated by high levels of emigration (although it was most significant in the 19th century, is still perceptible today) and as a result, the art nouveau movements calling for the separation of the two parts of the country are also intensifying.

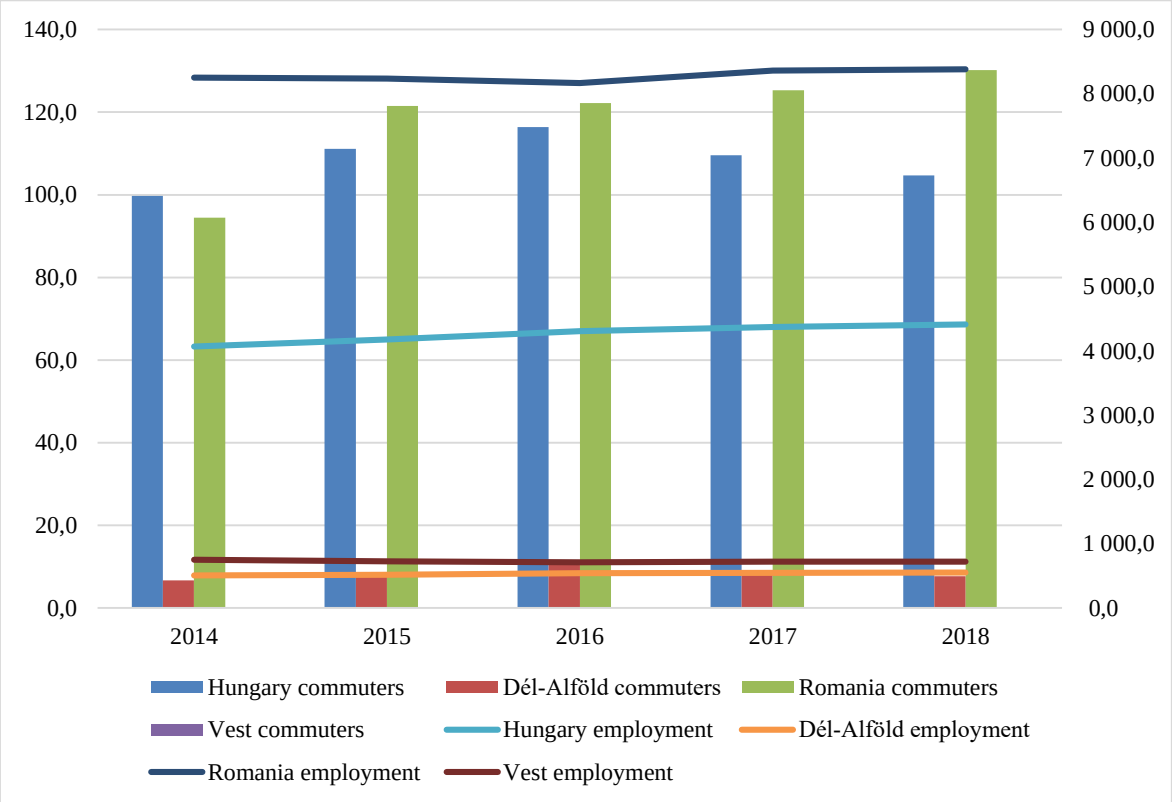
Source: Andreides and Nagy (2012)

In more developed areas - within Europe, mainly in Western and Northern Europe - differences within the country are clearly visible, whereas in Central and Eastern Europe inequalities tend to develop between villages and their centres of attraction. In Hungary, an east-west axis separating these two parts of the country can be identified, along which western regions and counties are considered to be more advanced in many economic social indicators, while the eastern counties are disadvantaged in many economic and social indicators. The capital, Budapest, as the most developed area of the country, is not included in this division. The difference between the west and east ends – for example Western Transdanubia and the Northern Great Plain -is about 7 to 8 percentage points per year on average. The employment rate of the Southern Great Plain was 68.8 percent in 2018, which is slightly below the national average. In Romania, no such dividing lines can be found; the most developed region is the north-east (with an employment rate of 71.8%), least developed South-East and Central (59.0 and 59.1 percent), and the difference in employment rates between the two western regions was also about 7 percentage points. The two less developed eastern regions are followed by Western Romania with a ratio of 59,7 percent. Thus, there is a significant employment gap of 9.1 percentage points between the two regions, to the benefit of the Southern Great Plain region.

4.5.2. Region specific aspects

Apart from the proportion of the workforce in the study area itself, an interesting research question is how many workers are employed in another country? We will try to provide a satisfactory answer to the question.

Figure 47: Commuting employees in the surveyed dimensions, 2014-2018 (thousand persons)

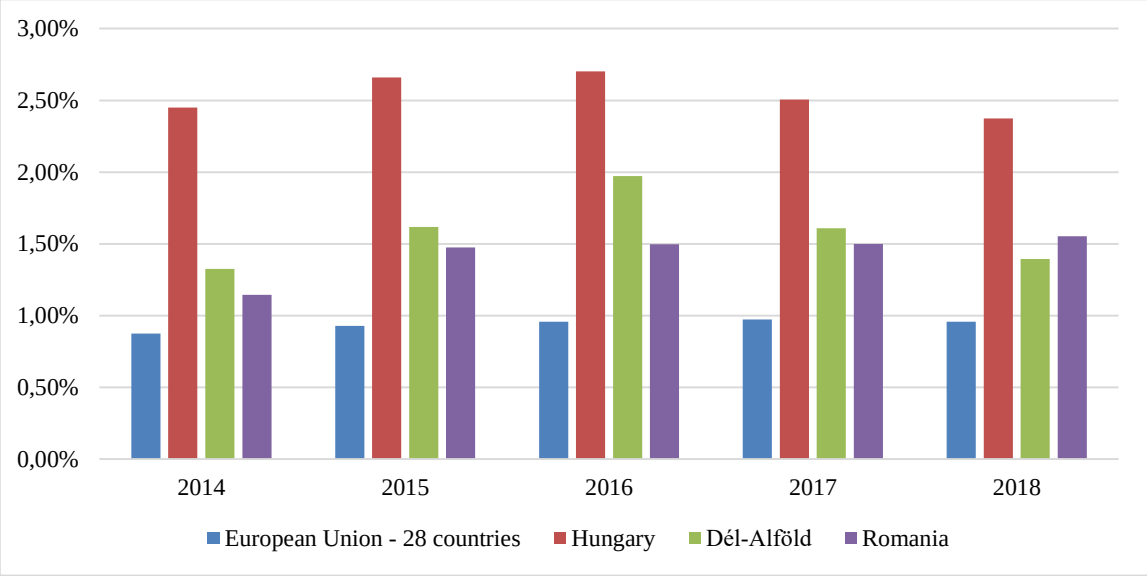


Source: Eurostat (2019)

There are several limitations to Eurostat's data collection in this area: it does not register in which foreign country the employee is employed. Thus, it can only be assumed that commuting workers in the Hungarian Romanian border regions are employed in the neighbouring country and not, for example, the second closest neighbour in Serbia or Ukraine. In addition, the latency is extremely high: grey employment is not actually contracted with a foreign employer, or at least not for the actual working hours. Seasonality can also play a role in certain jobs. In addition, in many cases, countries hold closed records of this field, therefore, statistics on the number of commuting workers are

not available for Western Romania. The figure above shows the total number of employed and commuting workers in the two countries and one border region with these limits.

Figure 48: Proportion of commuting workers in the surveyed dimensions, 2014-2018 (%)

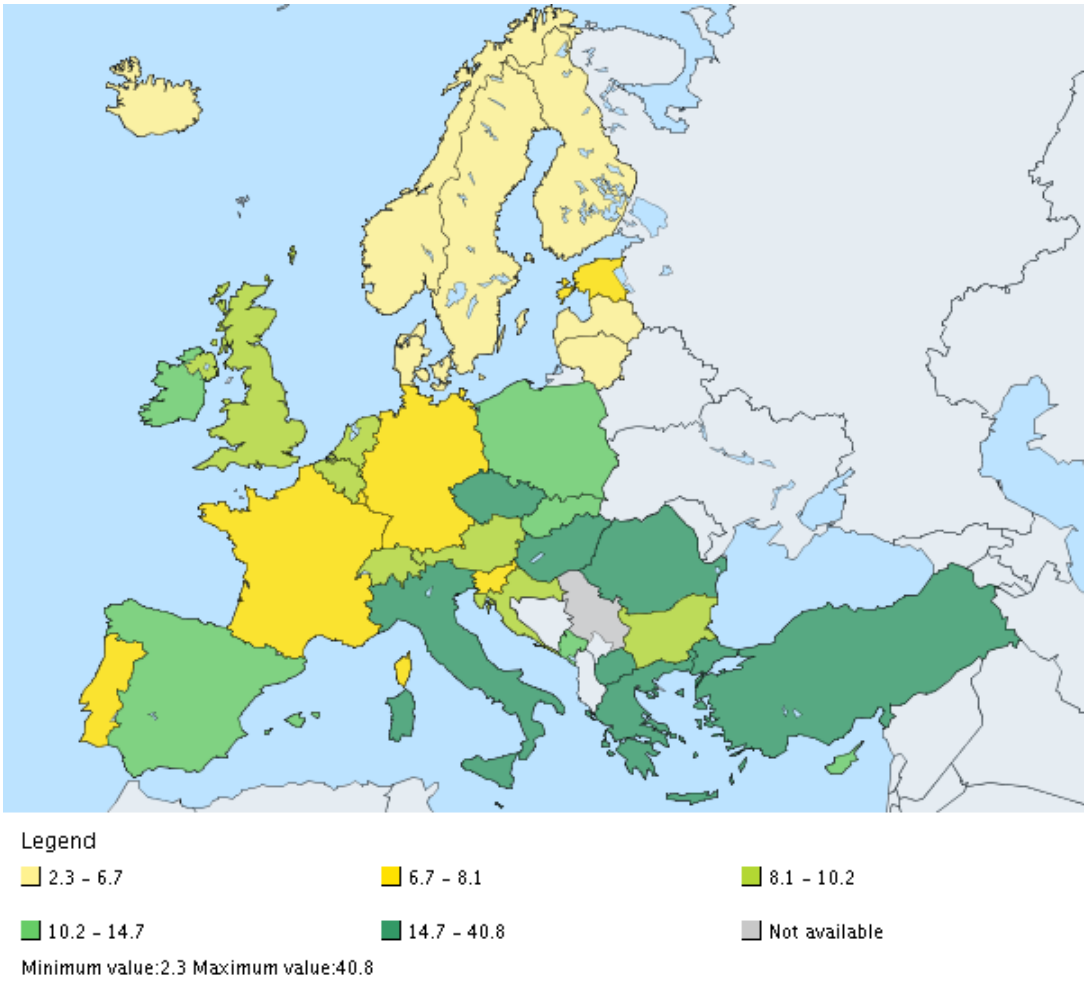


Source: Eurostat (2019)

The figures for the same area show that the highest proportion of commuting workers come from Hungary, from where about 2.5% of all employees work abroad. In the Southern Great Plain region, the same proportion was lower, most recently at 1.39 percent. In Romania, the number of registered foreign workers is lower within the country as a whole, data of around 1.5 percent per year for the last four years under review are broadly stagnant.

Finally, when examining employment, not only its absolute value is relevant, but also the internal conditions of employment and the factors influencing access to employment. Such a factor may be the statistical discrepancy between the gender of the workforce, more specifically, the employment rate of women and men. This generally puts men in an undue advantage on the labour market, and reducing it is in the fundamental interest of every national economy.

Figure 49: Gender employment gap in European Union countries, 2018 (%)

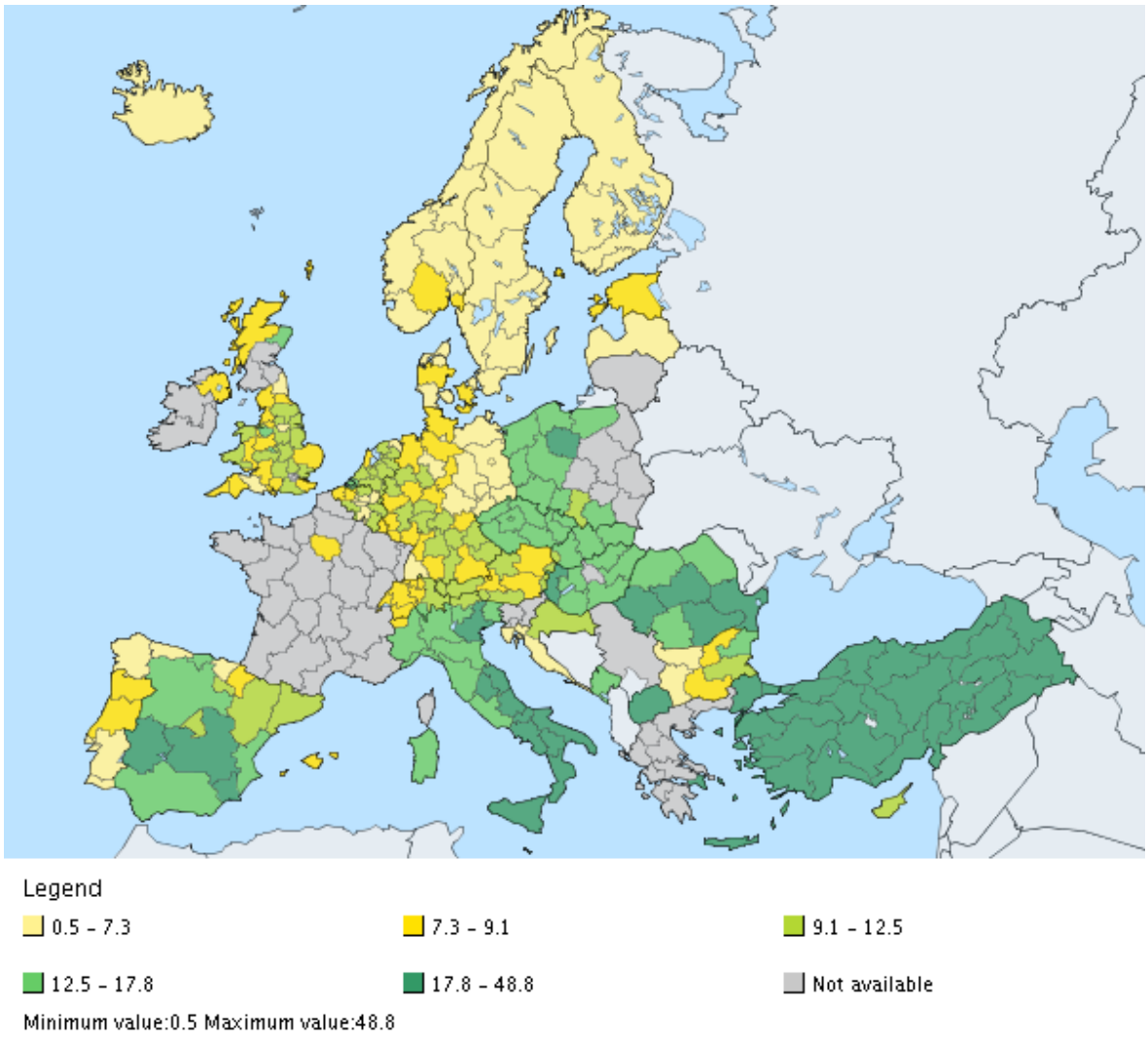


Source: Eurostat (2019)

The gender employment gap rate shows the difference in the employment rate between men and women for a given age group. The gender employment rate shall be calculated by dividing the working age population of men and women (20 to 64 in this case) by the total active population of the same age group, and then determine the difference between the two results. At European level, the gender employment gap only partially reflects a similar picture of countries' economic development: the gender gap is low, 4 between 8 percent in the most advanced western and northern European countries (Germany, France, Norway, Sweden and Finland). Women and men are therefore almost equally likely to find a job in the labour market in these countries. The value of Italy (19.8 percentage points) is higher than all Western and Central Eastern European countries. In Central and Eastern Europe, the difference is about twice as much as in the West. Hungary

has a gender employment gap of 15.2 percent, and Romania has 18.3 percent. The European Union average was 11.6 percent in 2018.

Figure 50: Gender employment gap in EU regions, 2018 (%)



Source: Eurostat (2019)

Regional comparisons show that the gender employment gap in the Southern Great Plain is roughly equal to the national average (15.1%), Western Romania is slightly higher than the national average (20.5%). Thus, on the Hungarian side, the labour market discrimination against women is lower between the two regions, however, both countries are significantly lagging behind in the gender gap in employment in Europe.

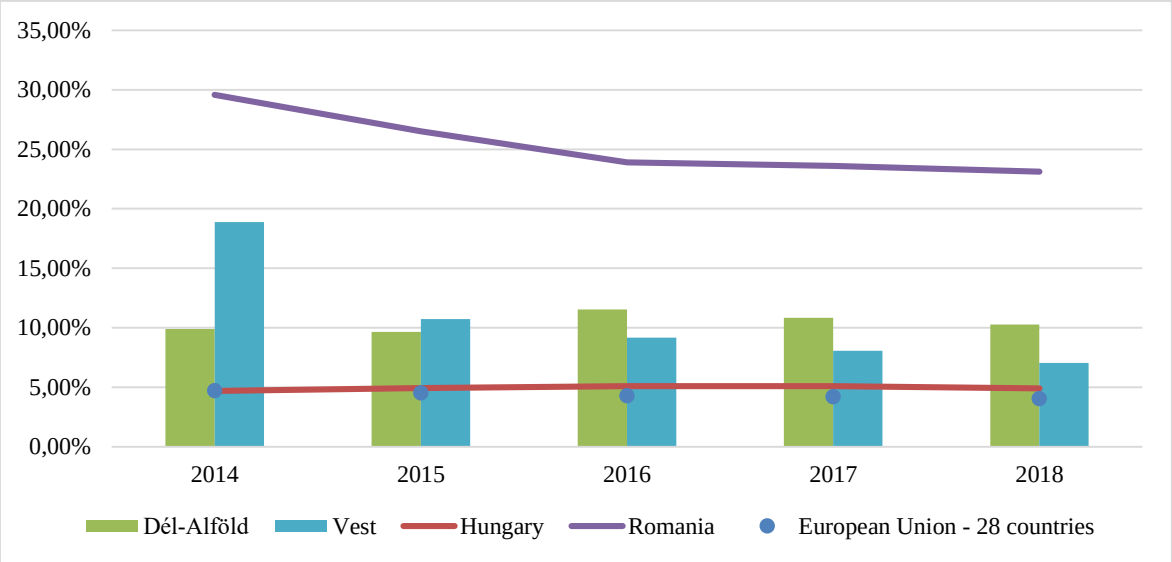
4.6. Employment capacity of economic sectors

In addition to studying the employment situation of the employed, we also consider other players in the labour market important in terms of shaping employment, so below we do not carry out a workforce focused analysis, but we measure the performance of certain sectors of the national economy with the help of a few indicators. When examining the employability of sectors creation of subdimensions were considered appropriate. Therefore below we look at the employability of each economic sector.

4.6.1. Primary sector: agriculture

Economic sectors can be distinguished according to goals, decisions and available resources. In agriculture, the aim is to produce finished products using social and natural resources. These include labour, capital, machinery and natural and non-natural materials released into the soil. The latter include soil, water and climate. On most of them we have no or very limited influence. The following is an analysis of one of the main agricultural resources, the amount of human resources, corresponding to the subject of the study.

Figure 51: Proportion of persons employed in the agricultural sector in the examined dimensions, 2014-2018 (%)



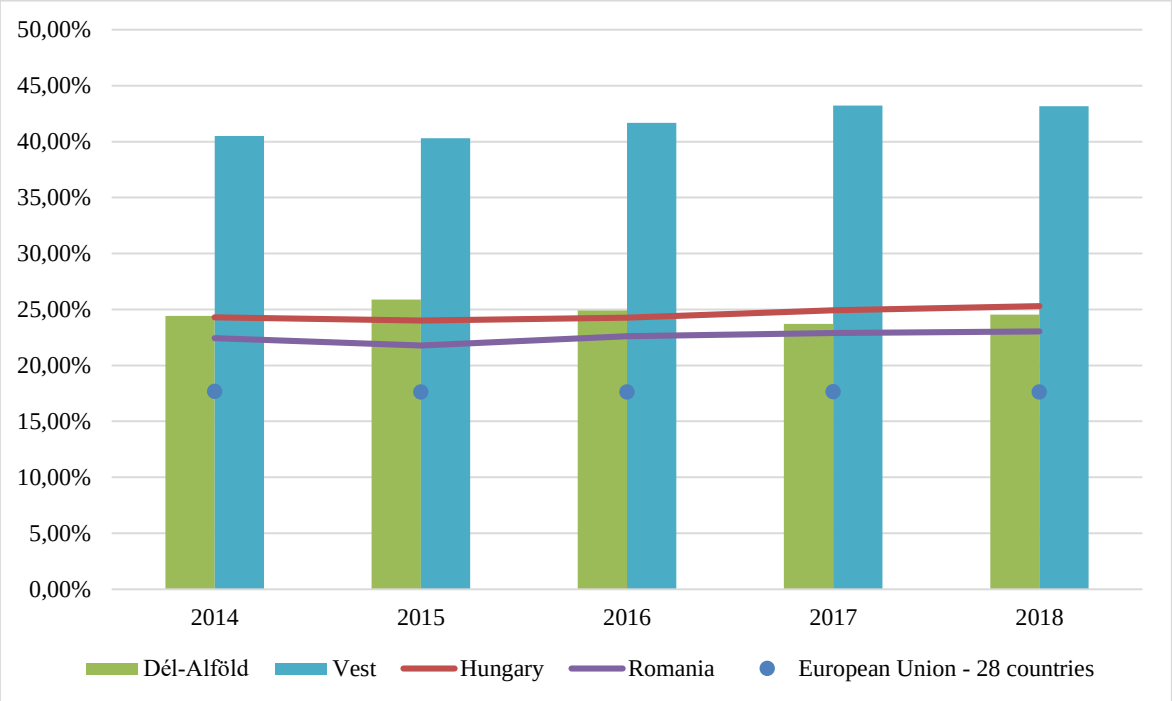
Source: Eurostat (2019)

The figure shows the number of persons employed in agriculture, forestry and fishing according to the European Union's economic activity classification. Changes in European Union values show a decline in the number of people employed in the sector throughout the Community, from 4.72 percent in 2014 (9.292 million people), only 4.07 percent (8.347 million people) are employed in the sector by 2018. Meanwhile, the number of people working in agriculture has increased slightly in Hungary, the 4.69 percent value of 2014 increased to 5.09 percent by 2017, then 2018 saw a slight decline to 4.91 percent. The number of people employed in the sector in Romania is extremely high but has fallen to a greater extent in recent years: from 29.58 percent it dropped in four years, to 23.12 percent in 2018. Statistics show that in the Southern Great Plain, agricultural activity is higher than in Hungary, this is evidenced by the fact that the employment rate in the region is about double the national average. A similar trend is the change in the ratio. From 2014 to 2016, growth paths have been experienced, then the agricultural sector increased its share of total employment from 9.89 percent to 11.54 percent, followed by a slight downturn, it currently stands at 10.27 percent. The number of people employed in agricultural production is lower in Western Romania, and there has been a significant decline in recent years: in 2014, 18.89 percent of the employed still belonged to the sector, before falling to 10.73 percent in one year, and by 2018, with a further decline to 7.05 percent.

4.6.2. Secondary sector: industry

The industrial sector is much more structured than agriculture: industries and industries make up the entire industry segment, which can be subdivided in many ways. In the most basic way, we can divide industrial activities into heavy industry, light industry and food industry, within which many additional sectors can be separated. We can also distinguish between traditional and modern industrial sectors. The former are activities with a smaller research development need and larger physical infrastructure, while the latter play a major role in innovation and have a more dynamic than average development path.

Figure 52: Proportion of people employed in the industrial sector in the examined dimensions, 2014-2018 (%)



Source: Eurostat (2019)

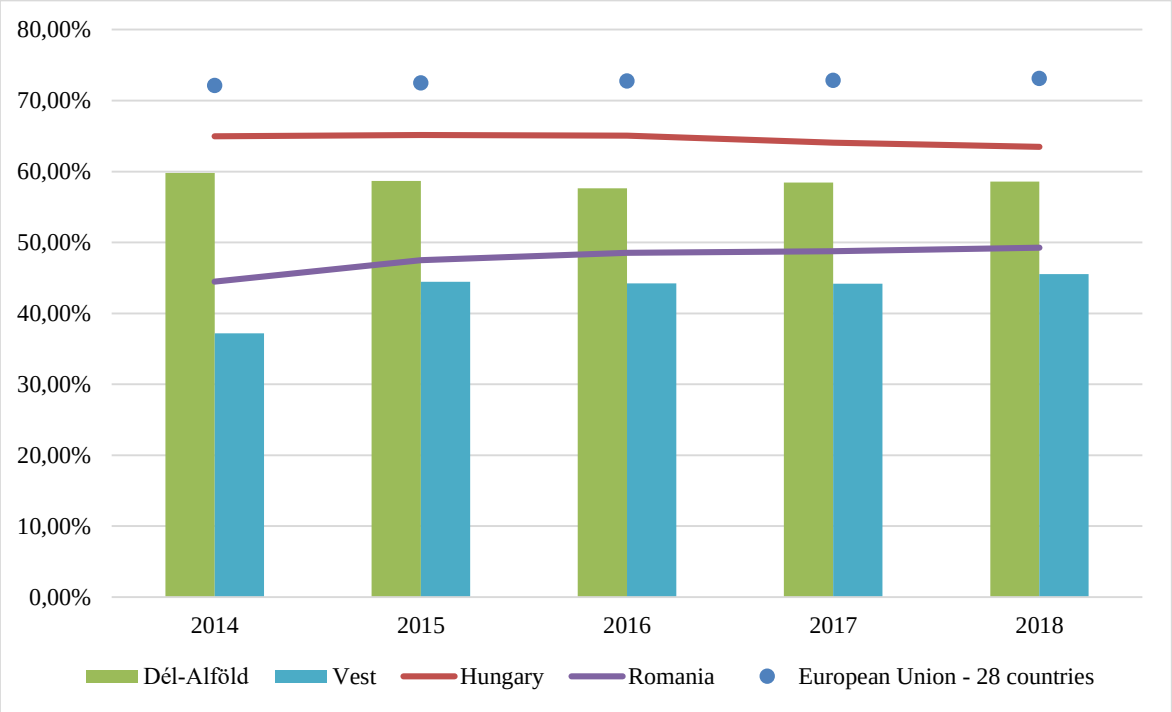
The European Union's classification of economic activities classifies all industrial workers with the exception of the construction industry into one category. As a result, the number of industrial workers in statistics is generally very high compared to the total employed in national economies, including those working in the most traditional mining or

raw materials industries and in the biotechnology or pharmaceutical industries considered to be the leading industries. Significantly smaller changes are observed in the proportion of industrial workers over the same five-year period, from 2014 to 2018. The average of the European Union countries - around 17 per cent - has hardly changed over the period, similar to the Member States examined. Hungary has a much higher value than the EU average. The industrial employment rate of just over 24 percent fluctuated slightly by 2016, followed by a slight (0.4-0.7 percentage point per year) growth to 25.3 percent in 2018. In Romania, the proportion of industrial workers is slightly lower than in Hungary. The 22.44 percent fluctuated by 0.3-0.8 percentage points from 2014. In 2018, it reached 23.05 percent. The proportion of industrial workers in the Southern Great Plain is only slightly different from the national average. The biggest swing was in 2015, when nearly 2 percent more people were working in the region than the national average. By 2018, there is less than one percent in the negative direction. In the study, only the values of Western Romania differ significantly from the EU, national and the basis values for comparison, the county values: the initial 40.51 percent in 2014 has even increased in recent years, up to 43,17 percent in 2018, this makes Western Romania a highly industrialized region in terms of employment.

4.6.3. Tertiary sector: services

Services are a very large sector, even more diverse than the structure of the industry. Due to its name, all non-material result and non-material product related activities can be included here. The tertiary sector was a few years ago identified as a dynamically developing area with a growing share, but until today it has undoubtedly become the most extensive sector of national economies both in terms of its contribution to gross national wealth and in terms of employment. The actual size of the sector relative to the primary sector agriculture and the secondary industrial sector depends on the level of development of the countries, and there may be significant differences between countries in the nature and quality of services provided.

Figure 53: Proportion of persons employed in the service sector in the examined dimensions, 2014-2018 (%)



Source: Eurostat (2019)

Of course, collection of data on the services sector in the European Union cannot give an overview on the quality of the services provided within the tertiary sectors, since the classification of economic activities in the sector already raises many questions. According to the statistical classification of economic activities (NACE Rev. 2), Sections[19]

[19] A NACE Rev. 2 consists of the following sections of the national economy:
A = Agriculture, forestry and fishing,
B = Mining and quarrying,
C = Manufacturing
D = Electricity, Gas, Steam and Air Conditioning supply
E = Water supply; Sewerage, Waste Management and Remediation Activities
F = Construction
G = Wholesale and retail trade; repair of motor vehicles and motorcycles
H = Transportation and Storage
I = Accommodation and food service activities
J = Information and communication
K = Financial and insurance activities

from G to U can be classified as services, making the sector the largest in the Community's statistical classification. The size of the tertiary sector in the European Union was already large in 2012, 72.1 percent of all employees were engaged in service activities. The share of the sector has not changed significantly over the next four years: it accounts for 73.09 percent of all employees by 2018, after rising within 1 percent. In order of proportion, Hungary follows, where after a 64.95 percent share in 2014, there was a slight decline in four years. Thus, the size of the tertiary sector is 63.48 percent in the most recent measured year. There are about 14 to 20 percent annual differences between the services sector in Hungary and Romania, however, the rate of 44.46 percent in Romania is growing year by year, reaching 49 percent in 2018 (49.27 percent exactly). The size of the service sector in both the Southern Great Plain and Western Romania lags behind national values. In the Southern Great Plain there is an annual difference of 5 to 8 percentage points compared to Hungary. In Western Romania, the - very low - 37.19 percent rate of 2014 rose to 45.52 percent by 2018, the backlog in national values is now around 3.5 percentage points compared to the previous 7 percentage points.

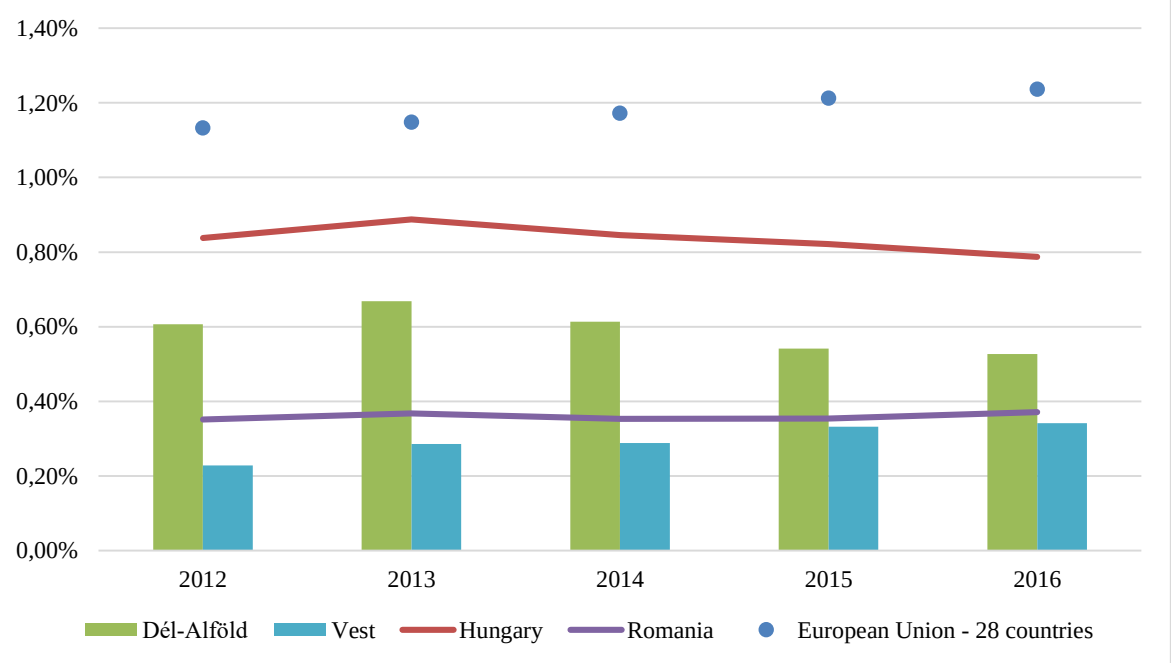
L = Real Estate Activities
M = Professional, scientific and technical activities
N = Administrative and Support Service Activities
O = Public administration and defence; compulsory social security
P = Education
Q = Human health and social work activities
R = Arts, Entertainment and Recreation
S = Other Service Activities, (for example, trade union representation, religious services, repair of computers, hairdressing, funeral and related activities etc.)
T = Activities of households as employers; Undifferentiated goods- and services-producing activities of households for own use
U = Activities of Extraterritorial Organisations and Bodies

Source: REGULATION (EC) No 1893/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains

4.6.4. Quaternary sector: research development innovation

For a long time, the division of the economy into sectors were dominated by the above three divisions. Only recently - with the rise of the information society and the information economy - has the fourth, quaternary sector been wedged into the rigid structure. Unlike the sectors described above, it relies solely on innovation. On the basis of all this, sectoral differentiation can also be done - moving from the primary sector to the quaternary - the way in which the potential for research, development and innovation is playing an increasing role, in the quaternary sector to the extent that the backbone of the whole sector is this activity. The size of the sector cannot be measured in the traditional way, for – against human resources – here the information and the amount of knowledge associated with it are also decisive.

