NEMZETSTRATÉGIAI KUTATÓINTÉZET

Interreg CENTRAL EUROPE Co-funded by the European Union

Bridge2EastCE

Regional Development-Focused Comprehensive Analysis

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1. Introduction

The regions situated along the European Union's eastern border with Ukraine occupy an increasingly important position within the territorial, economic and geopolitical structure of Central Europe. Historically, many of these territories have been characterised by peripheral location, relatively weak accessibility, demographic decline, lower levels of economic development and limited institutional capacity. Russia's full-scale invasion of Ukraine in February 2022 fundamentally altered this context. The border regions of Poland, Slovakia, Hungary and Romania have become critical areas for humanitarian assistance, refugee reception, trade, logistics, energy security and cross-border connectivity. At the same time, western Ukraine has acquired growing importance as a destination for internally displaced persons, relocated businesses and investment, as well as a potential gateway for the country's reconstruction and integration into the European Union.

The territorial focus of the analysis is the EU–Ukraine border area, comprising the easternmost regions of Poland, Slovakia, Hungary and Romania, together with selected western Ukrainian territories. On the EU side, the quantitative assessment is conducted at both NUTS 2 level—covering Lubelskie, Podkarpackie, Východné Slovensko, Észak-Alföld, Nord-Vest and Nord-Est—and NUTS 3 level, focusing on the administrative units directly bordering Ukraine. On the Ukrainian side, the analysis examines Volyn, Lviv, Zakarpattia, Ivano-Frankivsk and Chernivtsi oblasts, with particular attention to Zakarpattia and its post-2022 socio-economic transformation. This multi-level approach enables the report to compare broader regional development trajectories with the specific conditions of the immediate border territories.

The purpose of this analysis is to provide a common evidence base for the development of the Bridge2EastCE project's Opportunity Map and Interregional Territorial Planning Cooperation framework. The analysis examines the structural characteristics of the EU regions bordering Ukraine, the territorial consequences of the war, the changing position of western Ukrainian regions and the capacity of regional and local governance systems to respond to these developments. It therefore approaches territorial resilience not simply as the ability to absorb an external shock, but as the capacity to anticipate change, coordinate actors, mobilise resources and integrate short-term crisis management into long-term regional development.

The report combines several analytical perspectives. First, it provides a quantitative assessment of demographic, economic, labour-market, human-capital, quality-of-life, innovation and digitalisation trends in the easternmost regions of Poland, Slovakia, Hungary and Romania. Comparisons at NUTS 2 level are complemented by an examination of the NUTS 3 territories located directly along the Ukrainian border. This makes it possible to distinguish the general development trajectories of the wider regions from the more specific conditions of the immediate border areas. Second, the analysis reviews relevant Interreg projects in order to identify

transferable methodologies, results and institutional experience. Third, it assesses Ukraine's territorial reforms, wartime economic restructuring, migration processes and planning priorities. Finally, national, regional and urban development strategies are compared with the governance capacities and practical experiences reported by the project partners.

The quantitative findings demonstrate that the project area cannot be treated as a homogeneous border region. Nevertheless, several common structural challenges are apparent. Population decline, population ageing, natural decrease and the outward migration of younger and skilled residents affect most of the territories under review. These processes are particularly pronounced in several Polish and Hungarian border areas, while the Slovak regions display more favourable natural demographic conditions and the Romanian territories have recently recorded comparatively positive migration balances. The immediate border areas frequently follow less favourable trajectories than their wider NUTS 2 regions, confirming that aggregated regional indicators may conceal significant internal territorial disparities.

Economic performance has improved across the study area, and some regions—particularly in Romania—have demonstrated notable convergence dynamics. However, most of the territories continue to lag behind both the European Union average and their respective national averages in terms of GDP per capita, household disposable income and innovative capacity. Economic growth has therefore not eliminated the structural disadvantages associated with peripheral location. Services constitute the largest economic sector throughout the study area, although industry remains important in several Polish, Slovak and Hungarian territories, while agriculture retains a comparatively strong role in some immediate border regions. Labour-market conditions have generally improved, but youth unemployment and the transition from education to employment remain major challenges. Human-capital and quality-of-life indicators are similarly differentiated: some regions possess relatively strong educational foundations, while others face persistent disadvantages in tertiary attainment, early school leaving and life expectancy.

Innovation represents one of the clearest limitations on long-term convergence. Research and development expenditure and the proportion of employees working in R&D generally remain below the EU average, despite moderate improvements in several regions. By contrast, household internet access is widespread and relatively balanced across the study area. The regions can therefore no longer be regarded as strongly peripheral in terms of basic digital connectivity. The principal challenge is to translate this infrastructure into more advanced forms of digital public administration, business modernisation, innovation, knowledge transfer and cross-border service provision.

The full-scale war has added a new layer of complexity to these pre-existing structural conditions. The investigated regions have had to manage refugee arrivals, increased demand for housing and public services, intensified passenger and freight traffic,

security concerns and pressure on transport and border infrastructure. At the same time, the war has generated new economic and strategic functions. Western Ukrainian regions have become important centres of internal displacement, humanitarian activity, business adaptation and logistical reorientation. Lviv and Zakarpattia in particular have strengthened their roles as business and investment locations, although the benefits of relocation and new economic activity remain unevenly distributed. These developments demonstrate that proximity to Ukraine can no longer be interpreted exclusively as a source of vulnerability. Under appropriate institutional and infrastructural conditions, it may also become an important development asset.

The review of national, regional and urban strategies reveals broad agreement on the need to improve competitiveness, accessibility, public services, environmental sustainability, innovation and territorial cohesion. Border location is generally understood both as a disadvantage and as a potential resource. However, most of the strategic documents were prepared before 2022 and therefore address the consequences of the war only to a limited extent. Refugee integration, security, critical infrastructure, supply-chain reorientation, energy resilience, Ukraine's reconstruction and EU accession are not yet systematically incorporated into regional planning. Moreover, migration, labour-market development, innovation and cross-border economic cooperation are often treated as separate policy fields, despite their close functional interdependence. Future strategy revisions should therefore replace sectoral fragmentation with more integrated territorial approaches.

The governance analysis demonstrates that there is no single institutional model for effective border-region resilience. Poland operates through a multi-tier and functionally coordinated system; Slovakia combines comparatively strong regional competences with integrated services and EU-financed investment; Romania relies on county-level implementation within a more centrally supervised structure; and Hungary follows a municipality-centred and centrally framed model in which counties primarily perform strategic and coordinating functions. The decisive factor is not the formal number of plans or institutions, but the alignment between responsibilities, discretionary financial resources, territorial information, implementation authority and access to technical expertise. EU funding constitutes an essential source of modernisation and investment, but excessive dependence on competitive and earmarked programmes may also reduce flexibility and disadvantage institutions with weaker administrative capacity.

The report consequently identifies a need to transform the flexible and often informal cooperation that emerged during the crisis into durable territorial governance arrangements. The future Bridge2EastCE planning framework should support standing cross-border platforms, regular data exchange, interoperable territorial information systems, common indicators, joint development scenarios and pre-agreed crisis protocols. Spatial planning should be connected more directly to multiannual financial planning, EU funding, infrastructure investment and

functional-area governance. Particular attention should be devoted to transport and logistics corridors, border-crossing capacity, energy and digital networks, environmental risks, public-service continuity, labour-market adaptation and the integration of refugees and other mobile populations. Smaller municipalities should receive shared technical support in planning, procurement, data analysis and project management.

The central conclusion of the analysis is that the EU–Ukraine border should no longer be approached as a collection of isolated national peripheries. The war, Ukraine's European integration and the country's future reconstruction are creating a new functional space in which regional development, resilience and geopolitical change are increasingly interconnected. Through stronger institutional coordination, prepared project pipelines, complementary urban and regional networks and sustained cooperation with Ukrainian partners, the border area may gradually be transformed into a connected Central European development zone. The Bridge2EastCE project can contribute to this transformation by linking territorial evidence, planning capacities and cross-border governance within a common long-term framework.

2. Baseline social and economic quantitative analysis of the easternmost regions of the EU

2.1 Demographic processes

The examination of demographic processes is of paramount importance when assessing the socio-economic situation of the border area between the European Union and Ukraine. Population trends are not only a fundamental indicator of the social conditions prevailing in these territories, but also exert a substantial long-term influence on economic development prospects, labour supply, and the sustainability of public services. Most of the regions under review may be regarded as peripheral within their respective national contexts, where population decline, population ageing, and out-migration all constitute major challenges.

This chapter aims to identify the demographic trajectories followed by the Polish, Slovak, Hungarian, and Romanian regions included in the study, and to determine the similarities and differences among them. The analysis is based on the indicators defined in the methodological chapter and assesses the demographic situation of the territories through an examination of population size, age structure, natural population change, and migration processes. In each case, the NUTS 2-level comparison is complemented by an analysis of the NUTS 3 areas located directly along the Ukrainian border, thereby enabling a more detailed exploration of the specific characteristics associated with border location.

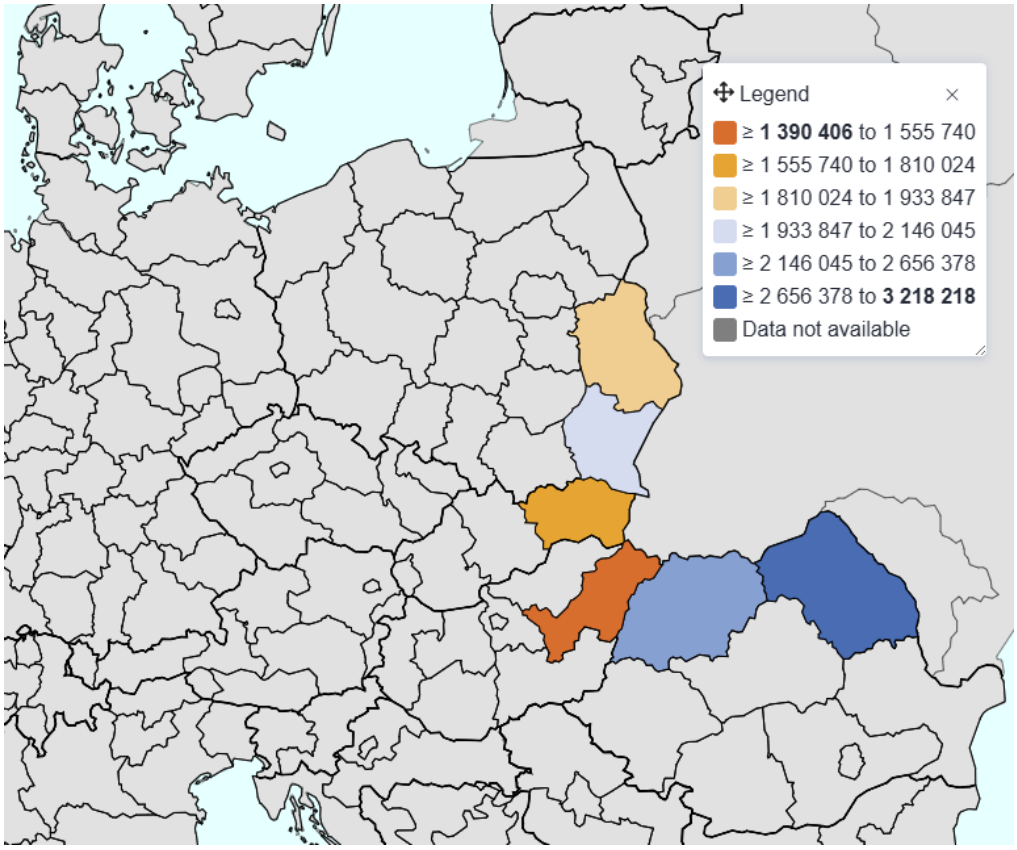
2.1.1 Population size and population change

The analysis of demographic processes begins with population size and its change over time. Population size is one of the most fundamental indicators of a territory's social and economic weight, while a long-term examination of population change makes it possible to identify regional development trajectories. Population trends may also be interpreted as a composite indicator, as they simultaneously reflect the combined effects of natural population change and migration. Accordingly, the analysis of population change is important not only in its own right, but also as the basis for interpreting the specific demographic processes examined subsequently.

The analysis first considers population size and population change in the NUTS 2 regions covering the six project areas, followed by a more detailed examination of the NUTS 3 areas situated directly along the Ukrainian border. This approach is consistent with the methodological framework of the research, according to which the NUTS 2 level provides the basis for international comparability, whereas the NUTS 3 level is more suitable for identifying territorial disparities and specificities arising from border location.

A substantial proportion of the territories under review belong to the eastern periphery of the European Union, where population decline has been one of the defining processes of recent decades. Economic restructuring, increasing labour mobility within the European Union, and adverse trends in natural population change have jointly contributed to population loss in numerous regions (Smętkowski and Wójcik 2010; Lang 2015; Smętkowski 2015). Nevertheless, the intensity and temporal evolution of these processes may differ considerably across countries and regions. It is therefore particularly important to examine the extent to which the Ukrainian border regions under study follow similar or divergent demographic trajectories, and how the population dynamics of the immediate border areas differ from the trends observed across the wider regions as a whole.

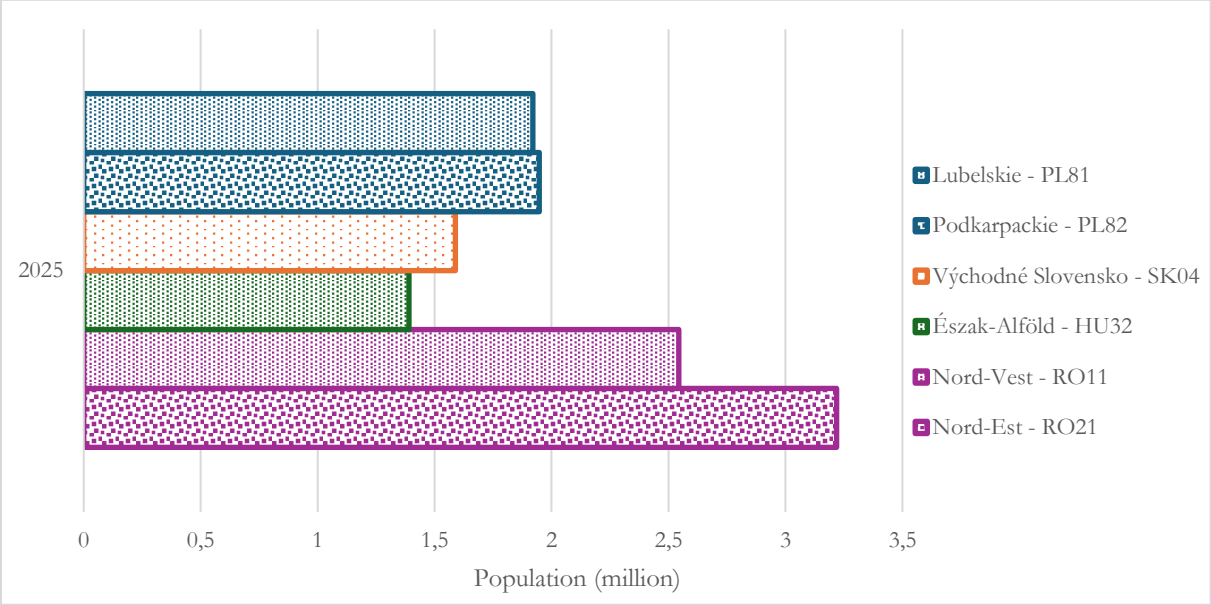
Figure 1: Population of the NUTS 2 regions under review in 2025



Source: *Eurostat*

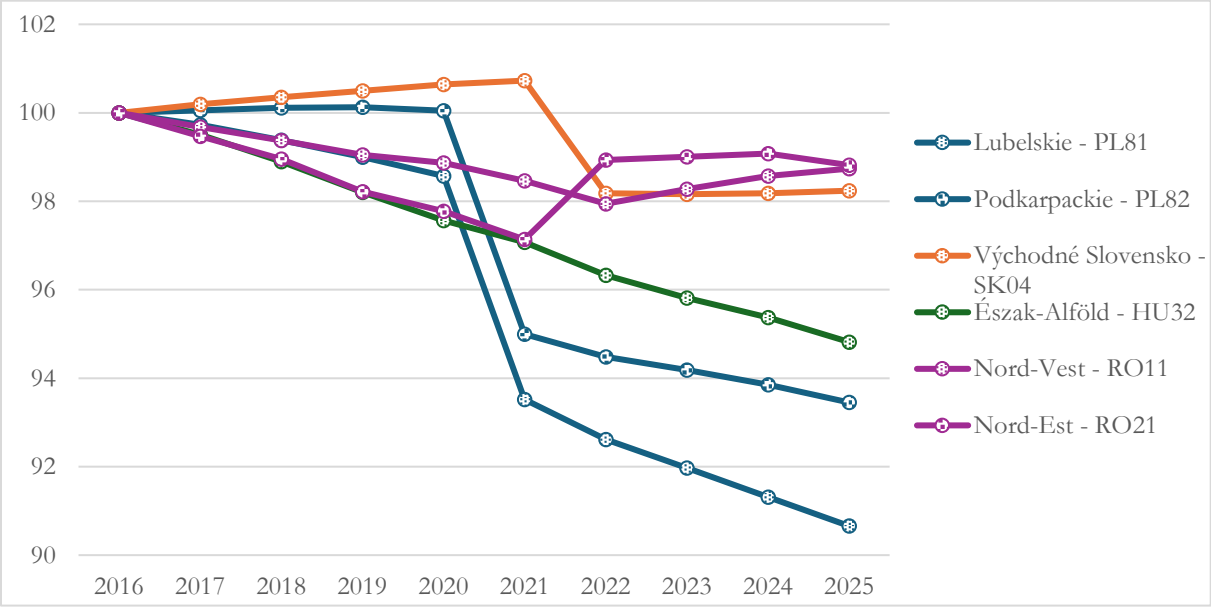
The populations of the Ukrainian border regions under review differed substantially in 2025. The Romanian region of Nord-Est had the largest population (3.2 million inhabitants), whereas Východné Slovensko in Slovakia was the least populous territory (with approximately 1.6 million inhabitants). Most of the regions under review are peripheral within their respective national contexts; nevertheless, their demographic weight remains significant in the eastern spatial structure of the countries concerned.

Figure 2: Population of the NUTS 2 regions under review in 2025



Source: *authors' compilation based on Eurostat data*

Figure 3: Population change in the NUTS 2 regions under review between 2016 and 2025 (2016 = 100)



Source: *authors' compilation based on Eurostat data*

The time-series analysis indicates population decline in all NUTS 2 regions during the 2016-2025 period (see table). The most substantial decreases occurred in the Polish regions of Lubelskie (-9.3%) and Podkarpackie (-6.5%), whereas the populations of the Romanian regions Nord-Vest (-1.3%) and Nord-Est (-1.2%), as well as Východné Slovensko in Slovakia (-1.8%), declined only moderately. Compared with the respective national trends, population loss in Lubelskie and Podkarpackie was considerably more pronounced than the decline recorded in Poland as a whole (-

3.9%). The decrease in Východné Slovensko also exceeded the nearly stable national trend in Slovakia (-0.1%), whereas Nord-Vest and Nord-Est experienced substantially smaller population losses than Romania as a whole (-3.6%). The population of Észak-Alföld in Hungary fell by more than 5% over the period under review.

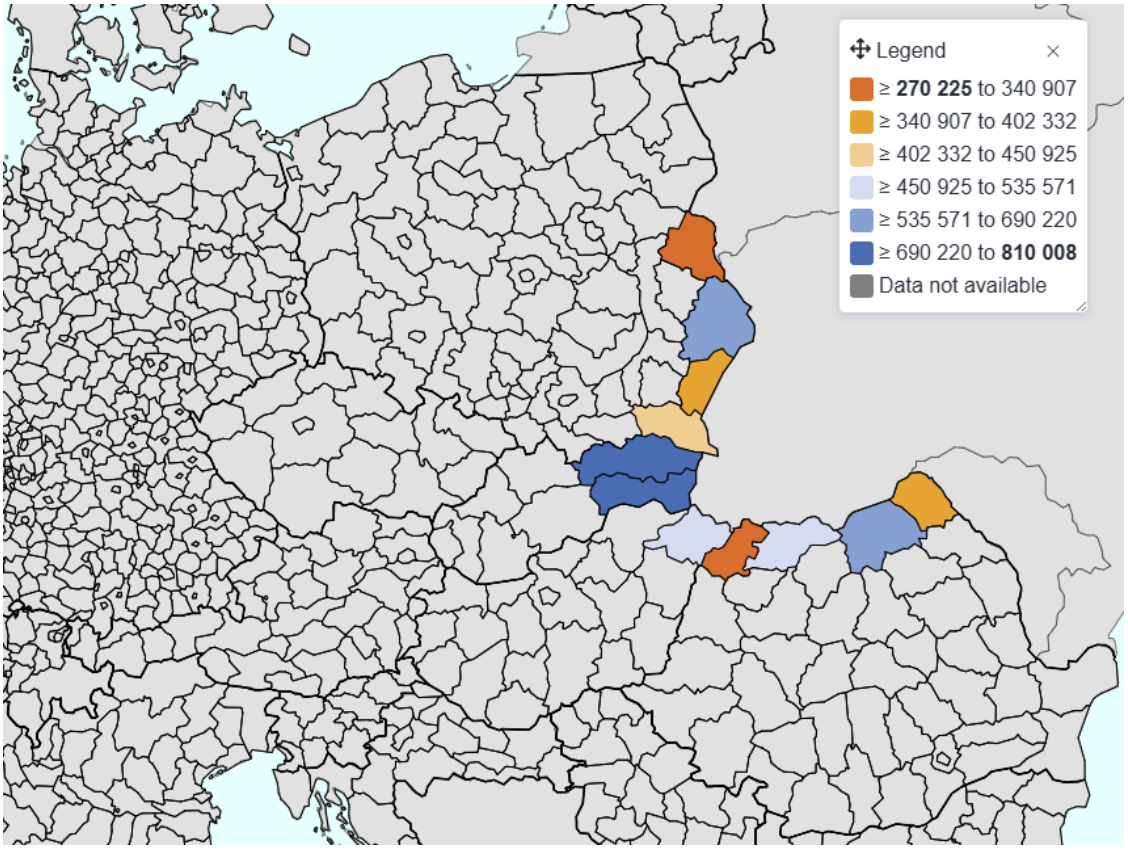
Table 1: Population change in the NUTS 2 regions under review between 2016 and 2025 (2016 = 100)

Region	Change, 2016-2025	National change, 2016–2025 (%)
Lubelskie – PL81	-9,3%	-3,9%
Podkarpackie – PL82	-6,5%	-3,9%
Východné Slovensko – SK04	-1,8%	-0,1%
Észak-Alföld – HU32	-5,2%	-2,5%
Nord-Vest – RO11	-1,3%	-3,6%
Nord-Est – RO21	-1,2%	-3,6%

Source: *Eurostat*

This decline was also markedly greater than the corresponding national decrease in Hungary (-2.5%). The findings indicate that population loss is a general characteristic of the entire border zone under review, although its intensity varies markedly by country and region. The most adverse trends are observed in the Polish border areas, whereas the Romanian regions display comparatively more stable demographic trajectories, particularly in relation to their respective national contexts. This is consistent with the premise that, on the eastern peripheries of the EU, population change is an important indicator of the long-term social and economic sustainability of regions.

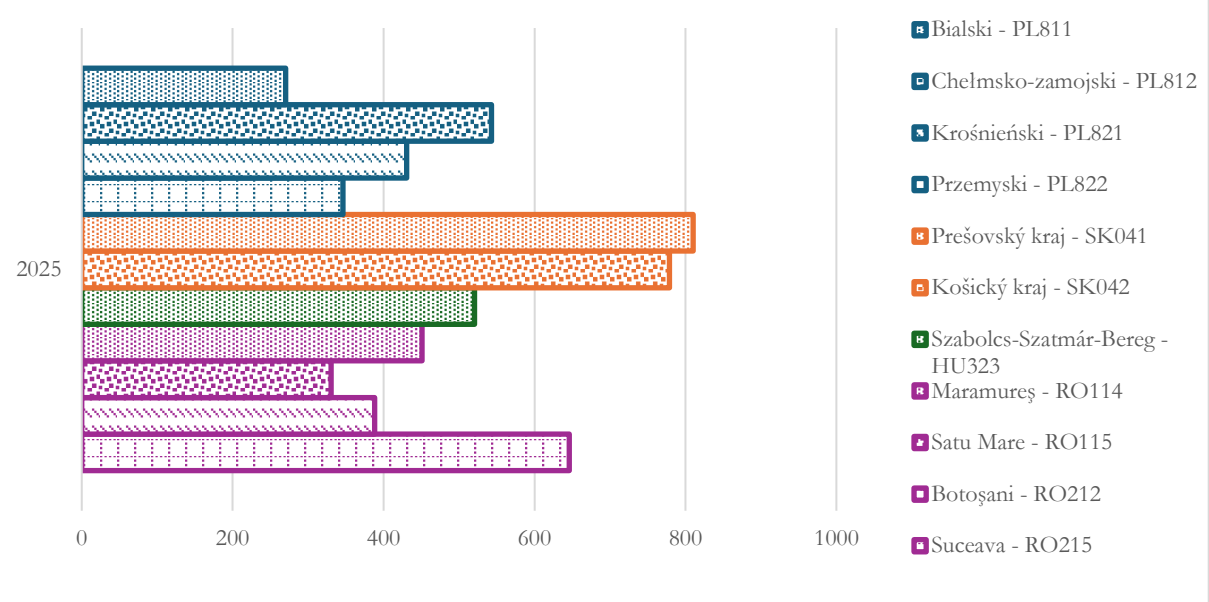
Figure 4: Population of the NUTS 3 regions under review in 2025



Source: *Eurostat*

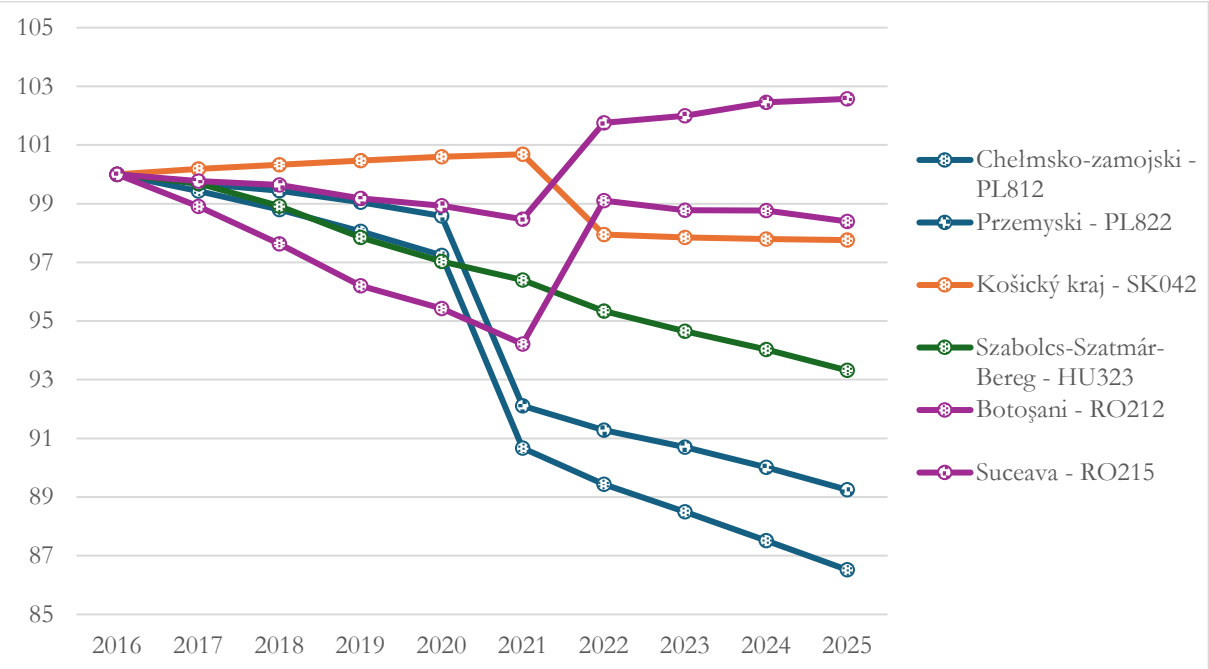
The NUTS 3-level data demonstrate that, in several cases, the areas immediately adjacent to the border follow a less favourable demographic trajectory than the wider NUTS 2 regions. Particularly pronounced population losses are observed in the Polish areas of Chełmsko-zamojski (-13.5%), Przemyski (-10.8%), and Bialski (-10.5%). In Hungary, the population of Szabolcs-Szatmár-Bereg County decreased by almost 7%, nearly two percentage points more than the NUTS 2 region of which it forms part. By contrast, the Romanian area of Suceava recorded moderate population growth (+2.6%), a unique phenomenon among the border territories under review.