Figure 54: Proportion of personnel and researchers employed in the R&D sector in the examined dimensions, 2012-2016 (%)



Source: Eurostat (2019)

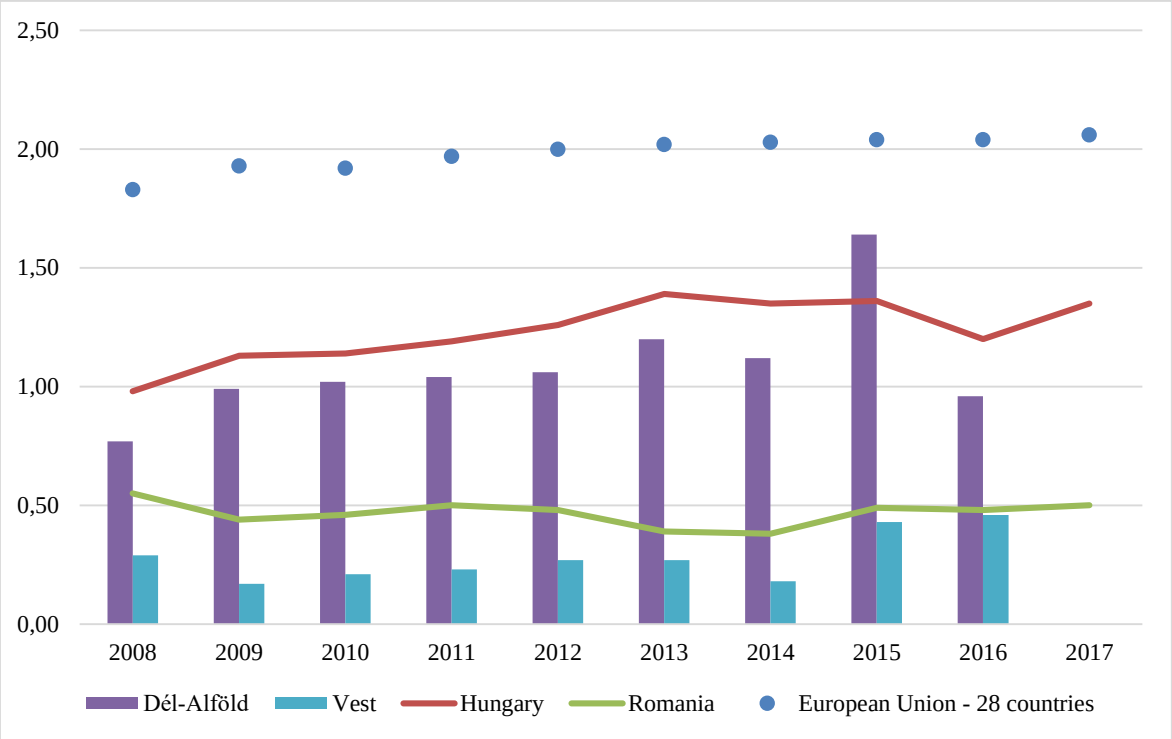
As it can be seen, the size of the quaternary sector in Europe is very small in terms of the number of people employed, because the real strength of the sector is determined not

by the number of employees but by the quantity and quality of knowledge accumulated within all organizations, and this depends on the competence of those who accumulate knowledge and information. Against this background, it is not surprising that, even in the European Union, the number of people employed in the sector is just over 1% together with research staff and researchers (1.13 percent in 2012, 1.24 percent in 2016). More importantly, their share is steadily increasing, which also shows the growing importance of the area.

In Hungary, by contrast, the number of employees decreased slightly (from 0.84 to 0.79 percent) over the five years under review, although this does not necessarily indicate a decline in the area. In Romania, it stagnated (0.35 to 0.37 percent). The regions of the two examined counties are lagging behind their own countries. In comparison, the proportion of researchers and research personnel employed in the Southern Great Plain is higher, about twice as high as in Romania. In Western Romania their proportion is increasing year by year, by 2016, it was closer to the national average in Romania than in any previous year.

Research and (experimental) development involve creative work on a systematic basis, which is done to increase the stock of knowledge available, including knowledge of man, culture and society, and to use this knowledge pool to develop new applications. The intensity of research and development is an indicator of high political importance at the level of the European Union, its Member States and its regions. In addition to the employed population, its intensity can be measured by the resources spent in the area.

Figure 55: R&D expenditure as a percentage of GDP, 2008-2017 (%)



Source: Eurostat (2019)

The source of research and development activities may be divers: support can come from the corporate sector, the government and its agencies, from higher education (part of which is also state-owned) or from private (non-profit) social organizations. In addition to financiers, implementation and research are often composite. The actors involved seek and establish continuous relationships with each other. Thus, it is now common practice that greater innovation is achieved through corporate higher education or government non-profit cooperation. Spending in the European Union today averages around 2% of GDP according to the latest 2017 figures, and the average for the Member States is 2.06%. In Hungary, R&D spending is lower, sources from all donors have only exceeded 1% of GDP in the last decade. Further, the steady annual increase was broken in 2016, when the ratio of expenditure to the area was only 1.2 percent instead of 1.36 percent in 2015. The latest figures for 2017 also show another upswing, with spending again nearing the 2015 values of 1.35 percent. In Romania, R&D spending was significantly lower, below half a percent of national GDP. Over the past ten years, the proportion of funds spent on the area has fluctuated within a relatively significant range of 0.38 to 0.55 percent. According to the latest data, the expenditure ratio is exactly 0.5 percent of the total national GDP. The regions of the examined counties spend less on locally generated GDP for research and

development, and there are significant differences between the two regions: in the Southern Great Plain, after a steady rise, proportional expenditures in 2015 overtook the national figures. At that time, 1.64 percent of GDP was spent on tertiary sector spending. However, by 2016, according to national data, there was a downturn here as well. According to the latest results, it spends 0.96 percent of the region's total income on this field. In Western Romania, the area is under-funded comparing it to the national average; among constant fluctuations, there was a year in which only 0.17% of GDP came to this area. And by 2016, the value of the tertiary sector is the highest ever, with 0.46 percent. Regional data for 2017 are not yet available. It is an important fact that, based on the national targets set in the Europe 2020 Strategy, Hungary should increase its spending on the area to 1.8% of GDP by 2020, and Romania should do as well, to 2.0 percent of the GDP. Therefore, Hungary now stands at 0.65 percent of this target, while Romania would have to quadruple its current spending.

4.7. Structural and regional characteristics of unemployment

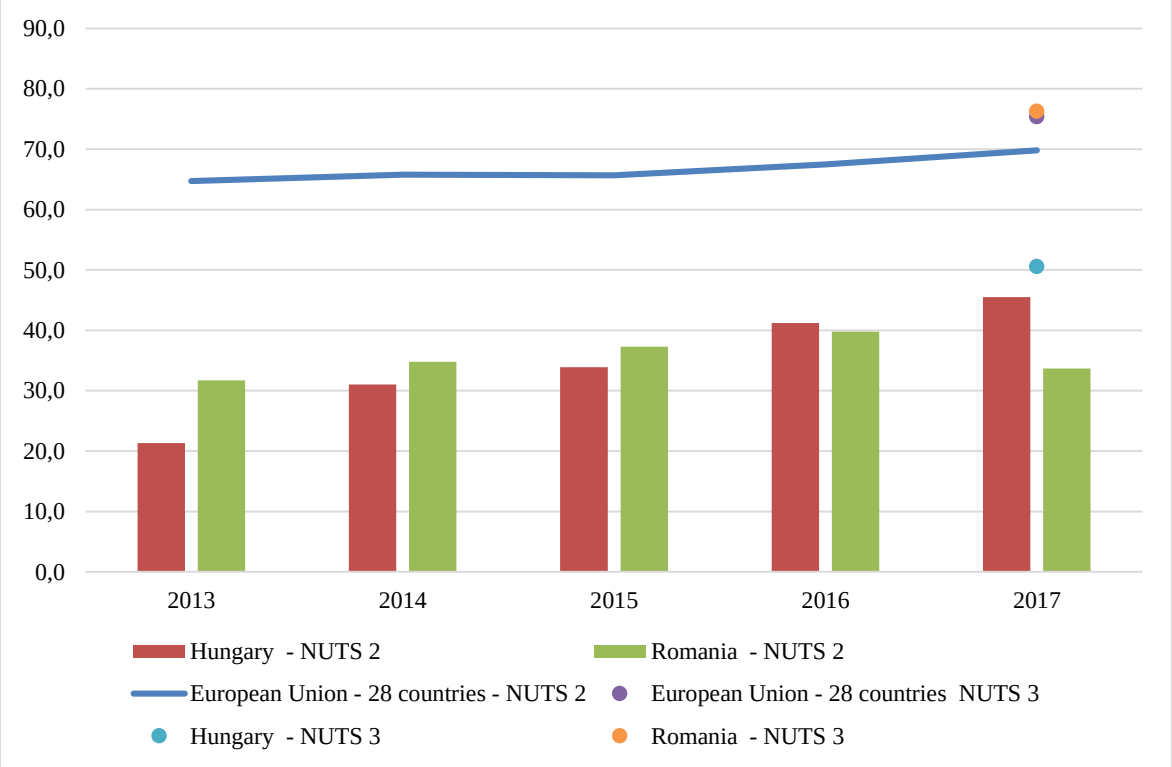
The unemployment rate is the percentage of the unemployed in relation to the economically active population, there are many ways to approach from inspection approach. In our analysis below, we used two dimensions. In the framework of the structural review of unemployment, we examine unemployment across territorial levels, along aspects relevant to the labour market. Then we take a traditional approach to the territorial review of unemployment, based on which we look at the unemployment rates at each territorial level. While structural analysis adopts holistic aspects that can be placed in a broader context, spatial analysis attempts to answer to what extent the actual values of the examined territorial levels differ.

4.7.1. Structure of unemployment

The structure of unemployment among the working-age population can be examined in several ways. In the following, we examine the structure of unemployment from two angles, in terms of the territorial and age dimension of unemployment.

Standard deviation is a common method of calculating probability, shows in average how much each value differs from the average. In regional studies, the standard deviation of the unemployment rate shows the extent of regional differences within a country its value implies the degree of inequality in access to employment at different territorial levels within a given country.

Figure 56: Change in the standard deviation of the unemployment rate at the regional and county level among the working-age population (15-74) in the countries under study, 2013-2017 (%)



Source: Eurostat (2019)

The indicator provides information on the distribution of unemployment at regional and county level, but communicates this at national level; it thus provides an indication of the overall disparities in unemployment between regions and counties in the countries

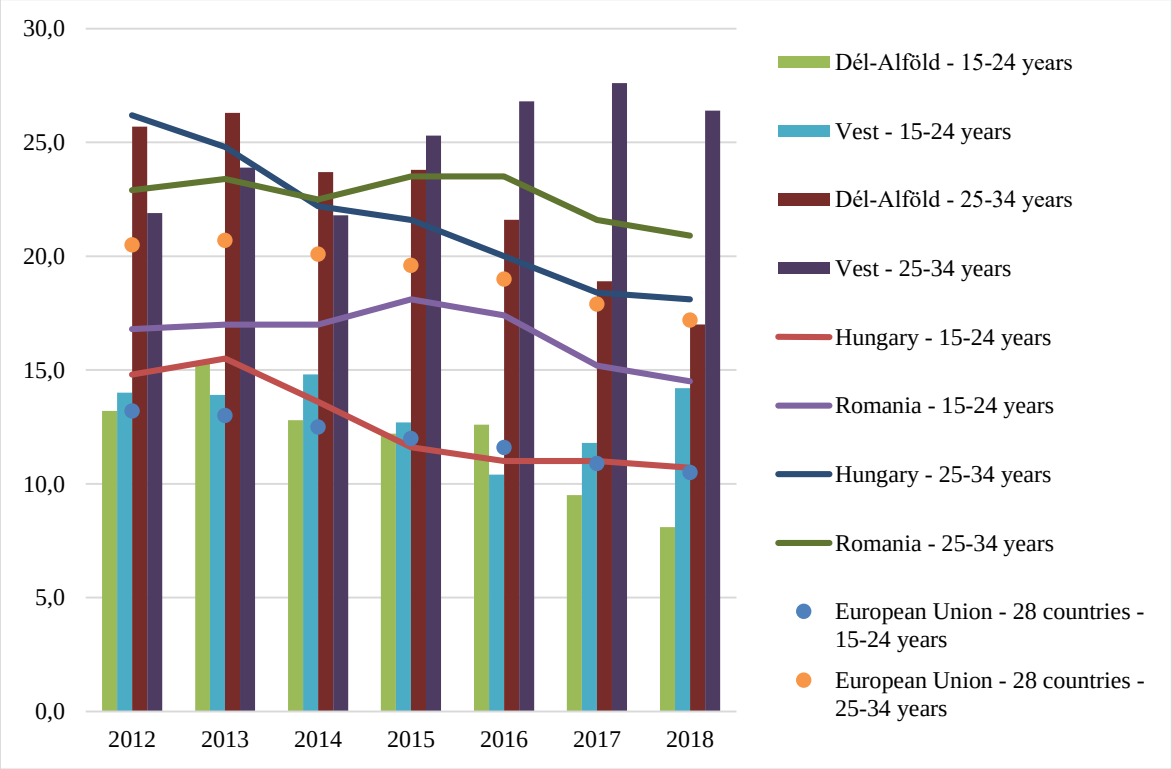
surveyed. All this in a time series, that is, with the possibility of comparing individual time states (2013 to 2017). The results of the European Union – the deviation from the average unemployment rate for all EU Member States - at NUTS 2 level (regional level) are extremely high. In this case, this proves that regions with very heterogeneous unemployment values are located across the Member States, with very low values on the one end, and very high on the other. The difference between the regions with the lowest and highest unemployment rates[20] was 69.8 per cent in 2017. The EU curve is more expressive than the specific values, because it shows that territorial disparities in unemployment between Member States have increased slightly in recent years, that is, the opportunity to get a job is more polarized today than it was a few years ago. For Hungary and Romania, the standard deviation of unemployment in the region shows that in 2013, spatial differences at the regional level were initially lower in Hungary. However, changes in the trends of their deviations from the national average at different rates resulted in a turnaround in 2016 in the relative position of the two countries: since then, inter-regional unemployment has been lower in Romania. For the last measured year, 2017, the gap between the two countries widened further, the regional dispersion of unemployment is currently 45.5 per cent in Hungary and 33.7 per cent in Romania. In 2017, Eurostat has already measured the standard deviation of unemployment at NUTS 3 (county) level; in this respect, the standard deviation of all levels examined exceeded the regional scale. That is, territorial differences between counties in Europe are more significant than between regions. In the European Union, the standard deviation is 75.4 percent among the unemployment rates in the counties, with a surplus of about 6 percent. In Hungary, it is 50.6 percent, which is also means about 5 percent difference from the regions. In Romania, on the other hand, there is a 76.3 percent standard deviation for the area level, which is more than double the regions. The difference is substantial, 42.6 percent. In addition to the increased territorial disparities in the country, this ratio also demonstrates the appropriate

[20] That is, in terms of an average EU unemployment rate (for example, 5 percentage points) the regions differ with an average 69,8 percentage of the 5 percent value, which means a 3.49 per cent difference from the 5 per cent average unemployment rate to positive or negative direction.

territorial delimitation of regions, as they were able to bridge this significant difference statistically.

In addition to regional disparities, the structure of unemployment may also vary across age groups. When examining disadvantaged groups in the labour market, we have already mentioned the occurrence of unemployment in certain social strata. However, complementing this earlier analysis, it is worth examining a key age group for developing employment growth in a more focused way, as well as the barrier to entry of young people without education and training (to be precise: NEET, unemployed, non-educated) into the labour market, that is, youth unemployment.

Figure 57: Youth (NEET) unemployment rate in the European Union and countries surveyed, 2012-2018 (%)



Source: Eurostat (2019)

The figure shows the proportion of the unemployed, aged 15-24 and 25-34, not receiving education and training, in relation to the total (active and inactive) population aged 15-24 and 25-34 respectively. It is important to emphasize the more detailed circumstances of this age group, as the population in developed countries tends to enter the labor market later due to participation in tertiary education, so the overall unemployment rate of the age group would be extremely high.[21] The NEET statistics are thus a purified form of the total youth unemployment statistics, it indicates the proportion of the young population that effectively supply on the labour market. The results show that the unemployment rate of 15 to 24 year olds in the European Union is decreasing, currently the rate of those who would actually work but are currently considered unemployed is 10.5 percent. The same rate is now 17.2 percent for the 25-34-year-olds, starting at a higher level and also on a declining path. In Hungary, the unemployment rate of 15 to 24-year-olds has fallen significantly in recent years, the value that was measured over 15 percent is now 10.7 percent, and 18.0 percent in case of the 25-34 year olds. In Romania, 14.5 percent of the population aged 15 to 24 are not in employment, education or training, after a slight fluctuation, their share fell below 15 percent in 2018. The higher unemployment rate for the 25- to 34-year-olds is also true for Romania, with 20.9 percent in 2018. The regions of the examined counties have diverse youth unemployment rates. In the Southern Great Plain, the proportion of unemployed persons aged 15 to 24 is lower than the value of each test category, after more pronounced fluctuations (close to 15%), we currently stand at only 8.1%; among those aged 25 to 34, their proportion has been slightly above the national rate for a long time, its value is now slightly more favourable, 17.0 percentage points. The unemployment rate of 15 to 24 year olds in Western Romania has shown a stronger fluctuation in recent years. It is in a rising phase; its value is the second highest measured in 10 years at 14.2 percent. Unemployment is also high among 25-34 year olds,

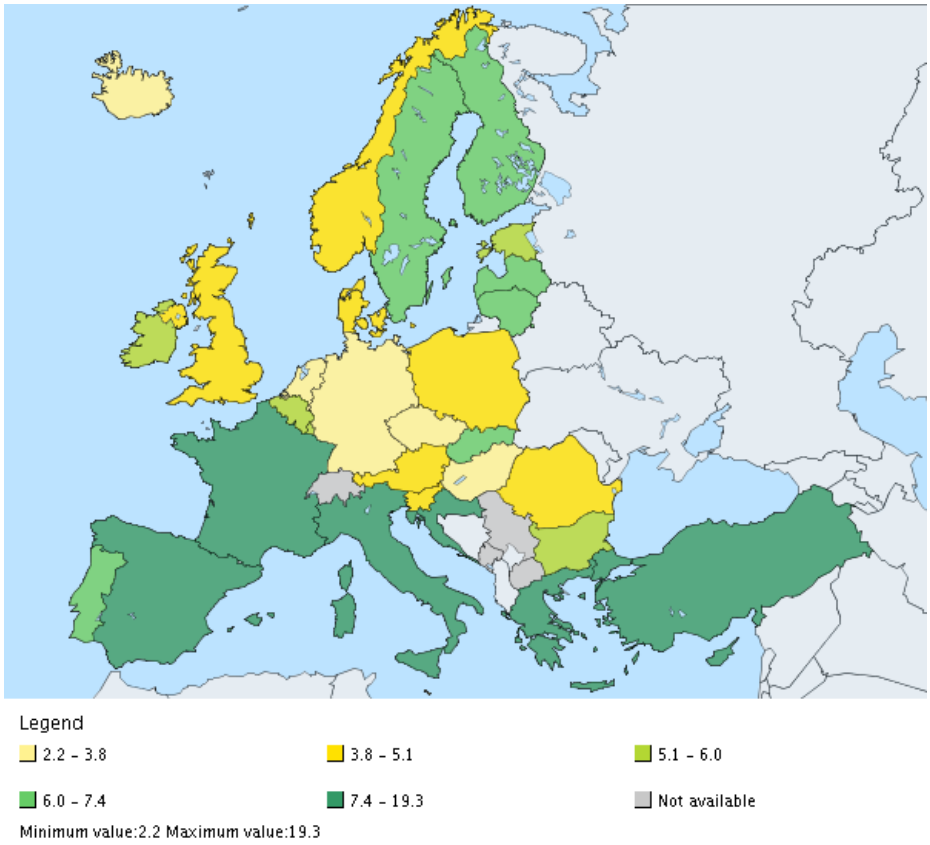
[21] In the European Union, 28.9% of the total population aged 15-19 are considered unemployed; the same figure is 51.7 percent in Hungary and 31.1 percent in Romania. Of course, this extremely high rate of unemployment also includes those in full-time school education. Although they belong to the active population, most of them do not enter the labour market with their actual supply until they have completed their studies

the value of around 20 percent experienced in 2012 reached its top in 2017 with 27.6 percent, its current value is around 26.4 percent.

4.7.2. Territorial differences in unemployment

The situation of those excluded from the labour market may be very different depending on the geographical unit examined. National level high or even low unemployment data can mask the reality of a particular, narrower area, so below we analyse the unemployment of the subjects (counties) in several layers, more precisely on a geographical scale.

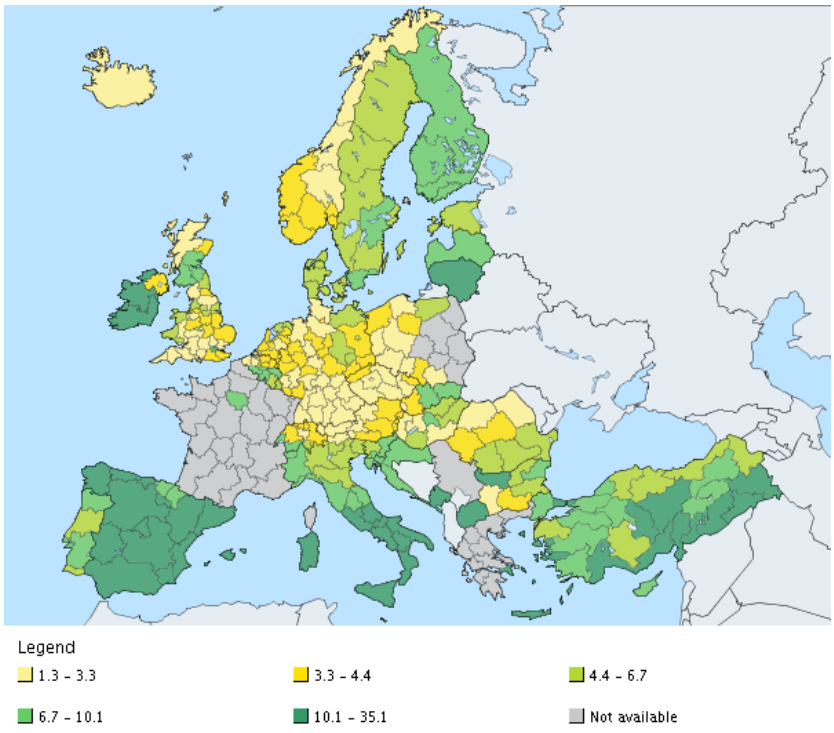
Figure 58: Unemployment rate among the active population (15-74 years) in the Member States of the European Union, 2018 (%)



Forrás: Eurostat (2019)

National unemployment figures in the European Union are very mixed. Thus, the average unemployment rate in the community (which was 6.8 percent in 2018) is not capable of describing the positions of the Member States in the same way as the evaluation of county data requires knowledge of national and regional data. Besides the average of 6.8 percent, in Greece, for example, it is nearly three times higher (19.3 percent). And in the Chech Republic, based on market reality, employment can grow further, nor can unemployment decline (in 2018, about 2.2 percent of the active population, about one in 50 of them were of working age only without work). Interestingly, some Western European countries are still experiencing extremely high unemployment even today (15.2 percent in Spain, 10.6 percent in Italy, 9.1 percent in France), while CEE Member States have significantly lower values. Among them, Hungary, which achieved a 3.7 percent unemployment rate in 2018; and Romania also has a low employment rate of 4.2%.

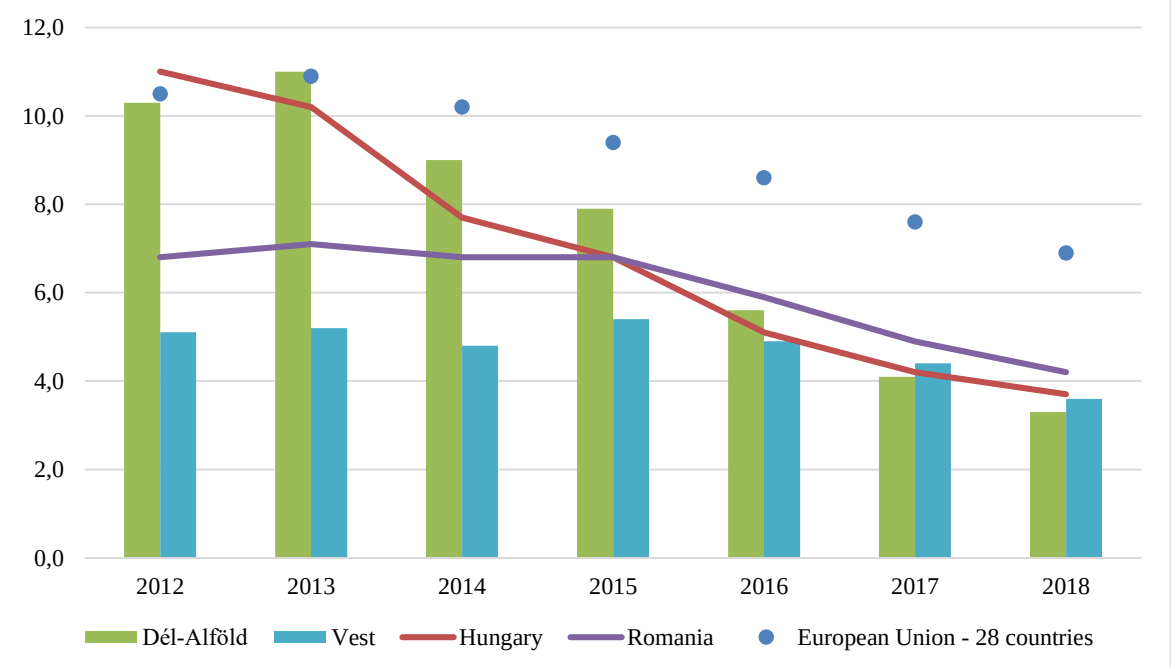
Figure 59: Unemployment rate among active population (15-74 years old) in regions of EU Member States, 2018 (%)



Forrás: Eurostat (2019)

Regional data can also shed national results on unemployment. In the case of Italy, for example, they illustrate the considerable difference between the previously analysed southern and northern areas, whereas in Germany, the Czech Republic and Austria there is an area with very low unemployment, stretching from the French border to the western corner of Slovakia. In Hungary, regional data also clearly illustrate the country's development on the east-west axis, of which the Southern Great Plain region is the exception based on unemployment data. Between the westernmost Western Transdanubia region with a 2.0 percent unemployment rate, and at the eastern end, with a 6.6% unemployment rate in the Northern Great Plain, in the Southern Great Plain, covering southern Hungary and the southern part of central Hungary, recent measurements show an unemployment rate of 3.3 percent. This places it in third place - outside the capital -, ahead of Southern Transdanubia (5.6%), which is also located at the western end. Western Romania has average values in Romania by regional comparison. It also ranks third in the regions with a 3.6 percent unemployment rate, between the value of 2.4 percent of the north-east region and 6.4 percent of the south-west region.

Figure 60: Changes in the unemployment rate among the active population (15-74 years) in the surveyed dimensions, 2012-2018 (%)

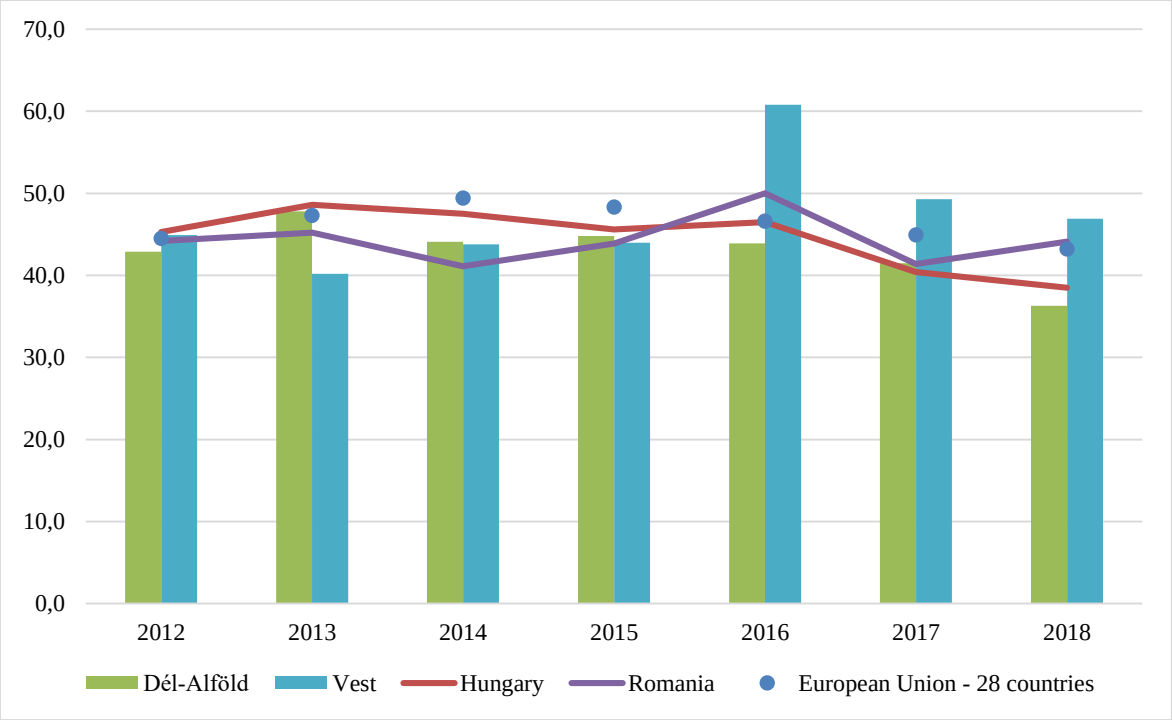


Source: Eurostat (2019)

A time series analysis of unemployment rates shows that in the European Union as a whole and in the Member States and regions under review, unemployment has clearly decreased, albeit to varying degrees, in recent years. The Hungarian rate has fallen sharply every year, and the rate of decline slowed down between 2016 and 2018. In 2015, its values were almost the same as those of Romania, whose rate of decline was nearly the same.

Among the regions, the unemployment rate in the Southern Great Plain was close to the national value, after 2016, slightly being ahead of the average. Meanwhile, the rate dropped to one third in a few years. In Western Romania, unemployment has been significantly better than national figures, at around 5 percent since 2012, showing an unemployment rate of 4 percent with the dropping of the national values by 2018.

Figure 61: Long-term unemployment rate (over 12 months) as a share of total unemployment in the regions under study, 2012-2018 (%)



Source: Eurostat (2019)

Another important aspect of the analysis of unemployment is the length of time spent unemployed, the length of time a job search lasts. The figure shows the proportion of those who have been unemployed for a longer period of more than one year within the total unemployment rate.

As it can be seen, 40 to 50 percent of all unemployed people have been unable to find a job in the long term, the values have not fallen, not even at the current very high employment rates and low unemployment rates. The EU ratio, as well as the ratio of the countries and counties examined stands within an approximately 10 percent band. Among them, the results of the Southern Great Plain are the most favourable, with one third of the unemployed among the long-term unemployed.

4.8. Income and earnings of employees

In addition to labour demand and labour supply, wages are a fundamental category of the labour market, which essentially determines the equilibrium of the market. When analysing economic performance, we have already addressed the disposable income of households. We bring some additional aspects of income and earnings, which together give a picture of the dimensions studied.

4.8.1. Living standards

In order to judge whether income and earnings are appropriate in this country or not, it is essential to know not only the income side but also the expenditure side. Each country uses an indicator to determine the level of monthly income needed to maintain a normal living in that country. In most cases, this is a specific basket of food (commodity bundle) that are needed for a proper, balanced diet. The minimum subsistence basket for subsistence leads to the concept of subsistence minimum, which can be used to calculate the proportion of people living in poverty and to determine the dynamics of social development.

Chart 24: Subsistence minimum, minimum wage and guaranteed minimum wage in Hungary, 2008-2018 (thousand HUF)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Minimum subsistence value for a family of 2 adults and 2 children	208,0	217,5	228,3	243,4	249,2	253,7	253,3	255,2	256,9	262,3	274,9
Percentage of people living below the subsistence level	-	-	-	-	-	-	-	41,5	36,0	30,0	-
Minimum wage	69,0	71,5	73,5	78,0	93,0	98,0	101,5	105,0	111,0	127,5	138,0
Guaranteed minimum wage	82,8 / 86,3	87,0 / 87,5	89,5	94,0	108,0	114,0	118,0	122,0	129,0	161,0	180,5

Source: KSH (years 2008-2014), Policy Agenda (years 2015-2018)

In Hungary until 2014, the minimum subsistence level defined the threshold below which a household and its members could be considered as living in poverty. where each member of the family represented different weight values, their consumption was therefore considered different in the calculations. The thresholds were calculated for different family models, where each member of the family represented different weight values, their consumption was therefore considered different in the calculations. The reason for this is that households have fixed costs that do not depend on the number of members of the household, there is no direct proportionality between the relationship and the increase in a given food quantity.

The table above shows the minimum subsistence values for an average family of 2 adults and 2 children. In addition, the proportion of households living below the subsistence level was also indicated. As from 2015, the subsistence level values are not based on official data published by the Central Statistical Office. The calculations are not done by the state statistical agency but by private organizations, which also carry out an analysis of the current situation of families using the statistical office's data file.

As the chart shows, between 2008 and 2018, the subsistence minimum increased by about one-third (32.16 percent) for a family of four, and the proportion of people living below the subsistence level from 2015 is on a declining trend despite dynamic growth. According to the latest 2017 estimate, 30.0 percent of families are unable to purchase the minimum subsistence food basket from their monthly income. However, this ratio is overshadowed by the fact that the primary income of families (income from work) is generally not equal to the total income. In addition to the presence of the grey economy, occasional work, domestic food production, social benefits, institutional meals and many other factors can affect fair value.

The correlation between the minimum wage and the subsistence minimum also shows a positive trend over the last ten years. In 2008, the minimum wage was still 33.17 percent of the minimum subsistence figure for a family of four, thus, two earners received 66.34 percent of the minimum income from work income (excluding other income and benefits). By 2013, the ratio was already 38.62 percent (75.24 for 2 people), and by 2018 it reached 50.2 percent per person. This means that in a family model of two earners with two children, expenditures necessary to maintain the subsistence level are covered by the primary income, the income from work.

This improvement is due, among other things, to a more moderate increase in food prices (for example, the purchase price of food required to set up a minimum consumer basket decreased between 2013 and 2014), and to the increase of the minimum wage. While the subsistence wage increased by 32.16 percent between 2008 and 2018, the increase in the minimum wage was just 100 percent, that is, with a given increase in labour income, a third of the food price increase was associated with it. It should be emphasized that the minimum wage, the minimum income for work in any country, is not equal to the average wage.

Moreover, in Hungary, for a worker in a job requiring at least a secondary education qualification or a secondary education qualification a quasi-higher statutory minimum wage level is required, the value of which is in any case positively different from the minimum wage level (for example, it is about 30 percent higher in 2018).

Chart 25: Minimum Wage and Minimum Subsistence Levels in Romania, 2008-2015 (lei)

	2008	2009	2010	2011	2012	2013	2014	2015
Food expenditure	178,94	191,57	191,84	200,32	210,63	221,25	221,82	223,24
Expenditure on basic services	466,35	510,84	521,65	528,75	557,87	584,75	606,03	614,97
Gross minimum wage	540	600	600	670	700	800	900	1050
Difference between spending and incomes	105,29	102,41	113,49	59,07	68,50	6,00	-72,15	-211,79

Source: INS 2016, Stoian et. al. 2017

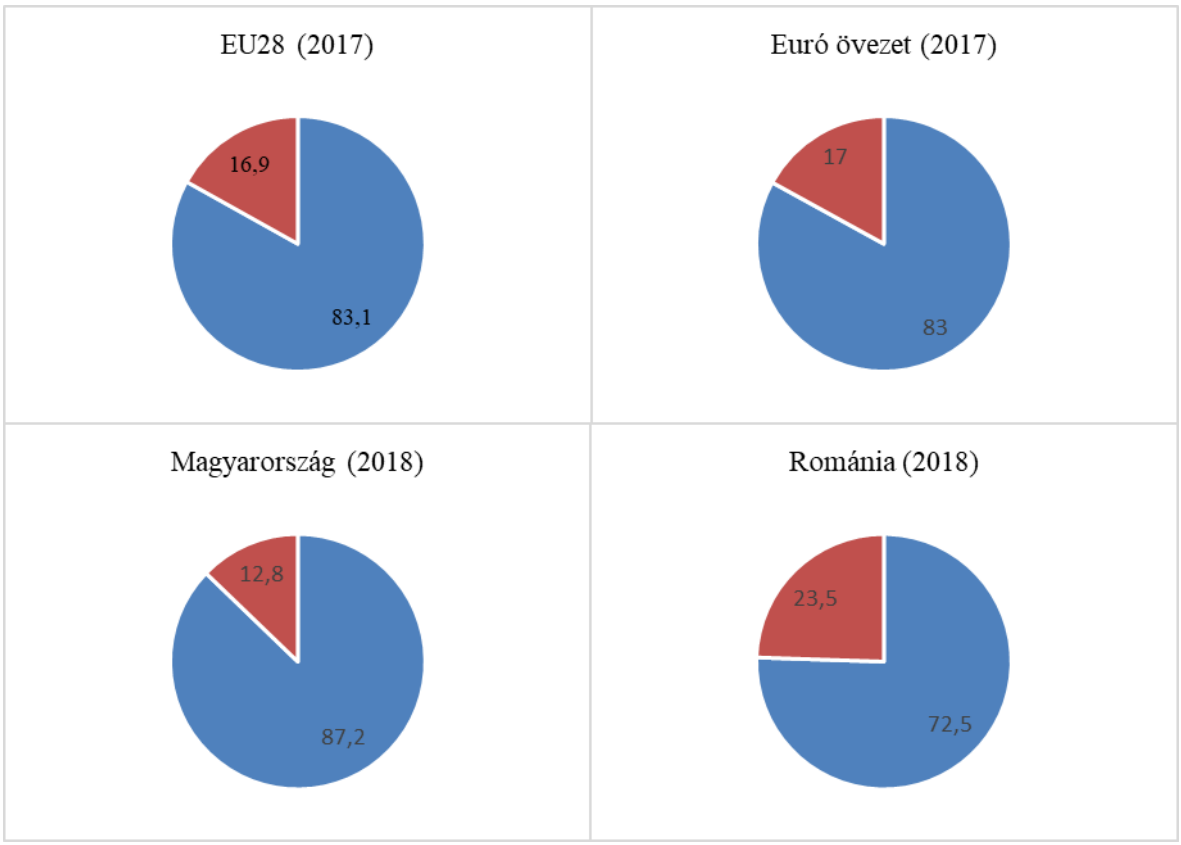
In Romania, the official statistical agency (Institutul Național de Statistică) also reports annually the minimum subsistence level. Individual expenditures on food and basic services; and analysis of income pages containing the annual gross minimum wage between 2008 and 2015 shows that the difference was negative until 2013, that is, individual, per-earner calculations show that primary income did not cover the (not only food-) cost of living for the individual. However, since 2014, the balance has turned positive, and revenue growth has nearly tripled in a year. The change in balance also required an increase in the minimum wage in Romania (which increased by 94% in 7 years), in addition, food and basic services did not increase to the same extent as the minimum wage.

A brief examination of the spending values for the two countries showed that in Hungary and in Romania as well the amount of the minimum guaranteed labor income guaranteed by law is sufficient to cover the cost of living necessary for subsistence. However, this fact represents only a part of the income and earnings of societies.

4.8.2. Distribution of income

On the one hand, the distribution of income means the proportion in which certain sections of society own the goods, on the other hand, it can also show the present and future financial position of each layer based on ownership rates. The following is an analysis of some of the characteristics of income distribution in the areas examined in the study.

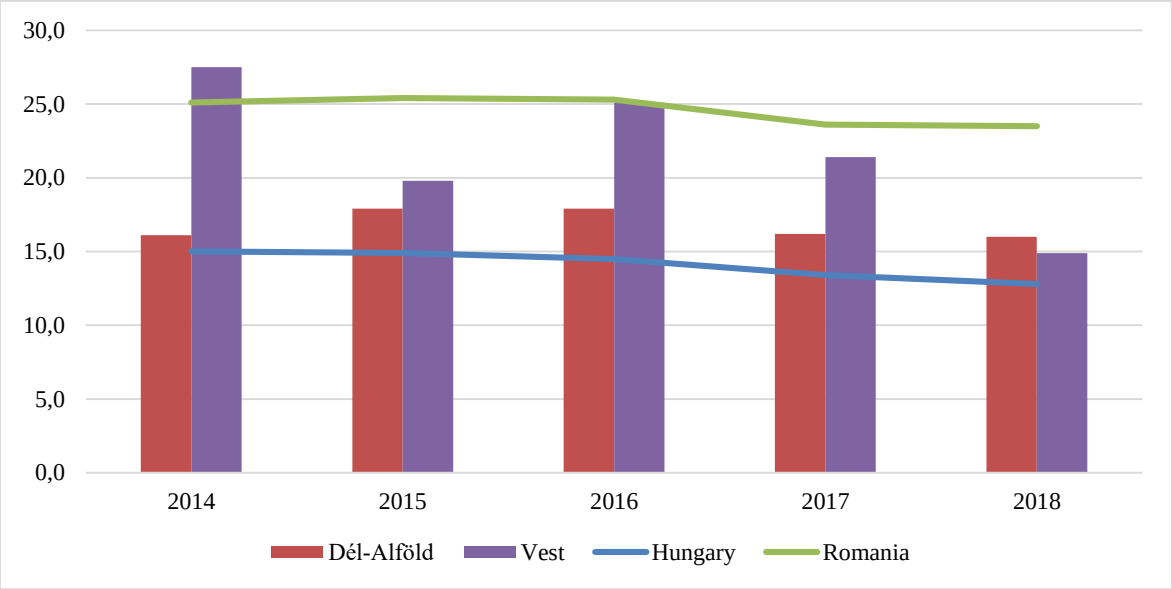
Figure 62: Proportion of population at risk of poverty in the European Union, the Euro area and the countries surveyed, 2017, 2018 (%)



Source: Eurostat (2018, 2019)

According to European Union statistics, a person is at risk of poverty if his or her median equivalent disposable income (income in the middle of the line, after ordering the total population by income per unit of consumption) is below the poverty line. And the poverty line was set at 60 percent of the national cumulative median equivalent disposable income (including social benefits). On this basis, the poverty risk on average affects 16.9% of the population in the EU countries (almost the same rate in the Euro area). In Hungary a smaller part of the population belongs to this group, about 12.8 percent of the population are below the 60 percent poverty threshold, this value is better than the EU average. In Romania, 23.5% of the population is at risk of poverty, representing about 1.5 times the EU average.

Figure 63: Change in the proportion of the population at risk of poverty in the surveyed countries and regions, 2014-2018 (%)



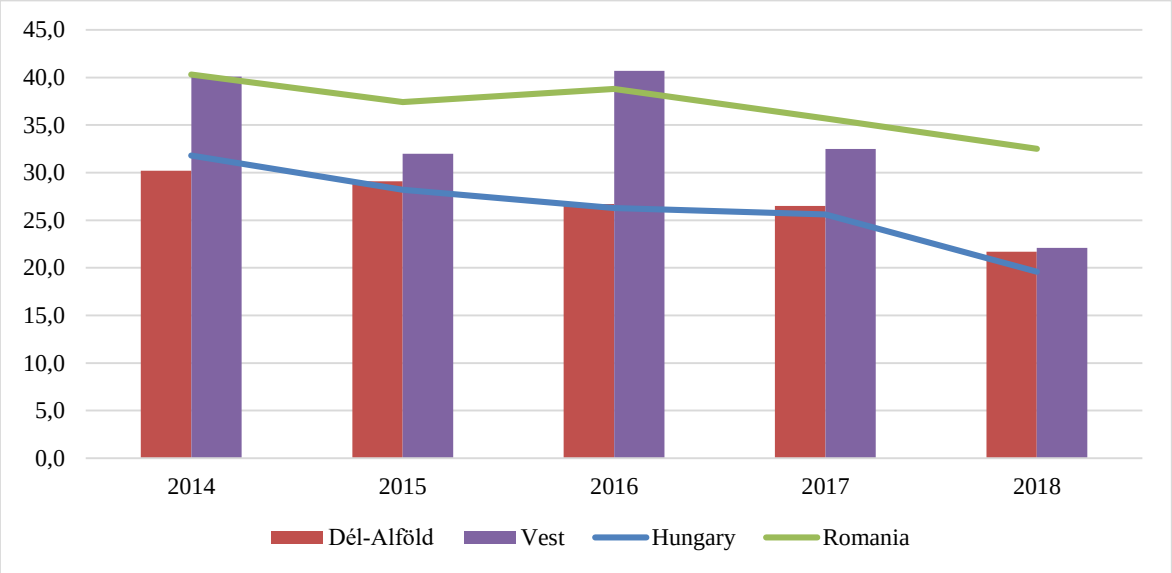
Source: Eurostat (2019)

The proportion of the population at risk of poverty has decreased slightly in the last five years in both Hungary and Romania. In the regions studied, the same proportion varies within a given band, in the Southern Great Plain it ranged from 16.0 to 17.9 percent, and more significantly in western Romania, between 14.9 and 27.5 percent. According to the previous and current graphs, the national risk of poverty is higher in Romania. In contrast, in the western region of Romania, the value was last higher than the national average in 2014, and although in 2016 it was the same, the poverty risk ratio in the region has severely dropped from that year, resulting in a difference of 8.6 percentage points for the benefit of the region in the last year. However, the risk ratio in the Southern Great Plain was higher than in Hungary but lower than in Romania, in each of the years under review. While in Hungary less than 15.0 percent of the population has been affected for five years, the region only approached this rate in the most recent measured year.

Within the Europe 2020 strategy, based on the above indicator, the specialized committees of the European Union have developed a composite indicator to measure poverty and social exclusion uniformly across all Member States. The new indicator, called

„At risk of poverty or social exclusion" (AROPE) is based on the assumption that poverty does not exclusively manifest in income levels, severe material deprivation[22] and very low work intensity[23] are also to be listed here.

Figure 64: Proportion of people at risk of poverty or social exclusion in surveyed countries and regions, 2018 (%)



Source: Eurostat (2019)

According to the developed indicator, someone is exposed to poverty or social exclusion, if he is involved in any subdimensions (relative monetary poverty, severely materially deprived or living in households with very low work intensity) and within any item.

[22] Percentage of persons living in households to which at least 4 of the following 9 items apply: 1) cannot afford to pay rent or utility bills, 2) cannot keep home adequately warm, 3) cannot face unexpected expenses, 4) cannot eat meat, fish or a protein equivalent every second day, 5) cannot afford a week holiday away from home, 6) cannot afford a car, 7) cannot afford a washing machine, 8) cannot afford a colour TV, 9) cannot afford a telephone.

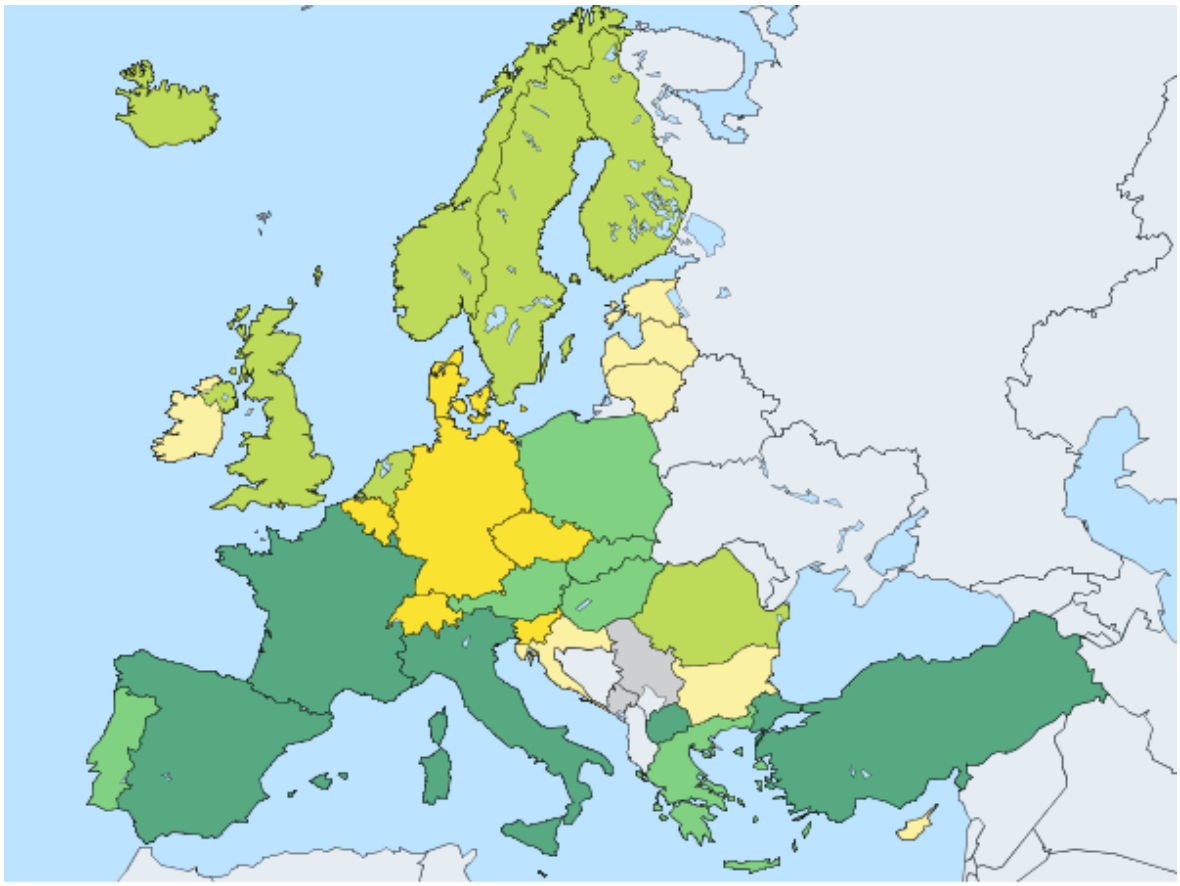
[23] People living in households with very low work intensity are those aged 0-59 living in households where the adults (aged 18-59) work 20% or less of their total work potential during the past year

According to the results of the extended composite index of social exclusion, 19.6% of the population in Hungary are currently affected, and even though that ratio was still 31.8 percent five years ago, despite a significant improvement, it still accounts for one fifth of the population. Romania values are about 10 percentage points below Hungary's in each of the years under review. By 2018, the value of the two countries has become more divergent, the difference now being 12.9 percent. The values of the Southern Great Plain are moving along with the national values, while in Western Romania the ratio is fluctuating relative to the national rate; it was last slightly above national average in 2016, since that it has shown much more favourable values (the difference is currently 10,4 percent)

The analysis of income also includes state benefits, with the real value of pensions being a priority, since longer-term employee decisions may also be influenced - especially in a border region - by how much pension the state guarantees to an inactive worker. Instead of comparing the absolute value of pensions, the so-called aggregate replacement ratio is suitable for this purpose, which is defined as the ratio of the median gross individual pension in the age group 65-74 to the median gross earnings in the 50-59 age group (which excludes other social benefits).

The higher the value for a given country, the higher the earning capacity of pensions in that country, the safer to live as a pensioner in that country.

Figure 65: Aggregate replacement rate in EU countries, 2018 (%)



Source: Eurostat (2019)

The indicator is thus able to predict the extent to which a retired worker in a given country can maintain his standard of living he has just before retirement. The higher the value of the indicator, the closer the relative value of the pension is to the level of pre-retirement income. In the European Union countries, the substitution rate is mixed, it shows a large variation in the countries of Western Europe. With Italy at 0.73, the German rate at 0.46 proves that there is a significant difference between salary and pension values. In addition to low pensions, higher income may also be the cause of the larger gap (that is, the lower rate).

The rate is 0.59 in Hungary and 0.51 in Romania. In addition, important information about Hungary is that pensions are net (free of tax and contributions), so for the country,

the ratio is the ratio of net pension to gross income, therefore shows a lower value than what is actually perceived. Over the last decade or so, the Hungarian rate has shown only minor fluctuations (its value changed from 0.58 to 0.67 between 2007 and 2017), from the value of 0.64 in 2017 it fell to 0.59 in 2018. In Romania, the rate gradually increased from 0.44 to 0.68 between 2007 and 2013, before falling to 0.51 between 2014 and 2018.

4.9. Business enterprises

The key players in the labour market, along with the labour force with its supply are the business enterprises that generate demand for labour. Business infrastructure also indicates the general level of development of a given area, they can also have a positive impact on employment, the state of infrastructure and local incomes.

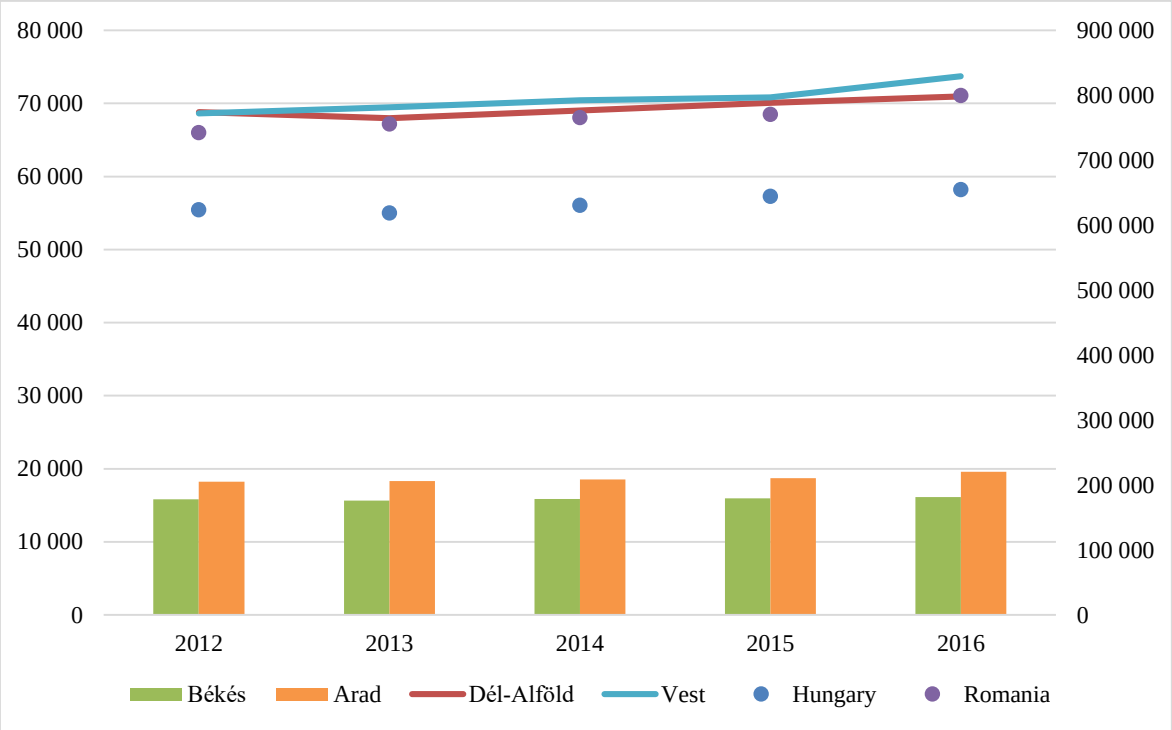
In addition, businesses operating in the Hungarian border region of Romania are in a special position because they can, in principle, easily extend their activities to the neighbouring country due to the shorter physical distance. Core business infrastructure indicators show how many businesses were active during a given time period, how many were formed and how many ceased to exist, what the trend is in business processes, how viable these businesses are, or how many dropouts there are.

Below we look at some general and specific indicators of business, first the number of businesses and then the business trend as a result of business start-ups and business closures.

4.9.1. Number, proportion and composition of enterprises

The number of active businesses shows how many businesses are in the area, which actually performs activity, with visible evidence of this in its books, and is not in any form of cessation.

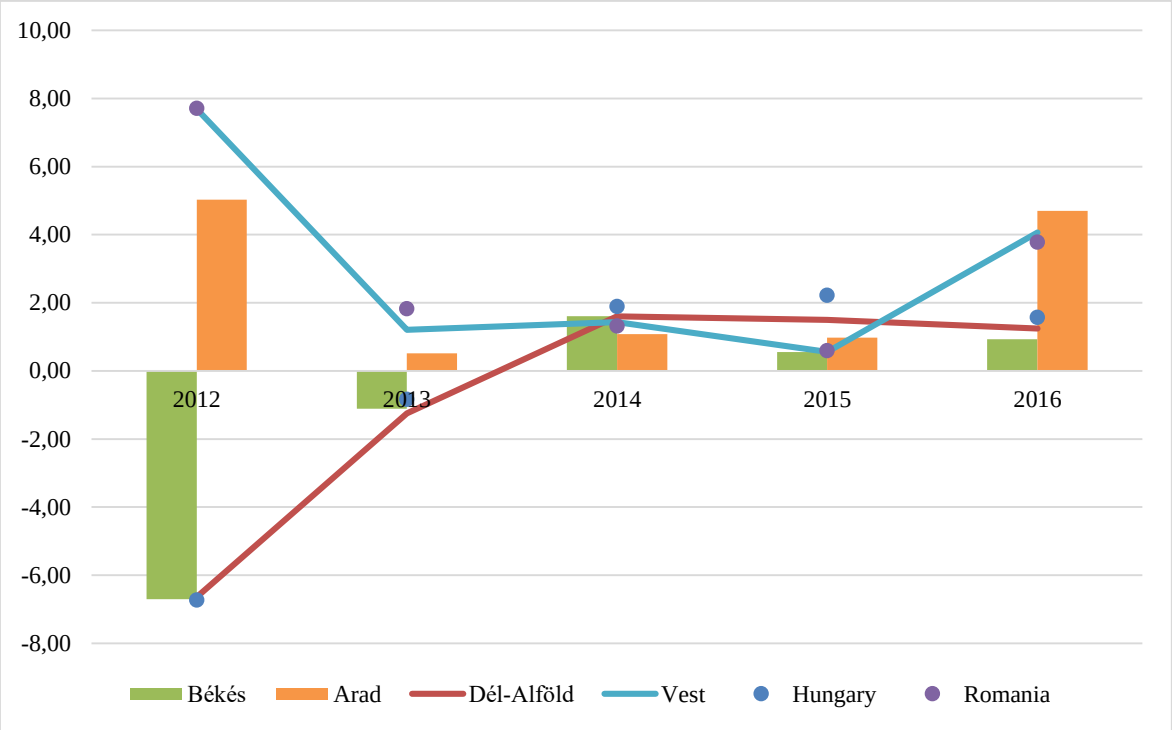
Figure 66: Number of active industrial and service enterprises in the surveyed dimensions in a given year, 2012 2016 (%)



Source: Eurostat (2019)

The number of operating companies in Hungary and Romania is nearly the same: in absolute terms, there are more businesses in Romania, and more in Hungary in proportion to the population. Between 2012 and 2016, the difference is about 120-140 thousand businesses. At regional level, there is a slight difference, with 67-70 thousand active enterprises operating in the Southern Great Plain and Western Romania (with 500-1000 more in Romania each year). In 2016, the number of Romanian businesses soared, from that time, the difference has been about 3,000 businesses. Examining the county level, there are more enterprises operating in the county of Arad in relation to the total number of the region than in Békés compared to the southern Great Plain. In 2016, the number of operating enterprises also increased here, and since then 19.5 thousand businesses have been active in Arad County.

Figure 67: Changes in the proportion of industrial and service enterprises in the surveyed dimensions, 2012-2016 (%)

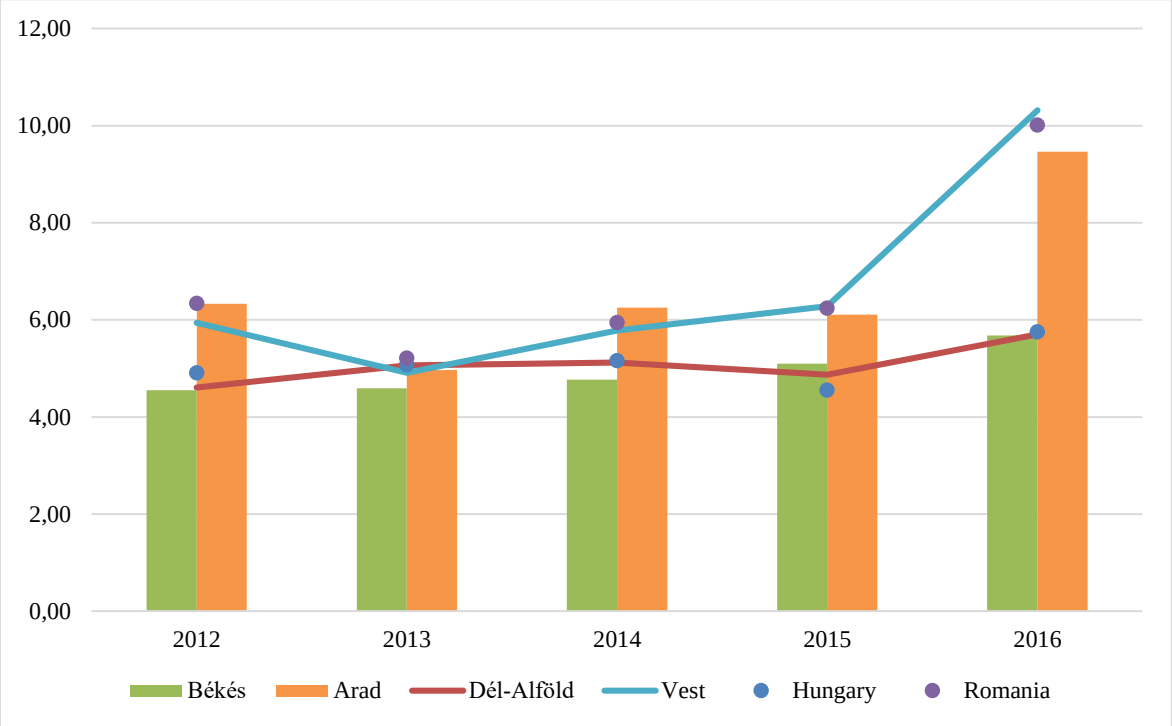


Source: Eurostat (2019)

Along with the number of businesses, the changes in the proportions show a mixed picture. In Hungary, the total stock of enterprises shrank by 6.72 percent in 2012, while Romania saw an increase of 7.72 percent in the same year. The trend of the two countries in the years that followed was significantly converging (In 2015, for example, the growth in the proportion of Hungarian enterprises was higher than in Romania). By 2016, the growth in the number of companies in the two countries was 1.58 and 3.79 percent. The business population trend was also heading into different ways in the two regions surveyed, and changed to nearly the same value by 2014, then by 2016, the growth in the ratio of businesses in Western Romania was slightly higher. Between the two counties, processes adapted to national and regional trends. For the third year in 2016, the growth of businesses in Békés County was below 2 percent, and 4 percent in Arad the same year.

Sheer business population data is overshadowed by examining the proportion of businesses that have been in the business for more than three years. Businesses can be set up for many different purposes, even for a single business transaction; however, companies that operate in the longer term are more relevant to the national economy, employment and many other public goals. For the same reason, the damage of the closure of businesses that were established more than three years ago is far greater than the loss of start-ups.

Figure 68: Proportion of industrial and service enterprises established more than three years before, in all surveyed dimensions, 2012 2016 (%)



Source: Eurostat (2019)

Active enterprises that have closed three business years are no longer considered new in European statistics; they also form a separate category. These recordings are considered as mature, non-trial businesses. The proportion of businesses older than three years is the same at national and regional level: In 2012, the proportion of businesses that were established earlier was within the 4.5 to 6.5 percent range.

Contrary to the decline in the total number of enterprises in 2012, the proportion of these enterprises does not show a significant decrease 2012, the lowest rate in Hungary was in 2015, when only 4.55 percent of the enterprises was older than three years. Békés and Arad counties are mostly moving along the higher dimensions; with Arad having a smaller decline from 2012 to 2013, and in 2016, the proportion of businesses founded before 2013 soared. Meanwhile, in Békés, there is steady but slow growth, which shows that more and more businesses reach their three closed business years.

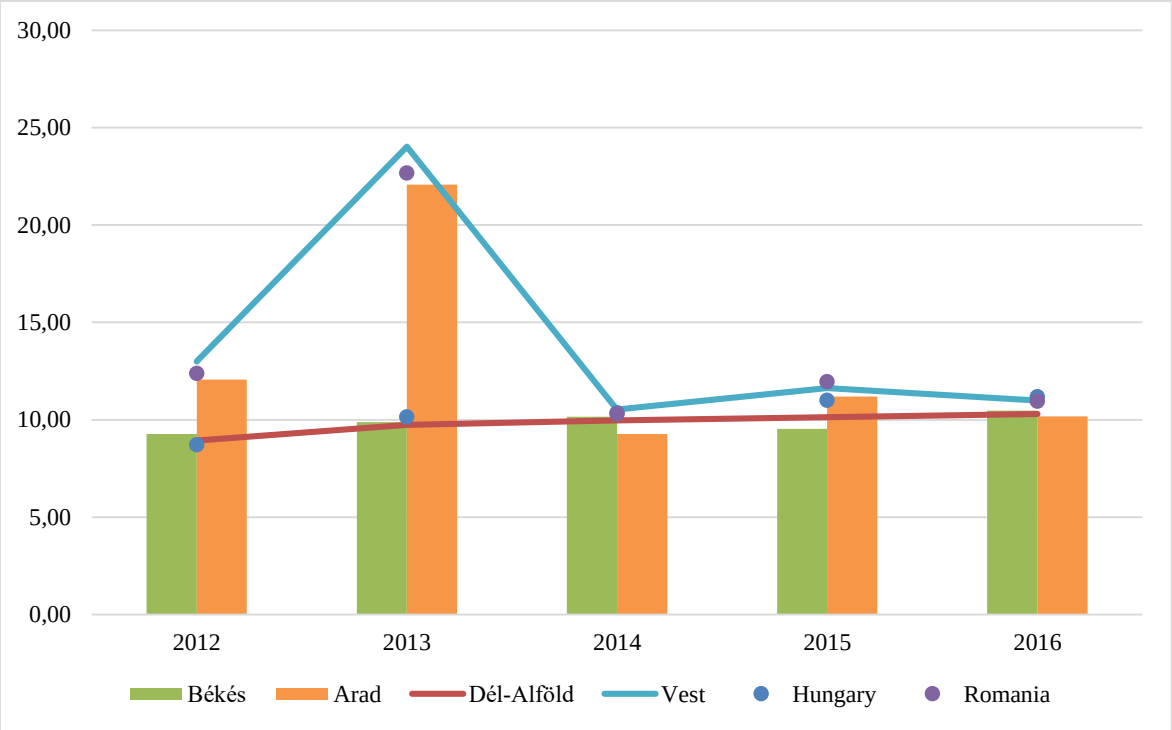
In addition to the number, proportion and number of businesses older than three years, the number of start-ups can provide useful experience as well. In addition to founding, the closure rates also carry useful information. Below, we look at these two indicators as a business trend for business enterprises.

4.9.2. Business trend

The business trend of enterprises is a composite indicator composed of two indicators: the proportion of enterprises founded in a given year to the total number of active enterprises shows the birth rate of enterprises, while the ratio of enterprise closures to total active enterprises in a given year represents the 'death rate' of enterprises on a similar principle.

The sum of these two ratios (that is, the sum of the ratios of openings and closings) represents the sum of the business trend for the year; the intensity number that represents the cumulative value of the changes in the number of businesses.

Figure 69: Industrial and service enterprises birth rate in all enterprises in the examined dimensions (%)

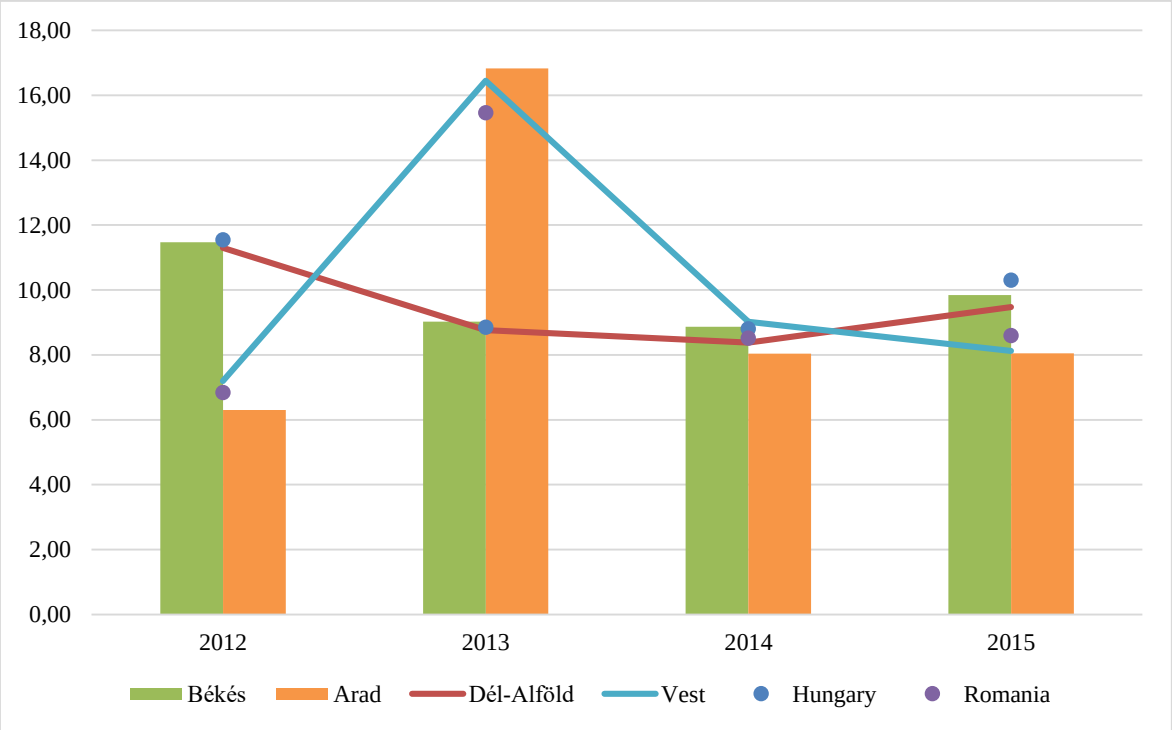


Source: Eurostat (2019)

In contrast to all existing enterprises in the industry and services sector, the proportion of new enterprises is relatively constant in all dimensions examined. Except for a few leaps the proportion of new businesses entering the market is stable, roughly every year, the same number of new businesses enter the sector. Except for 2013, the ratio of Hungary and Romania shows a very small difference in the indicator. In 2013, nearly a quarter of the sector's businesses, 22.68 percent, were newly established.