Figure 5: Population of the NUTS 3 regions under review in 2025 (thousand persons)



Source: *authors' compilation based on Eurostat data*

Figure 6: Population change in the NUTS 3 regions of particular relevance to the present study between 2016 and 2025 (2016 = 100)



Source: *authors' compilation based on Eurostat data*

Table 2: Population change in the NUTS 3 regions of particular relevance to the present study between 2016 and 2025

Region	Change, 2016-2025
Chełmsko-zamojski – PL812	-13,5%
Przemyski – PL822	-10,8%
Košický kraj – SK042	-2,2%
Szabolcs-Szatmár-Bereg – HU323	-6,7%
Botoşani – RO212	-1,6%
Suceava – RO215	+2,6%

Source: *Eurostat*

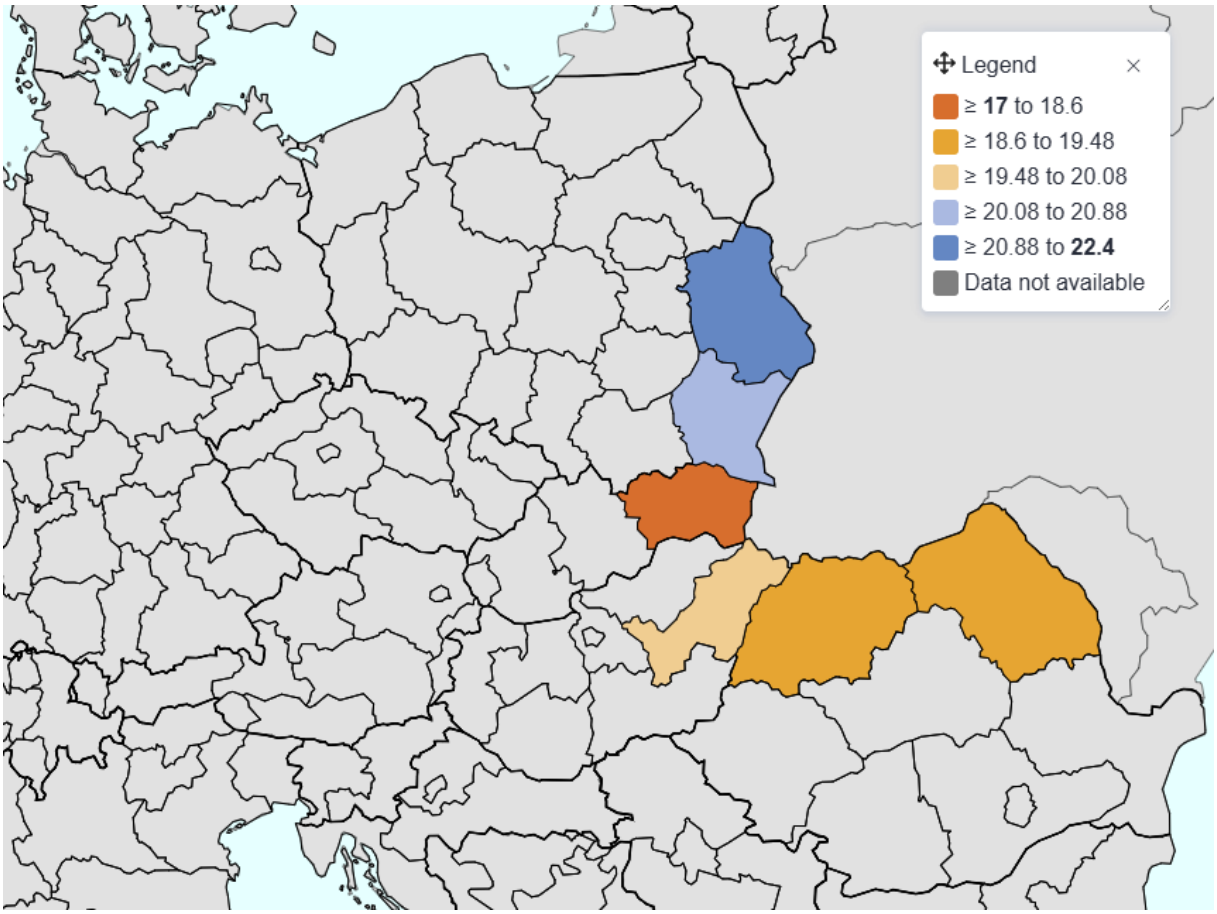
The NUTS 3 results suggest that the effect of immediate border location is not uniform. While a peripheral position is associated with substantial population loss in some territories, other regions have succeeded in stabilising or even increasing their populations. This warrants further investigation of the factors underlying demographic processes through an analysis of natural population change and migration.

2.1.2 Age structure and population ageing

In addition to population trends, the examination of demographic structure is also fundamental to assessing the long-term development prospects of the territories. Age structure provides particularly important information for evaluating the future supply of labour, the sustainability of social security systems, and the anticipated direction of demographic processes. In most European countries, declining fertility and increasing life expectancy have progressively shifted the age composition of the population towards older age groups over recent decades.

The age structure is characterised in this study by the proportion of the population aged 65 years and over and by the old-age dependency ratio. The first indicator measures the share of older persons in the total population, while the old-age dependency ratio expresses the number of persons aged 65 years or over per 100 working-age residents (aged 15-64 years). Joint analysis of the two indicators enables a comprehensive assessment of population ageing and its socio-economic consequences.

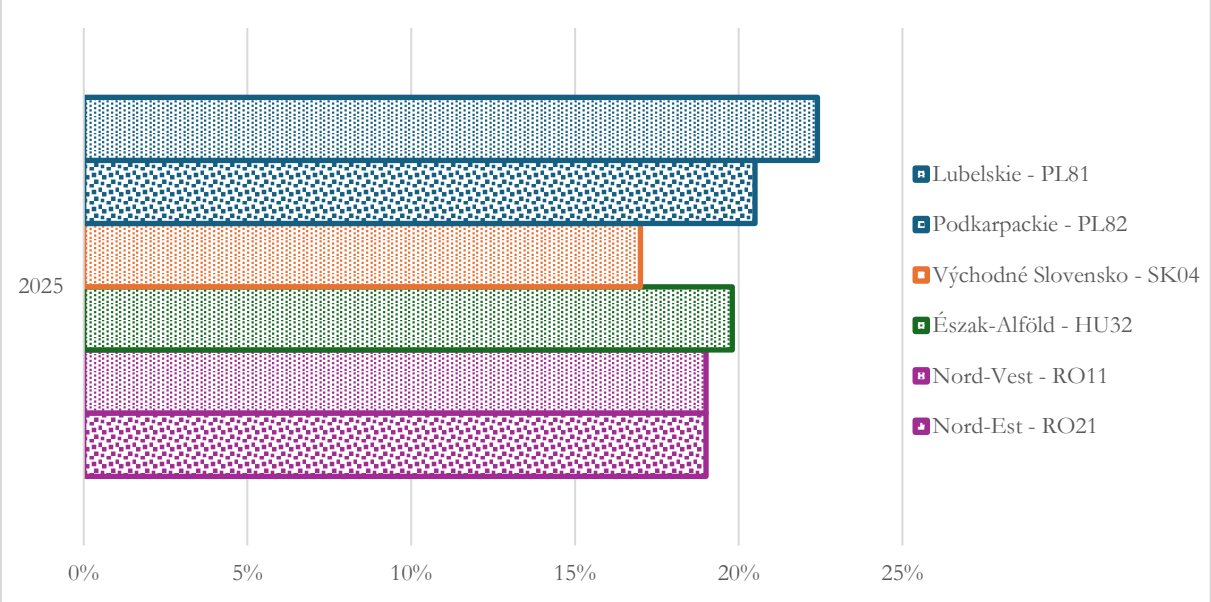
Figure 7: Share of the population aged 65 years and over in the NUTS 2 regions under review in 2025



Source: *Eurostat*

Regional differences in the proportion of the population aged 65 years and over demonstrate that the intensity of population ageing is not uniform across the territories under review.

Figure 8: Share of the population aged 65 years and over in the NUTS 2 regions under review in 2025 (%)

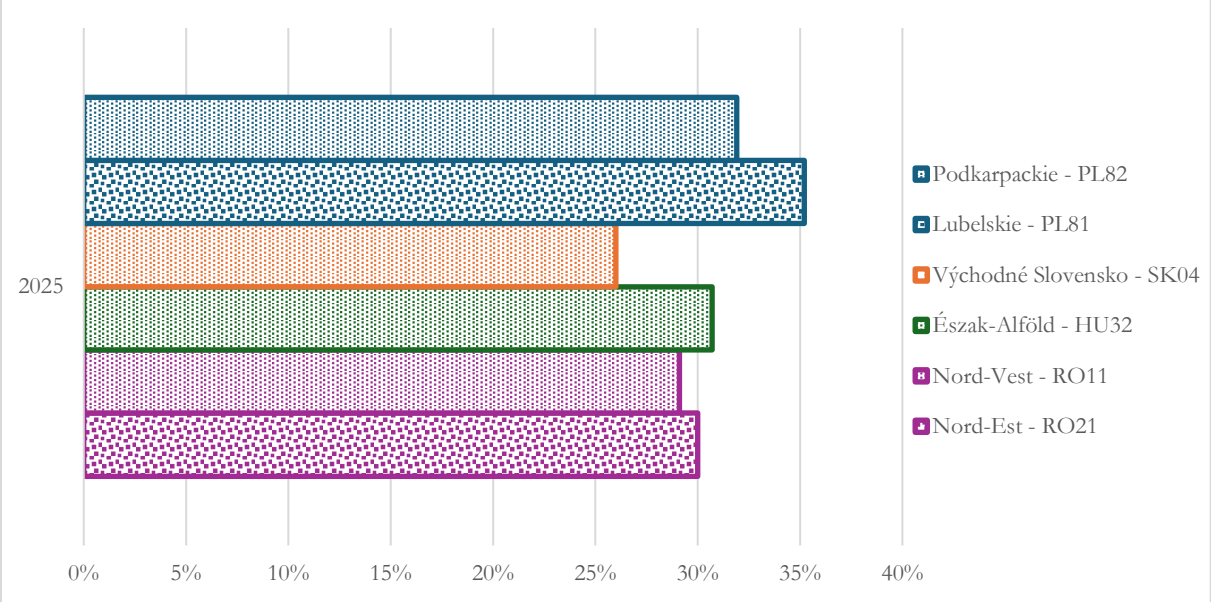


Source: *authors' compilation based on Eurostat data*

The Polish regions have the least favourable age structure: both the proportion of persons aged 65 years and over and the old-age dependency ratio are among the highest in the territories under review. In 2025, the populations of the Polish regions may be regarded as the most aged, broadly corresponding to the EU average (21-22%; Eurostat). The available data indicate that, alongside population decline, the relative weight of the working-age population has also decreased, which may adversely affect the labour market and the sustainability of public services over the longer term.

In 2025, the share of older persons was 21% in Poland, 18.8% in Slovakia, 20.9% in Hungary, and 20.3% in Romania. By contrast, the corresponding values for the Hungarian, Romanian, and Slovak border regions all remained below 20%. In these regions, the proportion of older persons was lower than the EU average, in line with the observed population trends. The Slovak region occupies a clearly favourable position in comparison with the other territories: its value is 2 percentage points better than the Romanian result, 3 percentage points better than the Hungarian result, and 3.5-5.5 percentage points better than the Polish figures.

Figure 9: Old-age dependency ratio in the NUTS 2 regions under review in 2025 (%)



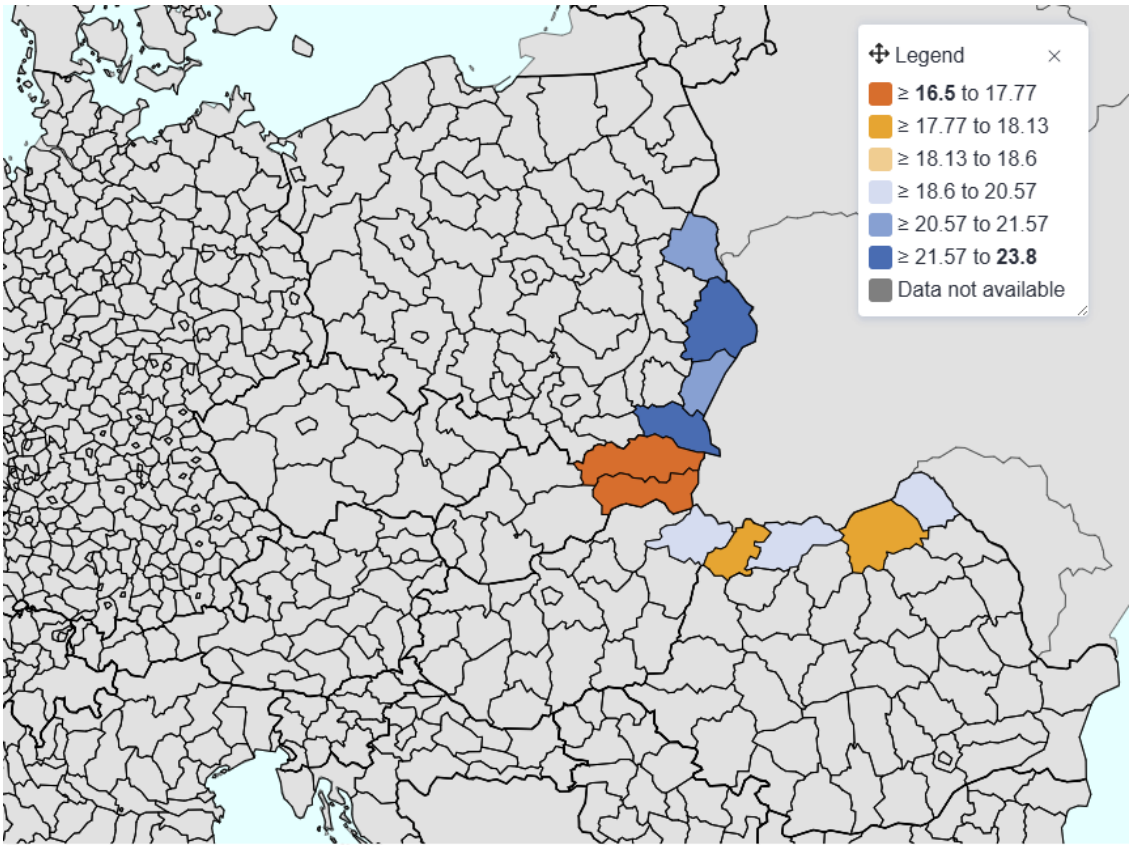
Source: *authors' compilation based on Eurostat data*

The spatial pattern of the old-age dependency ratio largely mirrors the distribution of the population aged 65 years and over. Values range between 25% and 35%, while the ranking of the regions is identical to that based on the older population share. This indicates that population ageing in the regions under review is no longer merely a demographic phenomenon, but increasingly constitutes a social and economic challenge.

In Poland in 2025, there were 32.7 older persons (aged 65 years or over) per 100 persons of working age (15-64 years). The corresponding ratio was 28.7 in Slovakia, 32.2 in Hungary, and 31.6 in Romania. Only in Lubelskie was the number of older dependants higher than the national average; in all other regions, the age composition was more favourable than the respective national average.

Because NUTS 2-level data may conceal substantial intra-regional spatial disparities, it is also appropriate to examine the age structure of the NUTS 3 areas located along the Ukrainian border. It should be noted at the outset, however, that the NUTS 3 analysis likewise reveals marked differences in the degree of population ageing among the immediate border areas.

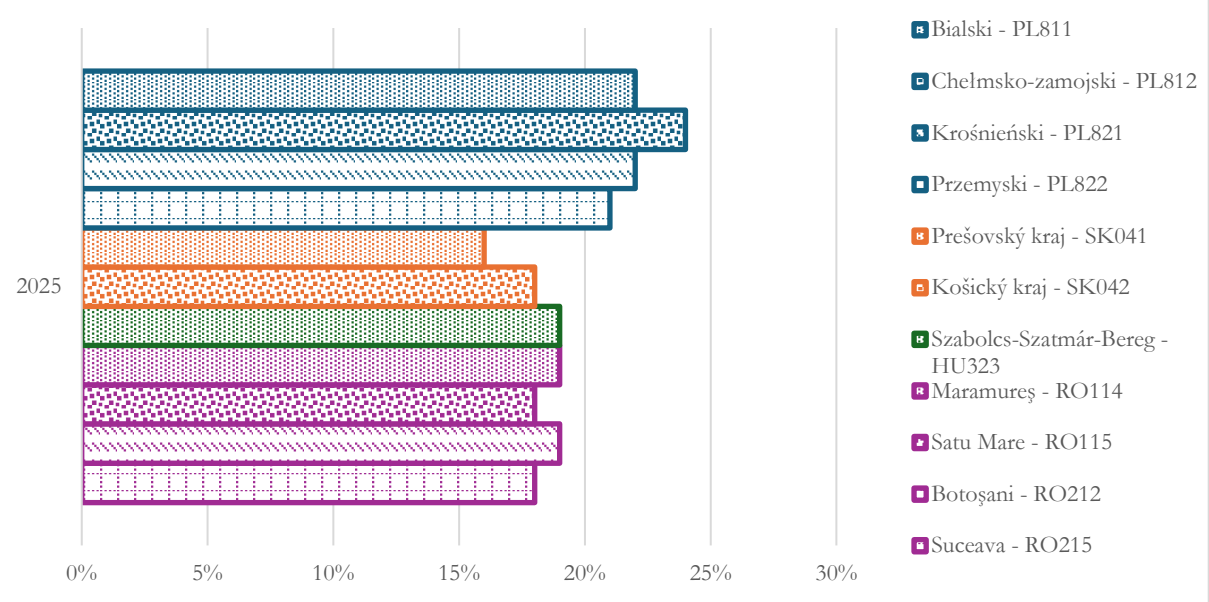
Figure 10: Share of the population aged 65 years and over in the border NUTS 3 areas under review in 2025



Source: Eurostat

The Polish border areas have the oldest age structure: both the proportion of the population aged 65 years and over and the old-age dependency ratio fall within the highest categories, particularly in Chełmsko-zamojski.

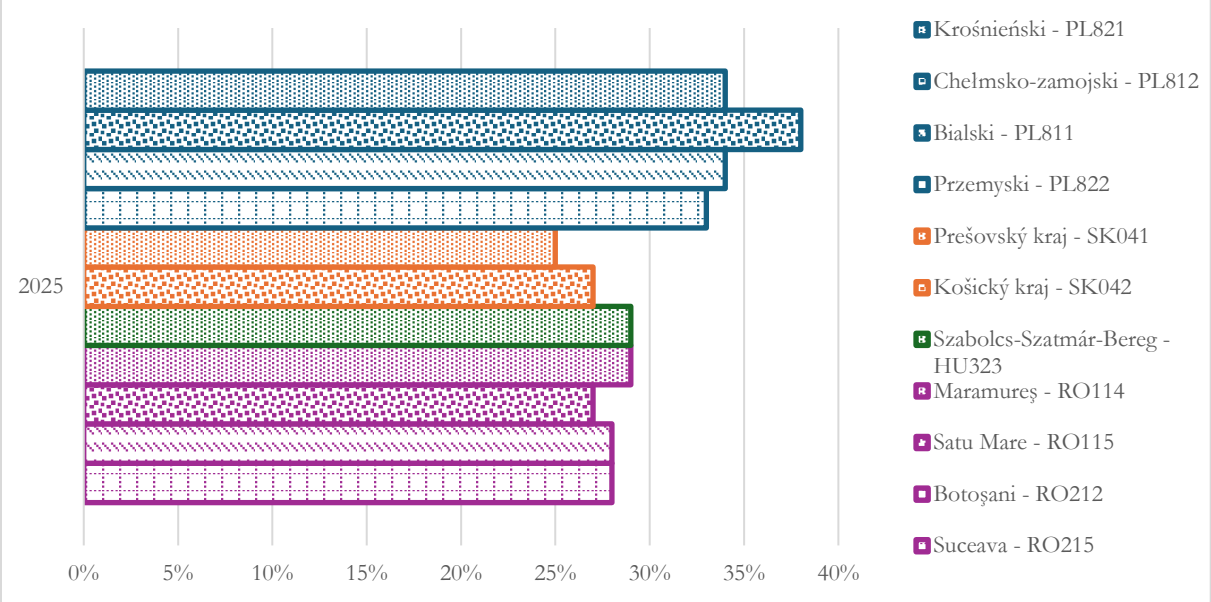
Figure 11: Share of the population aged 65 years and over in the NUTS 3 regions under review, 2025 (%)



Source: *authors' compilation based on Eurostat data*

At the lower territorial level, the Romanian border areas display a more favourable age composition, whereas the Hungarian and Slovak results are less favourable. Maramureş and Botoşani record values comparable to Szabolcs-Szatmár-Bereg in Hungary. Although Satu Mare and Suceava remain below the Hungarian value, their shares of older persons are also lower than that recorded in Košický kraj in Slovakia. The picture of population ageing is therefore more nuanced at the lower territorial level. Most notably, the Slovak NUTS 2 region appears less favourable than suggested by the initial analysis. At NUTS 3 level, the old-age dependency ratios exhibit a pattern almost identical to that of the older population shares (cf. the preceding and following figures).

Figure 12: Old-age dependency ratio in the NUTS 3 regions under review in 2025 (%)



Source: *authors' compilation based on Eurostat data*

The results are consistent with the trends identified in the analysis of population change. Territories experiencing more substantial population decline generally also have a higher proportion of older persons. This suggests that the out-migration of younger age cohorts and low natural reproduction may jointly contribute to a less favourable age structure.

Comparison of the border areas demonstrates that there is no uniform demographic pattern along the Ukrainian border. While population ageing has reached an advanced stage in some regions, the age composition of other territories may still be regarded as relatively favourable. The analysis corroborates the conclusions derived from the examination of population size. In most of the border territories under review, population decline is occurring in parallel with an increasing share of older persons, which may further intensify labour-market and social-policy challenges over the longer term.