In the Southern Great Plain and Western Romania, a trend that has fully adapted to national results has emerged in recent years - even with the outstanding values of 2013, when Western Romania had even higher values than the national value - the share of new businesses was 24.03 percent in the sector. In terms of county data, we can also report the same trend. The birth side of enterprises was the same in the year under review in Békés and Arad, there is thus a similar market intensity in both counties, regions and countries.

Figure 70: Death rate of industrial and service enterprises in all enterprises in the examined dimensions, 2012-2015 (%)

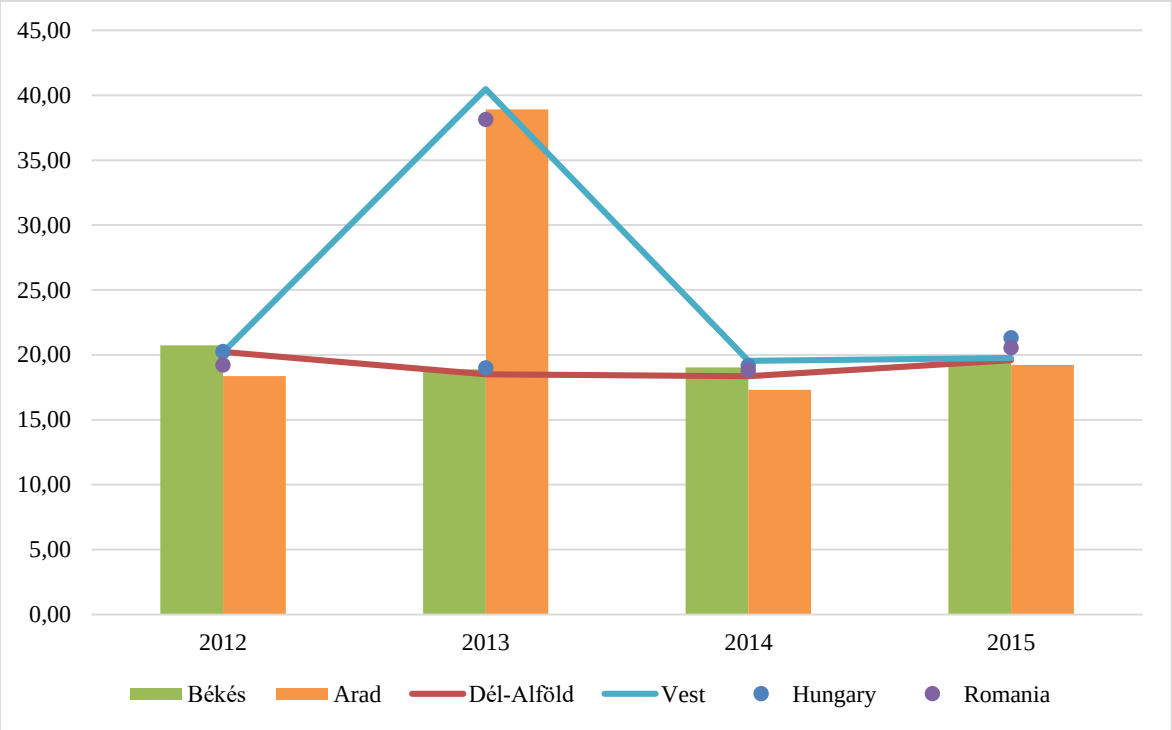


Source: Eurostat (2019)

Before examining the death rate, it is also worth mentioning terminology issues: business closures are not always negative, for example, for fixed-term project-based businesses, termination would be more expressive than death, and however, EU terminology does not distinguish between causes of death for businesses. Data of deaths are only available until 2015. Based on these, the year 2013 also shows outstanding value in the number of terminated businesses.

Apart from the converging national and county trends, Békés County shows a decreasing trend in the number of terminations, while in Arad (excluding 2013) there is a slight upward trend. According to the most recent surveyed year, about one-tenth of the businesses are terminated in Békés, and about two percentage points less in Arad.

Figure 71: Trend of business processes (birth and death rates) in the industrial and service sectors in the examined dimensions, 2012-2015 (%)



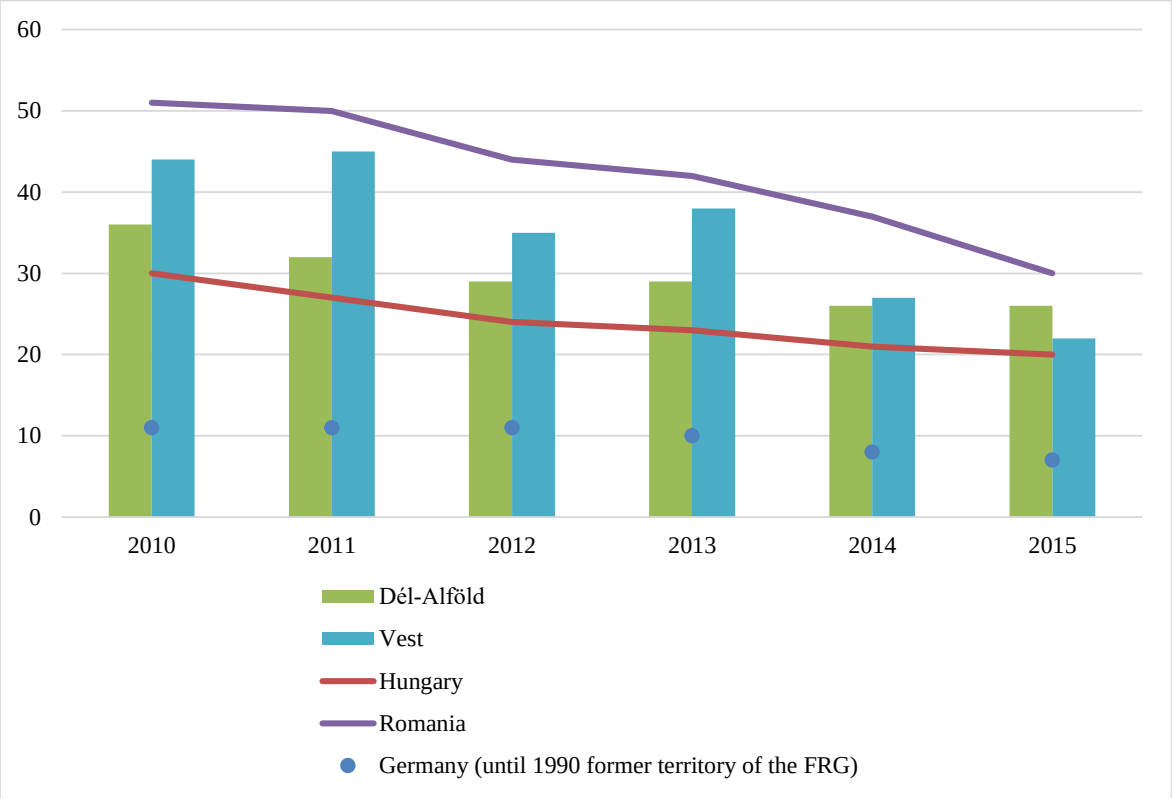
Source: Eurostat (2019)

Based on the above, the trend of business processes is the same in the two countries and their regions and counties. The extremely high values for 2013 show a process different from the trend even in the aggregate indicator, nevertheless, business trends in Hungary and Romania are the same.

4.10. The social, educational and health status of human resources

For the sake of completeness of the labour market survey, along with employee, employer and overall economy considerations, it is also necessary to examine other factors affecting the labour market. As the most basic category of the labour market is human labour, below we examine such qualities of the workforce in a broader sense which sometimes go beyond traditional labour market surveys, and at some points some that are an integral part of it. These include indicators relating to social status, education and health.

Figure 72: Percentage of people of working age (16-74 years) who have never used a computer, 2010-2015 (%)

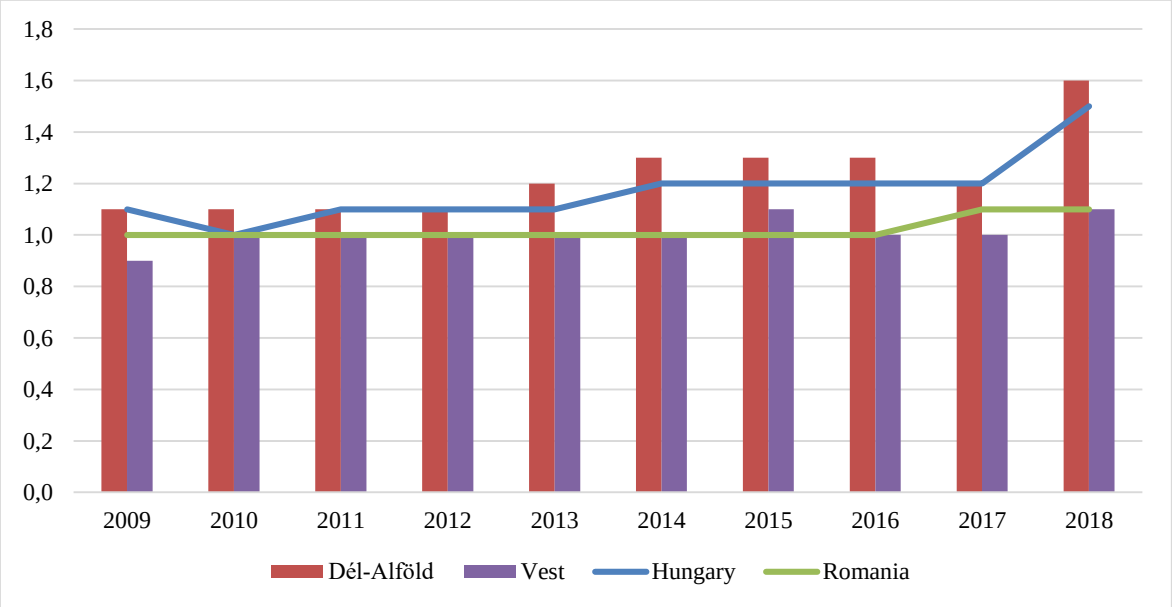


Source: Eurostat (2019)

Firstly, we examined the presence of the basic digital literacy skills needed to find a job and to start working in a job. The figure shows the proportion of people of working age who have never used a computer at home, at work, or anywhere else. This section of society is nowadays largely excluded from much of the information, including basic knowledge of the labour market, which appears on the Internet (for example, where and what job opportunities exist in their immediate environment, or what benefits and training they are entitled to in order to improve their working conditions). Since there is no European Union overall average data, we look at Germany, where the total digital illiteracy rate is 7 percent of the working-age population, according to the latest 2015 data. The ratio has decreased from 11 percent from 2012 to 10, 8 and 7 percent annually. In Hungary and Romania, the proportions of this section of society have fallen sharply in recent years, which is a positive trend, however, even recent surveys show a significantly higher rate. In Romania, the majority of the population (51 percent) belonged to this group in 2010, in Hungary nearly one third (30 percent). The higher values were accompanied by a steeper

decline, so today, the proportion of people not using computers in Romania has fallen by 21 percentage points to 30 percent, and in Hungary to 20 percent. Regarding the relative position of regions and countries in the Southern Great Plain, the proportion of digital illiterates in each of the years under review was above the national average (currently 26%), however, it is below the average for Romania. The proportion of Western Romania was better than the national average every year, and by 2014, it exceeded the average of the Southern Great Plain. It currently has the most favourable value (22 percent) of the dimensions examined.

Figure 73: Number of rooms per person in the studied dimensions, 2009-2018 (pcs)



Source: Eurostat (2019)

Another aspect of living condition is represented by the number of rooms per person. The social situation is fundamentally influenced by housing conditions, these include whether the room density per room evokes a feeling of overcrowding. According to the figure, in Hungary and Romania there are typically one and a half rooms per person, that is, in the most common model, singles live in one-room apartments, married couples in two-room apartments. For those with children, the number of rooms increases by one per child. However, this distribution assumes that there is no additional room per person, an separate place, where there is space for daytime activities (daytime). The number of rooms

per capita in Hungary has increased significantly from 2017 to 2018, currently at 1.5. In the Southern Great Plain, the housing situation is slightly more favourable, with a figure of 1.6 per person. In Romania there wasn't a full room per person in 2009 (0.9 pcs per person), today the average number of rooms per person is just over one (1.1 per person). In Western Romania the average value is the same as in the country.

Housing adequacy integrally incorporates various features of the living environment. Among these are the security of the place of residence, which can be evaluated and compared by the number of crimes committed.

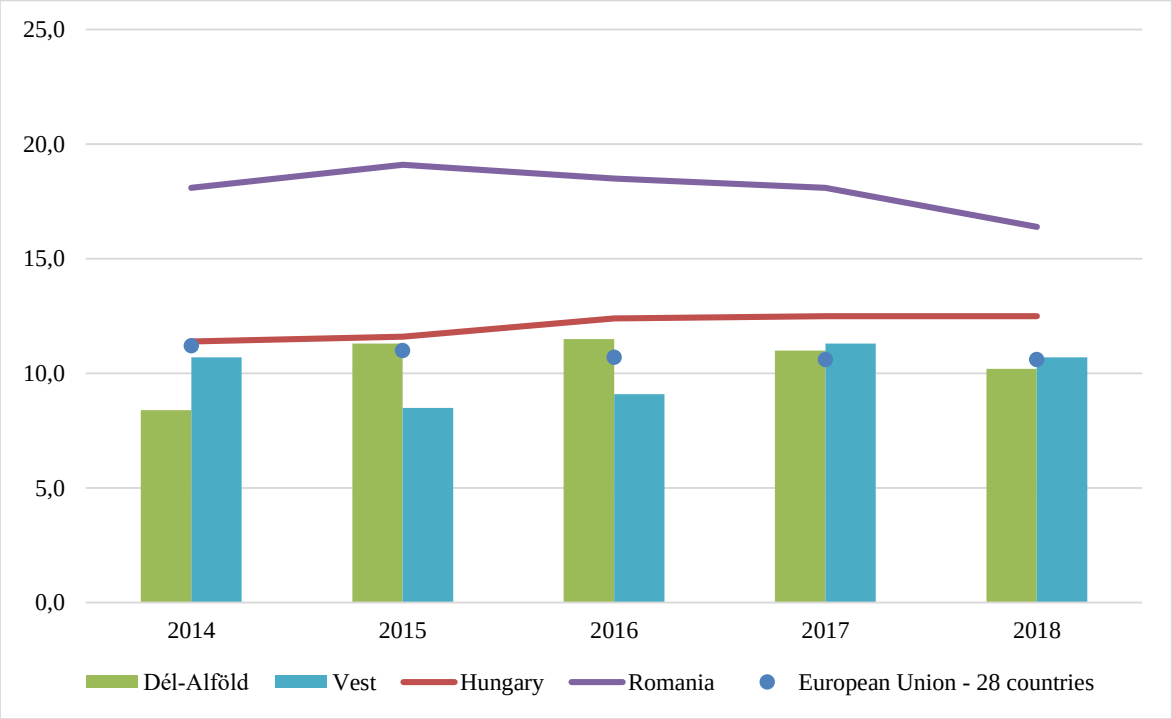
Chart 26: The number of crimes registered by the police in the investigated dimensions, 2010 (pcs)

	Intentional homicide	Robbery	Burglary	Car theft
Hungary	132	3 396	19 865	8 624
Southern Great Plain	17	236	1 738	610
Romania	404	2 484	14 197	2 531
West	27	224	1 611	355

Source: Eurostat (2019)

The European Union survey in 2010 measured crime rates in four categories: intentional homicide, robbery, burglary, and car theft. According to its results, the number of intentional homicides in Romania is about three times higher than in Hungary. But the number of robberies in Hungary is higher, in the year of the survey, there were approximately 36.7 percent more robberies in Hungary than in Romania. The number of burglaries and car thefts is also higher in Hungary; the former is 39.9 percent higher than in Romania, in the latter case, however, the police registered about three and a half times the number of crimes recorded in Romania. At the regional level, there were more intentional homicides in Western Romania (27 versus 17), there were about the same number of robberies (224 and 236). The number of burglaries in the Southern Great Plain is slightly higher than in Western Romania, however, the difference in car theft is greater. There were 610 cases registered in the Southern Great Plain in the year under review, compared with only 355 in Western Romania.

Figure 74: Early school leavers from education and training (18-24 years old), 2014-2018 (%)

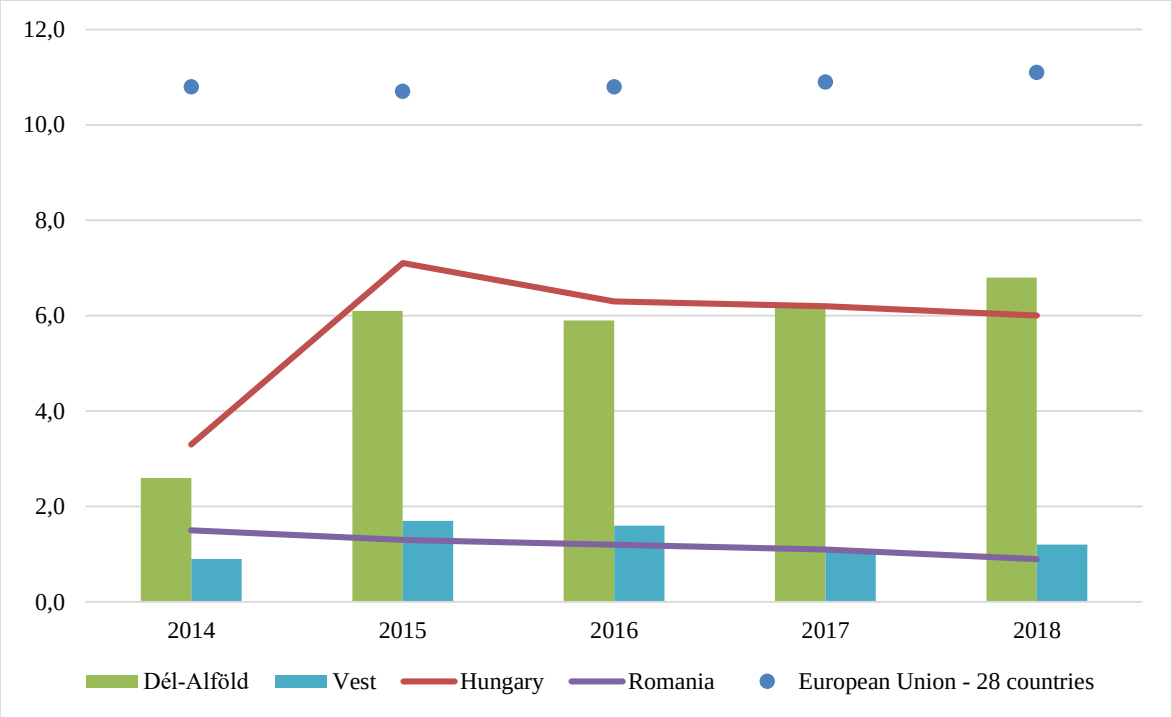


Source: Eurostat (2019)

In addition to computer skills, qualifications obtained in educational institutions are also crucial. Those who leave their educational institution before completing their training are very likely to be in professions with low added value, and in which they do not otherwise have the necessary professional qualifications and, consequently, their promotion possibilities are limited. Early school leaving rates in the European Union show a moderate decline between 2014 and 2018, currently, about one in ten people between the ages of 18 and 24 belong to this category (10.2 percent). Hungary's value was still equal to the EU average in 2014, but has since fallen behind, though the difference in 2018 is still 1.9 percent. In Romania, dropping out affected 16.4 percent of the age group in 2018, highest in 2015, at that time, the dropout rate was 19.1 percent. Southern Great Plain has slightly more favourable values than Hungary (10.2 percent in 2018), Western Romania, on the other hand, performs significantly better than Romania as a whole (in 2016 the rate was half). By 2018, the drop-out rate is 10.7 percent, which is favourable nationally and is only slightly below the Great Plain.

In addition to early school leaving, further training of the workforce can have a significant impact on labour market skills, including getting a job and advancement. The participation rate of adults (25 to 64) in education shows what the proportion of people of working age is who increase their skills through school education.

Figure 75: Participation of adults (26-64 years) in education, 2014-2018 (%)



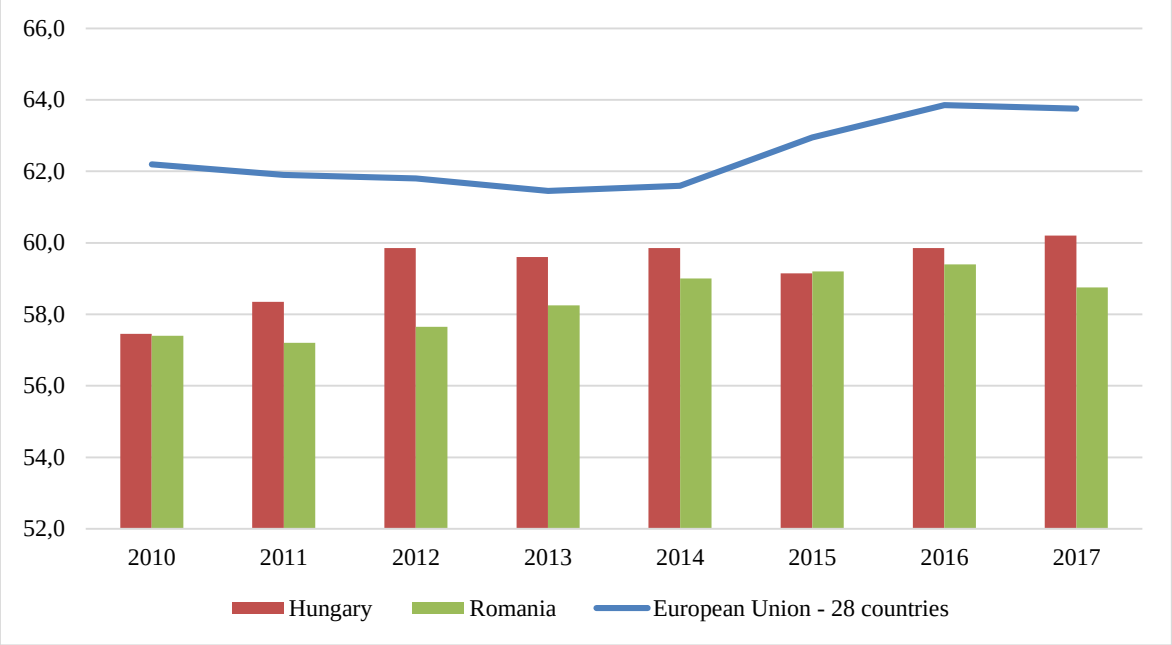
Source: Eurostat (2019)

Also known as lifelong learning, the indicator covers the proportion of adults who expand their knowledge, skills and competences for personal, social or employment reasons, in the frames of formal or non-formal education and training. The reference period for participation in education and training is four weeks before the interview. An increasing proportion of adults in the European Union are involved in education and training; according to the latest available data, 11.1 percent, or about one in ten adults, are affected. Hungary and Romania fall far behind this rate. Although Hungary experienced a significant increase in lifelong learning between 2014 and 2015, the number of participants doubled (from 3.3 to 7.1 percent). After 2016, a slight decrease could be seen. In Romania, adult participation in formal and non-formal education and training has been below 2% for

the last five years. The rate also decreases, in 2018, only 0.9 percent, less than one in 100, will continue their adult education.

To characterize the health situation, we have analysed a national indicator showing the number of years spent in health. This is a composite indicator that combines mortality data with health data, based on the number of years that a person of a certain age is expected to live without serious or moderate health problems.

Figure 76: Years spent in health in the countries surveyed, 2010-2017 (year)



Source: Eurostat (2019)

The figure shows the number of years spent in health as a simple arithmetic mean of the healthy years of women and men in given years. The results show that the number of years spent in health is increasing in the European Union countries after a slight decline between 2010 and 2014. Currently, an average person lives 63.8 years in health. Increasing the number of healthy years of life is a major objective of European health policy.

Improving the index would not only improve the situation of individuals, but would result in lower levels of public health spending. If healthy life years grow faster than life expectancy, it means that people live more years in better health. Hungary and Romania

are well below the European average, but both countries have improved significantly since 2010, when individuals were still on average about 57.5 years in good health. By 2017 Hungary's value was 60.2 years and Romania's value was 58.8 years, the difference is thus smaller compared to each other than to the Member States of the European Union.

5. QUALITATIVE ANALYSIS OF THE DEVELOPMENT OF EMPLOYMENT GROWTH

In the frames of the qualitative study of employment growth, first we carry out the methodological substantiating of the study. Chapter 4, Quantitative Analysis of the Employment Situation, contained a quantitative analysis of our research data, and in this chapter, we will carry out the quality research. First, we outline the relationship between these two studies, describing the research material and methodology. This is followed by the presentation of the results of the research, broken down into separate points for each research method. In this, the emphasis is on quality testing, thus, we draw in part from the data of the previous chapter 4, analysing them from a qualitative point of view.

Similar to quantitative results in the summary of the study, final results are evaluated using a scoreboard, in much simpler form for the qualitative research.

Figure 77: Qualitative evaluation table of the examination of the employment situation

		Horizontal examination dimensions		
		Workforce	Businesses	State
Vertical examination levels	County data	Aggregate information on the current workforce situation	Aggregated information on the current business situation	Aggregate information on the state as a labor market participant

Source: author's own editing

The information provided by our interviewees is presented in this section per labour market participant. In the summary, we also assess the situation of each actor by labour market participants, as reflected in the opinion of our interviewees.

5.1. Main features of the research

The process of social and economic research consists of a series of regular, step-by-step research steps, which usually goes from raising a research question or from the formulation of the research problem, to producing possible answers to the questions and problems, supported by exact research results, and to, formulating conclusions and recommendations. Research can best be described as a four-phase process:

I. In the research preparation phase, the definition of the purpose of the research is significantly influenced by the research question itself or the initial problem. In addition, unravelling the antecedent of the research may shape pre-defined statements, the hypotheses that research confirms or refutes (perhaps proves that the questions cannot be answered, that is, they cannot be proved or refuted). Creating a research model also influences the assumptions, the data and information available also limit the scope and potential of the phenomena to be studied. All these preparatory steps together form the research material.

II. Compilation of a set of variables examined to formulate the answer as well ass defining the research method - one of the most important steps in conducting research - and selecting and testing the research tools are all carried out during the planning and data collection phase. Data collection means the collection, systematisation, sorting, and cleaning of data that fits into the schema of defined variables. The compiled data is made into a database.

III. During the analysis phase the examination of variables defined by research questions or problems, as well as the examination of data defined by the variables and the research method takes place. In addition to summarizing the results, an illustration (table, graph, map filled with data, etc.) may be provided, depending on the nature of the data.

IV. In the phase of the exploration of results, with the help of the results of the research, the causation is explored, research results are compiled, and, with

the help of all these, answers of the research are formulated, conclusions and suggestions are drawn.

Az alábbiakban a fenti sémát követve a jelen kutatás két kiemelt fontosságú összetevőjét, a kutatás anyagát, illetve a kutatás kiválasztott módszerét ismertetjük.

5.1.1. Research material

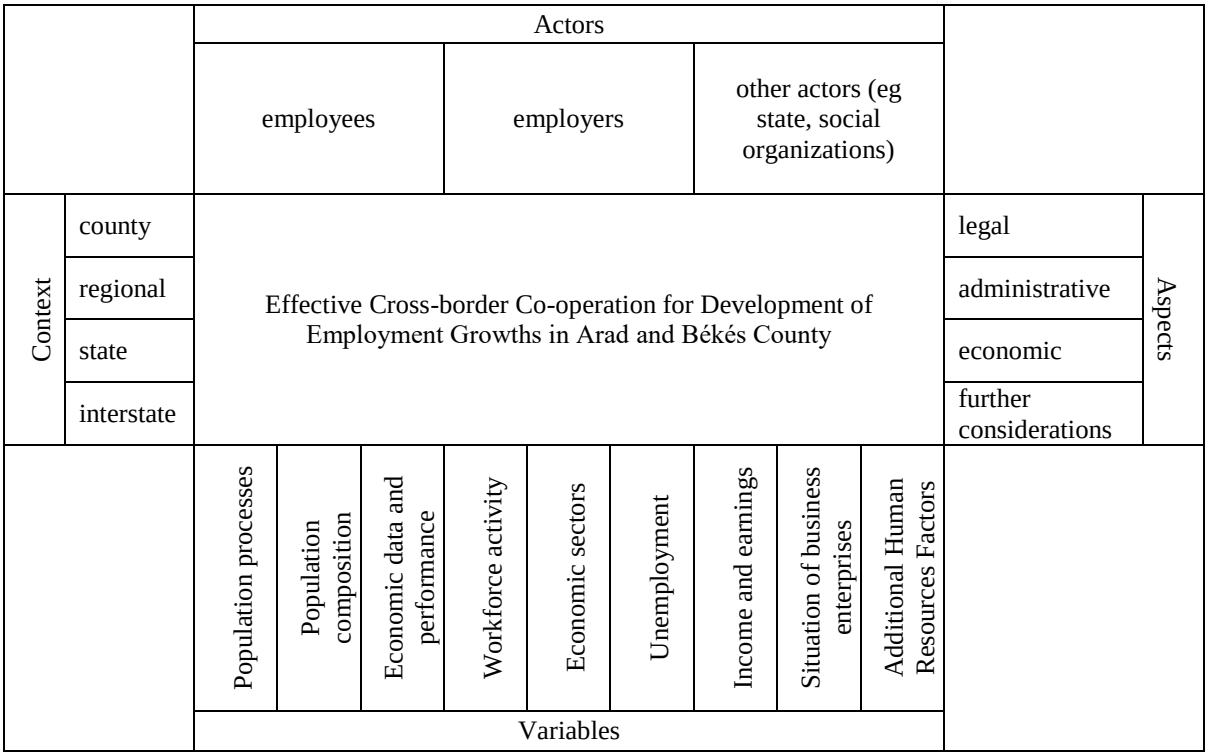
In the preparatory phase of this research, when defining the research material - adapting to the standard, schematic model of research methodology - formulation of the objective of the investigation, exploring relevant antecedent and developing the assumptions related to the analysis took place, as follows:

The survey based on the research is realised within the project „Effective Cross-border Co-operation for Development of Employment Growths in Arad and Békés County". In connection with the goals of the project, it aims to conduct an empirical research, which explores and compares the labour markets of the two counties with a complex approach, for the development of employment, in relation to the cross-border cooperation of the two counties of the Hungarian Romanian border region; Békés and Arad counties (or broader geographic units, depending on the variable being examined)

The comparison was thus basically made on the basis of the different characteristics of the labour market (e.g. economic performance, employment, etc.) and from the perspective of actors (employees and employers, additional actors for some indicators, such as the state). The aim was to explore the conditions for cooperation between the two counties and, with the results to identify development points that need to be taken into account when developing cooperation. Research on cross-border cooperation is itself at the frontier of several disciplines. This so-called multidisciplinary nature requires a complex approach from researchers, which requires simultaneous validation of aspects of law, administration, economics, geography and many other disciplines. The cross-border nature involves the coordination of two potentially divergent areas, as well as coordination of activities of the participating individuals, institutions and other entities, harmonization of existing legal barriers, economic disparities and other, even cultural, ethical considerations.

For this reason, the study examines areas in multiple contexts. County level cooperation is placed in a regional, state or interstate (EU or pan-European) context, depending on the variables.

Figure 78: The research model



Source: Author's own editing

The theoretical model of the research coordinates contexts that cover vertical examination levels, labour market participants in the two areas under study, multidisciplinary aspects of the study and besides all these, the underlying variables as horizontal dimensions of the research.

5.1.2. Methodology of research

The present study analyses and compares the labour market situation of two distinct geographical units, Békés County, Hungary, and Arad County, Romania, using the given methodology. From multiple aspects, social and economic research is split in two ways. The form of data collection may be primary (analysis of first-hand information) or

secondary (analysing already recorded data from other sources); as per the method of inference, the answer can be deductive (deduction from general law to individual cases) or inductive (formulation of general laws based on individual cases). According to the way of getting to know the research material, it can be quantitative or qualitative.

Quantitative research methods use a quantitative principle to understand the phenomenon under study. In this method, quantified data is available in large quantities, ideally in a representative manner. Using deduction – which means to refer to a certain case based on general, broad information - they can be used to solve a research question or problem. Processing is done using mathematical and statistical methods; the main requirement of the method is reliability (that is, in case of repeating the research we should obtain the same result as the original). The most common argument against quantitative research is that, due to the high number of elements, the information obtained may be superficial; it may mask the respondent's personal motivations and attitudes that may be relevant to the research.

Qualitative research methods, by contrast, cover a small number of techniques that contribute to a deeper understanding. Based on the principle of quality, they do not aim at general phenomena, but at getting to know specific problems and processes. Such testing is not intended to be representative. Due to its feasibility, it could not even be an objective, however, the data obtained is detailed and versatile. Reflection and direct interaction with a data source is possible during recording. Its main requirement is objectivity (which also guarantees the delivery of real, unbiased information about the phenomenon). It has the disadvantage that it does not allow generalization due to the small number of elements.

After considering the methodological possibilities (primary-secondary data collection, deductive-inductive inference, quantitative-qualitative research method) that arise in the study, we used a mixed, complex methodology in the study.