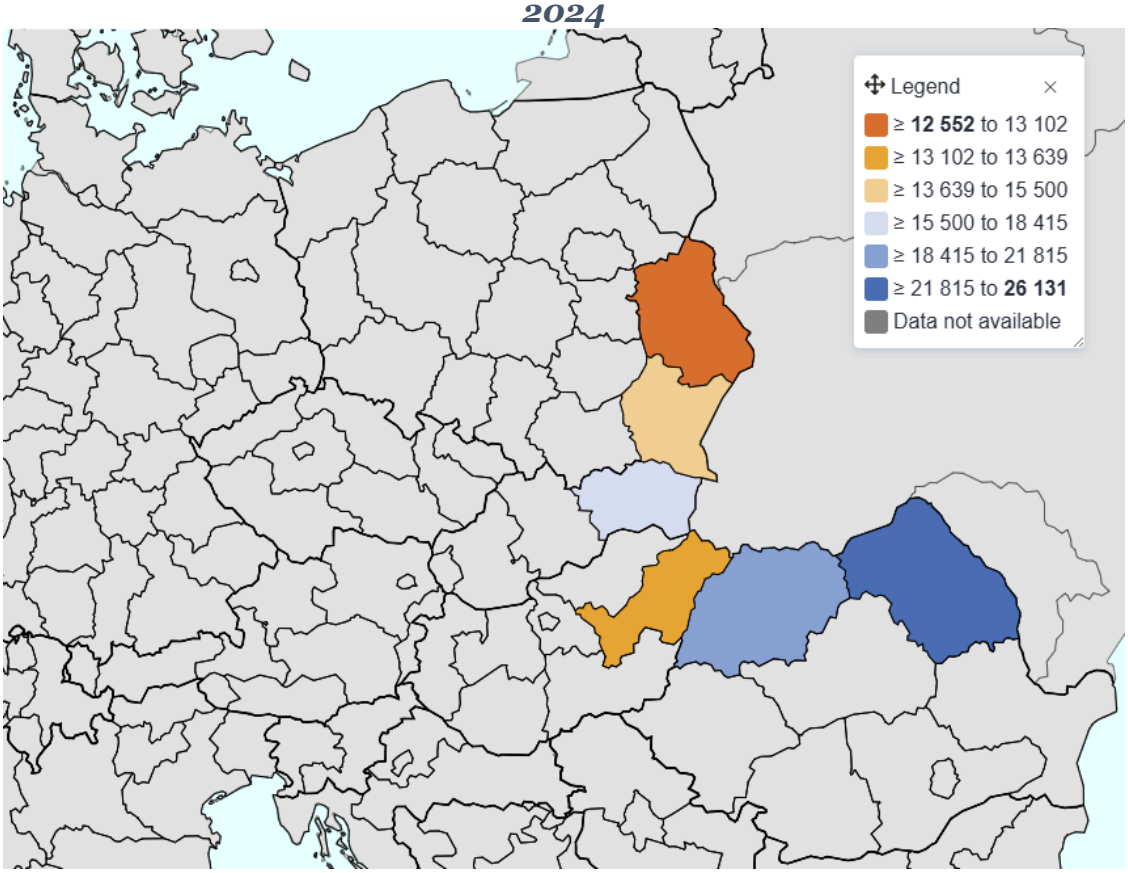
2.1.3 Natural population change

The examination of natural population change is particularly pertinent in the border regions of Central and Eastern Europe, where adverse demographic processes frequently reinforce one another. Persistently low fertility, the increasing proportion of older age groups, and the out-migration of younger people may jointly cause population loss to arise not only from migration, but also from natural demographic processes.

The analysis considers the number of live births, the number of deaths, and the difference between them, expressed as natural increase or natural decrease. It is

important to note that the differing population sizes of the regions must be taken into account when interpreting absolute numbers. A higher number of births or deaths does not in itself necessarily indicate a more or less favourable demographic situation, as it may partly reflect a larger population. The balance of natural population change, calculated as the difference between births and deaths, provides a more direct basis for comparison than the individual event counts, because it shows whether natural population change in a given territory is positive or negative and indicates its magnitude.

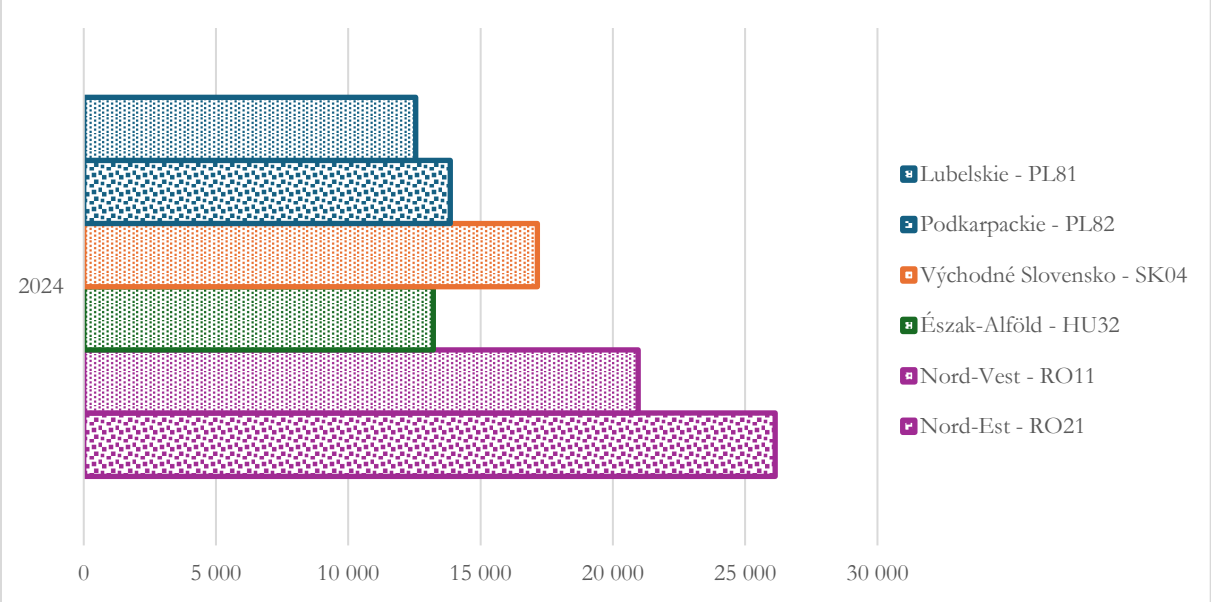
Figure 13: Number of live births in the NUTS 2 regions under review in 2024



Source: Eurostat

In terms of live births, Nord-Est in Romania recorded the highest value among the NUTS 2 regions under review in 2024, with more than 26,000 live births. It was followed by Nord-Vest and then Východné Slovensko. The lowest values were observed in the Polish regions and in Észak-Alföld: in Lubelskie and Észak-Alföld, the number of live births was approximately 13,000. Birth counts therefore partly reflect regional population size, although differences in reproductive patterns are already evident at this level.

Figure 14: Number of live births in the NUTS 2 regions under review in 2024

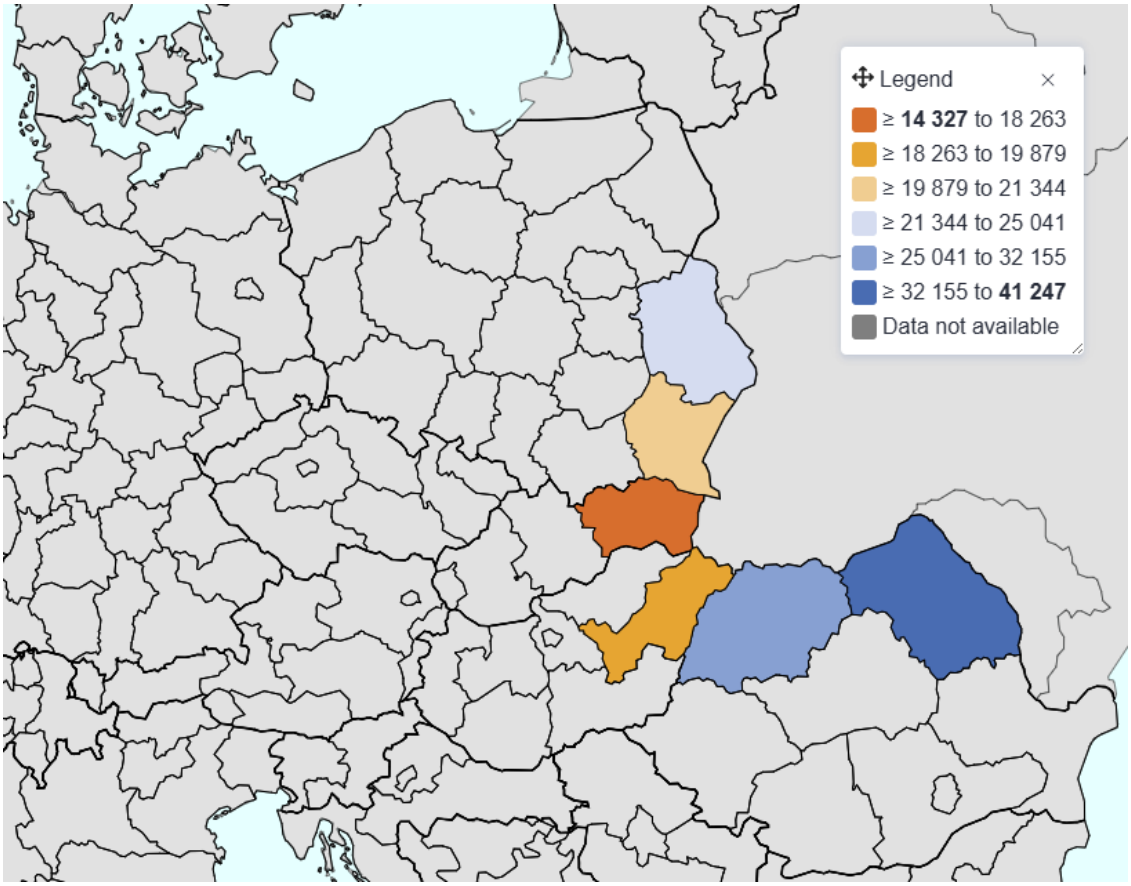


Source: *authors' compilation based on Eurostat data*

The bar chart quantitatively confirms the differences shown on the map. Of the NUTS 2 regions under review, the two Romanian regions have the greatest demographic weight: 26,131 live births were registered in Nord-Est and 20,952 in Nord-Vest in 2024. Východné Slovensko occupies an intermediate position with 17,146 live births, while Podkarpackie, Észak-Alföld, and Lubelskie are characterised by lower birth counts. When interpreting these differences, it remains necessary to account for the differing population sizes of the regions, which also influence the absolute numbers. A higher birth count therefore does not necessarily indicate a more favourable fertility situation, but may partly be a consequence of a larger population.

The number of births alone is insufficient for assessing the situation of natural population change. The actual demographic impact of reproductive processes can only be interpreted together with the number of deaths, because natural population increase or decrease is determined by the balance between these two types of event. The next step therefore examines territorial differences in the number of deaths.

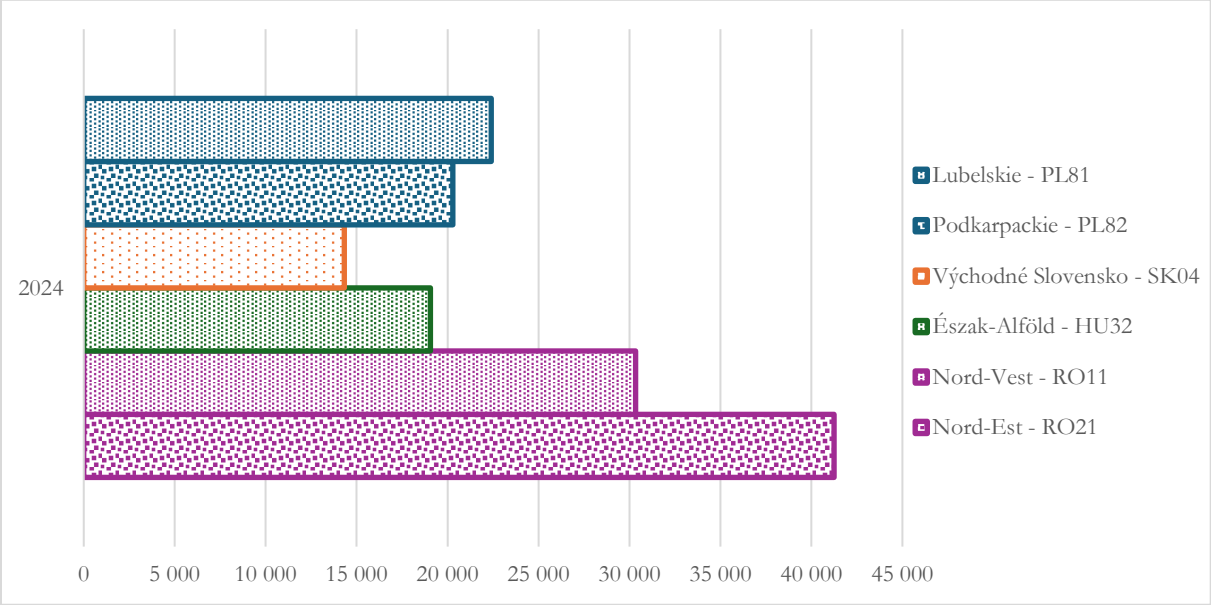
Figure 15: Number of deaths in the NUTS 2 regions under review in 2024



Source: *Eurostat*

The number of deaths was likewise highest in Nord-Est, exceeding 41,000 in 2024. Nord-Vest also recorded a high figure of more than 30,000 deaths, while Lubelskie and Podkarpackie were characterised by values of approximately 20,000-22,000. By contrast, Východné Slovensko had the lowest number of deaths among the NUTS 2 regions under review, which also played a decisive role in the region's balance of natural population change.

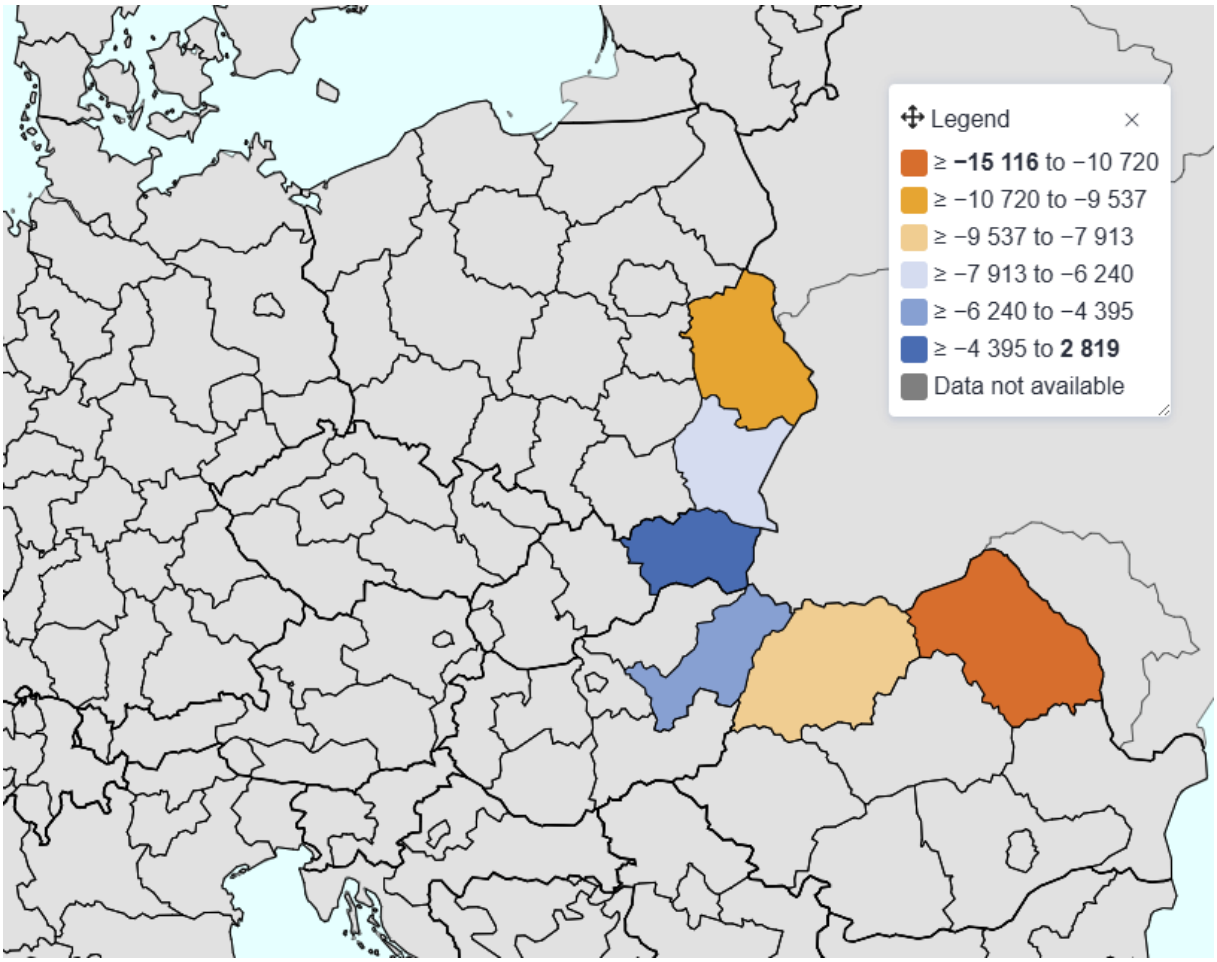
Figure 16: Number of deaths in the NUTS 2 regions under review in 2024



Source: *authors' compilation based on Eurostat data*

The ranking of the NUTS 2 regions by number of deaths partly follows the pattern observed for live births; however, the ratios relative to births reveal substantial differences. In Nord-Est, the 41,247 deaths considerably exceeded the 26,131 live births, foreshadowing the magnitude of natural decrease. A similar, though somewhat less pronounced, disparity is observed in Nord-Vest, where 30,337 deaths were recorded.

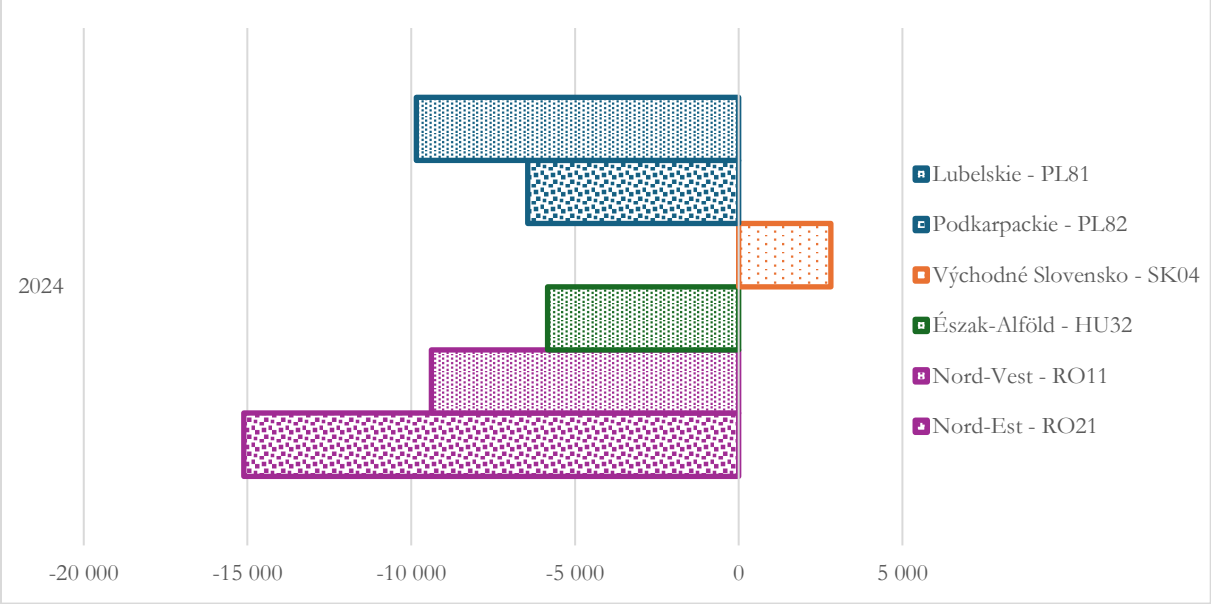
Figure 17: Natural population increase in the NUTS 2 regions under review in 2024



Source: *Eurostat*

Based on the balance of births and deaths, Východné Slovensko was the only NUTS 2 region under review to record natural population increase in 2024. The number of live births exceeded the number of deaths by 2,819. By contrast, natural population decrease was observed in all other regions under review.

Figure 18: Natural population increase in the NUTS 2 regions under review in 2024

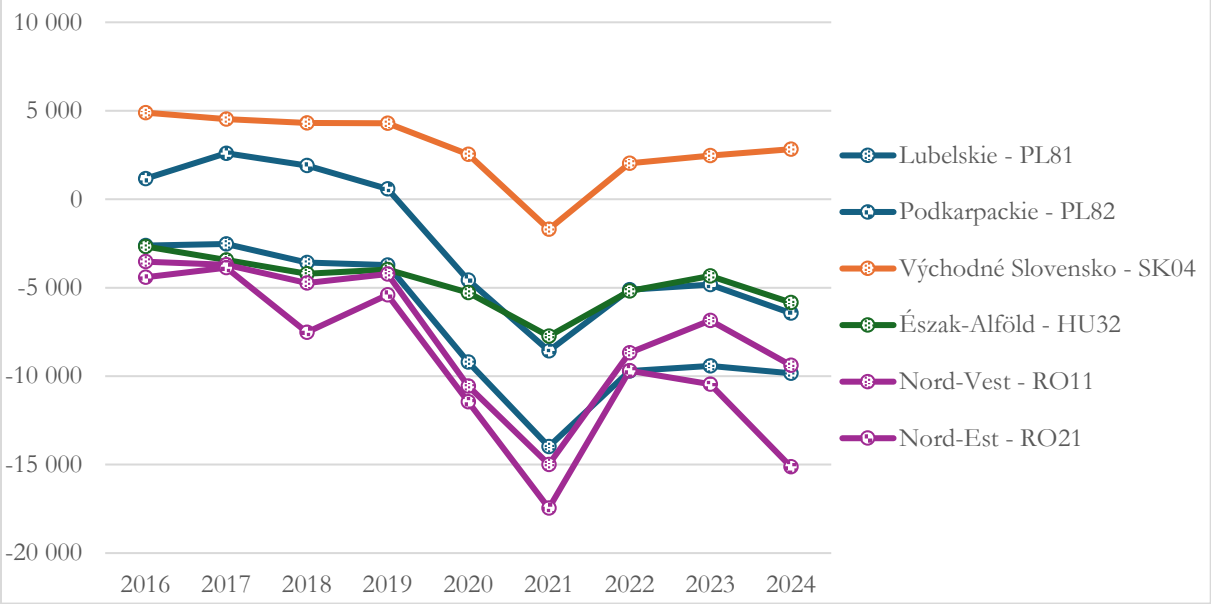


Source: *authors' compilation based on Eurostat data*

Among the regions with a negative balance, Nord-Est was in the least favourable position, with natural decrease amounting to 15,116 persons. Lubelskie and Nord-Vest likewise recorded substantial natural losses exceeding 9,000 persons. Natural decrease was more moderate in Podkarpackie and Észak-Alföld, but nevertheless remained considerable. The 2024 cross-sectional picture therefore does not reveal a uniform demographic pattern across the border area. While the Slovak region occupied a more favourable position, natural decrease had already become a major determinant of population change in all other NUTS 2 regions under review.

The assessment of natural population change cannot, however, be based on a single year. Interpreting the situation in 2024 also requires determining whether natural increase or decrease represents a persistent phenomenon or merely a temporary deviation associated with a particular year. This is made possible by the time-series data for 2016-2024.

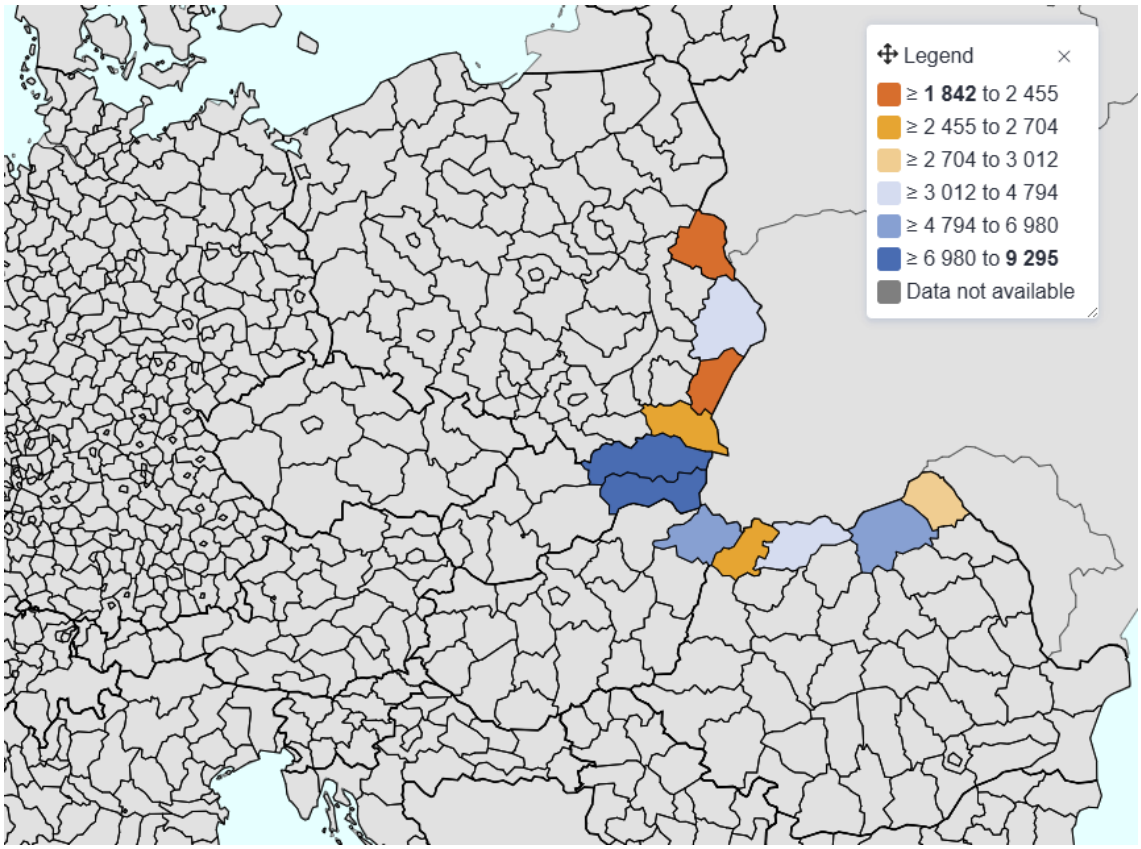
Figure 19: Natural population increase in the NUTS 2 regions under review between 2016 and 2024



Source: *authors' compilation based on Eurostat data*

The 2016-2024 time series shows that the balance of natural population change was persistently negative in several territories. Észak-Alföld, Nord-Vest, Nord-Est, and Lubelskie experienced natural decrease throughout the entire period under review. Podkarpackie was temporarily in a more favourable position, displaying a positive or moderately positive balance during the second half of the 2010s; after 2020, however, natural decrease also became persistent in this region. The years of the COVID-19 pandemic produced a particularly pronounced structural break: the natural population balance deteriorated markedly in every region in 2020 and especially in 2021. Although a partial correction was observed in several territories in 2022, the 2024 data indicate that natural decrease remains a major demographic problem in most regions.

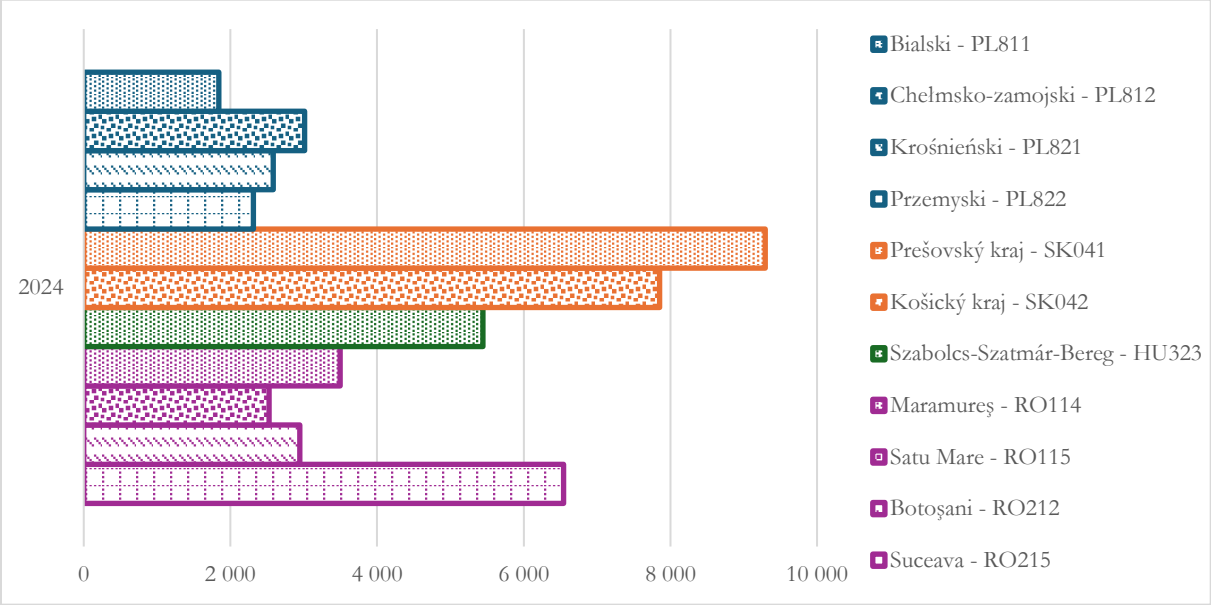
Figure 20: Number of live births in the NUTS 3 regions under review in 2024



Source: *Eurostat*

The NUTS 3-level analysis provides a more nuanced picture of natural population change in the border areas. In 2024, the highest number of live births was recorded in Prešovský kraj in Slovakia, with more than 9,000 births. It was followed by Košický kraj and then Suceava in Romania. Szabolcs-Szatmár-Bereg was also among the territories with higher birth counts. By contrast, the lowest numbers of live births were recorded in the Polish areas of Bialski, Przemyski, and Krośnieński, as well as in Satu Mare.

Figure 21: Number of live births in the NUTS 3 regions under review in 2024



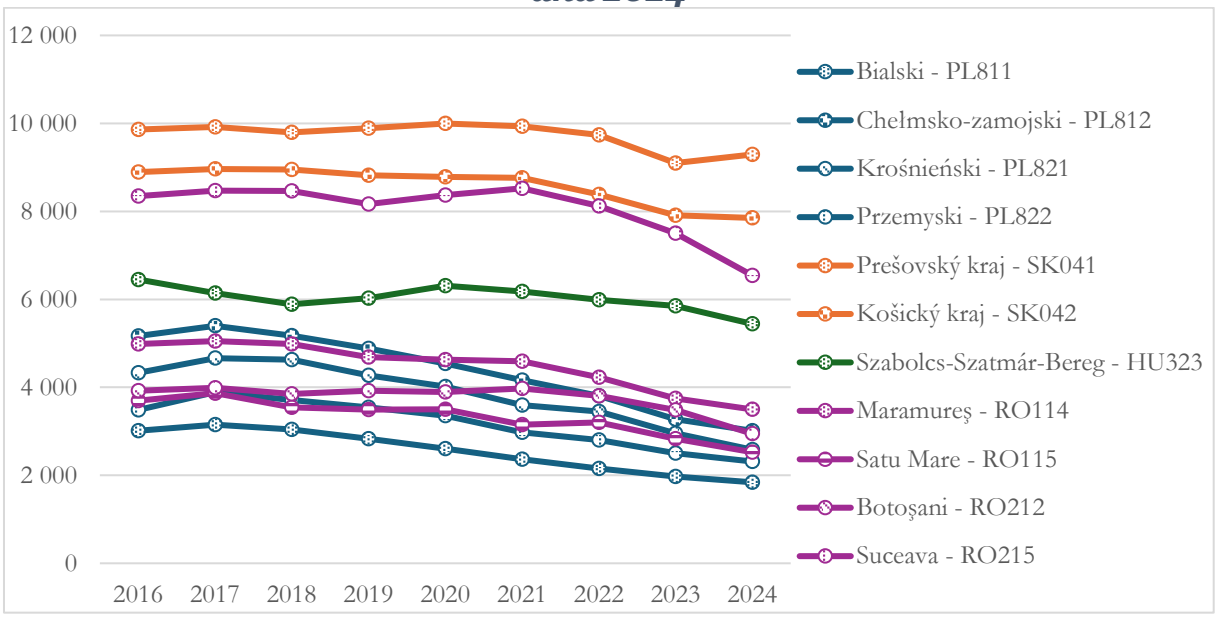
Source: *authors' compilation based on Eurostat data*

The NUTS 3-level bar chart presents the differences among the Ukrainian border areas in greater detail than the NUTS 2 analysis. The highest number of live births was recorded in Prešovský kraj, where 9,295 births occurred in 2024. This was followed by Košický kraj with 7,851, Suceava with 6,544, and Szabolcs-Szatmár-Bereg with 5,442. The lowest birth count was recorded in Bialski, where the number of live births remained below 2,000.

The data also demonstrate that intra-national differences are, in several cases, at least as substantial as disparities between countries. Within Romania, for example, Suceava recorded considerably more births than Botoşani, Satu Mare, or Maramureş. Significant differences are likewise evident among the Polish-Ukrainian border areas: Chełmsko-zamojski recorded more births than Bialski or Przemyski. This confirms that NUTS 2-level data may partly obscure the demographic differentiation within border regions.

The 2024 birth figures, however, provide only a snapshot. To interpret demographic processes, it is particularly important to determine whether birth counts remained stable or declined substantially over the period under review. The following figure presents this development using the 2016-2024 time series.

Figure 22: Live births in the NUTS 3 regions under review between 2016 and 2024



Source: *authors' compilation based on Eurostat data*

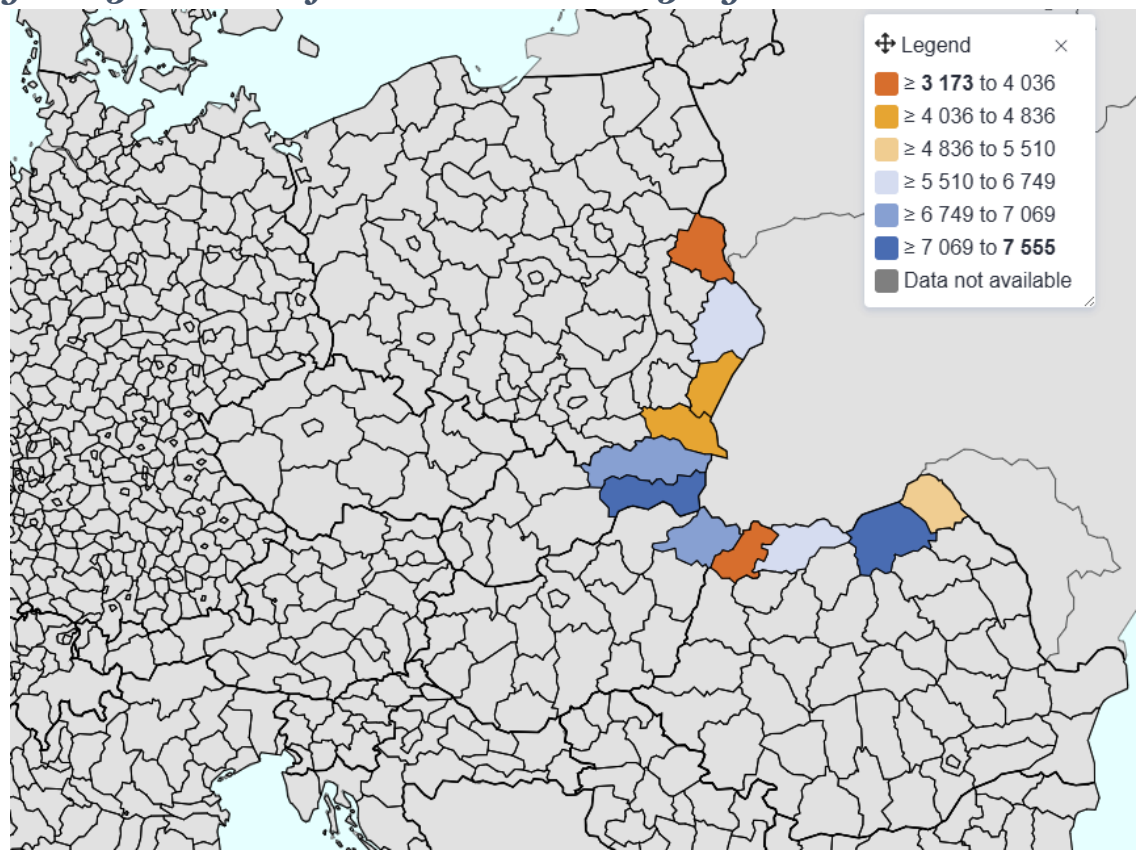
Between 2016 and 2024, the number of live births declined in every NUTS 3 territory under review, although the magnitude of the decrease varied considerably. The largest reductions occurred in the Polish-Ukrainian border areas: the number of live births fell by more than 41% in Chełmsko-zamojski, by more than 40% in Krośnieński, and by almost 39% in Bialski. Substantial declines were also observed in the Romanian territories, particularly Satu Mare and Maramureş. The Slovak regions were in a more favourable position in this respect: the decrease amounted to only 5.7% in Prešovský kraj and 11.7% in Košický kraj. With a decline of 15.6%, Szabolcs-Szatmár-Bereg occupied an intermediate position among the territories under review.

Table 3: Change in the number of live births in the NUTS 3 regions under review between 2016 and 2024 (2016 = 100%)

Region	Change, 2016-2024
Bialski – PL811	-38,95%
Chełmsko-zamojski – PL812	-41,74%
Krośnieński – PL821	-40,40%
Przemyski – PL822	-33,62%
Prešovský kraj – SK041	-5,74%
Košický kraj – SK042	-11,73%
Szabolcs-Szatmár-Bereg – HU323	-15,64%
Maramureş – RO114	-29,82%
Satu Mare – RO115	-31,75%
Botoşani – RO212	-24,95%
Suceava – RO215	-21,60%

Source: *authors' compilation based on Eurostat data*

Figure 23: Number of deaths in the NUTS 3 regions under review in 2024



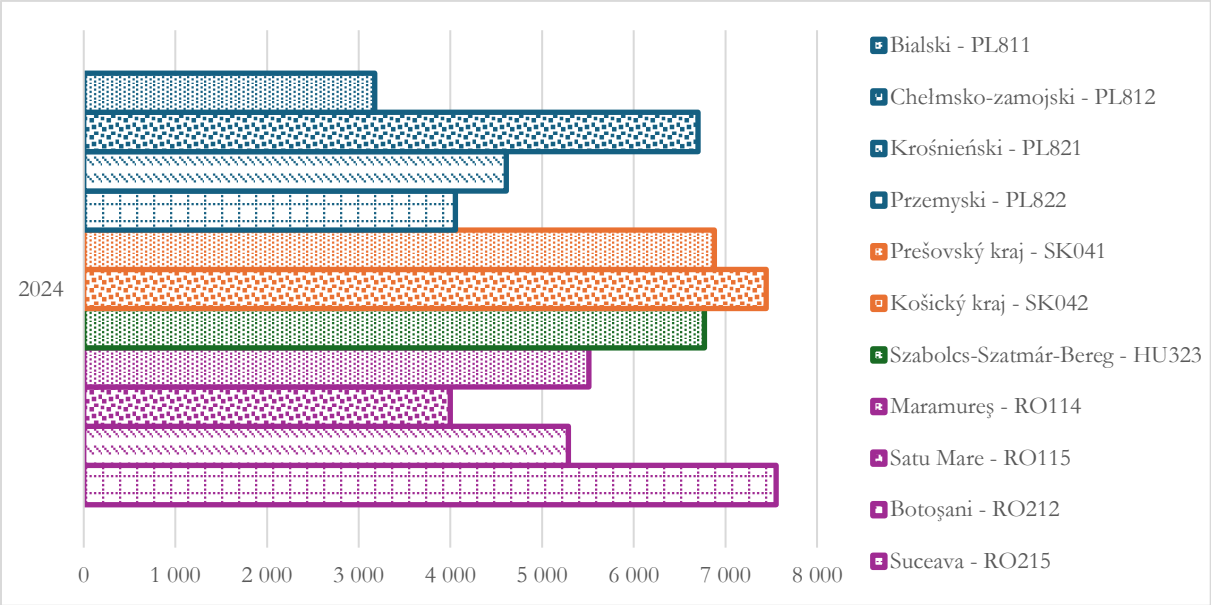
Source: *Eurostat*

Among the NUTS 3 territories under review, Suceava recorded the highest number of deaths in 2024, with 7,555 deaths. Similarly high values were observed in Košický kraj, Prešovský kraj, Szabolcs-Szatmár-Bereg, and Chełmsko-zamojski. In these

regions, the number of deaths ranged from 6,700 to 7,500, making mortality a decisive factor in the balance of natural population change.

The lowest number of deaths was recorded in Bialski, with 3,173 deaths. Przemyski and Satu Mare were likewise among the territories with lower absolute death counts. Here, too, interpretation of the absolute figures must take account of differences in population size and age structure. A high number of deaths may result partly from a larger population and partly from a less favourable age composition.

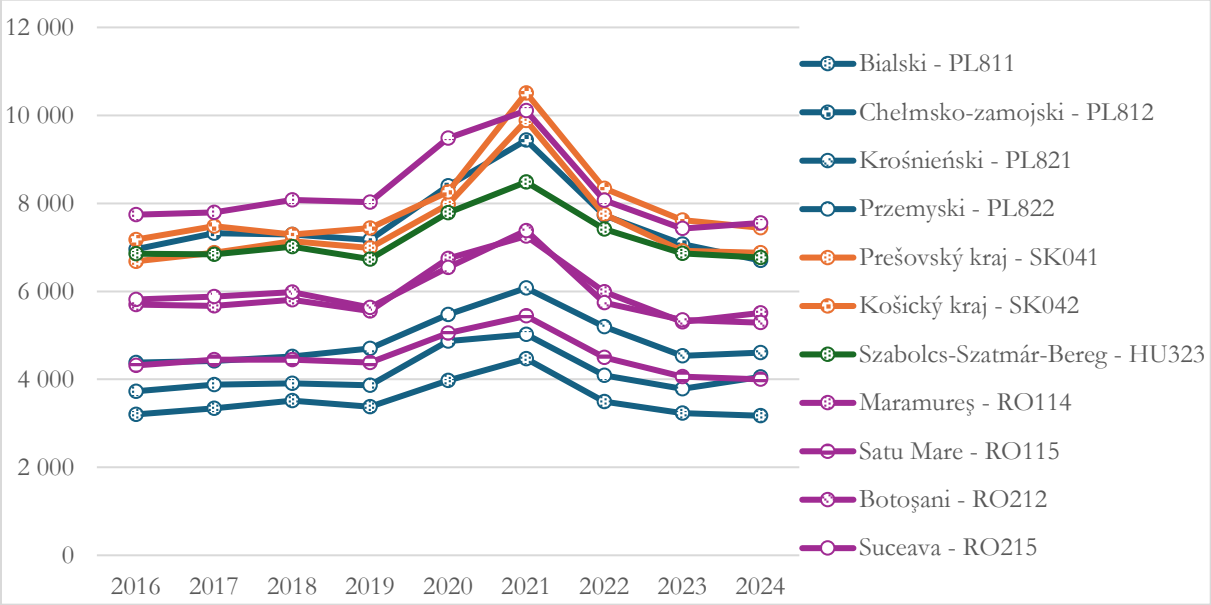
Figure 24: Number of deaths in the NUTS 3 regions under review in 2024



Source: *authors' compilation based on Eurostat data*

Comparison of mortality data with the number of live births reveals particularly important differences. In Prešovský kraj, a positive natural balance was recorded despite the high number of deaths, because live births exceeded deaths. In Suceava, by contrast, the relatively high number of births was insufficient to offset the high mortality figure.

Figure 25: Number of deaths in the NUTS 3 regions under review between 2016 and 2024



Source: *authors' compilation based on Eurostat data*

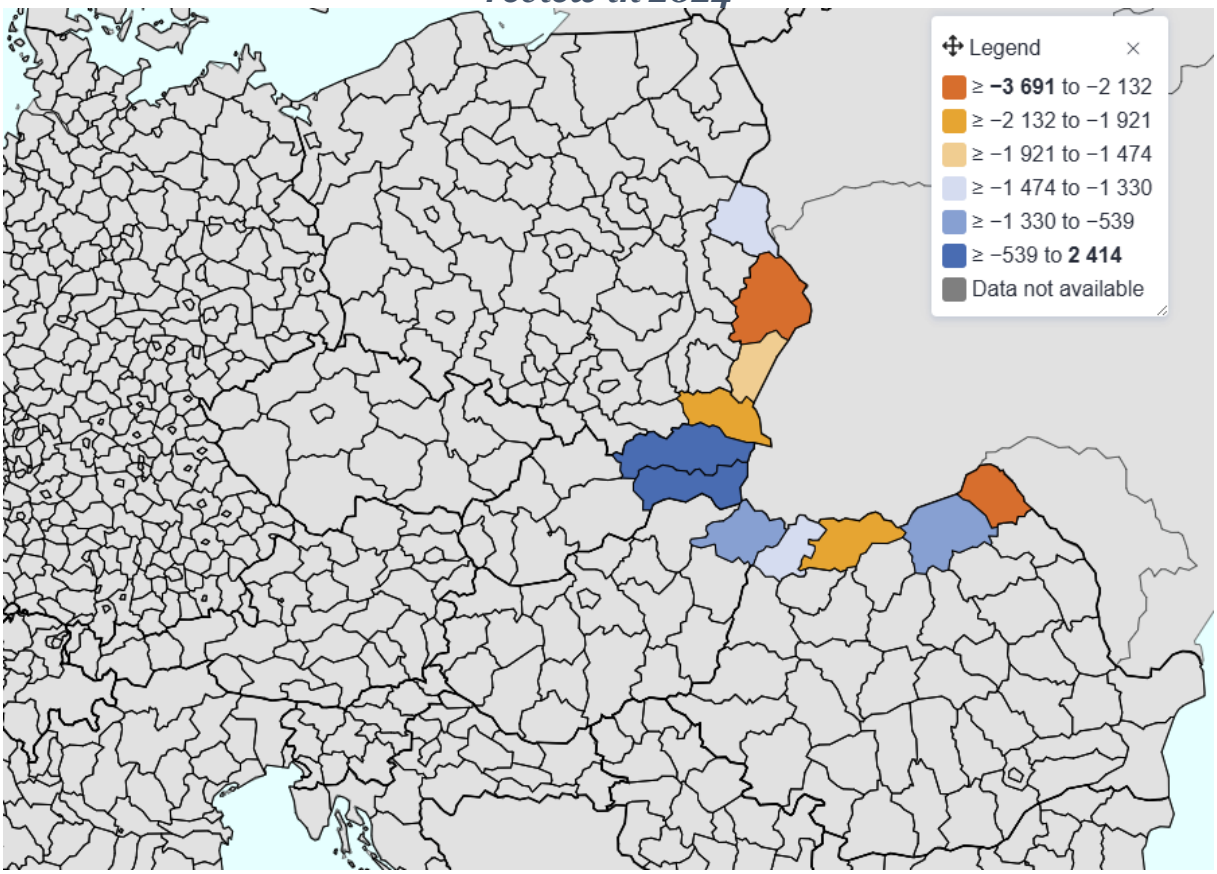
Between 2016 and 2024, the number of deaths increased most markedly in Botoşani, Satu Mare, Chełmsko-zamojski, and Maramureş. By contrast, a decline was observed in Przemyski, Krośnieński, Košický kraj, and Prešovský kraj. The time-series data show an exceptionally high number of deaths in all territories in 2021, indicating the demographic impact of the COVID-19 pandemic. Although mortality declined in several regions after 2022, death counts in many territories remained above their 2016 levels. Mortality trends therefore exhibit a less uniform pattern than birth trends: while the number of births decreased in every territory under review, the direction of change in deaths varied spatially.

Table 4: Change in the number of deaths in the NUTS 3 regions under review between 2016 and 2024 (2016 = 100%)

Region	Change, 2016-2024
Bialski – PL811	+0,87%
Chełmsko-zamojski – PL812	+3,61%
Krośnieński – PL821	-5,23%
Przemyski – PL822	-8,72%
Prešovský kraj – SK041	-2,95%
Košický kraj – SK042	-3,75%
Szabolcs-Szatmár-Bereg – HU323	+1,24%
Maramureş – RO114	+3,27%
Satu Mare – RO115	+7,34%
Botoşani – RO212	+9,08%
Suceava – RO215	+2,45%

Source: *authors' compilation based on Eurostat data*

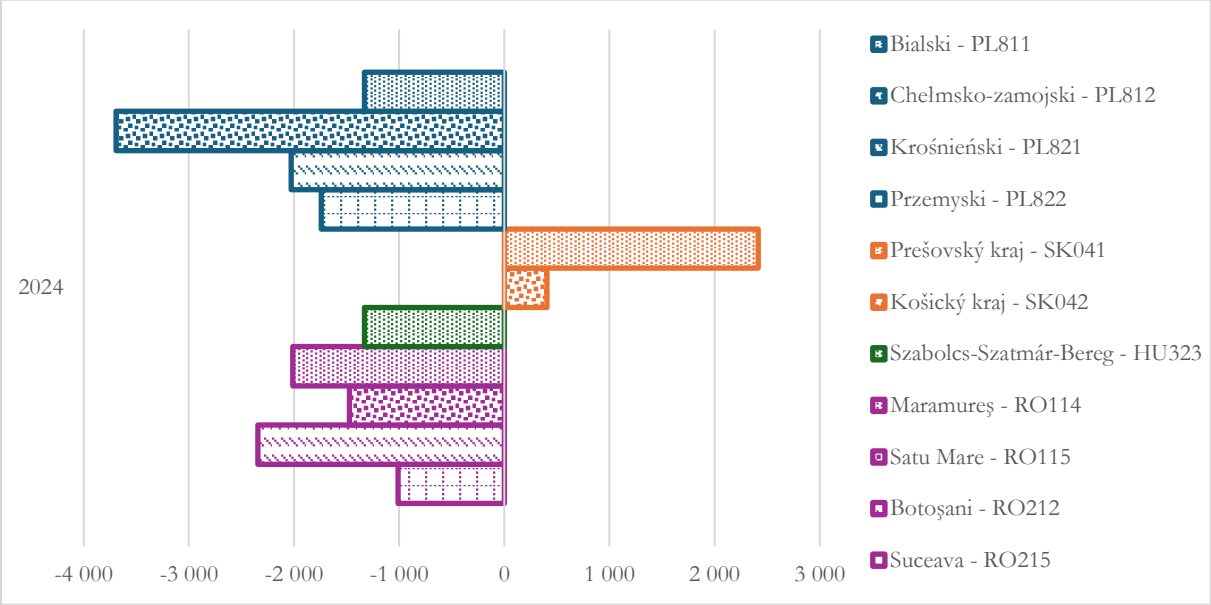
Figure 26: Natural population increase in the NUTS 3 regions under review in 2024



Source: *Eurostat*

The balance of natural population change is also highly differentiated at NUTS 3 level. In 2024, positive natural increase was observed only in the two Slovak regions, Prešovský kraj and Košický kraj. The position of Prešovský kraj was particularly favourable, as natural increase exceeded 2,400 persons. In Košický kraj, the balance remained positive but was substantially more moderate. All other NUTS 3 territories under review recorded natural decrease.

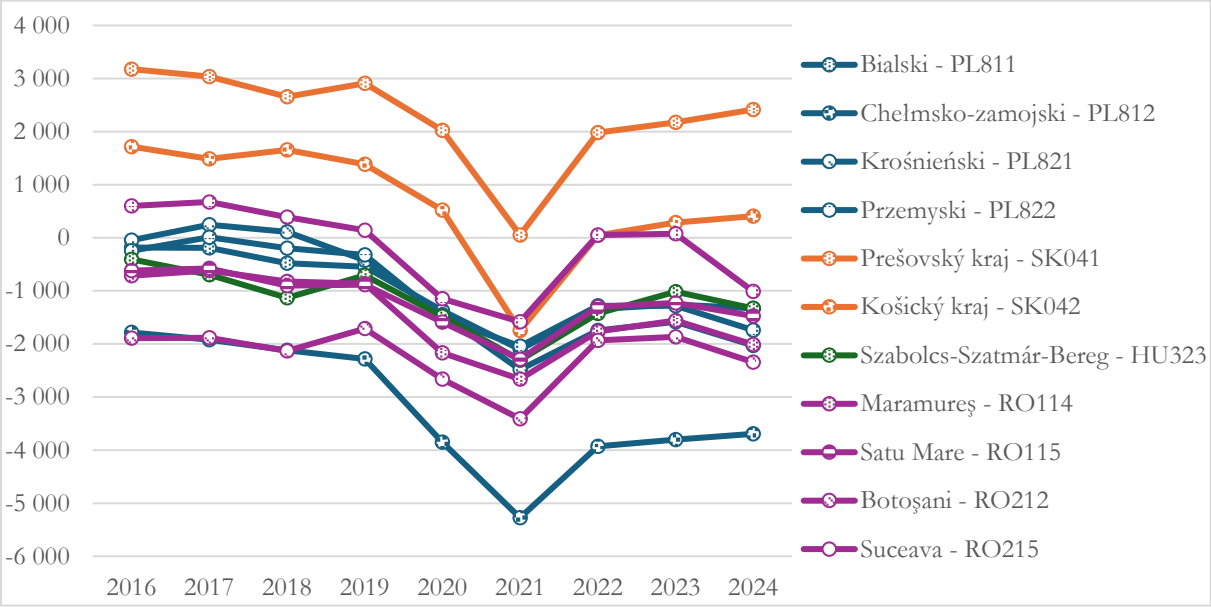
Figure 27: Natural population increase in the NUTS 3 regions under review in 2024



Source: *authors' compilation based on Eurostat data*

The least favourable natural population balance in 2024 was recorded in Chełmsko-zamojski, where deaths exceeded live births by almost 3,700. Substantial natural decrease was also observed in Botoşani, Krośnieński, Maramureş, and Przemyski. Szabolcs-Szatmár-Bereg and Bialski recorded natural losses of a similar magnitude, approximately 1,300 persons, while the negative balance in Suceava was somewhat smaller.