Figure 79: Methodological solution of the study

	Research methodology	
Form of data collection	Secondary • State data collection [Hungarian Central Statistical Office (HU), National	Primary • • In-depth interviews with stakeholders with professional expertise and

	Institute of Statistics (RO), Eurostat (EU)] • Data tables for scientific research (Hungarian, Romanian and English publications)	experience in the field • anonymous interviews with actors with partial information in the area, representatives of the scientific field
Way of recognition	Quantitative data processing • comparative graphs, maps, charts • Comparison of calculated values: mean, median, standard deviation, etc.. • Comparison with primary information	Qualitative analysis • analysing the content of interviews • thematically sorting and comparing experiences from interviews with secondary data
A way of logical inference	Inference Outline the trend of a given phenomenon based on a large number of statistical operations on a sample containing only numerical values	Induction Based on the unique experience of a small sample of more detailed content, inferring overall trends

Source: author's own editing

In the course of the research, our data were collected using first-hand, primary data sources and other secondary data sources from reliable sources. The source of the derived data is the web interface of the official statistical bodies of the two countries and public data, publications and databases of the European Union's own statistical service; as well as publications of a scientific nature in which independent researchers conducted their own data collection. The source of the primary data is our own interviews, prepared with stakeholders with professional expertise and experience in the field. We did in-depth interviews and we also did shorter, anonymous interviews with actors with partial information in the area, or the representatives of the scientific community. The interviews were conducted in a semi-structured format based on a pre-compiled interview template. The main groups of questions and questions that could be deviated from during the interview are as follows.

Figure 80: Interview questions for primary research [24]

[24] The full, detailed interview sketch can be found in the attachments.

1. Professional block 1: Getting to know the job title, the role of the interviewee and how it is related to the topic.
    a. Name:
    b. What is your current position? Do you have any previous job experience related to this topic?
    c. How long have you been on your current mandate?
    d. What is the goal of your position?
    e. What and how significant a role does your organization play in the employment and labour market environment of Békés / Arad County?
2. Professional block 2: Mapping knowledge on employment situation and cross-border cooperation
    a. How would you describe the relationship system of the Hungarian Romanian border region in general, with special regard to employment?
    b. What forms of cooperation and good practices are known between the two counties?
    c. What are the opportunities for people in the two counties to find business cooperation?
    d. Do you know of any initiative that you think might be suitable for the labour market participants from both the demand and the supply side to establish close(r) relationships with each other?
    e. How would you evaluate the employment and labour market situation in Arad and Békés counties in recent years? (Including both the employer and employee side.)
    f. How do you personally (or through your represented organization) relate to the employment situation in the regions studied? (How can you influence employment?)
    g. In the shorter / medium / long term, what kind of processes and changes do you expect in the relations of the two counties?
3. Professional block 3: Possible development of employment growth, directions of strategy formation
    a. What steps do you think should precede the development of a strategy to promote cooperation and thus employment growth between the two regions? (For example: population questionnaire, employee survey, employer interview, etc.)
    b. In your opinion, what are the possible directions for the development of employment growth in Békés and Arad counties?
    c. Who could be the key players in such a strategy?
    d. What role would you give the actors involved in the strategy?
    e. What kind of and how much infrastructure need and resources would the strategy require?
    f. What could be the main goals and priorities of a strategy?
    g. In the case outlined, do the short, medium and long-term strategic objectives differ? If so, what are the major differences between the time periods?

Forrás: a szerző szerkesztése

The data collected in this way were analysed by quantitative data processing and qualitative analysis. Within the quantitative approach we made comparative graphs, maps and tables. The resulting values were compared using various calculations (mean, median, standard deviation, etc.) Qualitative analysis meant analysing and sorting out the content of

the interviews according to the topics that emerged. The quantitative and qualitative data were then compared. Based on all these results the logical conclusion of the study was deductive in the case of quantitative data from secondary sources: the statistical operations performed on the large number of samples available were the basis for outlining the relevant labour market trend. The logical inference of qualitative information from the primary source was inductive: the small but more detailed sample also provided an opportunity to explain the reasons behind the trends.

Our results, recommendations and conclusions were therefore based on available, valid, reliable statistical information (quantitative source), as well as on the personal experience of in-depth interviews with interested interviewees (qualitative source). This complex approach combines the reliability and objectivity of a large number of quantitative data sources, and the qualitative data sources approach to discovering unique phenomena.

5.2. Results of the research

The results of the mixed methodological research aimed at comparing the labour market of Békés and Arad counties are presented in different forms in this study.

As a verbatim transcript, Section 11.2 Interviews of primary research contains some of the results of the qualitative analysis carried out by content analysis, based on primary, own data collection and processing. The other part is not available as a transcript, in this case a summary of the content was made.

Chart 27: Details of primary data recording

Name and position (organization) of interviewee	Type of interview	Date of interview	Place of Interview
Andrea Kranowszky Nagy office manager (CED Central European Economic Development Network Nonprofit Ltd. Arad Office)	in-depth interview	2019.09.13.	Arad, Romania
Péter Skapinyecz manager (CED Central European Economic Development Network Nonprofit Ltd.)	in-depth interview	2019.09.13.	Arad, Romania
Embassy employee (anonym interview) (Embassy of Romania in Hungary)	informal conversation	2019.09.13.	Arad, Romania

Gheorghe Seculici president (Chamber of Commerce, Industry and Agriculture Arad)	in-depth interview	2019.09.13.	Arad, Romania
representative of the academic and academic spheres with significant previous public job creation experience (anonym interview)	interview	2019.09.19.	Budapest, Hungary
Hungarian researcher active in the academic sphere, with some relevant specialty (anonym interview)	interview	2019.09.19.	Budapest, Hungary
researcher with expertise in regional research, university senior (anonym interview)	interview	2019.09.20.	Budapest, Hungary
a methodological expert in economics (anonym interview)	interview	2019.10.02.	phone interview
expert researcher with expertise in regional research and impact assessment (anonym interview)	informal conversation	2019.10.02	Budapest, Hungary
Iustin Cionca President of the Chamber (Arad County Council)	interview	2019.10.06.	Arad, Romania
Imre Pántya Head of Department (Békés County Government Office Department of Social Security and Employment)	interview	2019.10.07.	Békés, Hungary
Tivadar Orosz president (Chamber of Trade and Commerce of Békés, Hungarian Romanian Section)	interview	2019.10.08.	phone interview

Source: author's own editing.

Eleven in-depth interviews, interviews, and informal conversations were conducted between September 13, 2019 and October 2, 2019 with officials from Hungarian and Romanian organizations (mostly senior executives) relevant to the subject of the study, as well as representatives of the academic and scientific field. Part of the interviews was included in the study anonymously at the request of the interviewees, these are referred to on the basis of the interviewee's position. The detailed experiences of the interviews can be found in the first sub point of this subchapter.

Detailed results of large-scale quantitative analysis based on secondary, international, and scientific comparative data through statistical operations is shown in Chapter 4 *Quantitative analysis of the employment situation* and its sub-chapters and sub-points. For verifiability of data and related calculations made and for the extension of investigation, detailed charts of the study were inserted in 11.3 *Detailed tables of secondary research*, in order of the research. Besides, a concise summary of the study, integrally related to primary research, is presented in the second sub point of this subchapter.

Therefore, the results of the primary research are presented below by subject, summarizing the experience of the surveys carried out with literal quotes, wherever possible. The related results of the secondary research are also summarized in the form of deductible conclusions for each topic.

5.2.1. The results of the primary research

5.2.1.1. Workforce

The purpose of establishing the Hungarian Romanian Section of the Hungarian Chamber of Commerce and Industry in 1999 was to build and develop cross-border economic relations. The development of the entry into the international – in this case, Romanian – market and the stimulation of export activities link the Section primarily to entrepreneurs. However, they often encounter labour-related problems. The events they organize regularly address labour shortages, which impede growth on the part of businesses and the development of infrastructure on the part of the state. Regarding the workforce, therefore, it has long been a general objective to utilize existing labour resources to create jobs. One of the preconditions for keeping the workforce in place is the creation of jobs of local interest; on the other hand, preference is also given to local resources for the investments and operations of large companies in the region. An example of the latter is the upcoming launch of the BMW Group Debrecen automotive investment[25] from the Hungarian side, the helicopter parts factory projected for Airbus Helicopters 2021[26] or Linamar Hungary's automotive investment[27]. In addition to, and in connection

[25] The Hungarian government contributed HUF 130 billion to the development of transport infrastructure for the northwest industrial zone of Debrecen, which also houses the factory, and a further HUF 35 billion in vocational training for the workforce. Source: origo.hu (https://www.origo.hu/gazdasag/20190924-indulhat-a-bmw-gyar-epitese-debrecen.html)

[26] The Hungarian government provides the necessary metal parts surface treatment skills, and an Aviation Academy is being established for the ensuring supply of experts for the new Airbus plant. Source: 444.hu (https://444.hu/2019/05/28/gyulan-epit-helikopteralkatresz-gyarat-az-airbus-helicopters)

with, local investments, it is important to support the creation and maintenance of an appropriate training and retraining background.

Interviewees from the CED Central European Economic Development Network Non-profit Ltd generally described the labour situation to be in labour shortage on both sides of the border. Another interviewee would consider setting up an organization with the role of a "Hungarian employment centre" as a possible solution in areas across the border, which would coordinate supply and demand on each side of the border in an organized manner (there is currently no government organization specifically created for this activity).

With regard to the training of the workforce, both the Hungarian and the Romanian side saw the strengthening of the role of dual vocational training. An additional one year of technical education after graduation gives the right skills for finding a job successfully. That is why there have been several initiatives in the region in recent years to promote vocational training. One such example was the vocational training exhibition in Arad, where vocational training institutions and employers who demand skilled workforce were introduced. The exhibition also had the opportunity to shift the focus to the shortage professions.

5.2.1.2. Business enterprises

On the situation of businesses, lack of cooperation of the countries of two counties arose, which mainly consists of law, administrative and tax related factors, which are obstacles for cross-border business. If a small business operating on the Hungarian side of the border with small infrastructure even wants to try to enter the Romanian market, such

[27] With respect to the advanced technology, outstanding added value and the 250 new jobs, the Hungarian government supports the investment with HUF 3.9 billion Source: beol.hu (https://www.beol.hu/kozelet/helyi-kozelet/ketszazotven-munkahelyet-teremt-a-linamar-bekescsaban-1657033/)

as appearing at a fair, the resulting licensing and taxing tasks may discourage it. At CED Central European Economic Development Network Nonprofit Ltd., the solution to this problem is considered to be the issuing of a temporary, complex permit, which would serve as a kind of "cross-border business license" for entrepreneurs, for the sake of exploring and in cases utilizing export markets.

However, labour shortages in some cases have a positive effect on the supply of businesses. For example, Gheorghe Seculici, president of the Chamber of Commerce, Industry and Agriculture Arad, mentioned the case of a furniture company, where the company did more than just raised the salaries to improve working conditions, but in order to expand the convenience facilities provided to employees in established an own infrastructure in this field. Thus, today employees can use their own gym, among other things. Workforce shortages also affect businesses from other angles, putting them in a precarious situation that can have positive returns. The same furniture company was confronted with the problem that his supplier partner cannot expand its capacity to deliver furniture. Therefore, the company set up its delivery business within the company by redeploying the available workforce So, due to labour shortages, the entire sales process is already solved within their own organization from production to delivery to the customer. But there are also many success stories in the county, for example, already ten years ago the Alcoa Fujikura was well-known in the electronics and optical industry, the Astra Vagoane Cãlãtori, a railway technology specialist, or Berenz Spedition in the transportation industry. The county was not ill provided with bigger investments, an example of this is Thermopol, a manufacturer of rubber and plastic components, Maschio Gaspardo, an agricultural machinery manufacturer, or Abet Laminati, a manufacturer of decorative products. These have undergone significant capacity and labour building investments in the county in recent years.

Békés County is also characterized by the presence of enterprises with high economic power. In addition to Linamar Hungary (which employed 2,505 people in 2017 and achieved net sales of HUF 58.8 billion), the county's economy is strengthened by for example, the poultry processing Gallicoop in Szarvas, the Hirschmann Car Communication which deals with the production of technical equipment for communications, or Mondi Békéscsaba, a plastic packaging company.

Businesses in the two countries are also finding links with each other. For example, many Hungarian construction companies are involved in larger investments in Romania, however, larger-scale cooperation is hampered by differences - and their cursory knowledge by entrepreneurs - in tax and licensing systems between the two countries. For this reason, the Chamber of Trade and Commerce of Békés usually lectures on tax matters at its conferences, and they themselves provide up-to-date information to new participants entering the market. Such is the website for example, where in return for a one-time registration fee it provides continuous information on the regulation of the cross-border cooperation of the two countries, or for the economic activity across the border. In addition to construction cooperation for example, there was cooperation between businesses on both sides of the border in the meat industry, where, in the absence of capacity, one of the parties executed an order using the capacity of the other. This occasional collaboration shows that there are live relationships which are used by the parties at the appropriate time.

Businesses do not reject imports of labour as another solution to labour shortages; recently, employee contingents have appeared in Arad county at certain businesses from Malaysia or Indonesia, who are in the county only temporarily, covering the labour needs of a larger work project. With such solutions, businesses are successfully integrating into the broader industry, of which a good example is the automotive industry, where county companies play a major role in component manufacturing. Due to the wide range of customers, almost all European car manufacturers are supplied with parts manufactured in Arad County

The major challenge in this respect is the presence of advanced technologies, including robotization, a wider application of which could lead to a drop in demand for trained assembly workers. Most of our interviewees, however, believed that the workforce falling out was more likely to find another scope of work (even within the same organization), therefore, the effects of robotization on increasing unemployment need not be feared in the foreseeable future.

5.2.1.3. State

According to the Hungarian Romanian Section of the Hungarian Chamber of Commerce and Industry, inter-state and supra-national relations are supported by EU-

funded applications, because in addition to fundraising, organizations in both countries can also have more intense contact with each other. This will facilitate the development of future cooperation. The Section considers signing cooperation agreements (so-called protocols) similar, in which they undertake to ensure the flow of information between economic operators on both sides of the border, and to promote business-to-business activities. For example, in 2019, a cooperation agreement was signed between leaders of four border counties (Hungarian and Romanian counties), where the Chamber of Trade and Commerce of Békés acted as patron. The main points of the agreement were economic cooperation and infrastructure development. Senior political leaders were also represented at the event, confirming the continuation of already finished (M3 motorway), ongoing (Continuation of the A3 motorway) or planned (A5 motorway) infrastructural investments[28]. In addition to the development of road infrastructure, the development of the rail network is a priority in both countries.

In addition, the differences in the attitude of the parties to the requirements of the tenders have arisen in relation to Community-funded tenders (either EU or partially state funded). Because in both countries, the state is the guarantor of joint investment, therefore, no shortage of resources may occur during the implementation phase. However, in most cases tenders determine a longer follow-up period, the management of which is the responsibility of the implementing institutions. In case of a more expensive investment, implementers can only commit to increasing their own fixed costs built into their future budgets through investments with careful planning. In relation to this requirement, a difference is experienced in the risk appetite of the parties.

[28] The Hungarian M5 motorway, now supplemented by the M43 motorway, leads from the Hungarian capital to the Romanian border, to Csanádpalota. From the Hungarian border, the Romanian motorway A1 leads to Arad and by this, Arad is now part of the European expressway network. The A3 motorway is originally planned from Arad to Bucharest, through Oradea, Zilah, Cluj-Napoca, Turda, Tirgu Mures, Sighisoara, Fagaras, Brasov and Ploiești. Currently only some of the sections are ready. The A5 motorway would connect the Romanian parts of the Carpathians with the eastern border of the country.

Our interviewees in both Hungary and Romania repeatedly mentioned the shortcomings of the vocational training system. In addition, it was mentioned several times that another main obstacle to working is the lack of language skills despite the geographical position (being close to the border) and the presence of a relatively large and proportional Hungarian minority in Romania. In addition to strengthening vocational training, language training can also play a major role; whether in external, publicly funded (or co-financed) form, or in the form of internal workplace training (which may also be accompanied by state and tender funding).

There is also a high proportion of the public workforce, especially among young workers. According to our interviewees, the reason for this could be the low level of mobility of the population, which is especially true in Hungary. Young people of working age are more likely to opt for public employment so they can stay, hoping to gain job market access over time. In addition, there are generally few job opportunities in the area, besides employers, the proportion of highly qualified workers is also low. Because of the above, employers would be open to international cooperation.

It would be important to improve the road network and transport in general (even by launching a regular free bus service). Moreover, the issue of housing is not resolved in the context of cross-border employment, which, while affecting only a minority of workers, completely disqualifies them from working.

In line with the national trend, in the districts of Békés County the number of unemployed persons and free capacity labour are noticeably decreasing. However, in the districts directly along the border, the perception of unemployment is still higher than in areas further from the border. This statement also confirms that the reintegration of areas marginalized by artificial borders into urban and labour market networks can be achieved by dismantling the boundaries caused by borders as much as possible. In the same way, with the removal of legal barriers (deregulation), it also means the removal of physical barriers, the development of the road network, establishing regular public transport links and coordinating the flow of labour.

Another major obstacle to increased labour flow between the two areas is that wage levels in border areas are below the national average in both countries. From another

aspect, the areas delimited by the artificial boundaries still adapt to each other in such a way, that similar wage levels are developing in adjacent areas that are on different sides of the border. This phenomenon weakens the financial and income motivation of cross-border work.

5.2.2. Related results of the secondary research

Demographic indicators (change of population, life expectancy) confirm the general view that labour capacity in both counties examined has decreased significantly. Adding to this the rate of economic growth, tackling labour shortages is a major concern in the two counties. At the same time, unemployment does not show general but structural differences. For example, the proportion of those young people who are neither in employment, nor in education or training is very high, the placement and employment of whom could significantly reduce the need for labour in the regions. Based on the experience of the interviews, this was partially recognized. Strengthening the role of dual vocational training is a good way towards expanding opportunities for the younger classes and easing labour demand, however, in addition to the quality of education and training, the human aspect of education also needs to be given proper attention. In other words, in addition to the supply side of education, the demand side needs to be better reacted to. As a separate point, the study analyses the non-narrow labour market factors of human resources including the educational situation. We found that in both Hungary and Romania, the proportion of early school leavers is close to the EU average, which could be improved with the right incentives. There is a similar picture in the further training - which was also an important consideration in the interviews with the interviewees - of the workforce: adult participation in education is well below EU level. One in twenty adults in Hungary and one in 100 in Romania participated in education and training within one month of the survey. The promotion of training and further training is therefore of paramount importance. Lifelong learning can not only meet the needs of employers, more diverse qualifications also help the worker to prevail in the labour market for the long term.

Complex support for businesses is also an important aspect. Relevant statistics show that the proportion of businesses founded earlier than three years stagnates year after year,

which logically means that businesses in the border region, which have been established for more than three years, are being terminated to the same extent each year. In the industry and services sector, less than one in ten businesses reach three completed business years, which is a very low ratio even when considering that not all businesses are set up for an unlimited period. The rate of business closures in the counties is even more telling, according to which about one in ten and eleventh businesses cease operations every year for the last seven years. The organization represented by the interviewees plays a major role in gaining, retaining and developing the business infrastructure. Statistics show that there is a need for the active work of organisations, and there is a need for Community and state funded applications in the border region, which can help business development and survival in many aspects. However, the entrepreneurial tendency shows very high activity in both countries: every year, about one fifth of businesses undergo some kind of change (termination, formation, transformation, etc.). The number of operating companies is quite constant, that is, the entrepreneurial spirit is unbroken in the county. So the key to success is the right mentoring of businesses.

From the state's side, support for all these processes is paramount, and this does not only mean financing projects. It is also relevant in terms of national development poles and economic breakdowns for the – from the point of view of Hungary - eastern and peripheral county to cooperate with the Romanian western county, which is considered to lack centres. However, active cooperation between the leadership of the two states is a prerequisite for cooperation between Hungarian and Romanian counties, regions or other territorial units. Such an interstate cooperation, for example, could facilitate cooperation between sub-units of the organizational hierarchy, which is dedicated to cooperative management of labour market imbalances. Both parties have significant interests in this regard; in Békés County, for example, GDP per capita at market prices and PPPs has not been able to grow in terms of EU28 average since 2013, its value is almost half of the national average. Meanwhile, the national average is slowly rising every year. And in Romania, labour shortages are already holding back growth, according to interviewees, and in such a situation, improving structural conditions (e.g. increasing the efficiency of the education system, supporting young people staying in place) may no longer provide a complete solution to the problem. So, it is logical to replace the workforce from an

"external" source, for which the most suitable are those workers from geographically close areas. States are equally interested in the co-operation of companies, since the expansion of export activity and collaborative management of companies' capacity problems increases national incomes. From the point of view of state regulation, another important circumstance is the reduction of the disadvantage of the labour market disadvantaged groups by means of employment policy. In addition to the groups in the classical sense (newcomers, the elderly, the disabled, etc.), it is important to consider, for example, the elimination of the gender employment gap. In this field, there is significant development potential and labour market reserve in both Hungary and Romania. Due to the location of the region under investigation, transborder minorities also belong to such a group. State subsidies for language training - Hungarian and Romanian - or targeted state trainings would mutually improve the labour situation in both countries. Returning from public works programs to the primary labour market would improve the situation of another disadvantaged group, for which there is an opportunity in the current labour market situation.

6. CONCLUSIONS AND RECOMMENDATIONS

We have organized our conclusions and suggestions below using a triple logic, which also maps the name of the research project. First, regarding the labour market, broken down into labour market trends and actors, the conclusions obtained by a mixed research methodology are presented. Then come our findings on cross-border cooperation from the broader national context to the cooperation of the counties under investigation. Finally, taking into account the cross-border nature and the labour market area, we present the starting points for employment development improvements that can be implemented over time.

6.1. Labour market trends and actors

The conclusions on labour market trends and actors reveal the results of the quantitative and qualitative research carried out in the framework of the study in a summarized way. Below, in the summary of the main topics, we first present the research results of the quantitative data of the quantitative research, which are supplemented with the qualitative results of the qualitative research.

6.1.1. Demographic trend

Population changes in Békés and Arad counties can be described by two groups of phenomena: with population decline and unfavourable changes in composition.

The natural component of multivariate population processes shows that the trend of population change has been negative every year for the last decade, starting from the national level, regional and county data did not differ either. The European Union has a natural population change of between 0.5 and -0.5 percent per year. In contrast, in

Romania, the rate of natural change has risen from -2.8 percent to -3.1 percent in the last four years. Similar trends and correlations can be observed in Hungary: national values have fluctuated between -3.2 and -4.0 percent over the last four years. Population change rates in Arad are less favourable than national and regional values: In 2014, the natural population decreased by -4.0 percent, which decreased to -4.7 percent by 2015. After a temporary increase, it improved to -3.9 percent in 2016, but reached -5.0 percent in 2017. Similarly to the relationship between the higher territorial levels and the Arad county, the ratio of Békés County is less favourable than the national and regional values: the county has never had a natural population decrease less than -7.2 percent in the last four years, In 2017, it reached -8.2 percent. In addition to the natural change that can be described with the decrease of the population, the artificial change also has a negative balance: immigration destination countries do not include Hungary and Romania (including Békés and Arad counties). As emigration regards, in the last processed year 2017, 242 thousand people left Romania and 39 thousand left Hungary. As a balance of natural and artificial population processes, the total annual change in the Hungarian population over the last four years has been between -2.0 and -3.4 percent. However, this is even more significant in Romania, at -3.9% and -5.9% annually. The population by territorial level is on a more and more declining path. Although Arad's population was moving along with Romanian national and regional data until 2015, after a slight upturn until 2016, it fell below -6 percent in 2017. By contrast, Békés County always suffered a population decline of more than -11 percent, which, according to the latest 2017 figures, stands at -13.0 percent annually.

Another characteristic process of population change is the economically unfavourable change in the composition of the population. According to the age structure study, the median age in the European Union increases continuously, Hungary and Romania are slightly below the EU average (42.6 and 42.1 years). Along with the age composition of the county population, the absolute number and proportion of people of working age in both counties is constantly decreasing. Between 2014 and 2018, the population of Békés decreased by 17 thousand, of which 14 thousand were of working age; In Arad, of the 8.6 thousand decrease, 7.4 thousand were employed, 82 and 86 percent of the total decline was among the working age population. The causes of unfavourable

demographic conditions also include the situation of disadvantaged groups in the labour market. Our study has shown that the employment rate of young people in their early stages is far below the EU and CEE values. In 2018, only 43 percent of 15-29 year olds worked in Romania, and 47 percent in Hungary.

However, unemployment in the elderly is less a problem in the two countries than in the European Union as a whole; only less than 3 percent of those over 55 were unemployed in 2018. In case of lower status agricultural and unskilled jobs, the employment gap of Roma minority living in Arad county compared to majority society is of extremely high rate (in agriculture, employment rates are 25 and 35 percent, and for unskilled workers 9 and 29 percent). In Hungary, unemployment data by nationality show a similar situation. There is a significant difference between the unemployment conditions of the majority society and the Roma minority, in terms of current unemployment (7.4 and 29.9 percent), the people never affected by unemployment (55.6% and 15.6% respectively), those, who have never entered the labour market (6.8 and 13.0 percent) and the unemployment rate (7.0 and 33.6 percent).

The interviewees' perceptions were consistent with most of the processes described above, which were addressed in our interviews. Against the phenomenon of population decline at European level they pointed more strongly to the other major demographic trend in the counties examined, the cause of unfavourable changes in population composition. High emigration affects active, working-age, skilled workers, whose temporary or permanent employment abroad - mainly to Western countries - has dramatically reduced the amount of skilled labour available locally in recent years. As a result, cross-border businesses are facing increasing human resource problems, which in some cases is already the biggest obstacle to economic growth.

6.1.2. Total national economy performance and sector relationships

Hungary and Romania are among the less competitive countries of the European Union in terms of economic performance, although some Western European countries are also significantly behind the EU-28 average (such as Italy and Portugal). Per capita production calculated by eliminating differences in price levels between countries is higher

in Hungary (68 points in 2017 compared to the EU28 100 point average), than in Romania (63 points). although the performance of the two countries is converging with each other, Romania has also experienced a steeper rise in the last three to four years than Hungary. However, in terms of the regions and counties examined, Western Romania is a region of higher economic power than Romania and Arad is a region of greater economic power than Western Romania than the same ratio of Southern Great Plain to Hungary. So from an economic point of view Békés is more peripheral in Hungary than Arad county in Romania. Of the two areas, Arad County is also in a more favoured position in terms of comparable per capita performance. Based on 2016 data available at all territorial levels Western Romania's performance is the same as national performance (63 points), Arad County, on the other hand, did a little better this year (64 points) than both of the higher territorial levels. Békés County, on the other hand, is significantly behind the national (68 points) and regional (49 points) performance, in 2016 it achieved 40 points.

Examining the situation of individual economic sectors, the proportion of people employed in the first - the agricultural - sector, is low in Hungary (5.08%). Although significantly higher in Romania (23.12 per cent), the number of people employed in the sector has fallen by one third in five years. Agriculture plays a different role in the Southern Great Plain and Western Romania regions than nationally. In Western Romania, the employment rate is about one third (7.05%) of the national average, while in the Southern Great Plain it is more than double the national rate (10.27%). Western Romania, according to the survey, shows a remarkable share in the second, the industrial sector; as opposed to the national (23.05 percent) ratio, in 2018, 43.17 percent of employees were employed in the industrial sector. In the Southern Great Plain, the weight of industry in the last year is far somewhat below the national average (24.55 percent versus the national 25.30 percent). The share of the third, the service sector in employment in both regions is below the national level. In 2018, the difference in Romania is 3.75 percentage points in favour of the national average, while in Hungary the difference is 4.89 percentage points. Between the two regions, the share of people employed in the sector is 13.07 percentage points higher in the Southern Great Plain. Both regions are lagging behind the national average in the field of the fourth, the research and development and innovation sector; in 2016, the difference for Romania and Western Romania is smaller (0.03 percent) than for

Hungary and the Southern Great Plain (0.26 percent). Among the two regions, the proportion of people employed in the sector is higher in the Southern Great Plain (the difference is 0.19%). In the European Union, the employment structure of both countries and regions is different from the average. The first and second sectors are favoured, while the employment rates in the third and fourth sectors are lagging behind, as well as the expenditure in the fourth sector.

In our interviews, economic performance itself was not discussed; however, the description of employment and labour relations in general showed that they were generally satisfied with the economic performance in both countries. Many saw the increasing of the supply of labour and the harmonisation of demands as the key to growth. In this connection, the possibility of closer cooperation between the two counties was again raised, which would have an overall positive impact on economic performance by reducing labour shortages. However, it can also be concluded that in terms of workforce, they are mostly associated with the agricultural and industrial sectors, the weight of these sectors is indeed greater in the region and in the county.

6.1.3. Unemployment

Unemployment is at record low levels at European, national and lower levels. Therefore, in our study, we did not point to those low unemployment trends considered to be general. Instead, we looked at the structure of unemployment and its territorial differences. In relation to the former, we found that the standard deviation - the average difference in unemployment - of the unemployment rate in Hungary and Romania is lower at regional level than at the county level. This means that there are smaller differences in the unemployment rate between the regions than the counties. In Hungary, the regional standard deviation of unemployment in 2017 is 45.5 percent, while in Romania it was 33.7 percent; the regions in Romania are therefore more balanced in this regard. At county level, it is 50.6 percent in Hungary (which is about 5 percent difference from regions), but in Romania, however, the standard deviation is 76.3 percent, that is, more than double the regions. From a county point of view, unemployment conditions are more proportionate in Hungary.

At the same time, the structure can be interpreted at the age level as well, and in this context, we examined youth unemployment. The results show that the unemployment rate of 15 to 24 year olds in the European Union is decreasing, currently the rate of those who would actually work but are currently considered unemployed is 10.5 percent. The same rate is now 17.2 percent for the 25-34-year-olds, starting at a higher level and also on a declining path. In Hungary, the unemployment rate of 15 to 24-year-olds has fallen significantly in recent years, the value that was measured over 15 percent is now 10.7 percent, and 18.0 percent in case of the 25-34 year olds. In Romania, 14.5 percent of the population aged 15 to 24 are not in employment, education or training, after a slight fluctuation, their share fell below 15 percent in 2018. The higher unemployment rate for the 25- to 34-year-olds is also true for Romania, with 20.9 percent in 2018. The regions of the examined counties have diverse youth unemployment rates. In the Southern Great Plain, the proportion of unemployed persons aged 15 to 24 is lower than the value of each test category, after more pronounced fluctuations (close to 15%), we currently stand at only 8.1%; among those aged 25 to 34, their proportion has been slightly above the national rate for a long time, its value is now slightly more favourable, 17.0 percentage points. The unemployment rate of 15 to 24 year olds in Western Romania has shown a stronger fluctuation in recent years. It is in a rising phase; its value is the second highest measured in 10 years at 14.2 percent. Unemployment is also high among 25-34 year olds, the value of around 20 percent experienced in 2012 reached its top in 2017 with 27.6 percent, its current value is around 26.4 percent.

Concerning regional differences in unemployment, unemployment rates are generally lower in Hungary than in Romania (3.7 and 4.2 percent in 2018), however, these values are more favourable than the EU average (6.8%) and most Member States. Recent measurements in the Southern Great Plain show an unemployment rate of 3.3 percent, placing it - apart from the capital - to the third place among the regions of Hungary, ahead of western Transdanubia (5.6 percent). Western Romania has average values in Romania by regional comparison. It also ranks third in the regions with a 3.6 percent unemployment rate, between the value of 2.4 percent of the north-east region and 6.4 percent of the south-west region. In spite of favourable unemployment values, 40-50 percent of all unemployed have been unable to find a job in the long term, the unemployment rate for those lasting

more than 12 months has not fallen, not even with the current generally high employment and low unemployment rates. Over the last six years, the EU rate has fluctuated within a band of around 10 percentage points (40 50%), as did so the rate of the countries examined (38-48 percent). The results of the counties show larger differences (36 61 percent). Of the latter, the results of the Southern Great Plain are currently most advantageous, here, only about one-third (36.3%) of the unemployed are long-term unemployed.

Our interviewees confirmed the processes detailed above. Due to the generally high demand for labour unemployment is currently not a problem in the counties. Small differences in unemployment between countries are not noticeable, however, the employment of younger people is indeed a problem, mainly due to a lack of skills.

Interjúalanyaink a fentiekben részletezett folyamatokat megerősítették, az általánosan tapasztalható kiemelkedő munkaerő-kereslet okán a munkanélküliség jelenleg nem jelent problémát a megyékben. Az országok közötti csekély munkanélküliségiszint-eltérések nem érzékelhetők, a fiatalabbak foglalkoztatása azonban valóban problémát jelent, amelynek legfőbb oka a szakképzettség hiánya.

6.1.4. Income and earnings

During the examination of income and earnings, we generally experienced that wage levels in both countries have increased significantly in recent years, this is already evidenced by the increase in the minimum wage levels and the comparison of subsistence levels. In 2018 in Hungary, the minimum wage was still 33.17 percent of the minimum subsistence figure for a family of four, thus, two earners received 66.34 percent of the minimum income from work income (excluding other income and benefits). By 2013, the ratio was already 38.62 percent (75.24 for 2 people), and by 2018 it reached 50.2 percent per person. This means that in a family model of two earners with two children, expenditures necessary to maintain the subsistence level are covered by the primary income, the income from work. In Romania, the analysis of the individual expenditure side and the analysis of income pages containing the annual gross minimum wage between 2008 and 2015 shows that the difference was negative until 2013, that is, individual, per-earner calculations show that primary income did not cover the (not only food-) cost of

living for the individual. However, since 2014, the balance has turned positive. Those under the poverty line, which means to be under the minimum level of income needed for living make up 16.9% of the population in the European Union on average. In Hungary a smaller part of the population belongs to this group, about 12.8 percent of the population are below the 60 percent poverty threshold, this value is better than the EU average. In Romania, 23.5% of the population is at risk of poverty, representing about 1.5 times the EU average. The proportion of the population at risk of poverty has decreased slightly in the last five years in both Hungary and Romania. In the regions studied, the same proportion varies within a given band, in the Southern Great Plain it ranged from 16.0 to 17.9 percent, and more significantly in western Romania, between 14.9 and 27.5 percent. It can also be concluded from the study that the compared to Hungary, the Southern Great Plain is in a worse situation in terms of poverty than Western Romania compared to Romania, however, in both cases the Hungarian value is more favourable when comparing the two countries and the two regions.

During our conversations with our interviewees, income and earnings levels have only been discussed in a tangible way. It can be concluded that according to local experience, currently, wage levels are not the primary determinant of employment - and unemployment. This is also evidenced by the extremely low unemployment and high employment rates.