Figure 28: Natural population increase in the NUTS 3 regions under review between 2016 and 2024



Source: *authors' compilation based on Eurostat data*

The 2016-2024 time series shows that the Slovak territories differ most clearly from the other border regions in terms of natural population change. Prešovský kraj maintained a positive natural balance throughout the entire period, despite experiencing a substantial decline in 2021 similar to that observed elsewhere. In Košický kraj, natural increase temporarily became negative in 2021, but returned to positive territory after 2022. By contrast, persistent or intensifying natural decrease was observed in most Polish-Ukrainian, Romanian-Ukrainian, and Hungarian-Ukrainian border areas.

Table 5: Change in natural population increase in the NUTS 3 regions under review between 2016 and 2024

Region	Change, 2016-2024 (persons)	Change, 2016-2024 (2016 = 100%)
Bialski – PL811	-1147	-623,37%
Chełmsko-zamojski – PL812	-1907	-106,89%
Krośnieński – PL821	-1980	-4212,77%
Przemyski – PL822	-1497	-616,05%
Prešovský kraj – SK041	-763	-24,02%
Košický kraj – SK042	-1312	-76,41%
Szabolcs-Szatmár-Bereg – HU323	-924	-227,59%
Maramureş – RO114	-1300	-182,58%
Satu Mare – RO115	-858	-139,29%
Botoşani – RO212	-451	-23,84%
Suceava – RO215	-1613	-267,94%

Source: *authors' compilation based on Eurostat data*

Overall, the findings demonstrate that the natural demographic situation of the territories bordering Ukraine is not uniform. The Slovak regions, particularly Prešovský kraj, have a comparatively more favourable reproductive profile. In the Polish-Ukrainian border areas, however, the pronounced decline in births and the persistently negative natural balance both indicate adverse demographic processes. The Romanian and Hungarian territories occupy an intermediate, though fundamentally also unfavourable, position: the number of live births is declining, mortality has generally increased, and the balance of natural population change is negative.

Natural demographic processes reinforce the patterns identified in the preceding sections. Territories with a less favourable age structure and a higher proportion of older persons also tend to experience more pronounced natural decrease. Population decline should therefore not be interpreted solely as a migration-related process; it is also closely associated with weakening reproductive capacity and changing mortality conditions. In the longer term, these processes may further constrain labour-force

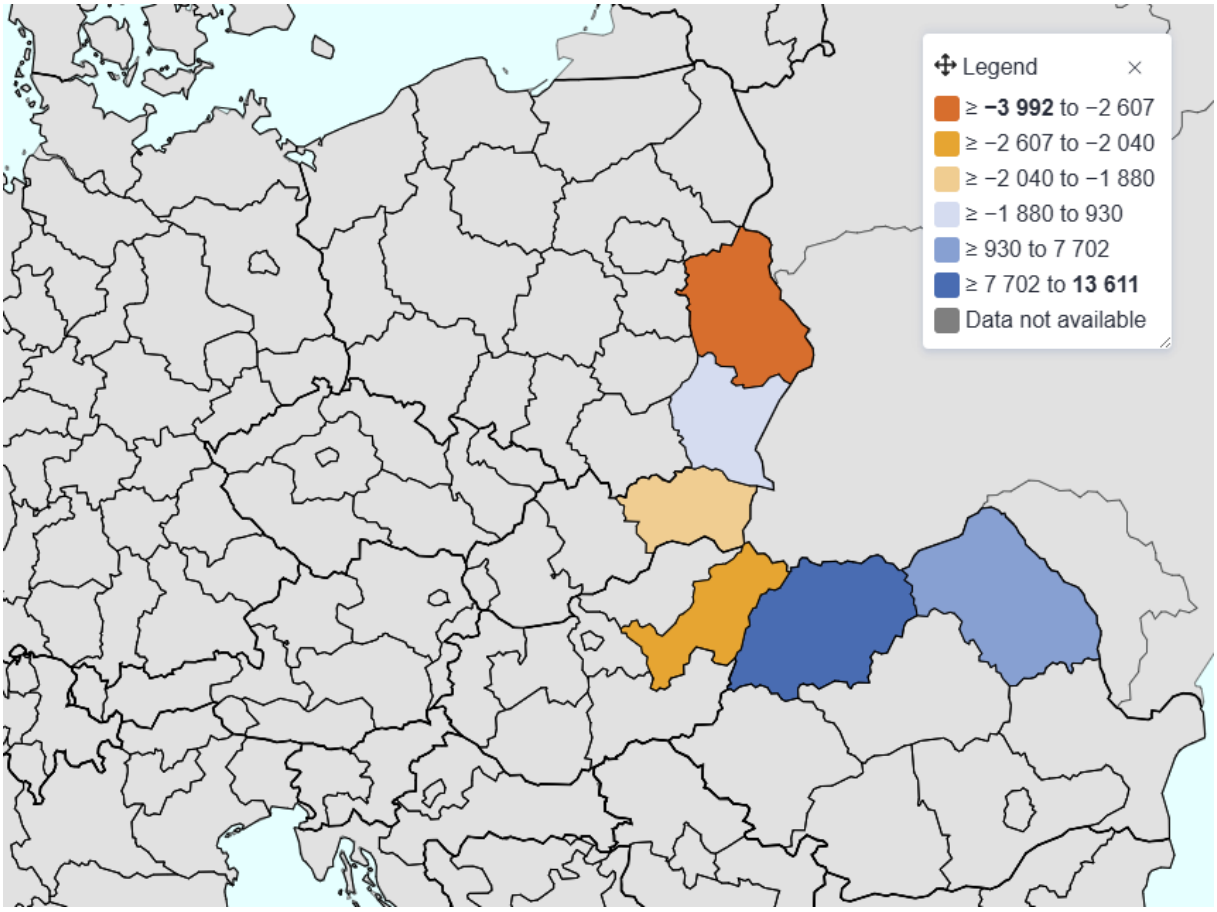
replacement, increase pressures on welfare and service systems, and entrench the adverse demographic position of the Ukrainian border regions.

2.1.4 Migration processes

Alongside natural population change, migration is the other principal component of overall population change. The examination of migration processes is particularly important in border regions, because population decline may result not only from the balance of births and deaths, but also from out-migration and, in certain territories, from the evolution of immigration. The migration balance therefore directly indicates the direction and magnitude of changes in a territory's capacity to retain and attract population.

The analysis uses net migration including statistical adjustment. A positive value indicates net migration gain, whereas a negative value denotes net migration loss. When interpreting absolute values, differences in regional population size must also be taken into account: in more populous regions, the absolute magnitude of migration gain or loss may also be greater. Nevertheless, the indicator is well suited to territorial comparison, as it shows whether the regions under review gain or lose population as a consequence of migration processes.

Figure 29: Net migration in the NUTS 2 regions under review in 2024

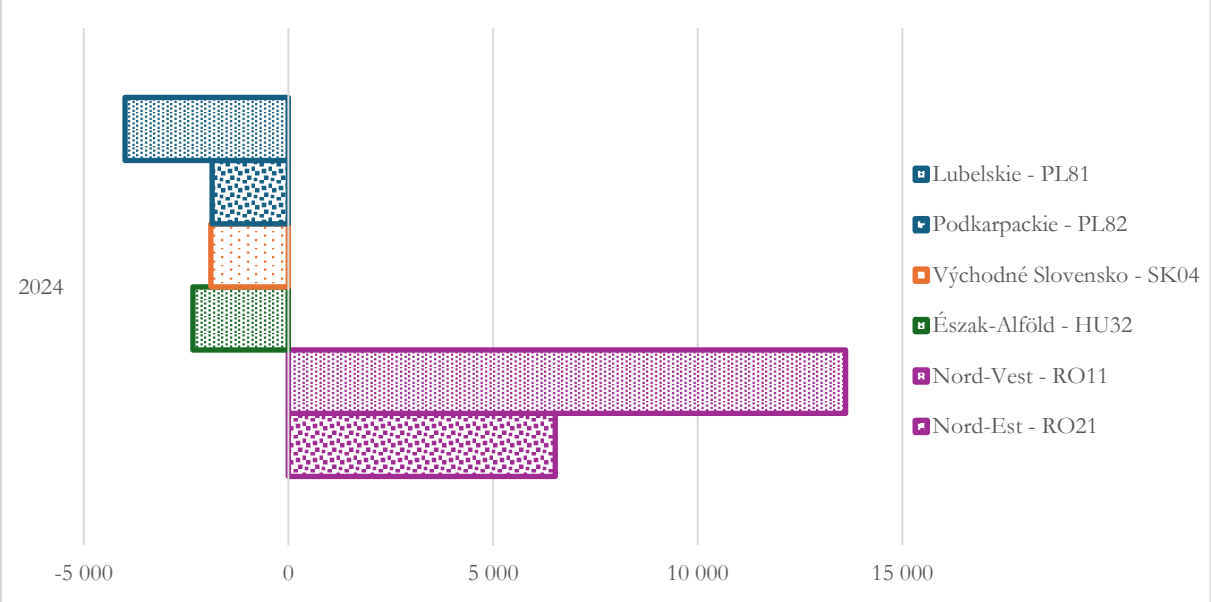


Source: *Eurostat*

The NUTS 2-level map reveals pronounced spatial differences in the migration situation of the regions under review in 2024. Nord-Vest and Nord-Est in Romania recorded positive values, whereas the Hungarian, Slovak, and Polish regions exhibited negative net migration. This indicates that migration did not affect population change uniformly: it mitigated population loss in some regions but intensified it in others.

The map particularly clearly illustrates the more favourable position of the Romanian regions and the migration losses experienced by the Polish and Hungarian territories. For a more detailed interpretation of the NUTS 2-level differences, the values are also presented in a bar chart.

Figure 30: Net migration in the NUTS 2 regions under review in 2024



Source: *authors' compilation based on Eurostat data*

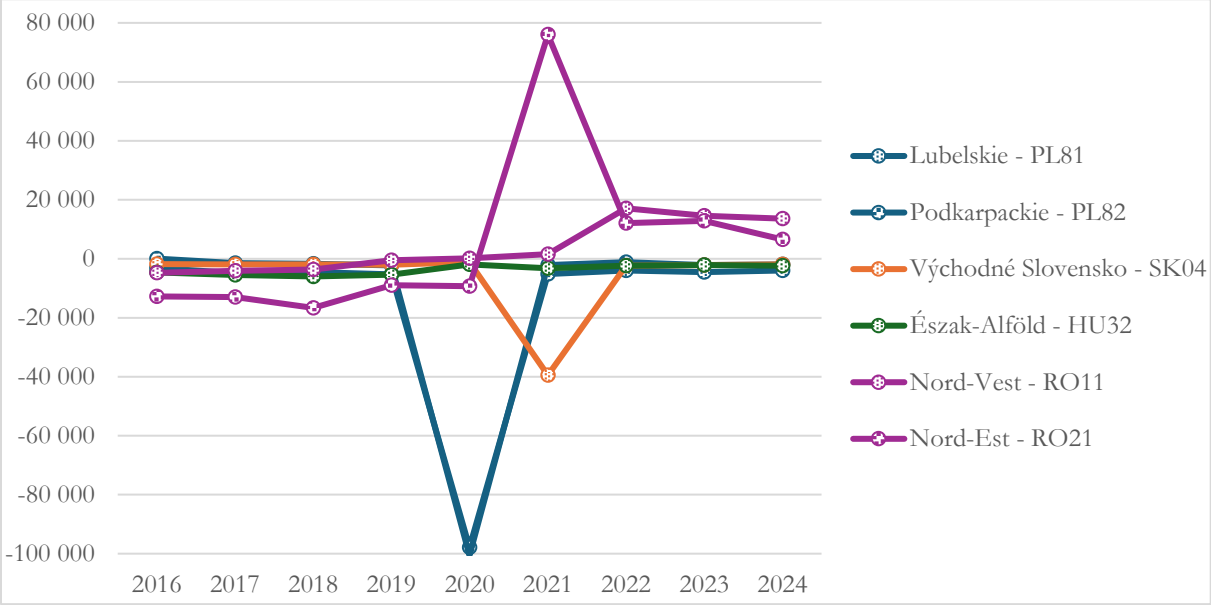
Among the NUTS 2 regions under review, Nord-Vest recorded the highest positive migration balance in 2024, with a net gain of 13,611 persons. Nord-Est also displayed a positive value, with a balance of 6,520 persons. The two Romanian regions were therefore in a clearly more favourable position than the other territories under review.

By contrast, Lubelskie, Észak-Alföld, Východné Slovensko, and Podkarpackie recorded negative values. The largest migration loss occurred in Lubelskie, where the balance was -3,992 persons. Észak-Alföld also experienced a substantial loss of -2,330 persons, while the losses in Podkarpackie and Východné Slovensko were more moderate but remained negative.

The 2016-2024 time series reveals that migration processes were considerably more volatile than indicators of natural population change. Exceptionally large negative values were recorded in the Polish regions in 2020, particularly in Lubelskie and

Podkarpackie. Because the indicator incorporates statistical adjustment, such extreme values should be interpreted with caution: they may reflect not only actual migration movements but also data-correction effects. It is nevertheless plausible that the COVID-19 pandemic influenced the migration balance through the return of migrant workers from Western Europe to Romania and from Poland to Ukraine.

Figure 31: Net migration in the NUTS 2 regions under review between 2016 and 2024



Source: *authors' compilation based on Eurostat data*

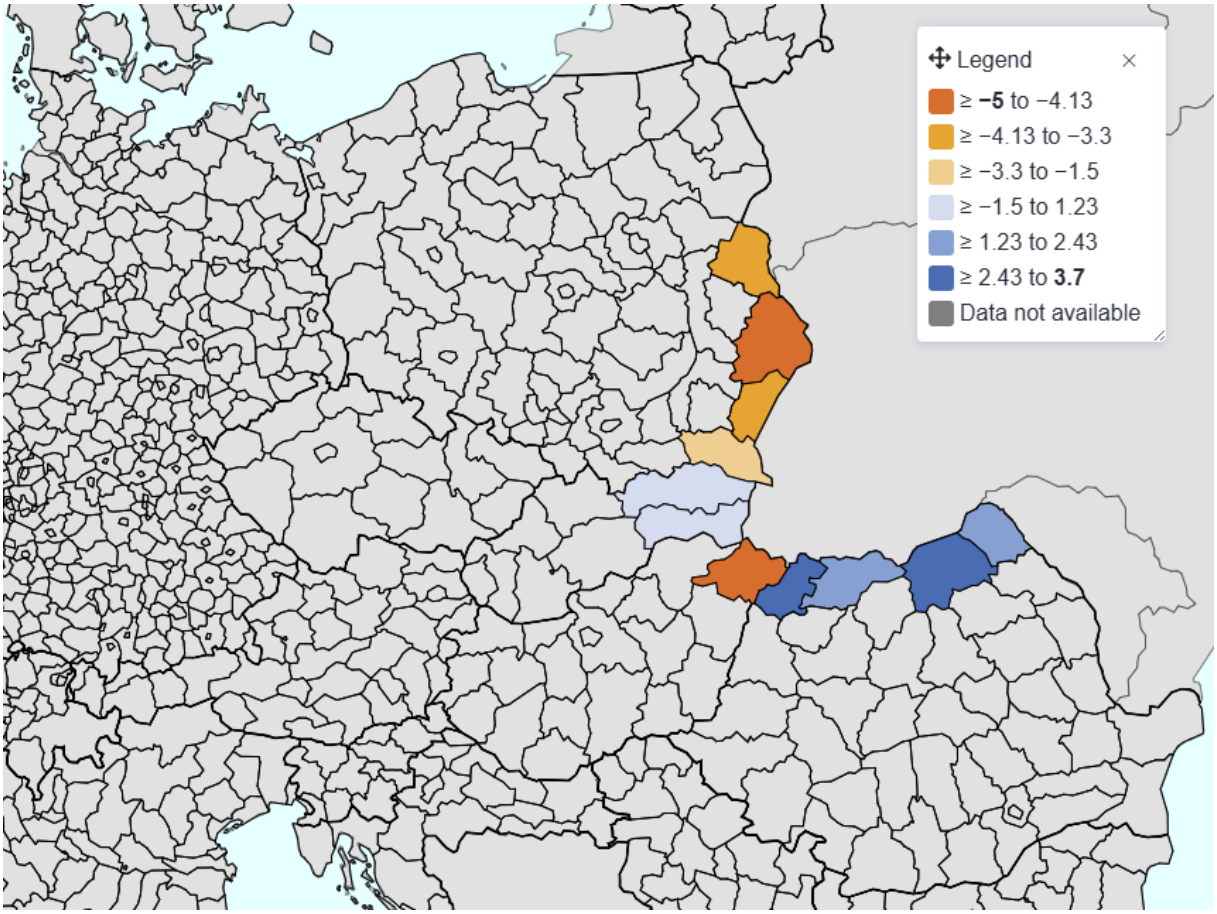
By contrast, the Romanian regions developed a more favourable migration position during the second half of the period under review. Nord-Est recorded an exceptionally high positive value in 2021, followed by a still positive but more moderate balance between 2022 and 2024. Nord-Vest likewise moved into positive territory, particularly after 2022. Észak-Alföld, by comparison, was characterised by negative net migration throughout the entire period, indicating persistent migration loss. The time series for Východné Slovensko was also predominantly negative and displayed a pronounced deterioration in 2021.

The NUTS 3-level map provides a more detailed representation of the migration situation in the territories bordering Ukraine. At this territorial level, the differences observed at NUTS 2 become more nuanced: most Romanian border counties record positive net migration, whereas negative values predominate in the Polish, Slovak, and Hungarian territories.

The map indicates a particularly unfavourable position for Szabolcs-Szatmár-Bereg and for Chełmsko-zamojski in Poland. By contrast, the positive values in Suceava, Satu Mare, Maramureş, and Botoşani suggest that the Romanian border territories occupied a more favourable migration position in 2024. This differs markedly from

the pattern of natural population change, under which several Romanian territories are characterised by natural decrease.

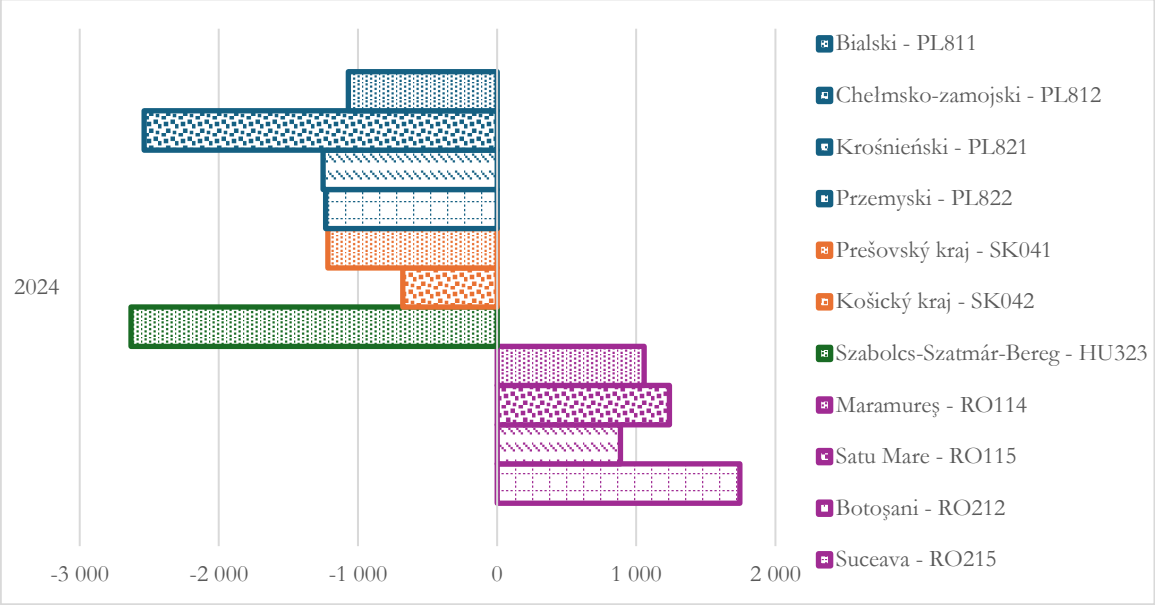
Figure 32: Net migration in the NUTS 3 regions under review in 2024



Source: *Eurostat*

The NUTS 3-level bar chart clearly shows that the largest migration loss in 2024 occurred in Szabolcs-Szatmár-Bereg, where the balance was -2,632 persons. Chełmsko-zamojski recorded a similarly unfavourable value of -2,537. The other Polish territories were also in negative territory, although their losses were more moderate: Bialski, Krośnieński, and Przemyski each experienced a loss of approximately 1,000-1,300 persons.

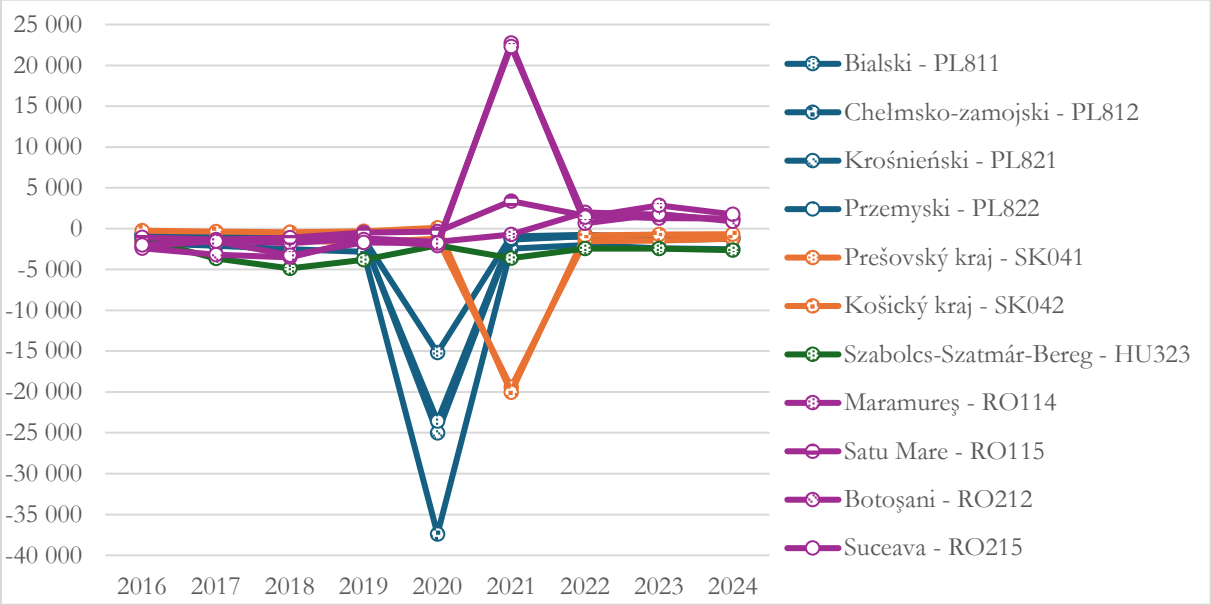
Figure 33: Net migration in the NUTS 3 regions under review in 2024



Source: *authors' compilation based on Eurostat data*

Among the Slovak regions, both Prešovský kraj and Košický kraj recorded negative net migration, although their values were more favourable than those of Szabolcs-Szatmár-Bereg or Chełmsko-zamojski. The Romanian border territories, by contrast, displayed positive migration balances. Suceava recorded the largest gain, at 1,745 persons, followed by Satu Mare, Maramureş, and Botoşani. The 2024 results therefore clearly indicate that migration contributed to population growth in the Romanian border areas, whereas it predominantly acted as a factor of population decline in the Hungarian and Polish territories.

Figure 34: Net migration in the NUTS 3 regions under review between 2016 and 2024



Source: *authors' compilation based on Eurostat data*

The NUTS 3-level time series for 2016-2024 exhibits substantial fluctuations, particularly during 2020-2021. Exceptionally large negative values were observed in the Polish territories in 2020, above all in Chełmsko-zamojski, Krośnieński, Przemyski, and Bialski. During the same period, Szabolcs-Szatmár-Bereg also displayed a persistently negative migration balance, albeit with less extreme fluctuations than those recorded in the Polish territories in 2020.

A pronounced negative break occurred in the Slovak regions in 2021, when both Prešovský kraj and Košický kraj experienced substantial migration losses. By contrast, several Romanian territories recorded exceptionally high positive values in 2021, particularly Botoşani and Suceava. This suggests that, during 2020-2021, the indicator may have been influenced not only by actual migration movements but also by statistical adjustments and temporary data corrections.

After 2022, values returned to a more moderate range in several territories. The Romanian border counties retained positive migration balances in 2024, whereas the Polish territories, Szabolcs-Szatmár-Bereg, and the two Slovak regions continued to record negative values. The time-series data therefore indicate an improvement in the migration position of the Romanian territories, while migration remained a factor of population loss in the Polish, Hungarian, and Slovak border regions.