6.1.5. Business architecture

The situation of business enterprises in the industrial sector and in - the most dynamically developing sector in the world - services sector has been analysed. Based on this, The number of operating companies in Hungary and Romania is nearly the same: in absolute terms, there are more businesses in Romania, and more in Hungary in proportion to the population. Between 2012 and 2016, the difference is about 120-140 thousand businesses. At that time, there were 67-70,000 active businesses in the Southern Great Plain and Western Romania. In 2016, the number of Romanian businesses soared, from that time, the difference has been about 3,000 businesses. Examining the county level, there are more enterprises operating in the county of Arad in relation to the total number of

the region than in Békés compared to the southern Great Plain. In 2016, the number of operating enterprises also increased here, and since then 19.5 thousand businesses have been active in Arad County. In Hungary, the total stock of enterprises shrank by 6.72 percent in 2012, while Romania saw an increase of 7.72 percent in the same year. The trend of the two countries in the years that followed was significantly converging (In 2015, for example, the growth in the proportion of Hungarian enterprises was higher than in Romania). By 2016, the growth in the number of companies in the two countries was 1.58 and 3.79 percent.

The proportion of businesses older than three years is the same at national and regional level: In 2012, the proportion of businesses that were established earlier was within the 4.5 to 6.5 percent range. Contrary to the decline in the total number of enterprises in 2012, the proportion of these enterprises does not show a significant decrease 2012, the lowest rate in Hungary was in 2015, when only 4.55 percent of the enterprises was older than three years. Békés and Arad counties are mostly moving along the higher dimensions; with Arad having a smaller decline from 2012 to 2013, and in 2016, the proportion of businesses founded before 2013 soared. Meanwhile, in Békés, there is steady but slow growth, which shows that more and more businesses reach their three closed business years. There is no significant difference in business trends between the two countries, according to relevant statistics, both countries have similar difficulties in entering the market. This shows that businesses (and entrepreneurs) face similar conditions in the Hungarian and Romanian markets. This is an argument for the existence of companies operating in both countries.

Our interviewees also reported on several significant trends in the county's businesses. These include increasing and diversified business collaboration, for which we have given several examples in the study in the field of construction and meat industry. Another significant trend is the improvement of working conditions among county enterprises, which – being aware of the increasing labour shortage - employers use to increase their ability to retain workforce.

6.1.6. Human resource

Further analysis of the most important factor in the labour market, the examination of the human resources not only in the sense of workforce has provided many additions to the interpretation of the labour markets examined. For example, people of working age who have never used a computer show the extent to which the labor market participants lack the essential digital literacy skills needed to find a job. This section of society is nowadays largely excluded from much of the information, including basic knowledge of the labour market, which appears on the Internet (for example, where and what job opportunities exist in their immediate environment, or what benefits and training they are entitled to in order to improve their working conditions). In Hungary and Romania, the proportions of this section of society have fallen sharply in recent years, which is a positive trend, however, even recent surveys show a significantly higher rate. In Romania, the majority of the population (51 percent) belonged to this group in 2010, in Hungary nearly one third (30 percent). The higher values were accompanied by a steeper decline, so today, the proportion of people not using computers in Romania has fallen by 21 percentage points to 30 percent, and in Hungary to 20 percent. Regarding the relative position of regions and countries in the Southern Great Plain, the proportion of digital illiterates in each of the years under review was above the national average (currently 26%), however, it is below the average for Romania. The proportion of Western Romania was better than the national average every year, and by 2014, it exceeded the average of the Southern Great Plain. It currently has the most favourable value (22 percent) of the dimensions examined.

Another aspect of living condition is represented by the number of rooms per person. In Hungary and Romania there are typically one and a half rooms per person, that is, in the most common model, singles live in one-room apartments, married couples in two-room apartments. For those with children, the number of rooms increases by one per child. The number of rooms per capita in Hungary has increased significantly from 2017 to 2018, currently at 1.5. In the Southern Great Plain, the housing situation is slightly more favourable, with a figure of 1.6 per person. In Romania there wasn’t a full room per person in 2009 (0.9 pcs per person), today the average number of rooms per person is just over one (1.1 per person). In Western Romania the average value is the same as in the country.

Housing adequacy integrally incorporates various features of the living environment. Among these are the security of the place of residence, which can be evaluated and compared by the number of crimes committed.

According to the relevant results, the number of intentional homicides in Romania is about three times higher than in Hungary. But the number of robberies in Hungary is higher, in the year of the survey, there were approximately 36.7 percent more robberies in Hungary than in Romania. The number of burglaries and car thefts is also higher in Hungary; the former is 39.9 percent higher than in Romania, in the latter case, however, the police registered about three and a half times the number of crimes recorded in Romania.

At the regional level, there were more intentional homicides in Western Romania (27 versus 17), there were about the same number of robberies (224 and 236). The number of burglaries in the Southern Great Plain is slightly higher than in Western Romania, however, the difference in car theft is greater. There were 610 cases registered in the Southern Great Plain in the year under review, compared with only 355 in Western Romania. By the number of crimes recorded by the police, more serious cases of violent crime, and the number of crimes against the person in Romania and Western Romania is higher than in Hungary and the Southern Great Plain. However, the number of property offenses in Hungary and in the Southern Great Plain show a more significant difference than the number of cases against the person in the two countries.

The share of skilled labour force leaving school education and training is the same in both countries and regions, only about one in ten young people between the ages of 18 and 24 is affected by early school leaving. The drop-out rate seems to have stabilized over the last four years. In terms of lifelong learning, the values of Hungary and Romania are also significantly below the European Union average. While every tenth in the EU undergoes some form of training between the ages of 26 and 64, according to the latest survey, 6.0 percent in Hungary and only 0.9 percent in Romania are involved in lifelong learning and their share is declining in both countries.

Finally, the number of years spent in health showed the number of years of work in the workforce. the number of years spent in health is increasing in the European Union

countries after a slight decline between 2010 and 2014. Currently, an average person lives 63.8 years in health. Increasing the number of healthy years of life is a major objective of European health policy.

Improving the index would not only improve the situation of individuals, but would result in lower levels of public health spending. If healthy life years grow faster than life expectancy, it means that people live more years in better health.

Hungary and Romania are well below the European average, but both countries have improved significantly since 2010, when individuals were still on average about 57.5 years in good health. By 2017 Hungary's value was 60.2 years and Romania's value was 58.8 years, the difference is thus smaller compared to each other than to the Member States of the European Union.

6.2. Evaluation of cross-border co-operation

One of the bases and specifics of the labour market survey is its cross-border nature, therefore below, besides providing the focused results of the labour market survey, we give special attention to cross-border cooperation. First within this framework, we evaluate the cooperation of the Hungarian Romanian border region as the wider context of the study, since county or regional cooperation always fits into the political, administrative and economic environment of the countries. We then draw our conclusions on the cooperation between Arad and Békés County, with particular reference to the project on which this study is based.

6.2.1. Opportunities of the Hungarian Romanian border area

Hungarian-Romanian co-operation has a prominent place in the cross-border relations between Hungary and Romania. From the point of view of Romania, Hungary is the primary transit country between the Member States of the European Union, a road to western European countries and a crossing of railways and airways. In addition to its

geopolitical position, its economic geographic position is also ideal as it borders Romania's less developed western region and counties where entrepreneurs are facing particularly intense labour shortages in recent times. From Hungary's point of view, the advanced economic relationship with Romania is also of strategic importance. For both countries, the statement - stressed several times in his study - is true that artificial borders represent the political and not the economic separation of two countries. The two countries are still in active economic relations with each other, economic operators on both sides of the border benefit from cooperation. For the products and services it produces, the business sector is thus gaining a market which, - due to its geographical, economic and cultural proximity - can be considered as an extension of its domestic market. And the employees help their own financial and professional career if they do not limit their opportunities as workforce within national borders.

Based on the severity and nature of current problems, the artificial elimination of artificial borders also requires complex solutions. County-level collaborations are in most cases project-focused, the parties shall establish new contacts for a well-defined purpose. However, these ad hoc collaborations must be put into context by a higher-level unit; all subnational cooperation should be based on partnership between states. Analysing numerous economic and social indicators and interviewing experienced experts in the field, the study came to that conclusion that In view of current economic trends, enhanced cooperation is inevitable. At the current level of integration (within the European Union), more intense cooperation between states is needed, this would be guaranteed by state certification of the unit. This is a legal instrument that would make it easier and more effective to establish relations between the parties in the long term. A similar convention would also represent a qualitative step forward in the cooperation between Arad and Békés County, the whole border region, and the economies of the two countries in general, would benefit greatly.

6.2.2. Present cooperation of Arad and Békés counties

Within the framework of the Interreg V-A Romania Hungary Programme, there is a long history of cooperation between the two countries and their sub-administrative units

and organizations. Project no ROHU-406 „Effective Cross-border Co-operation for Development of Employment Growths in Arad and Békés County" is linked to Priority Axis 3, in this way it supports employment development and cross-border labour mobility. So, the project aimed to improve two indicators for which our study clearly showed a need for improvement. It outlined an economic trend that could cause significant disadvantages for both counties without cooperation.

Collecting investment fields in a database contributes in this way to improve employment and labour mobility by mapping and publishing properties in a comparable format, which are suitable for conducting business, and among which businesses can find a location to start or expand their business. So, the employment development here is done through capacity expansion, and this expansion is a long-term promise of employment in the workforce; the need for employment will continue as long as the business is profitable and able to maintain its headquarters. In this context, labour mobility will obviously increase. The economic activity relocated or expanded to the other side of the border gives the worker an opportunity to work across the border, which may have additional positive spill-over effects in the long run (such as buying a home). And the professional events organized by the project play an important role in linking the labor markets of the two countries, where communication between the actors allows for new business relationships to be established. This, in the longer term also supports the project objectives and through additional mechanisms of action.

6.3. Improvability and development of employment

In addition to the goals set by the project, further elaborating on these, we briefly summarize the future-oriented results of empirical research, the findings relating to improvements over time. One source of findings is the content inferences - that can be drawn from numerical data - which were carried out in the framework of quantitative analysis, during the secondary data collection and analysis of the study. Other sources are

the practical experience gained through primary data collection and direct recommendations from interviewees.

6.3.1. Short term development priorities

The short-term objectives (within one year) include, in particular, closer connections between the two countries and the legal basis for project-level cooperation in the framework of a bilateral economic development agreement. Shortage of labor or lack of capacity of businesses are all factors which cannot be managed effectively locally and temporarily on a temporary basis. There is therefore a need for a solid basis along which the regularity and effectiveness of cooperation can increase. The declaration of state-level relations may also be preceded by planning activities between the two countries, which could also coordinate development guidelines. Nonetheless, development priority needs are already apparent, which, with relatively little effort, would represent significant progress in cooperation between the two countries

Such is the case with border crossings, where the opening of new crossings and expansion of their capacity cannot be achieved by planning within a year, but increasing their opening hours is already an important priority in the short term. The current crossings have limited throughput, larger vehicles cannot pass through all of them. But the number of people who cultivate land across the border is increasing, and are currently only allowed to cross with a route permit. Extended working hours would also be important for commuting workers. Joining the Schengen area would solve some of the border problems, but, for example, the question of opening hours is a matter for the Member States. There is a need to identify, consider and adapt to existing needs in this area.

6.3.2. Medium term development objectives

In the medium term (1 to 5 years), an upward trend in employment may be an optimal and overarching objective. To this end, short-term priorities based on medium-term objectives should form such a coherent framework, which will ultimately have a positive impact on the labour market players in the region through developments built on

each other, in addition to the workforce including businesses. In the medium term, it would also be possible to identify legislative barriers to economic cooperation and development and to start a process of deregulation which would harmonize, in accordance with the principle of reasonableness, the necessary elements of the legal systems of the two countries.

An example of this latter objective is the case of cross-border fairs. In the study we mentioned that lack of knowledge of the legal system of the other country may be a major barrier to entering the foreign market, because small or newly created small businesses cannot maintain their own legal expertise for the planning of the legal framework for market entry. Failing that, market mapping may also encounter obstacles. In the specific example, we have a case of a fair, where for a one-time appearance the entrepreneur must meet the same requirements as entrepreneurs who regularly carry out economic activities in the country. However, obtaining the necessary authority approvals can present many difficulties. Instead, the idea of a simplified ad-hoc license specifically designed for this purpose has emerged as a customer-friendly solution, that would allow entrepreneurs a one-time appearance. With the information obtained in this way, an optimal business decision can be made.

6.3.3. Long term development program points

Longer term (longer than 5 years) program points mainly focus on overall objectives of higher investment needs and longer implementation time, and on the improvement of economic and social indicators for which realistically, a longer time span is required.

During the interviews conducted in the research, our interviewees repeatedly mentioned the area of infrastructure development as an example which is a priority objective for both states in the region. This includes, in particular, road network development, which is a common goal of businesses, the workforce and other actors in the economy. A suitable road network enables businesses to reach more distant destinations more easily and quickly, it can thus have a positive impact on international business relations; in the case of labour, mobility can be increased if the commuting time is significantly reduced. Following the same logic, the development of rail transport is of

paramount importance for the transport of both goods and passengers. In the case of large investments of common interest, the issue of joint public financing arises, as well as the idea of developing joint applications for grants in the case of developments of international interest. To sum it up, in the longer term, there is a need for nationally approved programs, which could serve as good practice and could be extended to other border regions of the participating countries.

Improving economic and social indicators could, in fact, be the result of these improvements. A longer-term goal that also arises repeatedly during interviews in developing regions, for example, to make young people stay would be achieved easier, since in the economically developed regions, there are typically more job opportunities. This results in population growth and further infrastructure development (e.g. education).

7. SUMMARY

After drawing conclusions and recommendations, as a conclusion to the study we synthesize our conclusions on the labour markets identified in the research. The results of the evaluation tables in the introductions to the two branches of empirical research, quantitative and qualitative research methods, are presented below.

Instead of rewording the conclusions related to tables we present the results of the analysis and the conclusions in the form of numerical results for both forms of research for easier comparability and individual evaluation. Of course, the format of the scoreboard is not suitable for depicting deeper relationships and conclusions, in many cases the numerical differences do not reflect the real phenomena of the given indicator

Afterwards, we summarize the findings of the examination of the employment situation in a broader context, that of the Hungarian Romanian border region. Its format is the GYELV (SWOT)[29] analysis commonly used in economic research, with which we interpreted our findings in the field as external and internal, as well as negative and positive experiences. SWOT analysis was chosen because border counties have to answer similar questions in order to be successful to a management of a company to maintain profitability. For example, we need to know what opportunities the business (the county) is facing, what potential hazards are expected during operation; which are the areas where the company (or county again) excels in performance, and which are the ones where improvement is most needed. And finally, what are the features that can be changed and what are not.

[29] The initials of the English and Hungarian acronyms are strengths (erősségek), weaknesses (gyengeségek), opportunities (lehetőségek), threats (veszélyek).

First, the results of the quantitative test are evaluated below. Because we have analysed many indicators within a single dimension, the evaluations shall relate to the main indicators of the horizontal inspection dimensions; in the case of several indicators that are considered to be relevant, we evaluated them on the basis of the average of the results of the given indicators.

Figure 81: Quantitative assessment of the employment situation

EU: The European Union average is more favourable M: Hungarian data are more favourable R: Romanian data are more favourable R/M: countries are identical –: no data at that level / dimension		Horizontal inspection dimensions									
		1. Population processes	2. Population composition	3. Basic economic data and performance	4. Labour force activity	5. Employment capacity of economic sectors	6. Structural and regional characteristics of unemployment	7. Income and earnings of employees	8. Business operations	9. The social, educational and health status of human resources	TOTAL
Vertical examination levels	A. European Union Data	EU	R/M	EU	EU	EU	R/M	EU	–	–	EU
	B. National data	M	R	M	M	M	M	M	R/M	M	M
	C. Regional data	R	R/M	R	M	M	M	M	R/M	M	R/M
	D. County data	R	M	R	M	–	M	–	R/M	–	R/M
Total		R	R/M	R	M	M	M	M	R/M	M	M

Source: author's own editing

In relation to population processes, population numbers were evaluated. At EU level, the EU average is more favourable due to artificial population processes (immigration). Nationally, Hungary's values are more favourable, as population decline was lower than in Romania. At the regional and county level, however, the values of Romania show a more favourable trend.

Concerning the composition of the population age and the proportion and change in the proportion of the working age population were evaluated together. At the European Union level, the index of the countries surveyed was more favourable, while at the national

level the proportion of Romania was better. The data of the regions were the same with a slight difference, but at the county level the value of Hungary is more favourable.

In the context of basic economic data and performance, we have assessed per capita GDP adjusted for living standards. The EU average shows a more favourable picture, while at the national level Hungary's values are more favourable. At the regional and county level Romania's performance is higher.

For the activity of the workforce, we evaluated the employment rate. Comparing to the EU average, Hungary's value is better at all three vertical survey levels (nationally, regionally and by county).

Concerning the employability of economic sectors, we evaluated the proportion of employees in each sector and the modernity of the employment structure. The EU average is also more favourable in this respect (lower first and second sector employment rates, higher third and fourth sector employment rates). At county level, no data were available for this breakdown.

Concerning the structural and territorial characteristics of unemployment, we assessed the level of the unemployment rate. In the EU perspective, the indicators of the examined countries were more favourable. Nationally, Romania has a lower rate, while regional data are broadly the same. At county level, Hungary has significantly better values.

In the context of employees' income and earnings we have assessed the complex indicator of the risk of poverty or social exclusion. Based on this, the averages of Hungary and Romania are less favourable than the EU average, however, by country and region, Hungary is ahead of Romania and the EU average. Data by county were not available.

In connection with the operation of business enterprises we evaluated the trend of business processes (balance of company formation and cessation data). EU comparisons have no relevance in this respect, at lower levels of examination (national, regional and county), the data are the same.

For the social, educational and health status of human resources, the average of the indicators used (lack of digital competence, number of rooms per capita, criminal records,

education and training indicators, number of healthy years) was evaluated. European Union data were only available for two indicators, so this level of analysis was not evaluated. At the national level, the majority of Hungary's indicators are more favourable, and among the regions the Hungarian region also performed better. County data were not available, and for most of the indicators, county comparisons are irrelevant.

According to the horizontal (per indicator) aggregate evaluation, Hungary outperforms in case of 5 out of 9 indicator groups, Romania is clearly in favour of 2 sets of indicators. The results of the countries are almost identical for 2 sets of indicators. According to the results of the vertical (at the territorial level) cumulative assessment the European Union average is more favourable for 5 indicator groups and in case of 2 sets of indicators, it is less favourable than the average of Hungary and Romania; therefore, the sum of the two countries examined is below the EU average. At the national level, Hungary has a better performance in the case of 7 indicator groups. In the case of regional and county data, we considered that due to the slight difference, regions and counties would be subject to the same evaluation no more favourable side was found at these test levels. In the final summary, Hungary's position in the labour market is more favourable based on the analysis of quantitative data, however, this assessment was carried out without any consideration of the underlying phenomena, but solely with the statistical data in mind. Another important fact is that no weight was assigned to each indicator group, that would reflect the importance of the given indicator group, therefore, the results are really only numerical differences, not content development. The two counties, regions and countries examined showed significant differences only with a small number of parameters, their labour market position is almost the same.

For the qualitative study, a simplified evaluation table was prepared, because the interviews with our interviewees were focused on the labour market, basically as labour market actors at a territorial level.

Figure 82: Qualitative assessment of the employment situation

	Horizontal examination dimensions		
	Workforce	Businesses	State

Vertical examination levels	County data	Both counties have significant labour shortages, low levels of mobility, language and skills gaps	Lack of human capacity, low-intensity business cooperation, but most of the previous co-operations were successful	Existence of legal constraints, lack of high-level cooperation agreement, but successful application for Community funding, the states take their share in joint development

Source: Author's own editing

The most common phenomenon in the workforce is the high level of labour shortages and the low level of labour mobility, especially across borders. In addition, lack of language skills and inadequate training hinder cooperation, finally, the lack of vocational qualifications, the presence of shortage professions and the need to strengthen the vocational training system arose in both countries. Businesses generally experience a lack of capacity, which, due to the lack of human resources, already manifests itself in production and service provision. Cross-border business-to-business cooperation is not common but several good practices have been mentioned. From the state's side, the biggest problem is the legal and administrative barriers in various areas (mainly taxation, licensing, border crossing), in addition, the need for closer economic relations between governments was a frequently mentioned demand. EU-funded projects for the development of the border region give cause for optimism, whereby the State's own contribution can also lead to the strengthening of relations.

In the SWOT analysis below, we summarize our experience so far in a different logical order, with which those positive and negative factors can be seen the change of which can only be possible with various tools, or which must be considered an external condition.

Figure 83: SWOT analysis of the employment situation in the Hungarian Romanian border region

	Helps the attainment of the objectives set		Hinders the attainment of the objectives set	
Characteristics that	Strengths (internal factors, work well and can be influenced)		Weaknesses (internal factors, not working well, but can be influenced)	

	• high demand for labour • lively entrepreneurship • high support attractiveness (peripheral region on both Hungarian and Romanian side) • Whitening the economy by promoting entrepreneurship • limiting / reviewing access to social care • the launch of several youth labour market programs to help the inactive to get to active status • connection with the trans-European transport network • extension of the dual training system • Ratio of minimum wage and guaranteed minimum wage levels to subsistence levels	• early drop-outs from education and training • lack of local vocational training centres, and internal company training • low territorial mobility • few opportunities to move from public employment to the primary labour market • unfavourable economic structure (high proportion of agriculture and industry, low rate of service and R&D sectors) • migration of skilled labour from the border region to the centres of the countries and abroad • increase in the pace of population aging • a clearer demarcation of new OKJ and higher education courses, Development of OKJ accountability (creditability) in higher education
Characteristics of the labour market environment	Opportunities (external factors, cannot be influenced, but favourable) • favourable geopolitical position (eastern EU entry, east-west transit country) • high demand for labour • Community grants • improving the quality of service provided by the labour organization, • providing personalized employment services, • active labour market programs funded by EU funds • taking greater account of the demand side of the labour market in both adult and dual education • more flexible labour law, facilitation of cross-border work and business conditions • an attractive tourist destination that can strengthen economic restructuring and the expansion of the service sector	Threats (external factors, no influence on them) • population decline, including the decline in the working-age population • increase in the burden on the pension system • migration • labour market and social frictions resulting from a multi-ethnic composition • population aging process (inadequate age structure) • the suction effect of certain EU countries with higher wage levels on certain groups of workers • the situation of disadvantaged groups in the labour market (mainly the Roma minority)

Forrás: a szerző szerkesztése

The individual pages (strengths and opportunities; weaknesses and threats) are interconnected at several points. The suction effect of higher wage countries it is a clear fact and has a long history, which is an external factor, and regions cannot influence it, but

countries have a limited influencing too. So, it was listed as a threat in the analysis, However, the actual emigration of the skilled workforce is such a weakness in the region for the offset of which various financial and non-financial instruments are available in principle. A similar phenomenon is the process of population aging, an inadequate age structure, which is a national trend, even in developed countries. It is not possible to stop it at a national or lower level; however, the rate of aging is even more significantly increased by inadequate local services and opportunities.

Based on the SWOT analysis, there are several ways to improve the labour market position. So-called S-O strategies are known that exploit existing opportunities through strengths. S-T Strategies use strengths to protect against threats. W-O strategies use opportunities to overcome weaknesses. And W-T strategies eliminate escalation of threats by reducing threats. In the case of Békés and Arad counties, we believe that SO, that is to say action based on opportunities and strengths, is the right strategy.

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11. ANNEXES

11.1. Detailed interview outline of primary research

To research the study of „*Effective Cross-border Co-operation for Development of Employment Growths in Arad and Békés County*”

The planned course and topic of the interview:

I. Introduction

4. Presentation of project details: the Békés County Enterprise Development Foundation has won funding within the Interreg V-A Romania Hungary Programme (hereinafter referred to as "the Program") The title of the financed project is „Effective cross-border co-operation for development of employment growths in Arad and Bekes County”. The project code is ROHU-406, with the abbreviated title (Acronym) CROSSGROWING. The project is implemented within the framework of the Interreg V-A Romania-Hungary Programme as a cross-border cooperation between a Romanian and a Hungarian partner. The aim of the cooperation is to increase employment growth during which the study carried out assesses the current labour market situation in the area concerned and helps develop a future strategy. The main objective of the project is to achieve a development for border residents that will help increase employment, meeting the labour market demand of businesses and eliminating labour shortage, which are all typical problems in the area.
5. Details of the research: the main topic of the study is the employment situation in Békés county, both the employers and employees’ side, as well as the analysis of the cross-border employment situation in Békés and Arad counties. And, in a broader context, the employment characteristics of the Hungarian Romanian border region.
6. Role of the interviewee, the dissemination of the adaptation of his role to the research from the point of view of the interviewer: has direct experience on the topic of research due to his job, manages relevant database and statistics or has an insight into the field of research, which is essential for strategy development.

7. Presentation of the purpose and planned results of the interview: summary of own experiences and insights on the topic, answering any additional relevant questions that may arise.
8. Description of the planned schedule and parts of the interview: about 30 to 40 minutes, total of 3 question blocks: 1. Getting to know the job title, role and connection of the interviewee with the topic, 2: Mapping knowledge on employment situation and cross-border cooperation, 3: Possible development of employment growth, directions of strategy formation.

II. Professional questions

9. Professional block 1: Getting to know the job title, the role of the interviewee and how it is related to the topic.
    a. Name:
    b. What is your current position? Do you have any previous job experience related to this topic?
    c. How long have you been on your current mandate?
    d. What is the goal of your position?
    e. What and how significant a role do your organization play in the employment and labour market environment of Békés / Arad County?
10. Professional block 2**:** Mapping knowledge on employment situation and cross-border cooperation
    a. How would you describe the relationship system of the Hungarian Romanian border region in general, with special regard to employment?
    b. What forms of cooperation and good practices are known between the two counties?
    c. What are the opportunities for people in the two counties to find business cooperation?
    d. Do you know of any initiative that you think might be suitable for the labour market participants from both the demand and the supply side to establish close(r) relationships with each other?
    e. How would you evaluate the employment and labour market situation in Arad and Békés counties in recent years? (Including both the employer and employee side.)
    f. How do you personally (or through your represented organization) relate to the employment situation in the regions studied? (How can you influence employment?)
    g. In the shorter / medium / long term, what kind of processes and changes do you expect in the relations of the two counties?
    h. [informal conversation about the interviewee's further experiences with the topic]
11. Professional block 3: Possible development of employment growth, directions of strategy formation
    a. What steps do you think should precede the development of a strategy to promote cooperation and thus employment growth between the two regions? (For example: population questionnaire, employee survey, employer interview, etc.)
    b. In your opinion, what are the possible directions for the development of employment growth in Békés and Arad counties?
    c. Who could be the key players in such a strategy?
    d. What role would you give the actors involved in the strategy?

e. What kind of and how much infrastructure need and resources would the strategy require?

f. What could be the main goals and priorities of a strategy?

g. In the case outlined, do the short, medium and long-term strategic objectives differ? If so, what are the major differences between the time periods?

h. [informal conversation about the interviewee's further experiences on the topic]

12. Collecting interviewee expectations for research:
According to your opinion and knowledge, what else should a study prepared in the topic above contain in addition to the above? Is there any further professional aspect with which you could contribute to the success of the research?

III. Closing the interview, conciliation on further steps

13. Do you or the organization you represent maintain database and statistics relevant to the topic? Is it possible to provide us with them, or in the absence of thereof, to request an extract or summary?

14. Opportunity to give additional comments, moving on, description of the process of processing the results and their use: the research outline is to be sent to the interviewee for comment if possible.

15. Clarification on further contributions: if there is any further clarification question, can it be emailed later?

11.2. Transcripts of primary research

Chart 28: Interview transcript, president Gheorghe Seculici (Chamber of Commerce, Industry and Agriculture Arad)

1.b:

Gheorghe Seculici

1.c:

As the president of the Chamber of Commerce, Industry and Agriculture Arad and the vice president of the Chamber of Industry and Commerce of Romania, our goal is to help the business sector, and to provide them with a real dialogue between them and the authorities. The chamber system has the strongest business infrastructure at county and national level, with an infrastructure that we have made available to all companies in the country. I believe that our strength is due to our independence, which we can use to

promote the most relevant topics for business in public negotiations.

One of the priorities of my appointment is facilitating the placement of businesses from Arad on the foreign market, stimulating internal and external trade, increasing employment, relaunching vocational training, making Expo Arad a leader in the region's trade and exhibition industry.

At the same time, by taking over the mandate, one of my goals is to represent the interests of the business community at central authorities, public and private organisations both locally and internationally.

A mandátum átvételével ugyanakkor a célkitűzéseim között szerepel az üzleti közösség érdekeinek képviselete a központi hatóságokkal, állami és magánszervezetekkel szemben, úgy helyi, mint nemzetközi szinten.

1.d:

In accordance with its powers Chamber of Commerce, Industry and Agriculture Arad provides services to stimulate employment (provides information and professional counselling service, provides trainings to improve the skills of jobseekers, and engages in all activities that increase the employment prospects of jobseekers.) The Chamber of Commerce, Industry and Agriculture Arad also identifies and records the needs of companies, ensures the representation of their interests in cooperation with business representatives of other representative organizations.

2.a:

As far as employment is concerned, we have a very good relationship with the Arad County Employment Agency, and at the same time with the Békés County Employment Institute. In recent years, we have participated in numerous EU-funded workshops and job fairs.

2.b:

In the cross-border region, it is possible for the two counties to establish business partnerships, however, language barriers and the different levels of development of the counties are a major obstacle to the development of these partnerships.

2.c:

Each county tried to address employment issues with local employees, trained professionals from other parts of the country and, at the same time, small numbers of workers from across the border (due to language barriers).

2.d:

Ensure better visibility of jobs in Arad County, detailing the conditions required by employers, including travel, accommodation, and salary information.

2.e:

We are looking forward to labour market players in the county on both sides of the border to communicate, to develop policies specific to the cross-border segment, in mind with national legislation a SWOT analysis, and last but not least as many interests as possible.

3.a:

The establishment and support of a team of experts in both counties that analyses the current situation, and develops a strategy for the development of cross-border employment.

3.b:

Holding Romanian and Hungarian language courses is a real and necessary step to increase employment in Békés and Arad counties, as well as the creation of information centres and website.

3.c:

Policy makers, labour force specialists, NGOs, town halls, and the two county governments.

3.d:

Potential experts cannot solve the problem of financing such strategies in future cross-border tenders from public funds.

3.e:

As there is no study on the subject to date, it is not possible to estimate the size of the budget element. Only future scientific research could determine the extent of the necessary infrastructure and financial resources.

3.f:

The main aim and priority of the strategy would be to create an integrated cross-border labour market, since between the two counties, labour mobility and daily commuting are very common. Through a detailed knowledge of the aims and intentions of labour mobility in the border region our reactions to these can actively contribute to the development of a cross-border labour market. Reducing socio-economic imbalances

between the two counties as well as harmonization of labour law and adaptation to cross-border characteristics may also be important objectives.

Chart 29: Transcript, Iustin Cionca President of the Chamber (Arad County Council)

1. Professional block 1: Getting to know the job title, the role of the interviewee and how it is related to the topic.
   a. Name: Iustin Cionca
   b. b. What is your current position? Do you have any previous job experience related to this topic?

      President of the Arad County Council
   c. How long have you been on your current mandate?

      I have been in my current position since January 2016.
   d. What is the goal of your position?

      Thanks to my presidency, I set myself the goal of developing infrastructure (as part of the Arad County Development Strategy), as road network infrastructure is an important part of our strategy. There are currently applications that we have submitted for cross-border funding in the Regional Operational Program, which go hand in hand with work with Hungarian partners. I would like to mention the efforts made to modernize the cross-border road network, which is part of creating an alternative development poles strategy in Arad County. This will allow the natural growth of the settlements on the investment map to come true. In addition, we strive for easier movement of labour, to increase the mobility of Hungarian citizens towards the Arad industrial areas.

   e. What and how significant a role do your organization play in the employment and labour market environment of Békés / Arad County?

      The project „Connecting communities to the TEN T infrastructure in the Hungarian border region of Romania" is one of those projects which will make the labour market more dynamic in the two counties, bearing in mind that the present application will provide better quality roads that will facilitate the mobility of persons crossing the border in order to access their jobs. The application was submitted within the INTERREG V-A ROHU Programme under the investment priority 7 / b.

2. Professional block 2: Mapping knowledge on employment situation and cross-border cooperation

a. How would you describe the relationship system of the Hungarian Romanian border region in general, with special regard to employment?

In general, relations between the Romanian and Hungarian sides in the border region can be considered functional based on tourism and cultural interactions, with regard to labour mobility, the European Union enables citizens to travel across national borders without hindrance, thereby providing them with broader job opportunities

b. What forms of cooperation and good practices are known between the two counties?

Administrative cooperation is carried out by BRECO with the involvement of the four Hungarian counties: Szabolcs-Szatmár-Bereg, Hajdú-Bihar, Békés and Csongrád, and the four Romanian counties: Satu Mare, Bihor, Arad and Timis. Within this institution, the cooperation between Romanian and Hungarian partners can be considered very good, it is considered to be balanced with an equal distribution of the available budget. In addition, Arad is part of the Danube–Criș–Mureș–Tisa Euroregion (DKMT) of which Csongrad and Békés counties are also members. These relationships can be considered institutionalized at county level, however, there are other links between the Romanian and Hungarian communities. The most relevant of these is the "twin town" relationship between the city of Arad with Gyula and Pécs

c. What are the opportunities for people in the two counties to find business cooperation?

With the exception of institutional administrative relations, the economic environment in Arad County is very dynamic. Arad County is the only "free trade zone" in Western Romania, we have many industrial areas mainly in the county seat and the main cities of the county. In addition, the Chamber of Commerce, Industry and Agriculture Arad organizes more than 10 fairs of different profiles each year in Arad (Agromalim, Confort Construct, Ar-Medica, Transport-Ar, Demo Metal, Demo Plast, Edu2Job). These include the labour market in a way that those companies that participate in these fairs are interested in the workforce to possess the highest possible qualifications in the given fields.

d. Do you know of any initiative that you think might be suitable for the labour market participants from both the demand and the supply side to establish close(r) relationships with each other?