Table 6: Change in net migration in the NUTS 3 regions under review between 2016 and 2024

Region	Change, 2016-2024
Bialski – PL811	-1,5
Chełmsko-zamojski – PL812	-1,8
Krośnieński – PL821	-1,4
Przemyski – PL822	-1
Prešovský kraj – SK041	+0,4
Košický kraj – SK042	-0,6
Szabolcs-Szatmár-Bereg – HU323	-2,7
Maramureş – RO114	+7,1
Satu Mare – RO115	+6,8
Botoşani – RO212	+8,4
Suceava – RO215	+5,9

Source: *authors' compilation based on Eurostat data*

The changes between 2016 and 2024 indicate that the migration position of the Romanian border territories improved to the greatest extent. The most favourable changes occurred in Botoşani, Maramureş, Satu Mare, and Suceava, consistent with their positive migration balances in 2024. By contrast, Szabolcs-Szatmár-Bereg and most Polish border territories moved in a less favourable direction. Among the Slovak regions, Prešovský kraj displayed a slight improvement, whereas Košický kraj experienced a moderate deterioration.

Overall, the findings indicate that the migration situation of the territories bordering Ukraine is highly differentiated. Net migration was positive in the Romanian border territories in 2024, and an improving trend is evident over the period as a whole. In the Polish, Hungarian, and Slovak territories, by contrast, migration generally exerted a negative effect on population change. This suggests that, alongside natural decrease, migration processes also play a significant but spatially differentiated role in shaping population change.

2.2 Economic development and labour-market conditions

Economic development and labour-market conditions are central to the analysis of the socio-economic position of the regions in the border area between the European Union and Ukraine. Owing to their location along the EU's eastern external border, an examination of the economic performance, sectoral structure, and labour-market characteristics of the territories included in the study provides an opportunity to determine the extent to which they exhibit the classical features of peripheral regions.

This chapter seeks to establish the level of economic development of the Polish, Slovak, Hungarian, and Romanian regions bordering Ukraine, to examine changes in their economic performance in recent years, to identify the specific features of their economic structures, and to assess their labour-market conditions. Accordingly, the analysis addresses three principal dimensions of the regional economy. GDP per capita represents economic performance and the level of development; gross value added reflects the sectoral structure of the economy; and household income, employment, and unemployment describe the socio-economic and labour-market situation.

In line with the structure of the preceding chapters, the analysis begins with a comparison of NUTS 2 regions, thereby enabling the territories under review to be assessed on a comparable basis. This is followed by an examination of economic development and labour-market conditions in the NUTS 3 areas located directly along the Ukrainian border, with the aim of providing a more detailed picture of territorial disparities potentially associated with border location.

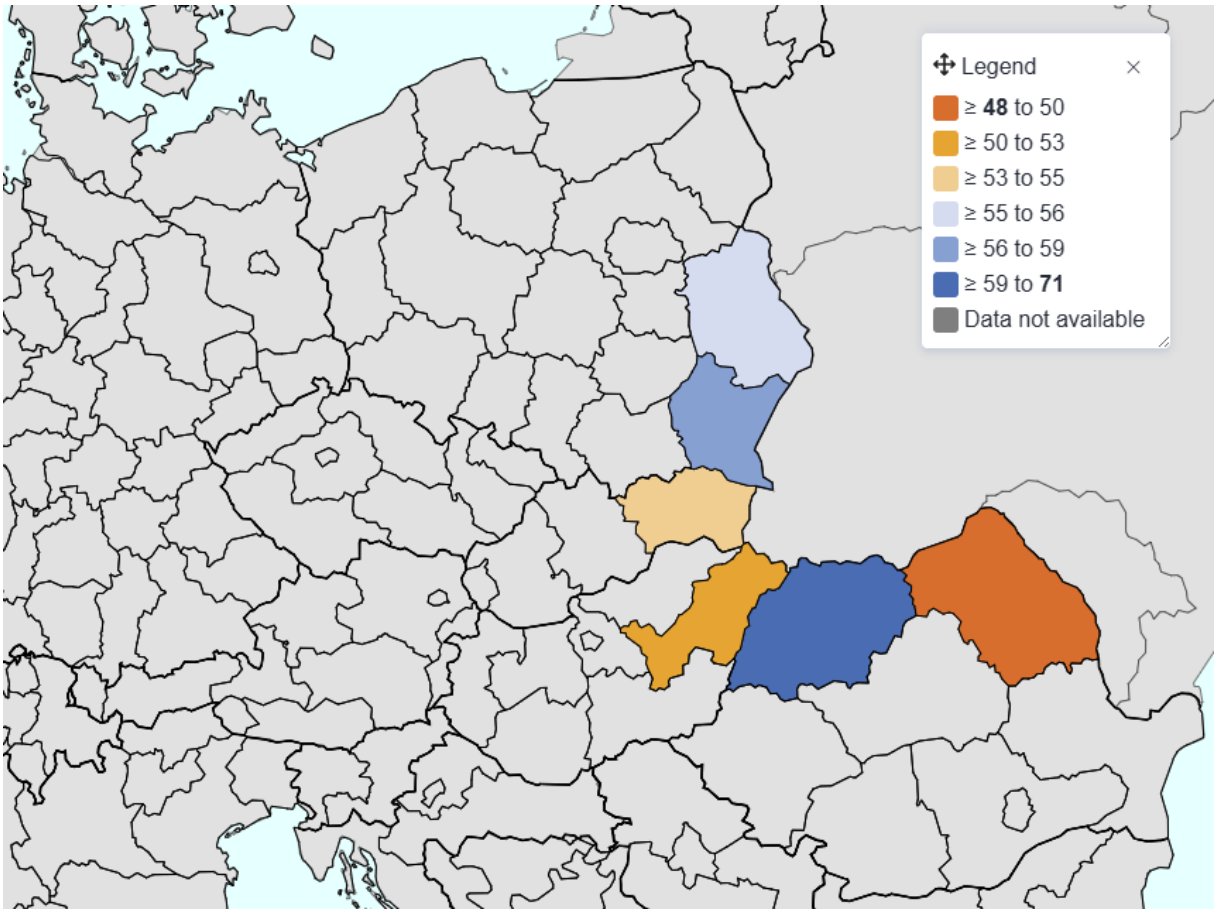
2.2.1 Regional economic performance

Regional economic performance is assessed through an analysis of GDP per capita. This indicator is suitable for measuring the level of development of individual regions and for determining whether relative convergence or a substantive shift in their economic position occurred during the period under review. In this subsection, GDP per capita is expressed as a percentage of the EU-27 average, facilitating comparison among regions in different countries.

The analysis first presents the economic performance of the NUTS 2 regions under review in 2024 and subsequently evaluates changes between 2016 and 2024. The NUTS 2-level analysis is followed by an examination of economic performance in the NUTS 3 territories directly bordering Ukraine. Owing to the absence of Polish data for 2024, changes at this level are assessed for the 2016-2023 period. This makes it possible to determine the extent to which the economic performance of the broader regions differs from that of the immediate border areas.

It should be emphasised that GDP per capita primarily measures a region's economic output and does not directly reflect the welfare or quality of life of its population. Nevertheless, it enables the position of the regions along the EU-Ukraine border to be identified within the European Union's spatial structure of development. It also facilitates analysis of interregional disparities in development and divergent growth dynamics.

Figure 35: GDP per capita as a percentage of the EU-27 average by NUTS 2 region, 2024



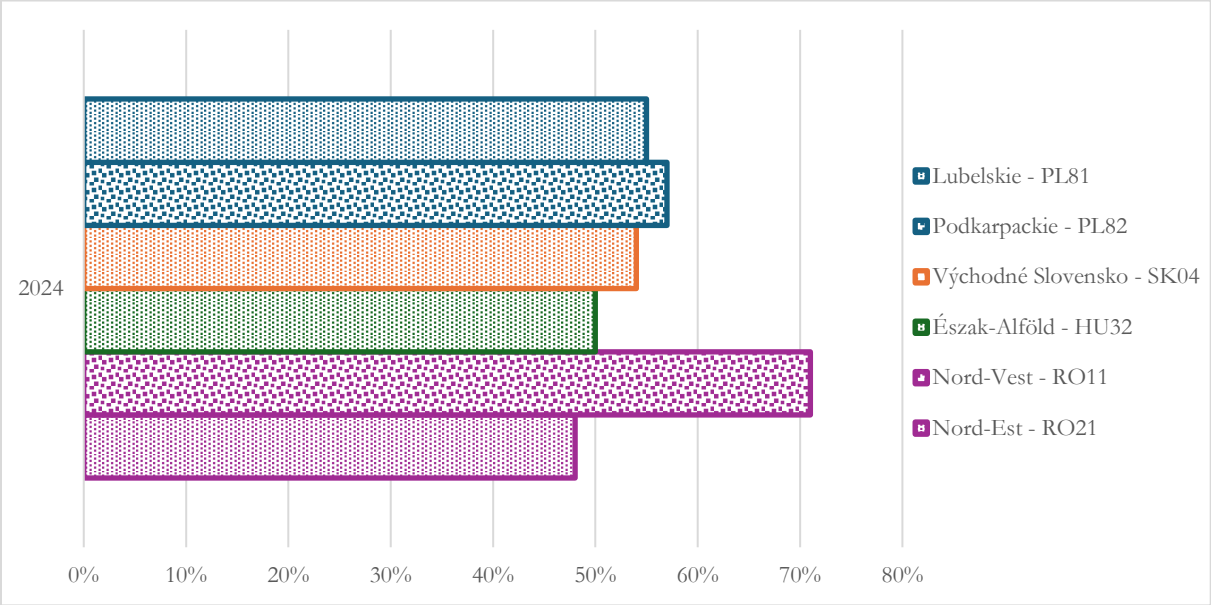
Source: *Eurostat*

In 2024, the level of economic development in the NUTS 2 regions along the Ukrainian border was substantially below the EU-27 average. Within their respective national contexts, however, the regions exhibited divergent positions. The development levels of the Polish regions (Lubelskie: 71%; Podkarpackie: 73%) indicated a moderate lag behind the national average (78%); nevertheless, on the basis of this indicator, they constituted deep peripheral areas relative to other Polish regions. GDP per capita in Východné Slovensko (72%) was only slightly below the Slovak national average (75%), although it remained the weakest region within Slovakia. Észak-Alföld in Hungary (66%) was below the national average (76%) and occupied one of the most peripheral positions among Hungarian regions. The two Romanian NUTS 2 regions presented a mixed picture. Nord-Est (62%) was below the national average (77%) and belonged to the deep periphery. Nord-Vest (92%), by contrast, exceeded the national average and may be classified within the middle tier on the basis of its development level.

Among the NUTS 2 regions constituting the focus of the analysis, Nord-Vest in Romania occupied the most favourable position, with GDP per capita amounting to 71% of the EU-27 average. The positions of the remaining regions were considerably

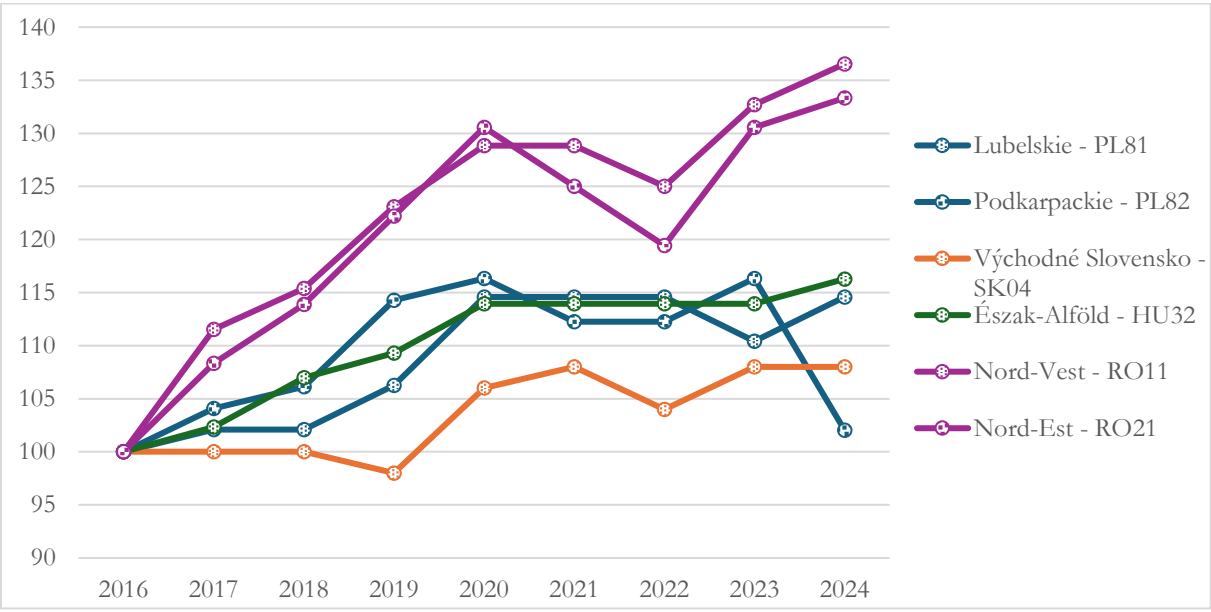
less favourable. The weakest performance was observed in Észak-Alföld in Hungary and Nord-Est in Romania. The former reached approximately half of the EU average, while the latter remained slightly below that level.

Figure 36: GDP per capita as a percentage of the EU-27 average by NUTS 2 region, 2024 (EU-27 = 100)



Source: *authors' compilation based on Eurostat data*

Figure 37: GDP per capita as a percentage of the EU-27 average by NUTS 2 region, 2016-2024 (2016 = 100)



Source: *authors' compilation based on Eurostat data*

The 2024 data indicated a low level of development in European comparative terms for most of the border regions under review. Nevertheless, the time-series analysis reveals a convergence process in several NUTS 2 regions between 2016 and 2024. Relative to the EU-27 average, the two Romanian regions, Nord-Vest and Nord-Est, displayed the most dynamic growth, while increases in the other regions were more moderate. The growth rate of Nord-Est is particularly noteworthy: although it had the lowest initial development level among the regions under review, its growth dynamics may indicate a pronounced convergence process.

Table 7: Development of GDP per capita in the NUTS 2 regions, 2016-2024 (2016 = 100)

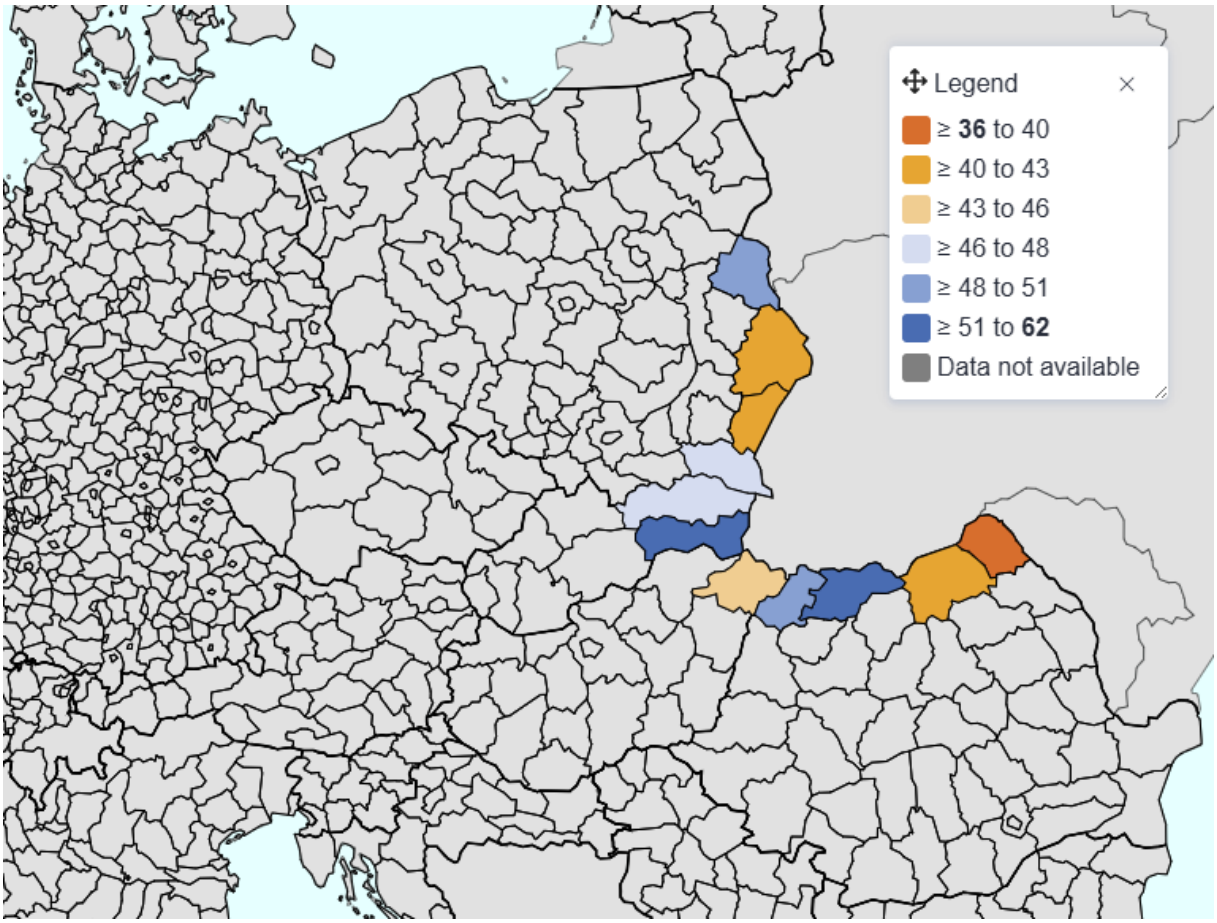
Region	Change, 2016-2024
Lubelskie – PL81	+14,6%
Podkarpackie – PL82	+16,3%
Východné Slovensko – SK04	+8%
Észak-Alföld – HU32	+16,3%
Nord-Vest – RO11	+36,5%
Nord-Est – RO21	+33,3%

Source: *authors' compilation based on Eurostat data*

Overall, the NUTS 2-level findings demonstrate that the economic performance of the Ukrainian border regions included in the study remains substantially below the European Union average. At NUTS 3 level, however, the territories display a more differentiated picture within their respective countries than that suggested by the broader regional analysis. According to Eurostat data, all NUTS 3 territories included in the analysis perform below their national averages and predominantly occupy peripheral positions. The Polish regions of Chełmsko-zamojski (54%) and Przemyski (51%) lie well below the national average (78%) and may therefore be classified as deep peripheral areas. The other two Polish territories, Krośnieński (59%) and Bialski (63%), also remain below the national level, although their lag is more moderate. All Romanian NUTS 3 territories are below the national average (77%). Satu Mare (68%) and Maramureş (69%) fall only moderately below the national figure, whereas the development levels of Botoşani (48%) and Suceava (53%) are considerably lower; Botoşani, in particular, belongs to the country's deep periphery. The Slovak NUTS 3 territories display a mixed pattern. Prešovský kraj (61%) and Košický kraj (83%) have markedly different performance levels: the former remains below the national average (75%), while the latter exceeds it.

Measured by GDP per capita, the regions under review attain approximately half of the European Union average, reinforcing their peripheral position. The time-series evidence does not indicate a uniform development trajectory. Signs of more pronounced convergence are apparent only in the Romanian regions.

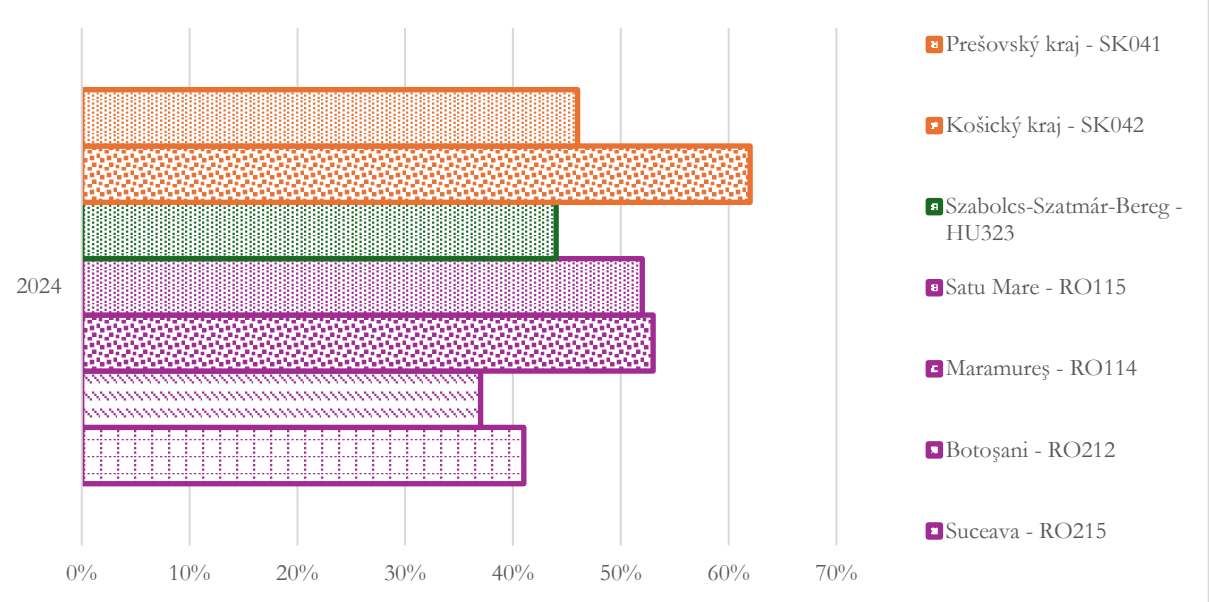
Figure 38: GDP per capita as a percentage of the EU-27 average by NUTS 3 region, 2023



Source: *Eurostat*

The NUTS 3-level data show that GDP per capita relative to the EU-27 average is less favourable in several immediate border territories than in the corresponding wider NUTS 2 regions. Most NUTS 3 areas under review had lower GDP per capita than the NUTS 2 regions to which they belong. This is particularly evident in the Polish, Hungarian, and Romanian border areas. In the case of Poland, the absence of 2024 NUTS 3 data permits only an informed assumption. On the basis of the 2023 figures, it may be inferred that a similar pattern persisted in 2024, namely that the economic performance of the Polish NUTS 3 regions remained substantially below the average of their wider NUTS 2 regions. A comparable pattern is evident for Észak-Alföld and Szabolcs-Szatmár-Bereg in Hungary: while the NUTS 2 region reached half of the EU-27 average in 2024, Szabolcs-Szatmár-Bereg stood at 44%. Substantial intra-regional disparities are also observable in Romania. Although Nord-Vest exhibited an exceptionally high development level compared with the other NUTS 2 territories, its constituent border NUTS 3 regions, Satu Mare and Maramureş, recorded much lower values. The Slovak territories present a distinctive pattern: Košický kraj (62%) exceeded the average of the wider Východné Slovensko NUTS 2 region (54%), which may primarily reflect the considerable economic weight of this NUTS 3 region.

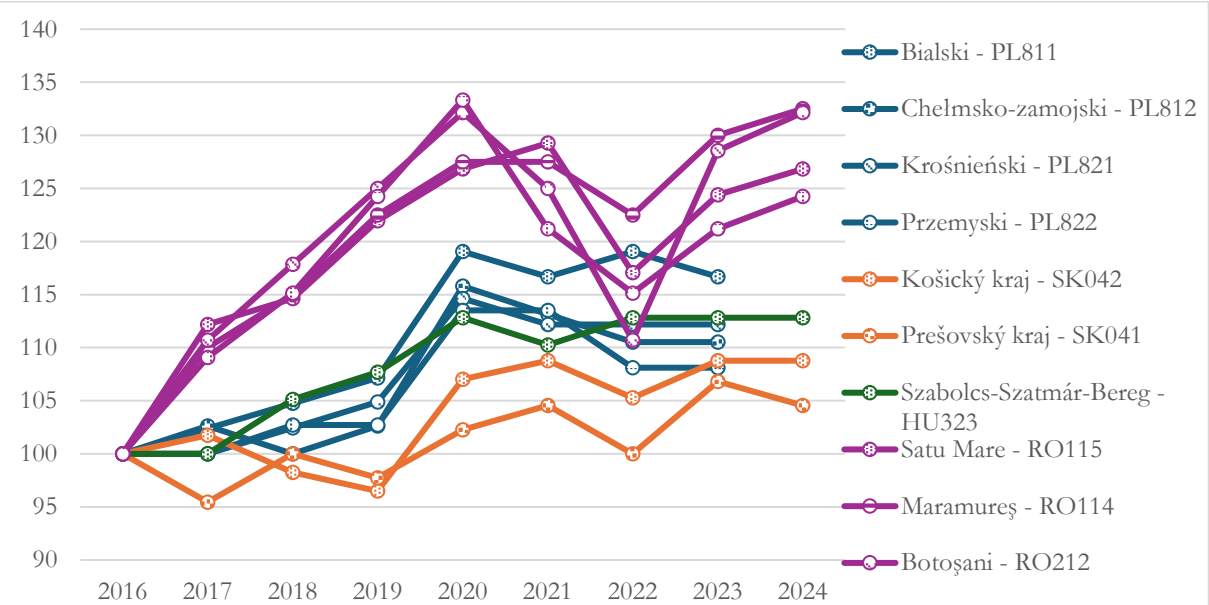
Figure 39: GDP per capita as a percentage of the EU-27 average by NUTS 3 region, 2024 (EU-27 = 100)



Source: *authors' compilation based on Eurostat data*

As shown in Figure 39, economic performance relative to the EU-27 average improved in the immediate-border NUTS 3 regions between 2016 and 2024, although the pace of convergence differed substantially. The Romanian territories recorded the strongest growth. It should nevertheless be stressed that these growth dynamics did not eliminate their development deficit, which remained considerable in Suceava and Botoşani. Growth was more moderate in the Polish, Hungarian, and Slovak border territories. The position of Košický kraj demonstrates that a higher level of development does not necessarily entail faster growth dynamics.

Figure 40: Change in GDP per capita as a percentage of the EU-27 average by NUTS 3 region, 2016-2024 (2016 = 100)



Source: *authors' compilation based on Eurostat data*

Table 8: Development of GDP per capita in the NUTS 3 regions, 2016-2024 (2016 = 100)

Region	Change, 2016-2023
Bialski – PL811	+16,7% (2023)
Chełmsko-zamojski – PL812	+10,5% (2023)
Krośnieński – PL821	+12,2% (2023)
Przemyski – PL822	+8,1% (2023)
Prešovský kraj – SK041	+4,5%
Košický kraj – SK042	+8,8%
Szabolcs-Szatmár-Bereg – HU323	+12,8%
Satu Mare – RO115	+26,8%
Maramureş – RO114	+32,5%
Botoşani – RO212	+32,1%
Suceava – RO215	+24,2%

Source: *authors' compilation based on Eurostat data*

The NUTS 3-level analysis revealed deeper development disparities within the wider regions. Most territories directly bordering Ukraine lag not only behind the EU-27 average but also behind their respective NUTS 2 averages, indicating that broader regional aggregates conceal the more peripheral position of the immediate border areas. Overall, the effect of direct border location is not uniform at NUTS 3 level, as illustrated by the comparatively favourable position of Košický kraj.

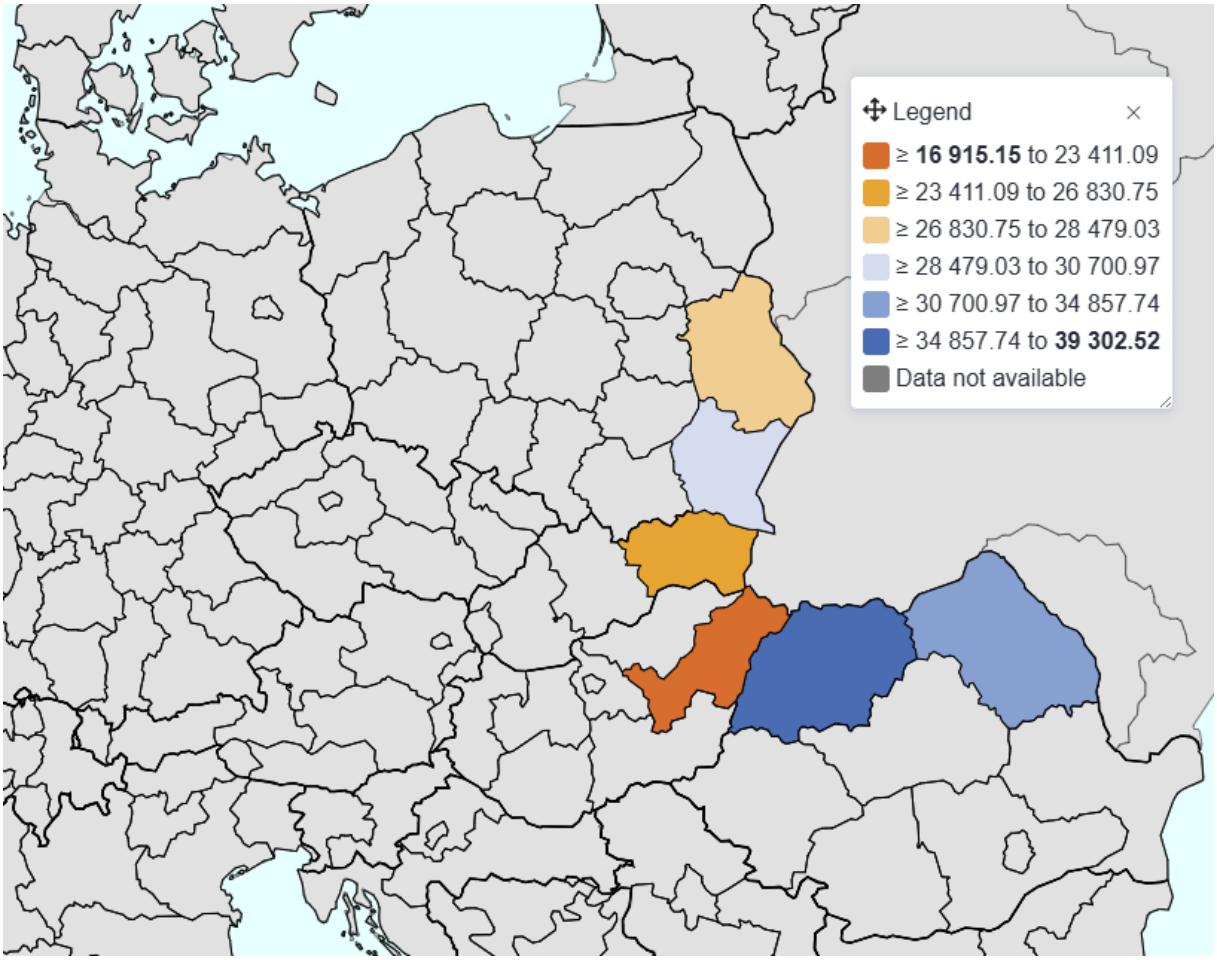
2.2.2 Economic structure

An analysis of regional economic conditions cannot be confined to the magnitude of economic performance; the structure of the economy must also be examined. Economic development is reflected not only in the volume of output but also in its composition, which may reveal substantial differences among the territories included in the study.

Accordingly, this section illustrates the specific characteristics of the economic structures of the regions under review through the sectoral distribution of gross value added (GVA), with particular attention to the relative weight of agriculture, industry, and services. Time-series analysis is also used to demonstrate changes in regional economic performance. The objective is to determine the extent to which the economic profiles of the regions reflect the structural characteristics associated with higher levels of development and to identify their structural differences from less-developed territories.

Comparison of sectoral structures makes it possible both to identify the economic specialisation of the regions concerned and to interpret their divergent development trajectories. This contributes to positioning the territories under review within the broader regional economic space.

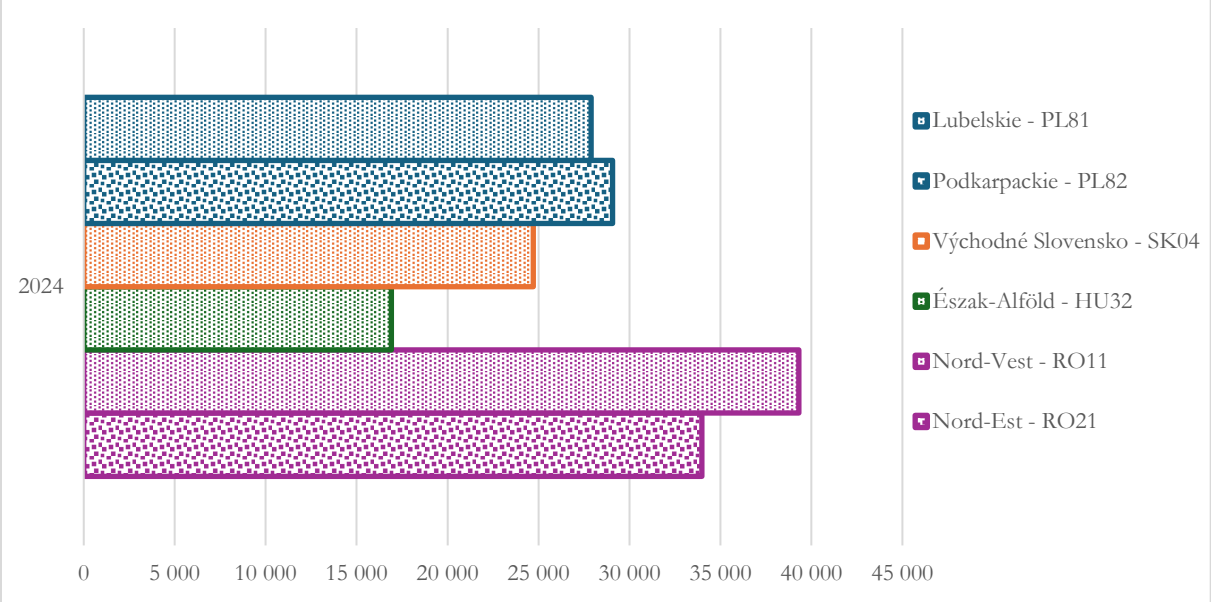
Figure 41: Gross value added in the NUTS 2 regions under review, 2024 (EUR million)



Source: *Eurostat*

The following chart confirms the spatial differences in gross value added among the NUTS 2 regions under review in 2024 that are apparent from the preceding map. The Romanian regions recorded particularly high levels of value added. Nord-Vest had the highest gross value added, at almost EUR 40 billion, followed by Nord-Est at approximately EUR 34 billion. The two Polish regions recorded similar values, ranging between EUR 25 billion and EUR 30 billion in the year concerned. The economic performance of Východné Slovensko was slightly below that of the Polish regions but substantially above the gross value added of Észak-Alföld. The Hungarian NUTS 2 region generated approximately EUR 17 billion, while the value recorded in Nord-Vest was more than twice as high in the same year.

Figure 42: Gross value added in the NUTS 2 regions under review, 2024 (EUR million)



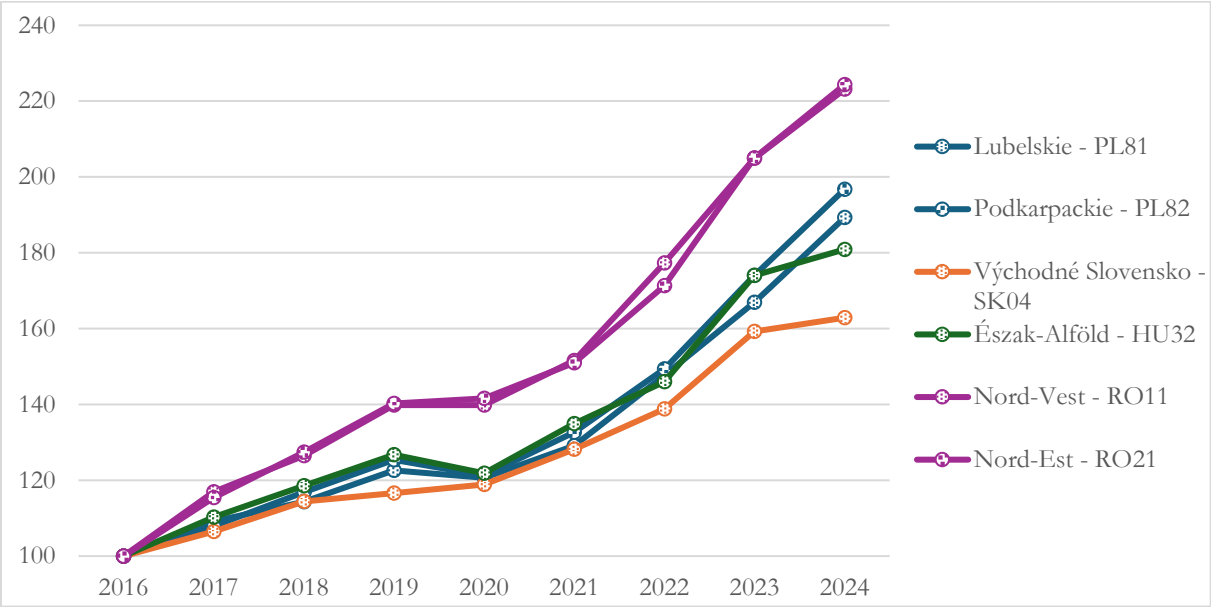
Source: *authors' compilation based on Eurostat data*

The figure shows that gross value added increased in all NUTS 2 regions along the Ukrainian border between 2016 and 2024. The strongest growth occurred in the two Romanian regions, where gross value added more than doubled. Substantial growth was also recorded in the two Polish regions, although Podkarpackie displayed somewhat more dynamic development by the end of the period. Despite having the lowest value according to the most recent data, gross value added in Észak-Alföld increased by 80% between 2016 and 2024. The slowest growth was observed in Východné Slovensko. Although its gross value added unquestionably increased, its growth rate was the lowest among the regions under review.

An examination of the individual phases reveals a gradual increase in every region between 2016 and 2019, followed by a slowdown between 2019 and 2020 and, in the Romanian regions, stagnation. Most regions subsequently experienced pronounced growth.

The regions under review differed substantially not only in absolute economic performance but also in growth dynamics. The two Romanian regions constituted the fastest-growing group, while the Polish regions followed stable and balanced growth trajectories. Although the economic weight of Észak-Alföld is not substantial compared with the other regions, its growth rate was nevertheless not exceptionally low. Growth in Východné Slovensko was also continuous, but more moderate than in the other territories.

Figure 43: Nominal gross value added index in the NUTS 2 regions under review, 2016-2024 (2016 = 100)



Source: *authors' compilation based on Eurostat data*

The following table presents the economic structure of the NUTS 2 regions under review by showing the contribution of the three principal sectors to regional gross value added in 2024. The economic structures of the regions were clearly dominated by the tertiary sector. Services accounted for more than 59% in every region; however, in most territories, the weight of the tertiary sector remained below the EU average of 72.5% in 2024. Nord-Est was closest to the EU average, with services accounting for 69.6%, followed by Nord-Vest at 68%.

The share of the secondary sector was also substantial in several regions. Industry was particularly prominent in Podkarpackie, where it accounted for 39.4% of total gross value added, far exceeding the EU average of 25.7% in 2024. Industrial shares above 30% were likewise recorded in Východné Slovensko (32.5%) and Észak-Alföld (31.9%). Of the two Romanian regions, Nord-Est remained below the EU average, while Nord-Vest exceeded it with an industrial share of 29%.

Észak-Alföld had the highest agricultural share, at 7.7%, more than four times the EU-27 figure of 1.8%. This indicates that agriculture remains a comparatively important sector in the region's economic structure. According to the most recent available data, agriculture had the lowest share in Východné Slovensko in 2024; however, 2023 data indicate an even lower value of 1.5% in Podkarpackie. In the remaining territories, the share of agriculture ranged between 3% and 7%.

Table 9: Sectoral structure of the NUTS 2 regions under review, 2024 (percentage points)

Region	Agriculture	Industry	Services
Lubelskie – PL81	6,4 (2023)	27,4 (2023)	66,2(2023)
Podkarpackie – PL82	1,5 (2023)	39,4 (2023	59,1 (2023)
Východné Slovensko – SK04	1,9	32,5	65,6
Észak-Alföld – HU32	7,7	31,9	60,4
Nord-Vest – RO11	3	29	68
Nord-Est – RO21	5,2	25,3	69,6
European Union - 27 countries – EU27_2020	1,8	25,7	72,5

Source: *authors' compilation based on Eurostat data*

The following table presents changes in the shares of the three principal economic sectors in the economic structures of the regions under review.

The most general trend observable in the available data is the increasing prominence of the tertiary sector. The share of services increased in every region during the period under review. Particularly strong growth was recorded in Nord-Vest, at approximately 6.8 percentage points, and in Nord-Est, at 4.8 percentage points. In parallel, the share of agriculture declined in every region. The largest decrease, nearly 3 percentage points, occurred in Észak-Alföld, although agriculture continued to retain a high share there. Similar declines were observed in the other territories, with spatial differences primarily in their magnitude. The industrial sector presents a mixed picture: its share decreased in Východné Slovensko and in both Romanian regions. According to the available data, the largest reduction occurred in Nord-Vest, where the industrial share fell by 5 percentage points. Észak-Alföld, by contrast, displayed a positive pattern: the share of industry increased by 1.4 percentage points, diverging from the trend observed in the other regions.

For the Polish regions, the available 2023 data indicate a minimal increase in the agricultural share in Lubelskie and a slight decline in Podkarpackie. The industrial share decreased in both regions, whereas the services share moved in a positive direction, albeit only modestly.

Table 10: Change in the sectoral structure of the NUTS 2 regions under review, 2016-2024 (percentage points)

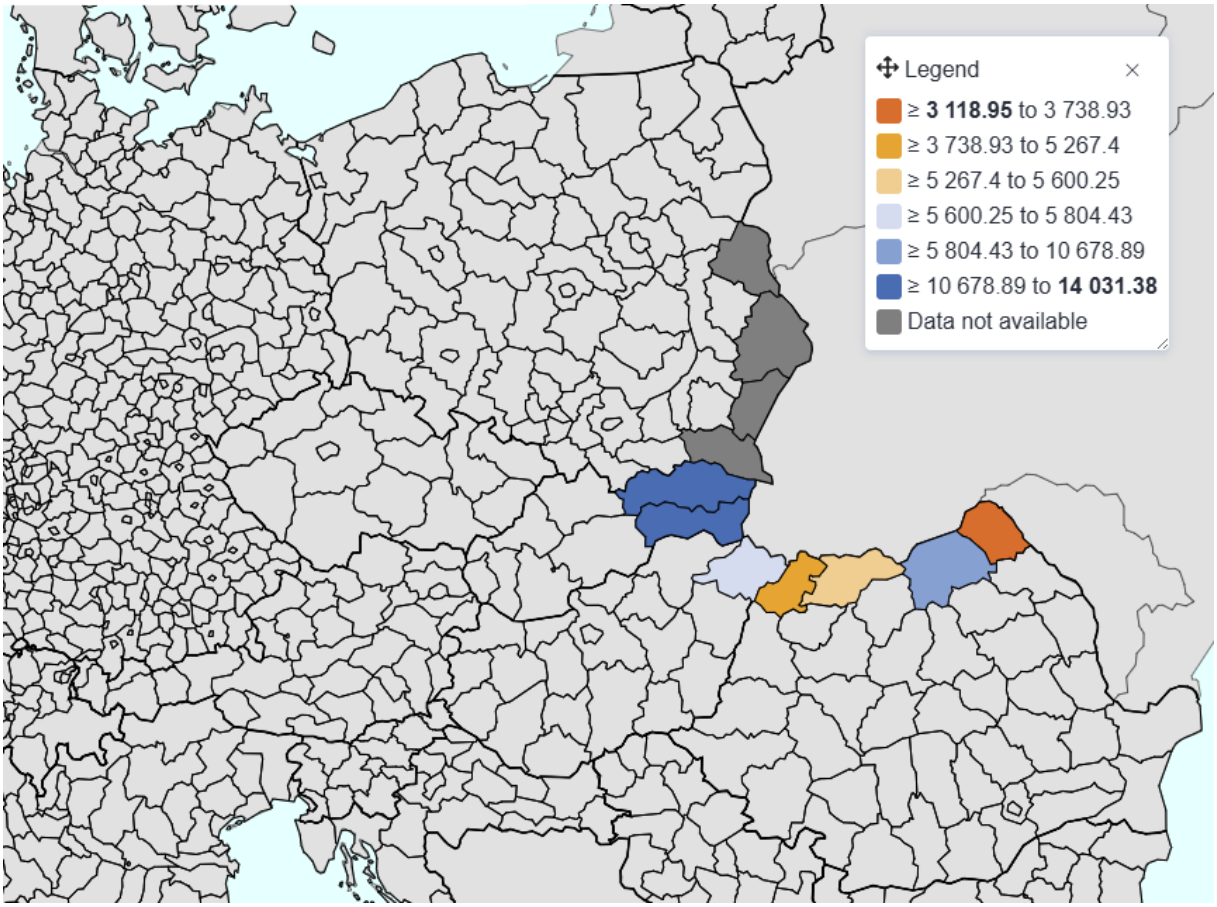
Region	Agriculture	Industry	Services
Lubelskie – PL81	+0,6 (2023)	-1,9 (2023)	+1,3 (2023)
Podkarpackie – PL82	-0,3 (2023)	-0,7 (2023)	+1 (2023)
Východné Slovensko – SK04	-0,5	-1,3	+1,9
Észak-Alföld – HU32	-2,8	+1,4	+1,4
Nord-Vest – RO11	-1,8	-5,0	+6,8
Nord-Est – RO21	-2,5	-2,2	+4,8

Source: *authors' compilation based on Eurostat data*

The NUTS 2-level analysis reveals substantial differences in economic performance and distinct regional characteristics in economic structure. Overall, the regions under review share two common tendencies: economic growth and the increasing prominence and substantial predominance of the tertiary sector. Nevertheless, considerable disparities persist in absolute economic weight, growth dynamics, and sectoral specialisation. The Romanian regions stand out for their dynamic growth and strengthening services sector, in contrast to the more industrial profiles of the Polish and Slovak regions. Észak-Alföld occupies a distinctive position: its gross value added is lower, while industry and agriculture continue to play comparatively important roles in its sectoral structure.

Following the broader NUTS 2-level assessment, it is appropriate to continue the analysis of gross value added and economic structure at NUTS 3 level in order to obtain a more nuanced picture. The map below indicates substantial territorial disparities, further justifying this approach. Before examining the project territories comparatively, however, their positions within their respective national economies should be considered. Eurostat data on gross value added show that the regions under review differ considerably in economic weight within their countries. The Polish territories are generally peripheral, whereas Košický kraj is of outstanding economic significance within Slovakia. On the basis of gross value added, Szabolcs-Szatmár-Bereg occupies a middle-ranking position in Hungary, similar to Suceava and Maramureş in Romania, while the other two Romanian territories may be regarded as peripheral.

Figure 44: Gross value added in the NUTS 3 regions under review, 2024 (EUR million)



Source: Eurostat

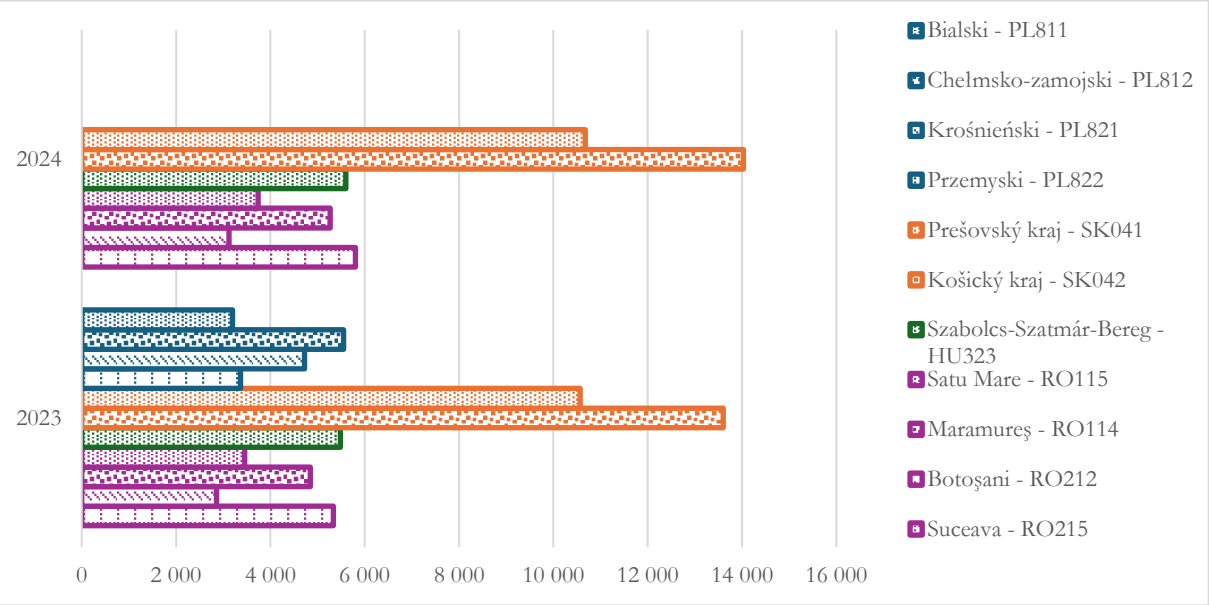
The following figure demonstrates that analysis at the broader NUTS 2 level may conceal internal disparities. Východné Slovensko comprises Košický kraj and Prešovský kraj, both of which stand out substantially from the other territories at NUTS 3 level. A different pattern is observed in Romania: Nord-Vest and Nord-Est recorded the highest values at NUTS 2 level, whereas the Romanian counties included in the NUTS 3 analysis do not stand out. This suggests that the high economic performance of the wider regions is not generated primarily by the border counties examined here.

According to the latest data, the Slovak regions had the highest economic performance among the NUTS 3 territories under review. Gross value added exceeded EUR 10 billion in both cases. In all other regions, gross value added remained below EUR 6 billion. Botoşani recorded the lowest value in 2024, at less than EUR 3 billion. On the basis of the 2024 figures, Suceava, Maramureş, and Szabolcs-Szatmár-Bereg formed the middle group.

For the Polish regions, the most recent data refer to 2023. On this basis, Chełmsko-zamojski and Krośnieński occupied middle-ranking positions among the Polish

territories in terms of gross value added. The other two Polish regions included in the analysis, Bialski and Przemyski, were comparable to the lower-performing Romanian regions in that year.

Figure 45: Gross value added in the NUTS 3 regions under review, 2023-2024 (EUR million)

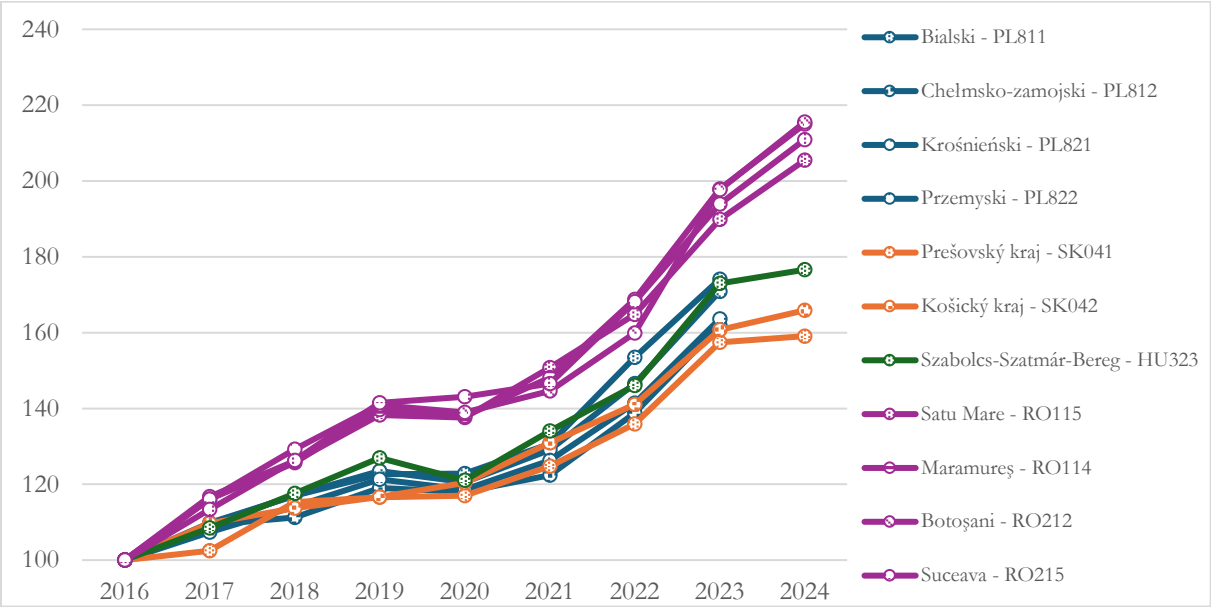


Source: *authors' compilation based on Eurostat data*

The following figure shows that economic performance increased in every NUTS 3 region during the period under review relative to the base year. Growth was nevertheless uneven, with the most dynamic expansion occurring after 2021. The Romanian NUTS 3 regions exhibited the highest growth rates. In nominal terms, gross value added in Suceava, Botoşani, Maramureş, and Satu Mare more than doubled relative to 2016. The Slovak regions followed more moderate but also more stable growth trajectories. Szabolcs-Szatmár-Bereg occupied an intermediate position, following the Romanian regions. Full-period comparison of the Polish territories is constrained by the absence of 2024 data; however, the trend up to 2023 was similar to that of Szabolcs-Szatmár-Bereg.