For a proper relationship between education and the workforce there is a need for the best possible, transparent and flexible cooperation between secondary schools, universities and economic operators. Business environment mobility requires such flexibility, in order to make it easier to make any professional changes. In addition to this institutional creation of the workforce, on the axis of the educational economic environment, many companies "educate" their own experts in different fields. As a result of the accumulated experience many professionals trained in Arad companies are employed by that company, or by

other Arad companies.

e. How would you evaluate the employment and labour market situation in Arad and Békés counties in recent years? (Including both the employer and employee side.)

There is an acute job shortage at Arad County level, due to the economic development of Arad over the last 20 years. The very low unemployment in the county forces employers to bring in labour from other settlements, in many cases from other countries. As Békés County regards, the city of Arad is a good opportunity to attract workforce, providing a workplace providing jobs for the professionally qualified and people in other categories.

f. How do you personally (or through your represented organization) relate to the employment situation in the regions studied? (How can you influence employment?)

It is the responsibility of the Arad County Council to ensure the conditions of the economic environment, from modern road infrastructure, to maintaining water supply, to modernizing kindergartens and schools. This means ensuring the development of all the factors necessary for an investor to want to invest in the county (to enable the county's residents, employees and family members to live in decent living conditions). Accordingly, the symbiosis between employer and employee is beneficial to both parties and the municipality of Arad County and the local government have a crucial role to play in this regard.

g. g. In the shorter / medium / long term, what kind of processes and changes do you expect in the relations of the two counties?

In fact, our expectation is to continue to maintain a good relationship, and attracting further investments in the region through a common strategy. In this regard, an important aspect would be Romania's accession to the Schengen area.

3. Professional block 3: Possible development of employment growth, directions of strategy formation

a. What steps do you think should precede the development of a strategy to promote cooperation and thus employment growth between the two regions? (For example: population questionnaire, employee survey, employer interview, etc.)

Integrated measures and "addressability" are, in my view, very important in this regard. We are talking about interregional cooperation, focusing on both urban and rural settlements. For the sake of establishing connections outside urban centres it is essential to attach great importance to developing good links between cities and neighbouring rural areas. The interaction between natural and human resources, industrial models, innovation, urban development and

infrastructure is also a key factor from the point of view of cooperation between regions, and in order to be effective in implementing the strategy, all these factors should be covered.

b. In your opinion, what are the possible directions for the development of employment growth in Békés and Arad counties?

Labour market forecasts to estimate changes in the workforce between 2005 and 2050 project a significant reduction by 2050. However, there is also an untapped potential that can lead to statistical changes, if used properly: improving the accessibility and use of ICT, improving the competitiveness of SMEs, protecting and protecting the environment and promoting the efficient use of resources.

c. Who could be the key players in such a strategy?

Above all, we need to consider the cross-border nature of the problem. Such a strategy requires above all an interinstitutional working group, with more territorial decision makers to exploit the potential and level of development of each area. Numerous strategic analyses are needed, compliance with European and national legislation and a strategic approach to the issue.

d. d. What role would you give the actors involved in the strategy?

We cannot talk about roles at the moment because we, as county councils, have no way of assigning or offering roles. But we need knowledgeable people, industry experts, who can thematically underpin every aspect of this complex document.

e. What kind of and how much infrastructure need and resources would the strategy require?

As I have already mentioned, the resources needed for a similar strategy can be qualified as complex, both in infrastructure and financial terms. I consider it necessary to involve the academic and professional field, because we are talking about a complex methodological approach.

f. What could be the main goals and priorities of a strategy?

In my opinion, the first step is to determine the levels of analysis and the definition of common elements that can be linked from the point of view of the labour market: analysis of the area in a European context with the help of variables contributing to its development, focusing on certain areas: urban, rural and cross-border areas.

g. In the case outlined, do the short, medium and long-term strategic objectives differ? If so, what are the major differences between the time periods?

Objectives may vary depending on the development of society as a whole. However, it is important that the basic document contains all possible modifications and maps the development of the area correctly.

Chart 30: Interview transcript Imre Pántya Head of Department (Békés County Government Office - Department of Social Security and Employment)

1. Professional block 1: Getting to know the job title, the role of the interviewee and how it is related to the topic.

a. Name: Pántya Imre

b. What is your current position? Do you have any previous job experience related to this topic? Head of Department, with more than 20 years of experience in the field of employment policy issues in the region.

c. How long have you been on your current mandate? I have been Head of Department for three years now.

d. What is the goal of your position? Under the leadership of the Békés County Government Office - Department of Social Security and Employment, realization of professional employment policy objectives, strategy development and planning.

e. What and how significant a role do your organization play in the employment and labour market environment of Békés / Arad County? The employment structure plays a decisive role in the labour market situation of Békés county; the primary aim is to reach and maintain a better supply-demand balance with the tools available (provision of information, recruitment, employment subsidies)

2. Professional block 2**:** Mapping knowledge on employment situation and cross-border cooperation

.How would you describe the relationship system of the Hungarian Romanian border region in general, with special regard to employment?

a. What forms of cooperation and good practices are known between the two counties? The project no. ROHU331 CAREER „Cross-Border Network to Support the Professional Career Development in the Border Region" cooperates on career guidance and employment issues between the Békés County Government Office, the Oradea Employment Agency, the Don Orione Foundation School, the Chamber of Trade and Commerce of Békés and the Békés County Enterprise Development Foundation. In the frames of the programme, information points will be set up in the employment departments of the districts bordering Arad County, delivering labour market and training information, advice and service events tailored to project objectives. Formerly, a cooperation programme was realized within the EURES.

c. Do you know of any initiative that you think might be suitable for the labour market participants from both the demand and the supply side to establish close(r) relationships with each other? Yes, in the frames of ROHU 331 CAREER project, and formerly the cross-border cooperation within the EURES.

d. How would you evaluate the employment and labour market situation in Arad and Békés counties in recent years? (Including both the employer and employee side.) In terms of their economic activity indicators Békés County is one of the less developed regions of Hungary, activity and employment rates remained below the national average, despite improving processes in recent years.

The Romanian counties on the other side of the border are the western, more developed regions of their country. Within Romania, this region, including Arad and Bihor counties, has higher activity and employment figures than the Romanian average. Unlike the Hungarians, these areas are industrialized pole centres; in contrast, the counties on the Hungarian side are typically agricultural.

Since Romania's accession to the European Union Romanian citizens are considered as persons enjoying the right of free movement and residence, in this way they can freely work in Hungary. To find out the number of foreign nationals working in Hungary, employers are required to report to the employment departments of the district offices. Based on statistical data, by October 31, 2019, reports for employment of 420 Romanian citizens were received in Békés County (nationally 3,165 people). It can be established on the basis of statistical data related to the reporting obligation Romanian citizens are typically employed by businesses operating in agriculture in unskilled jobs.
Following the accession of Romania to the European Union, Romanian workers had the opportunity to work in the Western states at significantly higher wages, which, like in Hungary, caused severe labour shortages in Romania as well. Large labour shortages in Romanian agriculture and light industry effects especially the western counties of the country. In Arad county, the unemployment rate has been 2% in recent years.
To facilitate the easier travel and employment of the Hungarian workforce there are joint Hungarian Romanian efforts in the development of road infrastructure. Of these, the finalization of temporary border crossings between Kisvarjas – Dombegyház and Ottlaka – Elek stand out, as well as the modernization of the 60 km cross-border road network.

From several settlements in eastern Békés county (Méhkerék, Sarkad, Gyula, Elek, Kétegyháza, Battonya, Lőkösháza), a large number of Hungarian workers migrate to the more industrialized western cities of Western Romania with larger labour markets and labour requirements, mainly to Timisoara, Oradea and Arad. Huge infrastructure investments and construction are underway with a large market for workforce.
The majority of commuting workers are unskilled people with low educational qualifications with unfavourable prospects for the domestic labour market; their employment has many difficulties.
In 2019, the construction of the Airbus Helicopters Helicopter Parts Factory began in Gyula as a greenfield investment project. The Gyula plant will produce precision parts necessary for helicopter dynamic systems for all types of helicopters in the Airbus product range, production is expected to start in 2021. The investment is also expected to have a major impact on the labour market in Békés and Arad counties.

f. How do you personally (or through your represented organization) relate to the employment situation in the regions studied? (How can you influence employment?)
The employment structure plays a decisive role in the labour market situation of Békés

county; the primary aim is to reach and maintain a better supply-demand balance with the tools available (provision of information, recruitment, employment subsidies.)

g. In the shorter / medium / long term, what kind of processes and changes do you expect in the relations of the two counties? We strive to maintain and further strengthen our cooperation with Romanian employment organizations.

4. Professional block 3: Possible development of employment growth, directions of strategy formation

a. a. What steps do you think should precede the development of a strategy to promote cooperation and thus employment growth between the two regions? (For example: population questionnaire, employee survey, employer interview, etc.) A population questionnaire, employee survey, employer interview can all be adequate tools to carry out a situation analysis to help define the strategy.

b. In your opinion, what are the possible directions for the development of employment growth in Békés and Arad counties? Publicizing and promoting labour market demand and supply data and employment programs as widely as possible. Strategic collaboration between organizations on this topic, coordination of their resources.

c. Who could be the key players in such a strategy? Units of the Hungarian and Romanian Employment Organization, government agencies, municipal organizations, major employers, educational institutions, representative bodies.

d. What kind of and how much infrastructure need and resources would the strategy require? Opportunities for meetings should be created. Only the costs of catering and travelling of the parties to the meetings would arise as costs.

e. What could be the main goals and priorities of a strategy? Establishment of employment policy and training measures, assessment of development needs and formulation of policy proposals focusing on labour supply

f. In the case outlined, do the short, medium and long-term strategic objectives differ? If so, what are the major differences between the time periods? Short-term goals are for one year or less, medium-term goals are for 1-5 years, long-term goals are for 5 years or longer. The time span also determines how the goals are grouped by content; thus, long-term goals are more general, shorter-term goals are more specific.

Closing the interview, conciliation on further steps

5. Do you or the organization you represent maintain database and statistics relevant to the topic? Is it possible to provide us with them, or in the absence of thereof, to request an extract or summary?

The employment organization collects data and maintains a database in relation to

registered jobseekers, as well as placement and subsidized employment relating to labour needs in the region. It is possible to request information from the database.

6. Opportunity to give additional comments, moving on, description of the process of processing the results and their use: the research outline is to be sent to the interviewee for comment if possible.

11.3. Detailed charts of secondary research

Chart 31: Active and passive employment policy instruments in the Hungarian legal system – detailed chart

Active employment policy instruments	Passive employment policy instruments
Labour market services and employment aid Labour market services • providing labour market and employment information, • work, career, job search, rehabilitation, local (regional) employment counselling, • labour exchange	Benefits for job seekers For jobseekers as job search benefits: • Unemployment benefit • Pre-retirement jobseeker's allowance • Reimbursement of expenses
Promoting trainings Promoting trainings • Job seeker, • Graduate jobseekers • Receiving rehabilitation allowance • terminated employment, • participant in public employment, • GYES/GYED,	Support for jobseekers Unemployment benefit Who is entitled? • Jobseeker • 360 days within 3 years (365 days within 4 years) • are not entitled to benefits for disabled persons, and doesn't receive sickness cash benefit

• in employment Training aid • Wage supplement • Reimbursement of costs	• Not an entrepreneur • Wants to work Its amount • 4-quarter contribution base average • First Stage 91 Days 60% • Second stage 60% of minimum wage • Maximum 270 days • 60% of the contribution base, maximum the amount of the minimum daily wage • 10 days eligibility period = 1 nap payment of allowance • Minimum 36 days, Maximum 90 days
Further subsidies for employment Grants for employment growth • Support to become an entrepreneur • Support for work in the public interest • Support for job creation and job retention • Support for self-employment • Taking over employment-related contributions • Supporting the employment of people with disabilities • Support for labour market programs • Support for some non-standard forms of employment	Pre-retirement Jobseeker's Allowance • missing maximum five years to reach retirement age • received 45 days of jobseeker's allowance • has exhausted the duration of your jobseeker's allowance • The rate is 40 percent of the minimum wage

• Support for jobseekers to become entrepreneurs • Job seeker • Receiving rehabilitation benefit • Starts or joins a business Support for job creation and job retention • to create new jobs • to maintain existing jobs • to promote employment restructuring, • to achieve employment policy objectives related to the modernization of the professional structure of the workforce Support for labour market programs The National Employment Fund is predefined: • for complex goals • financial provisions • achieving regional employment goals • influence labour market processes, • promoting employment of disadvantaged groups in the labour market	
	Reimbursement of expenses • With a Jobseeker's Allowance and reimbursement of public transport costs related to job search • Refund and Reimbursement Obligation

Source: Law IV of 1991 on employment assistance and unemployment benefits, and Pap (2014)

Chart 32: GDP per capita in purchasing power in the European Union, 2007-2018 (points)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU (28 countries)	100	100	100	100	100	100	100	100	100	100	100	100
EU (27 countries)	100	100	100	100	100	100	100	100	100	100	100	100
Euro area (19 countries)	109	109	108	108	108	107	107	107	106	106	106	106
Euro area (18 countries)	110	109	109	108	108	108	107	107	107	107	106	106
Belgium	117	115	118	120	119	121	120	119	118	118	116	115
Bulgaria	40	43	43	44	45	46	45	47	47	48	49	50
Czechia	82	84	85	83	83	82	84	86	87	88	89	90
Denmark	123	125	125	129	128	127	128	128	127	126	128	126
Germany	117	117	117	120	123	124	124	126	124	124	124	123
Estonia	69	68	63	65	71	74	75	77	76	77	79	81
Ireland	148	134	129	130	130	131	132	136	178	177	181	187
Greece	93	93	94	85	75	72	72	71	69	68	67	68
Spain	103	101	100	96	92	91	89	90	91	91	92	91
France	108	106	108	108	108	107	108	107	106	104	104	104
Croatia	61	63	62	59	60	60	60	59	59	61	62	63
Italy	107	106	106	104	104	101	98	96	95	97	96	95
Cyprus	104	105	105	100	96	91	84	81	82	84	85	87
Latvia	57	59	52	53	57	60	62	63	64	64	67	70
Lithuania	60	63	56	60	66	70	73	75	75	75	78	81
Luxembourg	265	262	255	257	265	260	261	269	266	260	253	254
Hungary	60	63	64	65	66	66	67	68	68	67	68	70
Malta	79	79	81	83	82	84	85	89	93	95	98	98
Netherlands	139	140	138	135	134	134	135	131	130	128	128	129

Austria	125	125	127	126	128	132	131	130	129	128	127	127
Poland	53	55	59	62	65	67	67	67	69	68	70	71
Portugal	81	81	82	82	77	75	76	77	77	77	77	76
Romania	43	51	52	51	52	54	54	55	56	59	63	64
Slovenia	87	90	85	83	83	82	82	82	82	83	85	87
Slovakia	67	71	71	74	74	76	76	77	77	77	76	78
Finland	119	121	117	116	117	115	113	110	109	109	109	110
Sweden	128	127	123	125	126	127	125	124	125	122	121	121
United Kingdom	112	110	108	108	106	108	108	109	109	107	106	104
Iceland	130	130	130	119	117	119	121	122	126	130	130	133
Liechtenstein	:	:	:	:	:	:	:	:	:	:	:	:
Norway	177	187	172	174	179	186	184	176	156	145	146	150
Switzerland	156	158	160	159	162	164	165	165	165	160	156	157
Montenegro	39	42	40	41	42	39	41	41	42	44	45	47
North Macedonia	30	32	34	34	34	34	35	36	36	37	36	38
Albania	23	25	27	29	29	30	29	30	30	30	30	31
Serbia	35	38	39	38	40	40	40	39	39	39	39	40
Turkey	47	48	48	52	56	58	61	64	66	65	66	65
Bosnia and Herzegovina	27	29	30	29	30	30	30	30	30	31	31	31
United States	151	146	146	145	144	146	145	146	146	144	141	143
Japan	109	105	103	105	103	106	107	104	104	102	99	98

Source: Eurostat (2019)

Chart 33: Adult participation in education (%) - detailed table

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU (28 countries)	9,4	9,5	9,5	9,3	9,1	9,2	10,7	10,8	10,7	10,8	10,9	11,1
Euro area (19 countries)	8,1	8,2	8,1	8,1	8,3	8,5	10,6	10,9	10,9	11,2	11,3	11,5
Belgium	7,4	7,1	7,1	7,4	7,4	6,9	6,9	7,4	6,9	7	8,5	8,5
Bulgaria	1,6	1,6	1,6	1,6	1,6	1,7	2	2,1	2	2,2	2,3	2,5

Czechia	6	8	7,1	7,8	11,6	11,1	10	9,6	8,5	8,8	9,8	8,5
Denmark	29,1	30	31,3	32,6	32,3	31,6	31,4	31,9	31,3	27,7	26,8	23,5
Germany	7,8	8,1	8	7,8	7,9	7,9	7,9	8	8,1	8,5	8,4	8,2
Estonia	7	9,7	10,5	11	11,9	12,8	12,6	11,6	12,4	15,7	17,2	19,7
Ireland	7,8	7,2	6,6	7,1	7,2	7,5	7,6	7	6,5	6,5	9	12,5
Greece	2,4	3,2	3,5	3,3	2,8	3,3	3,2	3,2	3,3	4	4,5	4,5
Spain	10,8	10,7	10,8	11,2	11,2	11,2	11,4	10,1	9,9	9,4	9,9	10,5
France	6,1	6	5,7	5	5,5	5,7	17,8	18,4	18,6	18,8	18,7	18,6
Croatia	2,9	2,6	3	3	3,1	3,3	3,1	2,8	3,1	3	2,3	2,9
Italy	6,2	6,3	6	6,2	5,7	6,6	6,2	8,1	7,3	8,3	7,9	8,1
Cyprus	8,7	8,8	8,3	8,1	7,8	7,7	7,2	7,1	7,5	6,9	6,9	6,7
Latvia	7,2	6,9	5,6	5,4	5,4	7,2	6,8	5,6	5,7	7,3	7,5	6,7
Lithuania	5,5	4,9	4,6	4,4	6	5,4	5,9	5,1	5,8	6	5,9	6,6
Luxembourg	7,2	8,7	13,8	13,5	13,9	14,2	14,6	14,5	18	16,8	17,2	18
Hungary	3,9	3,4	3	3	3	2,9	3,2	3,3	7,1	6,3	6,2	6
Malta	5,9	6,3	6,2	6,2	6,6	7,2	7,7	7,7	7,4	7,8	10,6	10,8
Netherlands	16,8	17,1	17,1	17	17,1	16,9	17,9	18,3	18,9	18,8	19,1	19,1
Austria	12,9	13,3	13,9	13,8	13,5	14,2	14,1	14,3	14,4	14,9	15,8	15,1
Poland	5,1	4,7	4,7	5,2	4,4	4,5	4,3	4	3,5	3,7	4	5,7
Portugal	4,4	5,3	6,4	5,7	11,5	10,5	9,7	9,6	9,7	9,6	9,8	10,3
Romania	1,5	1,8	1,8	1,4	1,6	1,4	2	1,5	1,3	1,2	1,1	0,9
Slovenia	15,1	14,3	14,8	16,4	16	13,8	12,5	12,1	11,9	11,6	12	11,4
Slovakia	4,1	3,6	3,1	3,1	4,1	3,2	3,1	3,1	3,1	2,9	3,4	4
Finland	23,4	23,1	22,1	23	23,8	24,5	24,9	25,1	25,4	26,4	27,4	28,5
Sweden	19	22,5	22,5	24,7	25,3	27	28,4	29,2	29,4	29,6	30,4	29,2
United Kingdom	20,5	20,5	20,7	20,1	16,3	16,3	16,6	16,3	15,7	14,4	14,3	14,6
Iceland	27	25,1	25,1	25,4	26,4	28,1	26,3	26,3	28,1	24,7	23,6	21,5
Norway	18,4	19,7	18,5	18,2	18,6	20,4	20,8	20,1	20,1	19,6	19,9	19,7
Switzerland	26,8	27,9	23,9	29,7	28,9	29,1	29,3	30,5	30,8	31,4	31,2	31,6
Montenegro	:	:	:	:	2,4	2,4	2,8	2,9	3	3,3	2,8	3,2

North Macedonia	3	2,8	3,5	3,5	3,6	4,1	3,7	3,2	2,6	2,9	2,3	2,4
Serbia	:	:	:	4	3,5	3,6	3,9	4,4	4,8	5,1	4,4	4,1
Turkey	1,8	2,1	2,6	2,9	3,4	3,9	4,5	5,7	5,5	5,8	5,8	6,2

Source: Eurostat (2019)

Chart 34: Number of emigrants by age group in the last three years (persons) - detailed table

	Year	Bulgaria	Germany	France	Croatia	Hungary	Poland	Romania
Total	2015	29 470	347 162	323 847	29 651	43 225	258 837	194 718
Total	2016	30 570	533 762	320 705	36 436	39 889	236 441	207 578
Total	2017	31 586	560 700	312 554	47 352	39 829	218 492	242 193
Less than 15 years	2015	2 609	40 598	23 012	4 080	1 009	36 407	:
Less than 15 years	2016	2 243	68 978	23 839	5 365	1 067	37 278	:
Less than 15 years	2017	2 321	63 527	22 837	6 607	1 430	29 319	:
From 15 to 19 years	2015	2 507	10 525	52 720	1 468	744	13 422	:
From 15 to 19 years	2016	2 068	21 448	52 118	1 534	800	15 699	:
From 15 to 19 years	2017	2 252	20 482	53 354	1 900	886	14 550	:
From 20 to 24 years	2015	3 581	35 302	121 140	1 947	6 691	18 394	:
From 20 to 24 years	2016	4 647	57 600	126 736	2 962	5 991	17 785	:
From 20 to 24 years	2017	5 012	62 612	119 641	4 188	5 994	15 245	:
From 25 to 29 years	2015	3 820	58 201	52 588	2 927	9 804	31 149	:
From 25 to 29 years	2016	4 647	86 649	53 397	5 135	8 993	25 449	:
From 25 to 29 years	2017	4 962	92 748	50 655	6 560	8 831	23 498	:
From 30 to 34 years	2015	2 895	50 266	11 418	2 944	6 918	40 134	:
From 30 to 34 years	2016	3 863	74 333	10 640	4 919	6 235	35 534	:
From 30 to 34 years	2017	4 024	81 093	10 273	6 374	6 047	29 678	:
From 35 to 39 years	2015	2 521	39 145	7 398	3 018	5 489	31 963	:
From 35 to 39 years	2016	3 152	58 484	5 507	3 838	4 707	30 718	:

From 35 to 39 years	2017	3 391	62 209	5 598	5 418	4 462	29 546	:
From 40 to 44 years	2015	2 257	29 932	13 040	2 959	4 205	23 681	:
From 40 to 44 years	2016	2 646	44 443	13 349	3 329	3 947	21 059	:
From 40 to 44 years	2017	2 684	46 834	12 494	4 273	3 961	21 758	:
From 45 to 49 years	2015	1 884	25 039	9 475	2 652	3 135	17 016	:
From 45 to 49 years	2016	1 987	37 666	7 726	2 760	3 074	14 612	:
From 45 to 49 years	2017	2 042	38 568	8 203	3 610	2 972	15 861	:
From 50 to 54 years	2015	1 710	19 000	5 125	2 270	1 905	13 075	:
From 50 to 54 years	2016	1 441	28 729	3 904	2 137	1 869	11 166	:
From 50 to 54 years	2017	1 491	30 452	4 316	2 939	2 133	11 500	:
From 55 to 59 years	2015	1 669	12 874	1 349	1 656	1 310	10 604	:
From 55 to 59 years	2016	1 187	19 720	797	1 270	1 222	9 547	:
From 55 to 59 years	2017	1 192	21 209	931	1 829	1 295	9 691	:
From 60 to 64 years	2015	1 565	9 079	3 650	1 372	680	8 235	:
From 60 to 64 years	2016	907	12 940	2 678	1 062	696	7 186	:
From 60 to 64 years	2017	846	14 322	3 206	1 236	674	7 518	:
65 years or over	2015	2 452	17 201	22 932	2 358	1 335	14 757	:
65 years or over	2016	1 782	22 772	20 014	2 125	1 288	10 408	:
65 years or over	2017	1 369	26 644	21 046	2 418	1 144	10 328	:

Source: Eurostat (2019)

Chart 35: Population of European Union countries as a percentage of total EU28 population, 2019 (%) – detailed chart

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
European Union - 28 countries	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
European Union - 27 countries (from 2019)	:	:	:	:	:	:	:	:	:	:
European Union - 27 countries (2007-2013)	:	:	:	99,2	99,2	:	99,2	:	:	:
Euro area (19 countries)	:	:	:	66,5	66,6	:	66,6	:	:	:

Euro area (18 countries)	:	:	:	65,9	66,0	:	66,0	:	:	:
Belgium	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2	2,2
Bulgaria	1,5	1,5	1,5	1,4	1,4	1,4	1,4	1,4	1,4	1,4
Czechia	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1
Denmark	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1
Germany (until 1990 former territory of the FRG)	16,3	15,9	15,9	15,9	15,9	16,0	16,1	16,1	16,2	16,2
Germany including former GDR	16,3	15,9	15,9	15,9	15,9	16,0	16,1	16,1	16,2	16,2
Estonia	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
Ireland	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9	1,0
Greece	2,2	2,2	2,2	2,2	2,2	2,1	2,1	2,1	2,1	2,1
Spain	9,2	9,3	9,3	9,3	9,2	9,1	9,1	9,1	9,1	9,1
France	12,9	12,9	13,0	13,0	13,0	13,1	13,1	13,1	13,1	13,1
France (metropolitan)	:	:	:	:	:	:	:	:	:	:
Croatia	0,9	0,9	0,8	0,8	0,8	0,8	0,8	0,8	0,8	0,8
Italy	11,8	11,8	11,8	11,8	12,0	12,0	11,9	11,8	11,8	11,8
Cyprus	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Latvia	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
Lithuania	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,5	0,5
Luxembourg	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Hungary	2,0	2,0	2,0	2,0	1,9	1,9	1,9	1,9	1,9	1,9
Malta	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
Netherlands	3,3	3,3	3,3	3,3	3,3	3,3	3,3	3,3	3,4	3,4
Austria	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7	1,7
Poland	7,6	7,6	7,6	7,5	7,5	7,5	7,4	7,4	7,4	7,4
Portugal	2,1	2,1	2,1	2,1	2,1	2,0	2,0	2,0	2,0	2,0
Romania	4,0	4,0	4,0	4,0	3,9	3,9	3,9	3,8	3,8	3,8
Slovenia	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4

Slovakia	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1
Finland	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1	1,1
Sweden	1,9	1,9	1,9	1,9	1,9	1,9	1,9	2,0	2,0	2,0
United Kingdom	12,4	12,5	12,6	12,7	12,7	12,8	12,8	12,9	12,9	13,0

Source: Eurostat (2019)

Chart 36: Total population change of Hungary and Romania, 2010-2018 (persons) - detailed table

	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries	1 274 384	1 108 529	1 115 304	1 848 325	1 284 412	1 661 669	1 188 515	1 005 947	1 102 466
Hungary	-28 602	-27 991	-23 127	-31 433	-21 794	-25 086	-32 924	-19 190	-5 615
Romania	-95 624	-103 063	-75 922	-72 763	-76 664	-110 062	-116 235	-113 719	-128 973

Source: Eurostat (2019)

Chart 37: Natural Population Change in Hungary and Romania, 2010-2018 (persons) - detailed table

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Hungary births	90 335	88 049	90 269	89 524	93 281	92 135	95 361	94 646	93 467
Romania births	212 199	196 242	201 104	188 599	198 740	201 995	200 009	202 151	187 824
Hungary deaths	130 456	128 795	129 440	126 677	126 294	131 575	127 098	131 877	131 247
Romania deaths	259 723	251 439	255 539	247 475	254 965	262 442	257 215	261 402	263 125

Source: Eurostat (2019)

Chart 38: Population of the Southern Great Plain and Western Romania Regions, 2018-2018 (persons) - detailed table

	2014	2015	2016	2017	2018
Southern Great Plain	1 279 480	1 271 040	1 262 936	1 251 924	1 243 865
Western Romania	1 817 895	1 811 755	1 802 212	1 792 503	1 784 522

Source: Eurostat (2019)

Chart 39: Natural Population Change in Southern Great Plain and Western Romania, 2014 2018 (persons) - detailed table

	2014	2015	2016	2017
Southern Great Plain population	1 279 480	1 271 040	1 262 936	1 251 924
Western Romania population	1 817 895	1 811 755	1 802 212	1 792 503
Southern Great Plain births	11 077	11 056	11 328	11 582
Western Romania births	16 895	17 481	17 587	17 497
Southern Great Plain deaths	17 857	18 426	17 580	18 473
Western Romania deaths	23 300	24 419	23 482	24 264

Source: Eurostat (2019)

Chart 40: Median age of population in European Union countries, 1990-2018 (age) - detailed table

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries												38,3	38,6	38,9	39,2	39,5	39,8	40,1	40,4	40,7	41,0	41,3	41,6	41,9	42,2	42,4	42,6	42,9	43,1
Belgium	36,2	36,4	36,6	36,8	37,0	37,3	37,6	37,9	38,2	38,5	38,7	39,0	39,3	39,6	39,8	40,1	40,3	40,5	40,7	40,8	40,9	40,9	41,0	41,1	41,3	41,4	41,4	41,5	41,6
Bulgaria	36,5	36,8	37,1	37,5	37,8	38,0	38,3	38,5	38,7	38,9	39,1	39,3	40,3	40,6	40,9	41,2	41,5	41,7	41,9	42,0	42,2	42,5	42,7	42,9	43,2	43,4	43,6	43,9	44,1
Czechia	35,1	35,4	35,6	35,8	36,0	36,2	36,4	36,6	36,8	37,1	37,3	37,6	37,9	38,3	38,6	38,8	39,0	39,2	39,3	39,4	39,6	39,8	40,1	40,4	40,8	41,1	41,5	41,9	42,3
Denmark	37,0	37,2	37,3	37,4	37,6	37,7	37,7	37,8	37,9	38,1	38,2	38,4	38,6	38,8	39,1	39,4	39,7	40,0	40,2	40,3	40,5	40,6	40,8	41,0	41,3	41,5	41,5	41,6	41,8
Germany (until 1990 former territory of the FRG)	38,1	37,6	37,7	37,8	38,0	38,2	38,5	38,7	39,1	39,4	39,8	40,2	40,6	40,9	41,4	41,8	42,3	42,8	43,2	43,7	44,2	44,7	45,0	45,4	45,6	45,9	45,8	45,9	46,0
Estonia	34,2	34,5	34,8	35,3	35,8	36,2	36,5	36,8	37,2	37,5	37,9	38,2	38,5	38,7	39,0	39,2	39,4	39,6	39,8	39,9	40,1	40,4	40,7	41,0	41,3	41,4	41,6	41,8	42,0
Ireland	29,1	29,4	29,7	30,1	30,4	30,8	31,1	31,5	31,8	32,2	32,4	32,6	32,8	33,0	33,3	33,5	33,5	33,3	33,4	33,6	34,0	34,5	35,0	35,4	35,8	36,2	36,5	36,9	37,3
Greece	36,0	36,1	36,3	36,6	36,9	37,1	37,4	37,7	37,9	38,2	38,5	38,7	38,3	38,6	38,9	39,2	39,5	39,9	40,3	40,7	41,1	41,5	42,0	42,5	42,9	43,4	43,9	44,2	44,6
Spain	33,4	33,7	34,1	34,4	34,8	35,2	35,6	36,0	36,4	36,8	37,2	37,6	37,9	38,1	38,3	38,6	38,8	39,0	39,2	39,4	39,9	40,3	40,8	41,3	41,8	42,3	42,8	43,2	43,6
France	:	34,7	35,0	35,3	35,6	35,9	36,2	36,5	36,8	37,0	37,3	37,6	37,9	38,1	38,4	38,6	38,9	39,1	39,3	39,6	39,8	40,0	40,3	40,6	40,7	41,0	41,2	41,4	41,6
Croatia	:	:	:	:	:	:	:	:	:	:	:	39,8	40,1	40,4	40,6	40,8	41,0	41,3	41,5	41,7	41,9	42,1	42,2	42,4	42,6	42,8	43,0	43,4	43,7
Italy	36,9	37,2	37,6	37,9	38,2	38,5	38,9	39,2	39,4	39,7	40,1	40,4	40,7	41,1	41,3	41,6	42,0	42,4	42,7	43,0	43,3	43,7	44,0	44,4	44,7	45,1	45,5	45,9	46,3

Cyprus	30,5	30,9	31,2	31,6	31,8	32,0	32,3	32,5	32,8	33,0	33,3	33,6	34,2	34,5	34,7	34,9	35,1	35,2	35,4	35,5	35,6	35,7	35,8	36,2	36,8	37,0	37,2	37,4	37,5
Latvia	34,6	34,6	35,0	35,4	35,8	36,0	36,3	36,7	37,1	37,5	37,9	38,2	38,5	38,8	39,0	39,3	39,5	39,8	39,9	40,2	40,8	41,4	41,8	42,1	42,4	42,7	42,9	43,1	43,3
Lithuania	32,4	32,6	32,9	33,2	33,5	33,9	34,3	34,6	35,0	35,4	35,8	36,2	36,7	37,2	37,7	38,2	38,8	39,2	39,6	39,9	40,3	41,1	41,7	42,1	42,4	42,7	43,1	43,4	43,9
Luxembourg	36,3	36,4	36,5	36,5	36,6	36,7	36,7	36,9	37,1	37,2	37,3	37,1	37,4	37,7	37,9	38,1	38,3	38,5	38,6	38,7	38,9	39,0	39,1	39,1	39,2	39,3	39,3	39,4	39,4
Hungary	36,1	36,5	36,8	37,1	37,4	37,6	37,8	38,0	38,2	38,3	38,5	38,6	38,7	38,8	38,8	38,9	39,0	39,2	39,4	39,6	39,8	40,1	40,8	41,1	41,3	41,6	41,9	42,3	42,6
Malta	32,8	33,2	33,5	33,8	34,1	34,5	35,1	35,4	35,7	36,0	36,3	36,7	37,0	37,4	37,7	38,0	38,6	39,0	39,3	39,5	39,7	40,1	40,4	40,5	40,6	40,5	40,5	40,6	40,4
Netherlands	34,4	34,6	34,9	35,2	35,4	35,8	36,1	36,4	36,7	37,0	37,3	37,6	37,8	38,2	38,5	38,9	39,2	39,6	40,0	40,3	40,6	41,0	41,3	41,6	42,0	42,2	42,4	42,5	42,6
Austria	35,6	35,6	35,6	35,7	35,9	36,1	36,5	36,8	37,2	37,5	37,9	38,3	38,8	39,1	39,4	39,7	40,1	40,5	40,9	41,2	41,6	42,0	42,4	42,6	42,9	43,0	43,0	43,0	43,2
Poland	32,2	32,5	32,8	33,1	33,4	33,7	34,0	34,3	34,6	34,8	35,1	35,4	35,7	35,9	36,2	36,5	36,7	37,0	37,3	37,5	37,9	38,2	38,5	38,8	39,2	39,6	39,9	40,3	40,6
Portugal	33,9	34,5	34,8	35,2	35,5	35,9	36,2	36,5	36,9	37,2	37,5	37,9	38,2	38,5	38,8	39,2	39,6	40,0	40,4	40,8	41,2	41,7	42,1	42,6	43,1	43,5	44,0	44,4	44,8
Romania	32,6	32,8	33,4	33,6	33,8	34,0	34,2	34,2	34,3	34,3	34,4	34,4	35,0	35,3	35,4	35,5	37,2	37,3	38,7	40,1	40,1	40,1	40,2	40,5	40,8	41,0	41,4	41,8	42,1
Slovenia	34,0	34,4	34,8	35,2	35,6	36,0	36,1	36,5	36,9	37,4	37,8	38,2	38,6	39,0	39,4	39,9	40,2	40,6	41,0	41,2	41,4	41,7	42,0	42,2	42,5	42,8	43,2	43,5	43,8
Slovakia	31,2	31,5	31,6	31,9	32,1	32,4	32,7	33,0	33,3	33,6	33,9	34,3	34,4	34,7	35,0	35,4	35,7	36,0	36,3	36,6	37,0	37,4	37,7	38,2	38,6	39,0	39,4	39,8	40,2
Finland	36,3	36,6	36,9	37,1	37,4	37,7	38,0	38,3	38,6	38,9	39,2	39,5	39,8	40,1	40,5	40,8	41,1	41,3	41,5	41,8	42,0	42,1	42,2	42,3	42,4	42,4	42,5	42,5	42,7
Sweden	38,4	38,3	38,4	38,4	38,4	38,4	38,6	38,7	38,9	39,1	39,3	39,4	39,6	39,7	39,9	40,1	40,3	40,5	40,6	40,7	40,7	40,8	40,8	40,9	40,9	40,9	40,9	40,8	40,6
United Kingdom	35,8	35,8	35,9	36,0	36,2	36,4	36,6	36,8	37,0	37,2	37,5	37,7	38,0	38,2	38,5	38,6	38,8	38,9	39,1	39,2	39,4	39,5	39,7	39,8	39,9	40,0	40,0	40,0	40,1

Source: Eurostat (2019)

Chart 41: Population change as a percentage of the total population in the European Union and other European countries, 2014-2017 (%) - detailed table

	2014	2015	2016	2017
Belgium	5,0	6,5	3,6	4,1
Bulgaria	-6,0	-6,7	-7,3	-7,3
Czechia	2,5	1,5	2,4	2,9
Denmark	5,8	8,4	7,2	5,6
Germany (until 1990 former territory of the FRG)	5,3	12,0	4,2	3,3
Estonia	-1,9	0,8	-0,2	2,7

Ireland	8,5	10,3	12,2	9,6
Greece	-6,3	-6,9	-1,4	-2,5
Spain	-1,3	-0,2	1,9	2,8
France	4,4	2,7	2,5	1,8
Croatia	-5,1	-8,2	-8,7	-11,8
Italy	0,2	-2,1	-1,3	-1,7
Cyprus	-12,9	1,5	7,6	11,0
Latvia	-7,7	-8,7	-9,6	-8,1
Lithuania	-7,6	-11,3	-14,2	-13,8
Luxembourg	23,9	23,3	19,8	19,0
Hungary	-2,2	-2,5	-3,4	-2,0
Malta	23,6	24,1	21,7	32,9
Netherlands	4,2	4,6	6,0	5,8
Austria	9,0	13,4	8,3	5,6
Poland	-0,3	-1,0	0,2	0,1
Portugal	-5,0	-3,2	-3,1	-1,8
Romania	-3,9	-5,6	-5,9	-5,8
Slovenia	0,9	0,6	0,8	0,5
Slovakia	1,0	0,9	1,7	1,4
Finland	3,8	2,8	2,9	1,8
Sweden	10,6	10,6	14,5	12,4
United Kingdom	7,8	8,1	7,1	6,5
Iceland	10,5	10,4	17,4	29,4
Liechtenstein	6,4	6,8	5,0	8,0
Norway	11,4	9,2	8,5	7,1
Switzerland	12,0	10,8	11,0	7,6
Montenegro	0,9	0,2	0,3	0,0

North Macedonia	1,6	1,0	1,2	0,8
Albania	-2,3	-5,8	0,3	-2,2
Serbia	-4,5	-5,4	-5,1	-5,5
Turkey	13,3	13,4	13,5	12,4

Source: Eurostat (2019)

Chart 42: Employment rates of young people (15-29) at all levels of education and training in the EU Member States, 2010-2018 (%) - detailed table

	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries	47,6	47,2	46,4	45,9	46,4	47,3	48,3	49,2	49,8
Germany (until 1990 former territory of the FRG)	56,6	58,4	57,7	58,0	57,8	57,7	58,2	58,7	59,4
Hungary	35,0	34,8	35,1	36,9	40,8	42,6	45,2	46,8	47,1
Poland	43,9	43,4	43,2	42,8	44,4	45,0	47,7	49,0	50,2
Romania	40,6	39,9	40,2	40,2	41,0	43,1	41,5	43,3	43,0
Slovakia	37,9	37,4	38,0	38,0	39,4	42,3	44,1	45,1	45,9

Source: Eurostat (2019)

Chart 43: Employment of young people (15-29 years old) irrespective of educational level in the regions and countries surveyed, 2010 2018 (%) - detailed table

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Hungary	35,0	34,8	35,1	36,9	40,8	42,6	45,2	46,8	47,1
Southern Great Plain	34,5	33,2	33,7	35,0	39,2	40,6	44,8	46,2	46,3
Romania	40,6	39,9	40,2	40,2	41,0	43,1	41,5	43,3	43,0
Western Romania	37,5	39,3	41,0	37,9	38,0	41,4	38,1	37,6	37,6

Source: Eurostat (2019)

Chart 44: Employment disparities between educational attainment levels among young people, 2010-2018 (%) - detailed table

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Hungary (ISCED level 0-2)	9,4	9,1	8,6	9,7	12,9	15,0	16,8	16,4	15,8
Romania (ISCED level 0-2)	25,3	23,2	23,8	23,6	24,5	25,0	24,0	25,1	23,4
Hungary (ISCED level 3-4)	45,1	44,6	44,3	46,7	50,9	53,0	56,7	59,3	59,1
Romania (ISCED level 3-4)	46,3	46,1	46,5	46,7	48,2	50,3	48,4	50,1	50,5

Source: Eurostat (2019)

Chart 45: Elderly (55-64) unemployment rates in the European Union and some Member States, 2009-2018 (%) - detailed table

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries	6,2	6,8	6,8	7,3	7,7	7,4	7,0	6,5	5,8	5,2
Germany (until 1990 former territory of the FRG)	8,0	7,6	6,4	5,9	5,7	5,1	4,7	3,9	3,4	2,9
Hungary	6,5	7,9	9,2	8,4	8,1	6,4	5,8	4,4	3,6	2,6
Poland	6,3	7,1	6,9	7,4	7,7	6,8	5,4	4,4	3,7	2,8
Romania	3,0	3,3	3,7	3,4	3,7	3,3	3,7	3,2	3,2	2,5

Source: Eurostat (2019)

Chart 46: GDP per capita in purchasing power parities in the European Union, 2018 (points) - detailed table

	2014	2015	2016	2017	2018
EU (28 countries)	100	100	100	100	100
EU (27 countries)	100	100	100	100	100
Euro area (19 countries)	107	106	106	106	106
Euro area (18 countries)	107	107	107	106	106
Belgium	119	118	118	116	115
Bulgaria	47	47	48	49	50
Czechia	86	87	88	89	90
Denmark	128	127	126	128	126
Germany	126	124	124	124	123

Estonia	77	76	77	79	81
Ireland	136	178	177	181	187
Greece	71	69	68	67	68
Spain	90	91	91	92	91
France	107	106	104	104	104
Croatia	59	59	61	62	63
Italy	96	95	97	96	95
Cyprus	81	82	84	85	87
Latvia	63	64	64	67	70
Lithuania	75	75	75	78	81
Luxembourg	269	266	260	253	254
Hungary	68	68	67	68	70
Malta	89	93	95	98	98
Netherlands	131	130	128	128	129
Austria	130	129	128	127	127
Poland	67	69	68	70	71
Portugal	77	77	77	77	76
Romania	55	56	59	63	64
Slovenia	82	82	83	85	87
Slovakia	77	77	77	76	78
Finland	110	109	109	109	110
Sweden	124	125	122	121	121
United Kingdom	109	109	107	106	104
Iceland	122	126	130	130	133
Norway	176	156	145	146	150

Source: Eurostat (2019)

Chart 47: GDP per capita at market price in PPS as a percentage of the EU28 average, 2008 2017 (%) - detailed table

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017

Hungary	63	64	65	66	66	67	68	68	67	68
Southern Great Plain	42	42	42	44	45	46	48	49	47	48
Békés	37	36	36	38	38	40	40	40	40	40
Western Romania	54	54	54	54	57	56	55	58	63	67
Arad	49	50	49	50	54	54	53	56	60	
Romania	51	52	51	52	54	54	55	56	59	63

Source: Eurostat (2019)

Chart 48: Household disposable income at purchasing power parity in the surveyed dimensions, 2008-2017 (currency unit) - detailed table

	2008	2009	2010	2011	2012	2013	2014	2015	2016
Hungary	9 300	8 900	8 900	9 500	9 600	10 000	10 400	10 500	11 000
Southern Great Plain	7 900	7 400	7 700	7 500	8 200	8 700	9 000	9 000	9 600
Romania	6 400	5 800	6 900	6 900	6 900	7 500	7 800	7 900	9 300
Western Romania	6 800	6 100	7 400	7 400	8 100	8 700	8 900	9 200	10 800

Source: Eurostat (2019)

Chart 49: Employment rate of working-age population (20-64 years) in EU countries, 2018 (%) - detailed table

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries	70,8	71,0	71,1	71,7	72,0	72,3	72,6	73,0	73,4	73,7
European Union - 15 countries (1995-2004)	72,3	72,3	72,5	73,0	73,2	73,4	73,5	73,9	74,1	74,4
Euro area (19 countries)	71,2	71,3	71,5	72,0	72,2	72,4	72,5	72,9	73,1	73,5
Euro area (18 countries)	71,3	71,3	71,5	72,0	72,2	72,3	72,5	72,9	73,1	73,4
Euro area (17 countries)	71,2	71,3	71,5	72,0	72,2	72,3	72,5	72,8	73,1	73,4
Belgium	66,9	67,7	66,7	66,9	67,5	67,7	67,6	67,6	68,0	68,6
Bulgaria	67,2	66,7	65,9	67,1	68,4	69,0	69,3	68,7	71,3	71,5

Czechia	70,1	70,2	70,5	71,6	72,9	73,5	74,0	75,0	75,9	76,6
Denmark	80,2	79,4	79,3	78,6	78,1	78,1	78,5	80,0	78,8	79,4
Germany (until 1990 former territory of the FRG)	76,3	76,7	77,3	77,2	77,6	77,7	77,6	77,9	78,2	78,6
Estonia	74,0	73,9	74,7	74,8	75,1	75,2	76,7	77,5	78,8	79,1
Ireland	73,0	71,6	71,2	71,1	71,8	71,8	72,1	72,7	72,7	72,9
Greece	67,4	67,8	67,3	67,5	67,5	67,4	67,8	68,2	68,3	68,2
Spain	73,1	73,5	73,9	74,3	74,3	74,2	74,3	74,2	73,9	73,7
France	69,8	69,8	69,7	70,3	70,7	71,0	71,3	71,4	71,5	71,9
France (metropolitan)	70,3	70,3	70,1	70,7	71,1	71,2	71,5	71,7	71,8	72,2
Croatia	65,6	65,1	64,1	63,9	63,7	66,1	66,9	65,6	66,4	66,3
Italy	62,3	62,0	62,1	63,5	63,4	63,9	64,0	64,9	65,4	65,6
Cyprus	73,0	73,6	73,5	73,5	73,6	74,3	73,9	73,4	73,9	75,0
Latvia	73,5	73,0	72,8	74,4	74,0	74,6	75,7	76,3	77,0	77,7
Lithuania	69,6	70,2	71,4	71,8	72,4	73,7	74,1	75,5	75,9	77,3
Luxembourg	68,7	68,2	67,9	69,4	69,9	70,8	70,9	70,0	70,2	71,1
Hungary	61,2	61,9	62,4	63,7	64,7	67,0	68,6	70,1	71,2	71,9
Malta	59,4	60,4	61,8	63,9	66,3	67,8	68,8	70,6	72,2	74,2
Netherlands	78,1	77,9	78,1	79,0	79,4	79,0	79,6	79,7	79,7	80,3
Austria	74,3	74,4	74,6	75,1	75,5	75,4	75,5	76,2	76,4	76,8
Poland	64,7	65,3	65,7	66,5	67,0	67,9	68,1	68,8	69,6	70,1
Portugal	73,4	73,7	73,6	73,4	73,0	73,2	73,4	73,7	74,7	75,1
Romania	63,1	64,9	64,1	64,8	64,9	65,7	66,1	65,6	67,3	67,8
Slovenia	71,8	71,5	70,3	70,4	70,5	70,9	71,8	71,6	74,2	75,0
Slovakia	68,4	68,7	68,7	69,4	69,9	70,3	70,9	71,9	72,1	72,4
Finland	75,0	74,5	74,9	75,2	75,2	75,4	75,8	75,9	76,7	77,9
Sweden	78,9	79,1	79,9	80,3	81,1	81,5	81,7	82,1	82,5	82,9
United Kingdom	75,7	75,4	75,5	76,1	76,4	76,7	76,9	77,3	77,6	77,9

Source: Eurostat (2019)

Chart 50: Gender employment gap in EU countries, 2018 (%) - detailed table

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU (28 countries)	16	15,7	15,6	15,1	13,5	13	12,8	12,2	11,7	11,5	11,6	11,6	11,5	11,6
Belgium	15,7	15,2	14,7	13,4	12,2	11,9	11,5	11	10,2	8,7	8,3	9,3	9,8	8,4
Bulgaria	9,7	9,5	9,9	10,7	9,8	7,8	6,2	5,6	5,7	6,1	6,6	7,3	8	8,2
Czechia	18,8	18,6	19,1	19,5	18,8	18,7	18,2	17,7	17,2	17,5	16,6	16	15,8	15,2
Denmark	8,6	9	8,5	8,4	6	5,6	6,6	6,4	6,3	7,3	7,6	6,7	6,5	6,7
Germany	12,5	12,2	12,4	12,3	10,9	10,7	10,4	10,5	9,6	9,1	8,7	8,2	7,9	8,1
Estonia	4,9	7	8,8	8,6	2	1,9	5,7	5,7	6,6	7,7	7,9	8,2	7,3	7,8
Ireland	20,5	19,9	18,4	16	10,2	8,8	8,7	8,6	10,5	11,8	12,3	12,1	12,1	12,2
Greece	29,6	28,6	28,4	27,5	25,6	24,2	22,1	19,8	19,4	18,3	18	19	19,7	21
Spain	24,7	23,6	22	19	14,2	12,9	11,6	10	9,6	10,2	11,2	11,5	11,9	12,1
France	:	:	:	:	:	:	:	:	:	7,5	7,2	7,5	7,9	7,6
Croatia	14,5	14,1	16,2	15,9	12,5	11,5	12,5	11,1	8,8	10	9,5	9,6	10,6	10,2
Italy	26,3	25,8	25,8	24,7	24	23,2	22,6	21	19,8	19,4	20	20,1	19,8	19,8
Cyprus	21,7	20,3	18,7	17	14,5	12,9	11,9	11,3	10,4	7,7	8,3	9,7	9,5	10,4
Latvia	9,8	10	10,2	7,4	0,3	-0,5	2,2	3,6	4,2	4,6	4,1	2,9	4,3	4,2
Lithuania	8,4	6,9	7,5	6,9	-0,4	-1,5	0,6	1,2	2,6	2,5	2,4	1,9	1	2,3
Luxembourg	21	19,5	17,3	17,1	17,5	17,2	16,2	14,4	14,1	12,9	11,7	11	7,9	8
Hungary	13,6	14,5	14,6	13,9	12,5	10,9	11,7	11,1	12,4	13,3	13,7	14	15,3	15,3
Malta	44,9	43,9	41,3	39,1	37,5	36,6	35,2	31,4	28,6	26,8	26,8	25,5	24,1	22,3
Netherlands	16,5	15,9	15,5	15	13,7	12,7	12	11,3	10,5	11,4	11,1	11	10,5	10,1
Austria	12,9	12,9	13,3	12,5	10,5	10,2	10	9,7	9,1	8,2	8,2	7,8	8	9
Poland	13,4	14,2	14,7	15,7	15	14	14,7	14,5	14,5	14,2	13,8	14,2	14,6	14,4
Portugal	12,7	12,9	12,8	12,3	10,3	9,8	8,6	6,8	6,4	7,1	6,7	6,8	7,5	6,8
Romania	13,5	12,7	13,1	14,3	14,4	16,6	15,3	16,1	16,3	16,7	17,5	17,6	17,1	18,3
Slovenia	9,6	9,8	10,4	8,9	7,7	7,5	7	7,2	8,2	8	8,6	6,6	7,2	7,3
Slovakia	15,8	17,1	17,3	17,1	16,4	14,5	15,1	15,5	14,4	14,6	14,7	14,2	12,8	13,7

Finland	4,3	4,8	4,7	5,3	2,3	3	3,7	3	2,8	1,9	2,1	3,3	3,5	3,7
Sweden	5,3	5,9	6	6,3	5,2	6,1	5,6	5,1	5	4,6	4,2	3,8	4	4,3
United Kingdom	13,5	13,5	13,8	13,1	11,5	11,4	11,5	11,6	11,1	11,3	11,2	11	10,2	9,9

Source: Eurostat (2019)

Chart 51: Number and share of persons employed in the agricultural sector in the examined dimensions, 2014-2018 (%) - detailed table

	2014		2015		2016		2017		2018	
European Union - 28 countries	10 105,3	4,73%	9 783,8	4,53%	9 427,7	4,30%	9 343,4	4,21%	9 082,8	4,05%
Hungary	191,0	4,69%	206,0	4,93%	219,1	5,08%	222,7	5,09%	216,7	4,91%
Southern Great Plain	50,0	9,89%	50,2	9,66%	62,6	11,54%	59,3	10,84%	56,7	10,27%
Romania	2 441,9	29,58%	2 183,8	26,52%	1 951,9	23,90%	1 974,9	23,61%	1 938,1	23,12%
Western Romania	142,2	18,89%	77,7	10,73%	65,0	9,16%	58,2	8,06%	51,0	7,05%

Source: Eurostat (2019)

Chart 52: Number and proportion of employed in the industrial sector in the examined dimensions, 2014-2018 (%) - detailed table

	2014		2015		2016		2017		2018	
European Union - 28 countries	37 724,3	17,67%	38 015,2	17,61%	38 596,5	17,62%	39 162,8	17,64%	39 506,1	17,60%
Hungary	988,5	24,29%	1 002,9	24,02%	1 045,5	24,26%	1 090,5	24,93%	1 115,9	25,30%
Southern Great Plain	123,5	24,44%	134,5	25,89%	135,2	24,92%	129,7	23,70%	135,6	24,55%
Romania	1 852,0	22,44%	1 792,8	21,77%	1 846,2	22,61%	1 915,8	22,91%	1 932,0	23,05%
Western Romania	304,9	40,51%	291,8	40,30%	295,7	41,67%	312,2	43,22%	312,5	43,17%

Source: Eurostat (2019)

Chart 53: Number and share of persons employed in the service sector in the examined dimensions, 2014-2018 (%) - detailed table

	2014		2015		2016		2017		2018	
European Union - 28 countries employment	153 953,2	72,10%	156 412,5	72,46%	159 383,9	72,77%	161 724,1	72,83%	164 063,4	73,09%

Hungary employment	2 643,6	64,95%	2 721,0	65,16%	2 802,9	65,04%	2 801,4	64,06%	2 799,8	63,48%
Southern Great Plain employment	302,3	59,81%	304,9	58,68%	312,7	57,64%	319,8	58,44%	323,6	58,59%
Romania employment	3 669,9	44,46%	3 911,2	47,50%	3 962,6	48,52%	4 077,2	48,75%	4 129,4	49,27%
Western Romania employment	279,9	37,19%	321,9	44,46%	314,0	44,25%	319,2	44,19%	329,5	45,52%

Source: Eurostat (2019)

Chart 54: Proportion of personnel and researchers employed in the research and development sector in the examined dimensions, 2012-2016 (%) - detailed table

	2012	2013	2014	2015	2016
European Union - 28 countries	1,13%	1,15%	1,17%	1,21%	1,24%
Hungary	0,84%	0,89%	0,85%	0,82%	0,79%
Southern Great Plain	0,61%	0,67%	0,61%	0,54%	0,53%
Romania	0,35%	0,37%	0,35%	0,35%	0,37%
Western Romania	0,23%	0,29%	0,29%	0,33%	0,34%

Source: Eurostat (2019)

Chart 55: Expenditure on research and development as a percentage of GDP, 2008-2017 (%) - detailed table

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
European Union - 28 countries	1,83	1,93	1,92	1,97	2	2,02	2,03	2,04	2,04	2,06
Hungary	0,98	1,13	1,14	1,19	1,26	1,39	1,35	1,36	1,2	1,35
Romania	0,55	0,44	0,46	0,5	0,48	0,39	0,38	0,49	0,48	0,5
Southern Great Plain	0,77	0,99	1,02	1,04	1,06	1,2	1,12	1,64	0,96	
Western Romania	0,29	0,17	0,21	0,23	0,27	0,27	0,18	0,43	0,46	

Source: Eurostat (2019)

Chart 56: Change in the standard deviation of the unemployment rate at regional and county level among the working-age population (15-74 years) in the countries under study, 2013-2017 (%) - detailed table

	2013	2014	2015	2016	2017
European Union - 28 countries - NUTS 2	64,7	65,8	65,7	67,5	69,8
Hungary - NUTS 2	21,3	31,0	33,9	41,2	45,5
Romania - NUTS 2	31,7	34,8	37,3	39,8	33,7
European Union - 28 countries NUTS 3					75,4
Hungary - NUTS 3					50,6
Romania - NUTS 3					76,3

Source: Eurostat (2019)

Chart 57: Proportion of population at risk of poverty in the European Union, 2014 2018 (%) - detailed table

	2014	2015	2016	2017	2018
European Union (EU6-1958, EU9-1973, EU10-1981, EU12-1986, EU15-1995, EU25-2004, EU27-2007, EU28-2013)	17,2	17,3	17,3	16,9	:
European Union - 28 countries	17,2	17,3	17,3	16,9	:
European Union - 27 countries (2007-2013)	17,2	17,3	17,3	16,9	:
European Union - 25 countries (2004-2006)	:	:	:	:	:
European Union - 15 countries (1995-2004)	:	:	:	:	:
New Member States (10 countries)	:	:	:	:	:
Euro area (EA11-2000, EA12-2006, EA13-2007, EA15-2008, EA16-2010, EA17-2013, EA18-2014, EA19)	17,1	17,2	17,4	17,0	:
Euro area (19 countries)	17,1	17,2	17,4	17,0	:
Euro area (18 countries)	17,1	17,2	17,4	17,0	:
Belgium	15,5	14,9	15,5	15,9	16,4
Bulgaria	21,8	22,0	22,9	23,4	22,0
Czechia	9,7	9,7	9,7	9,1	9,6
Denmark	12,1	12,2	11,9	12,4	12,7
Germany (until 1990 former territory of the FRG)	16,7	16,7	16,5	16,1	16,0
Estonia	21,8	21,6	21,7	21,0	21,9
Ireland	16,4	16,2	16,8	15,6	:

Greece	22,1	21,4	21,2	20,2	18,5
Spain	22,2	22,1	22,3	21,6	21,5
France	13,3	13,6	13,6	13,3	:
Croatia	19,4	20,0	19,5	20,0	19,4
Italy	19,4	19,9	20,6	20,3	20,3
Cyprus	14,4	16,2	16,1	15,7	15,4
Latvia	21,2	22,5	21,8	22,1	23,3
Lithuania	19,1	22,2	21,9	22,9	22,9
Luxembourg	16,4	15,3	16,5	18,7	:
Hungary	15,0	14,9	14,5	13,4	12,8
Malta	15,8	16,6	16,5	16,7	16,8
Netherlands	11,6	11,6	12,7	13,2	13,4
Austria	14,1	13,9	14,1	14,4	14,3
Poland	17,0	17,6	17,3	15,0	14,8
Portugal	19,5	19,5	19,0	18,3	17,3
Romania	25,1	25,4	25,3	23,6	23,5
Slovenia	14,5	14,3	13,9	13,3	13,3
Slovakia	12,6	12,3	12,7	12,4	:
Finland	12,8	12,4	11,6	11,5	12,0
Sweden	15,6	16,3	16,2	15,8	16,4
United Kingdom	16,8	16,6	15,9	17,0	:
Iceland	7,9	9,2	8,8	:	:
Norway	10,9	11,9	12,2	12,3	12,9
Switzerland	13,8	15,6	14,7	15,5	:
North Macedonia	22,1	21,5	21,9	22,2	:
Serbia	25,0	26,7	25,9	25,7	:
Turkey	23,0	22,5	22,8	22,2	:

Source: Eurostat (2019)

Chart 58: Percentage of population at risk of poverty or social exclusion, 2014-2018 (%) - detailed table

	2014	2015	2016	2017	2018
Euro area (19 countries)	23,5	23,2	23,1	22,1	-
European Union - 28 countries	24,4	23,8	23,5	22,4	-
Hungary	31,8	28,2	26,3	25,6	19,6
Central Hungary	29,1	24,3	22,8	22,3	13,6
Budapest	:	:	:	:	13,9
Pest	:	:	:	:	13,2
Central Hungary (NUTS 2013)	29,1	24,3	22,8	22,3	:
Transdanubia	27,8	25,0	22,3	22,6	17,1
Central Transdanubia	23,4	24,3	21,3	18,4	14,0
Western Transdanubia	23,6	19,4	18,4	20,0	12,5
South Transdanubia	37,5	31,7	27,8	30,3	25,9
Great Plain and North	36,9	33,6	32,0	30,4	26,2
North Hungary	41,7	37,3	37,6	36,1	32,9
Northern Great Plain	38,8	34,6	32,1	29,2	24,9
Southern Great Plain	30,2	29,1	26,7	26,5	21,7
Romania	40,3	37,4	38,8	35,7	32,5
Macroregiunea unu	33,8	29,7	29,4	26,1	23,3
Nord-Vest	32,1	28,0	29,3	26,4	22,3
Centru	35,7	31,6	29,5	25,7	24,4
Macroregiunea doi	51,1	46,2	45,5	43,3	42,8
Nord-Est	49,4	46,3	46,0	43,9	44,7
Sud-Est	53,2	46,2	44,9	42,5	40,3
Macroregiunea trei	34,7	34,4	37,7	34,0	29,8

Sud - Muntenia	41,7	43,5	41,2	40,9	36,3
Bucuresti - Ilfov	25,1	20,5	32,9	25,0	21,4
Macroregiunea patru	40,5	37,6	42,6	39,2	32,6
Sud-Vest Oltenia	40,9	41,9	44,2	45,3	42,2
Vest	40,1	32,0	40,7	32,5	22,1

Source: Eurostat (2019)

Chart 59: Aggregate Replacement Rate in the European Union, 2018 (%) - detailed table

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries	:	0,52	0,53	0,54	0,56	0,56	0,57	0,58	0,58	:
Euro area (19 countries)	0,51	0,52	0,54	0,54	0,56	0,57	0,58	0,58	0,59	:
Belgium	0,45	0,46	0,44	0,46	0,47	0,47	0,47	0,48	0,50	0,50
Bulgaria	0,34	0,43	0,41	0,42	0,39	0,44	0,41	0,45	0,37	0,41
Czechia	0,51	0,54	0,53	0,55	0,56	0,55	0,51	0,50	0,51	0,50
Denmark	0,42	0,44	0,43	0,42	0,44	0,45	0,45	0,47	0,48	0,49
Germany (until 1990 former territory of the FRG)	0,47	0,49	0,51	0,47	0,47	0,45	0,46	0,46	0,46	0,46
Estonia	0,52	0,55	0,54	0,50	0,50	0,47	0,43	0,45	0,45	0,41
Ireland	0,48	0,47	0,43	0,42	0,37	0,38	0,37	0,35	0,33	:
Greece	0,41	0,42	0,45	0,52	0,60	0,60	0,62	0,64	0,62	0,64
Spain	0,45	0,47	0,51	0,55	0,60	0,60	0,66	0,66	0,69	0,70
France	0,66	0,65	0,64	0,65	0,66	0,69	0,69	0,68	0,68	:
Croatia	:	0,32	0,36	0,36	0,37	0,40	0,40	0,39	0,41	0,40
Italy	0,51	0,53	0,55	0,59	0,62	0,64	0,66	0,69	0,71	0,73
Cyprus	0,37	0,37	0,39	0,39	0,40	0,39	0,43	0,44	0,43	0,43
Latvia	0,34	0,47	0,53	0,49	0,47	0,44	0,42	0,42	0,43	0,40
Lithuania	0,48	0,58	0,52	0,45	0,48	0,45	0,46	0,45	0,43	0,40
Luxembourg	0,62	0,68	0,74	0,79	0,78	0,85	0,80	0,88	0,86	:

Hungary	0,62	0,60	0,60	0,58	0,62	0,62	0,65	0,67	0,64	0,59
Malta	0,45	0,44	0,48	0,46	0,56	0,56	0,54	0,54	0,56	0,60
Netherlands	0,44	0,47	0,46	0,47	0,47	0,50	0,52	0,50	0,52	0,53
Austria	0,56	0,57	0,59	0,58	0,59	0,60	0,62	0,62	0,64	0,62
Poland	0,56	0,57	0,55	0,58	0,60	0,63	0,62	0,62	0,62	0,60
Portugal	0,50	0,53	0,56	0,58	0,59	0,63	0,62	0,64	0,67	0,67
Romania	0,56	0,64	0,67	0,67	0,68	0,65	0,63	0,66	0,61	0,51
Slovenia	0,45	0,45	0,47	0,47	0,46	0,45	0,46	0,47	0,46	0,45
Slovakia	0,55	0,61	0,62	0,56	0,61	0,62	0,62	0,62	0,62	:
Finland	0,48	0,50	0,50	0,49	0,49	0,51	0,52	0,53	0,53	0,54
Sweden	0,60	0,59	0,57	0,55	0,56	0,59	0,57	0,57	0,57	0,56
United Kingdom	0,44	0,48	0,48	0,50	0,53	0,51	0,50	0,53	0,54	:

Source: Eurostat (2019)

Figure 84: Number of rooms per person in the studied dimensions, 2009-2018 (pcs) - detailed table

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Hungary	1,1	1,0	1,1	1,1	1,1	1,2	1,2	1,2	1,2	1,5
Southern Great Plain	1,1	1,1	1,1	1,1	1,2	1,3	1,3	1,3	1,2	1,6
Romania	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,0	1,1	1,1
Western Romania	0,9	1,0	1,0	1,0	1,0	1,0	1,1	1,0	1,0	1,1

Source: Eurostat (2019)

Figure 85: Healthy years in the countries surveyed, 2010-2017 (year) - detailed table

	2010	2011	2012	2013	2014	2015	2016	2017
European Union - 28 countries	62,2	61,9	61,8	61,5	61,6	63,0	63,9	63,8
Hungary	57,5	58,4	59,9	59,6	59,9	59,2	59,9	60,2

Romania	57,4	57,2	57,7	58,3	59,0	59,2	59,4	58,8

Source: Eurostat (2019)

12. APPENDIX

Figure 86: Detailed figure of the organizational structure of the Békés County Government Office

	Department/Leader	Division	Tasks
1	Government Commissioner		tasks assigned to the Government Commissioner
2	Director General		tasks assigned to the Director General
3	Director		tasks assigned to the Director
4	Cabinet of Government Commissioner		- cabinet tasks - integrity management tasks
4.1		State Chief Architect	tasks assigned to the State Chief Architect

5	Secretariat of the Defense Committee		defense administration, defense tasks
6	Internal Audit Unit		internal audit tasks
7	Department for Agriculture and Rural Development		
7.1		Application Management Division for Agricultural and Rural Development Normative Assistance	tasks related to agricultural support
7.2		On-site Inspection Department	
7.3		Application Management Division for Rural Development Investments	
8	Department of Public Health		
8.1		Division of Epidemiology	public health tasks
8.2		Division of Public Health	
9	Department of Social Security and Employment		
9.1		Health Insurance and Pension Insurance Control Division	- health insurance fund tasks - pension insurance tasks - employment and public employment tasks
9.2		Division of Database Management, Reimbursement and Fairness	
9.3		Division of Public Employment	
9.4		Fund Management Division	
9.5		Labour Market Division	
10	Department of Food Chain Safety and Land Registry		
10.1		Land Registry Division	- land office tasks

10.2		Division of Food Chain Safety and Animal Health	- food chain safety and veterinary tasks - agricultural duties
11	Authority Department		
11.1		Division of Construction	- general authority tasks
11.2		Division of Public Administration and Education	- Tasks related to the National Energy Network
11.3		Law Enforcement Division	
11.4		Division of Justice	- construction tasks
11.5		Division of Social Affairs and Guardianship	- tasks related to education - law enforcement tasks - probation and judicial functions - social and guardianship tasks
12	Finance and Economics Department		
12.1		Finance and Accounting Division	- financial, management and accounting tasks
12.2		Procurement, Investment and Operations Division	- IT tasks
12.3		Informatics Division	- project related tasks
12.4		Division of Support and Wages Management	
12.5		Project Division	
13	Legal, Human Resources and Coordination		
13.1		Coordination and Legal Division	- human rights tasks
13.2		Human Resources Division	- legal tasks - tasks of representation - Coordination functions

Source: 39/2016. (XII. 30.) MvM on the organizational and operational regulations of the capital and county government offices

The content of this study does not necessarily represent the official position of the European Union.

The project was implemented under the Interreg V-A Romania-Hungary Programme, and is financed by the European Union through the European Regional Development Fund, Romania and Hungary.