Overall, economic performance increased across all NUTS 3 regions over the period as a whole. The Romanian territories were among the fastest-growing, although in absolute terms they remained substantially behind the more moderately growing Slovak regions. The regions occupying intermediate positions followed more stable growth trajectories. This indicates the simultaneous presence within the project area of stable performance in more developed economic centres and rapid convergence in regions starting from a low base.

Figure 46: Nominal gross value added index in the NUTS 3 regions under review, 2016-2024 (2016 = 100)



Source: *authors' compilation based on Eurostat data*

Table 11 presents the composition of the economic structures of the NUTS 3 regions under review, specifically the proportions of gross value added generated by agriculture, industry, and services. As in the broader NUTS 2-level analysis, the tertiary sector dominates throughout the area. Nevertheless, substantial differences are evident among individual regional economic structures, particularly in the relative weight of industry and agriculture.

The principal pattern is that services account for the largest share in every NUTS 3 region. Their share ranges between 58% and 68%, although it remains below the EU average. This indicates that the tertiary sector is the largest generator of value added even in less-developed territories. Botoşani, Suceava, and Košický kraj record the highest shares, exceeding 67%. The lowest services share was observed in Satu Mare in 2024.

For the Polish regions, only 2023 data are available. The tertiary-sector share exceeded 65% in most Polish territories; Krośnieński was the sole exception, with a value below 60%.

The role of industry varies more markedly among regions. In most territories under review, the sector's share exceeds the EU level. According to the latest data, excluding the Polish regions, industry accounted for more than 30% in every border region under review. Satu Mare recorded the highest share in 2024, while Suceava had the lowest. In Botoşani and Suceava, industry accounted for less than 25%.

The 2023 data present a mixed picture for the Polish regions. The secondary sector accounted for more than 30% in Krośnieński and Przemyski, and approached 40% in the former.

The agricultural share provides an indication of the more peripheral and rural character of a territory. According to the latest data, agriculture had the highest share in Szabolcs-Szatmár-Bereg County. The lowest shares were recorded in Košický kraj and Prešovský kraj in Slovakia.

Comparison of the Polish regions is limited by the absence of more recent data; only tentative conclusions can therefore be drawn from the 2023 figures. In that year, agriculture accounted for exceptionally high shares exceeding 10% in Bialski and Chełmsko-zamojski. By contrast, the agricultural share remained below 3% in Krośnieński and Przemyski.

Comparison with the preceding figures on gross value added reveals an important relationship. Košický kraj has one of the highest gross value added levels among the NUTS 3 regions under review and combines this with a more modernised economic structure: a very small agricultural sector and relatively strong industrial and services sectors. Industry has a higher share in Prešovský kraj than in the other Slovak region. Szabolcs-Szatmár-Bereg has a more diversified economic structure, as the substantial weight of agriculture is accompanied by a significant industrial sector, resulting in a smaller services share. The Romanian regions exhibit divergent patterns. Satu Mare has a more industrialised profile, while Maramureş has a more balanced structure. In Botoşani and Suceava, the tertiary sector is dominant, although agriculture is also non-negligible; the industrial share is lower in both cases. Based on the 2023 data, Bialski and Chełmsko-zamojski display a more rural and agricultural profile, whereas Krośnieński may be regarded as strongly industrialised. Przemyski presents a different structure, with a low agricultural share, a medium industrial share comparable to the other regions, and a relatively substantial services sector.

Table 11: Sectoral structure of the NUTS 3 regions under review, 2024 (percentage points)

Region	Agriculture	Industry	Services
Bialski – PL811	10,8 (2023)	22,6 (2023)	66,6 (2023)
Chełmsko-zamojski – PL812	10,7 (2023)	23,5 (2023)	65,8 (2023)
Krośnieński – PL821	2,1 (2023)	39,8 (2023)	58,2 (2023)
Przemyski – PL822	2,9 (2023)	30,8 (2023)	66,3 (2023)
Prešovský kraj – SK041	2,1	34,2	63,6
Košický kraj –	1,8	31,2	67

SK042			
Szabolcs-Szatmár-Bereg – HU323	9	31,5	59,5
Satu Mare – RO115	5,2	36,5	58,3
Maramureş – RO114	3,5	31,9	64,6
Botoşani – RO212	7,4	24,7	67,9
Suceava – RO215	8,7	23,5	67,8
European Union - 27 countries – EU27_2020	1,8	25,7	72,5

Source: *authors' compilation based on Eurostat data*

The following table shows that changes in the economic structures of the territories under review between 2016 and 2024 resulted in an increasing share of services. This trend is particularly pronounced in the Romanian NUTS 3 regions, where the tertiary-sector share increased by 6.8-8.8 percentage points. This ultimately occurred at the expense of the industrial and agricultural sectors.

The Slovak regions experienced more moderate change. The share of the tertiary sector also increased, although by substantially less than in the Romanian territories. The weights of agriculture and industry likewise declined only slightly.

A different structural transformation occurred in Szabolcs-Szatmár-Bereg. The share of industry increased by 2.4 percentage points, while the shares of each of the other two sectors decreased by 1.2 percentage points. This indicates a strengthening of the industrial sector and clearly differs from the structural changes observed in the Romanian and Slovak NUTS 3 regions.

For the Polish regions, data are available on changes between 2016 and 2023. Overall, their economic structures did not undergo major shifts. In contrast to most other territories under review, the share of services did not increase in the majority of Polish regions, but instead tended to decline. The shares of industry and agriculture increased, although the magnitude of these changes was not substantial.

Table 12: Change in the sectoral structure of the NUTS 3 regions under review, 2016-2024 (percentage points)

Region	Agriculture	Industry	Services
Bialski – PL811	+0,5 (2016–2023)	+0,2 (2016–2023)	-0,7 (2016–2023)
Chełmsko-zamojski – PL812	+1,3 (2016–2023)	-1 (2016–2023)	-0,3 (2016–2023)
Krośnieński – PL821	-0,3 (2016–2023)	+1,9 (2016–2023)	-1,6 (2016–2023)
Przemyski – PL822	-0,5 (2016–2023)	+0,4 (2016–2023)	+0,1 (2016–2023)
Prešovský kraj – SK041	-0,7	-0,1	+0,8
Košický kraj – SK042	-0,4	-2,2	+2,6
Szabolcs-Szatmár-Bereg – HU323	-1,2	+2,4	-1,2
Satu Mare – RO115	-4,0	-4,7	+8,8
Maramureş – RO114	-1,8	-5,0	+6,8
Botoşani – RO212	-5,1	-3,5	+8,6
Suceava – RO215	-1,5	-6,3	+7,7

Source: authors' compilation based on Eurostat data

Overall, the NUTS 2- and NUTS 3-level data both demonstrate that economic performance within the study area is highly differentiated. At the broader NUTS 2 level, the Romanian and Polish regions account for more substantial gross value added, although this aggregated territorial level conceals internal disparities.

The NUTS 3-level assessment provides a more nuanced picture, showing that the Slovak regions generate the highest gross value added among the territories under review. A different pattern emerges from growth dynamics: the expansion of the Romanian regions indicates convergence, although this is partly attributable to their low initial base values.

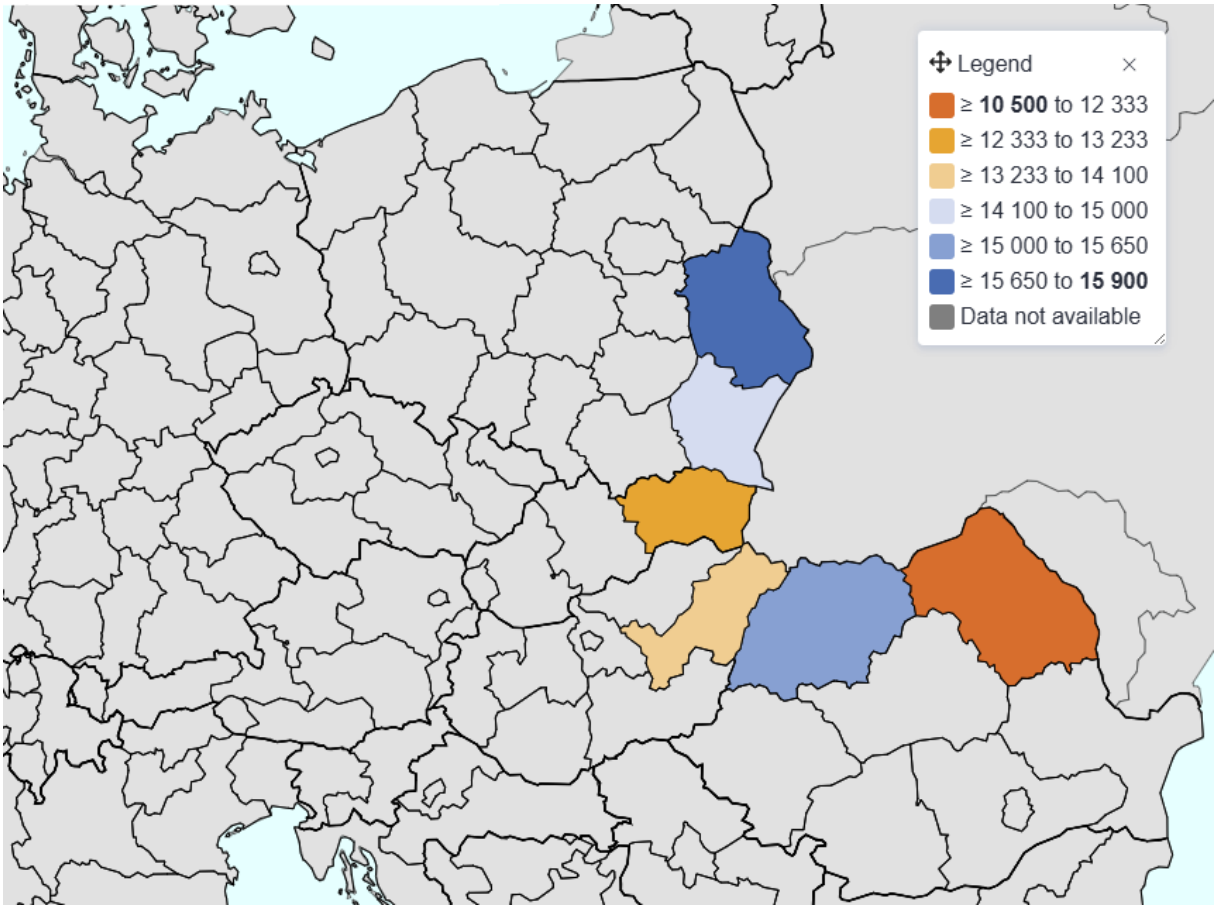
The analysis of sectoral structure shows that services dominate in every region, albeit to varying degrees. More developed territories, such as Košický kraj, exhibit a stronger combined industrial-services profile, whereas agriculture continues to play a substantial role in certain regions, notably Szabolcs-Szatmár-Bereg. The study area therefore simultaneously contains rapidly converging territories with strong services-sector dominance and more peripheral regions with pronounced agricultural or industrial characteristics.

2.2.3 Household income and living standards

This subsection analyses the income position of households in the territories under review and the resulting differences in living standards. The comparison is based on household disposable income, which provides a clearer indication of the material circumstances of the population than regional economic output alone.

Analysis of this indicator is warranted because substantial discrepancies may exist between economic output and the actual welfare of residents. Household disposable income is therefore suitable for demonstrating the extent to which economic value is transmitted to the household level. It also reveals differences in household purchasing power and material living standards across the territories under review. The objective of the subsection is to identify these disparities, with particular attention to the extent to which household income conditions reflect regional economic development and growth.

Figure 47: Spatial differences in net household income per capita at NUTS 2 level, 2023 (EUR)



Source: *Eurostat*

The 2023 data show that net household income per capita was substantially below the European Union average in every territory under review. Within their respective

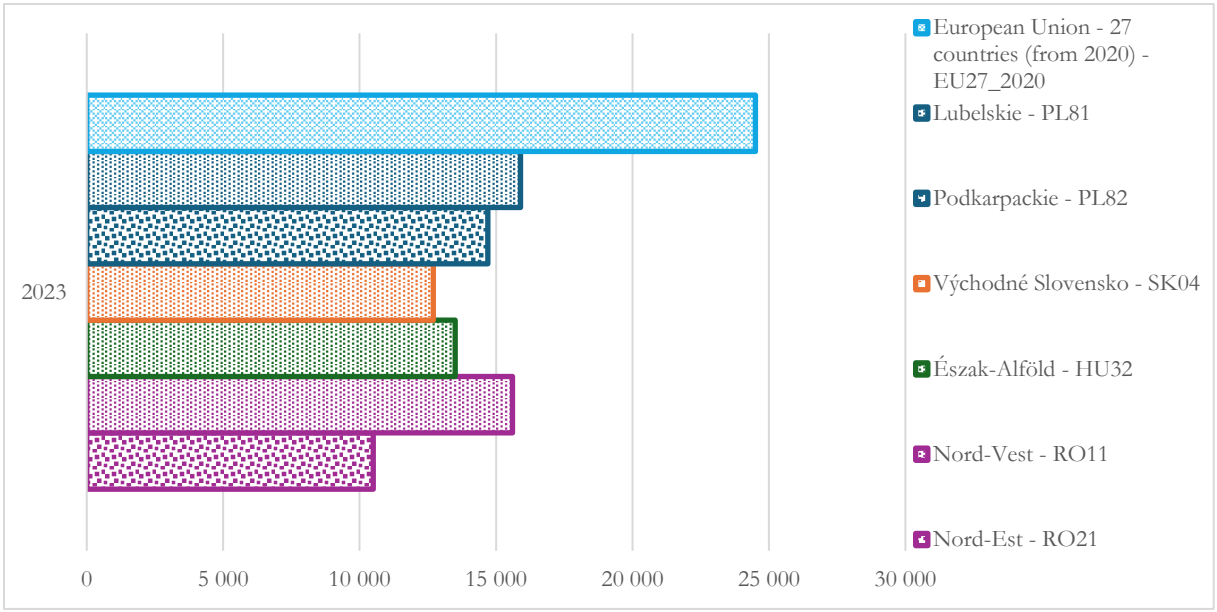
countries, however, most of the regions occupied middle-ranking positions on this indicator. Nevertheless, Eurostat data reveal a general tendency for the regions to remain below their national averages.

In 2023, Lubelskie in Poland recorded the highest net household income per capita, followed closely by Nord-Vest in Romania. They were followed by the other Polish region, Podkarpackie, then Észak-Alföld in Hungary and Východné Slovensko in Slovakia. Households in Nord-Est, Romania, had the lowest income level.

The data reveal substantial income disparities among the territories, indicating that household material circumstances and purchasing power are not uniform across the broader regional level of the project area. The pronounced difference between the two Romanian regions also points to substantial intra-national regional disparities.

Overall, household income levels were most favourable in the two Polish NUTS 2 regions and in Nord-Vest in Romania, whereas Nord-Est occupied a lagging position.

Figure 48: Net household income per capita at NUTS 2 level, 2023 (EUR)



Source: *authors' compilation based on Eurostat data*

The data demonstrate that all broader NUTS 2 regions under review lag substantially behind the EU average. The most favourable positions were recorded in Lubelskie and Nord-Vest, while Nord-Est continued to exhibit the largest deficit.

In 2023, net household income per capita was below the respective national average in every NUTS 2 region under review. This clearly demonstrates that household income levels in these territories are comparatively unfavourable not only in relation to the European Union but also within their own countries.

The smallest gaps relative to the national average were observed in Nord-Vest and Lubelskie, where the difference was below 10%. By contrast, Nord-Est recorded the largest deficit relative to the national average, exceeding 30%. In the remaining NUTS 2 regions, the gap was approximately 20%.

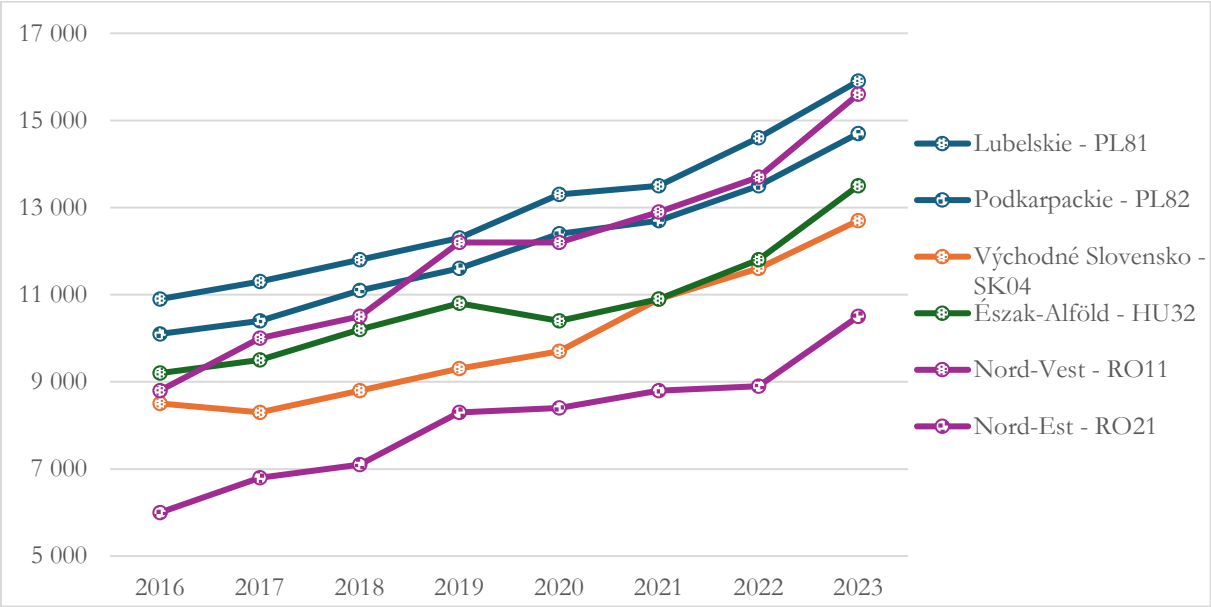
Table 13: Deviation of net household income per capita from the national and EU-27 averages at NUTS 2 level, 2023

Region	Difference relative to the national average	Difference relative to the EU-27 average
Lubelskie – PL81	-13,1%	-35,1%
Podkarpackie – PL82	-19,7%	-40%
Východné Slovensko – SK04	-21,1%	-48,2%
Észak-Alföld – HU32	-21,5%	-44,9%
Nord-Vest – RO11	-2,5%	-36,3%
Nord-Est – RO21	-32,7%	-57,1%

Source: authors' compilation based on Eurostat data

Developments in net household income per capita indicate that household income levels improved between 2016 and 2023. The pace of growth, however, differed across regions. The Polish regions began from a more favourable position and consequently remained comparatively well placed throughout the period. Growth was more dynamic in the Romanian NUTS 2 regions, as reflected in the pronounced convergence of Nord-Vest; however, strong growth in Nord-Est did not result in an improvement in its relative position. Growth dynamics were not uniform across the broader regional level: in Východné Slovensko and Észak-Alföld, a period of temporary stagnation was followed by more vigorous growth.

Figure 49: Change in net household income per capita at NUTS 2 level, 2016-2023 (EUR)



Source: *authors' compilation based on Eurostat data*

Analysis of changes in net household income per capita shows that the largest increase occurred in Nord-Vest, Romania, where household income rose by 77.3%. It was followed by Nord-Est, also in Romania, where growth was only slightly lower, at 75%. The increases in the remaining regions were more moderate, at approximately 45-50%.

Table 14: Magnitude of change in net household income per capita at NUTS 2 level, 2016-2023

Region	Change, 2016-2023
Lubelskie – PL81	+45,9%
Podkarpackie – PL82	+45,5%
Východné Slovensko – SK04	+49,4%
Észak-Alföld – HU32	+46,7%
Nord-Vest – RO11	+77,3%
Nord-Est – RO21	+75%

Source: *authors' compilation based on Eurostat data*

The analysis of net household income per capita establishes that household income in the NUTS 2 regions along the Ukrainian border remains far below the European Union average. Nevertheless, the situation improved in every territory between 2016 and 2023, although substantial interregional disparities persisted. Comparison with the GDP-per-capita findings in the preceding section reveals similar tendencies

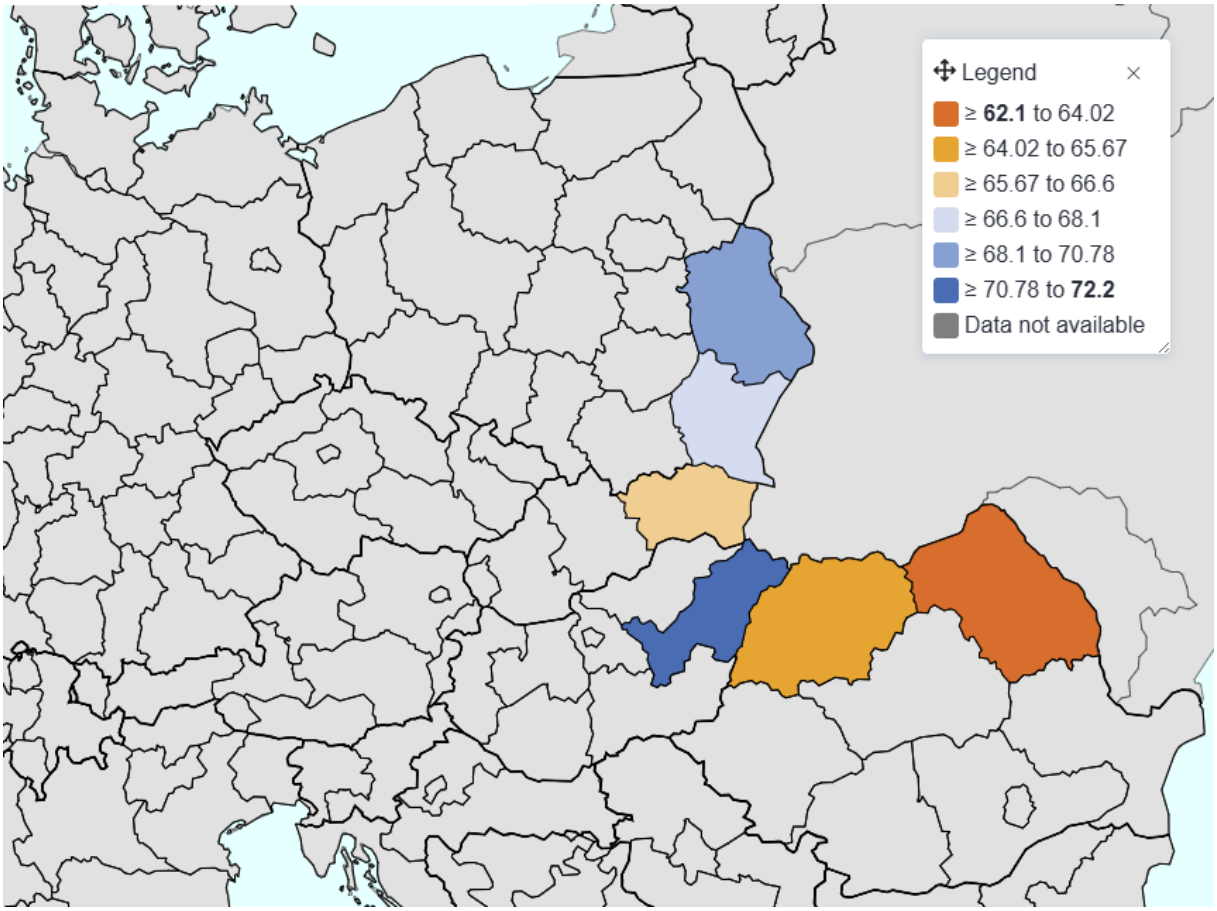
between economic performance and household income in several regions, particularly in Romania, where Nord-Vest records outstanding values while Nord-Est remains in a lagging position. In contrast to GDP per capita, household-income analysis provides a more nuanced picture of the socio-economic circumstances of the territories and more directly reflects the effect of economic growth on household material well-being.

2.2.4 Employment

The examination of employment in the project regions is a central component of the assessment of their labour-market conditions, as it directly indicates the actual participation of the working-age population in employment. The employment rate is a fundamental indicator of regional economic performance, simultaneously reflecting the job-creation capacity of the regional economy and the economic activity of the population. It is therefore particularly suitable for comparing labour-market conditions in border regions.

This subsection analyses the employment rate among the working-age population aged 15-64 years in the NUTS 2 regions under review. The objective is to identify spatial disparities and changes in employment conditions and to examine how employment levels evolved during the period under review. Interpretation of the indicator makes it possible to assess whether the peripheral position of the regions along the EU-Ukraine border is associated with less favourable labour-market conditions.

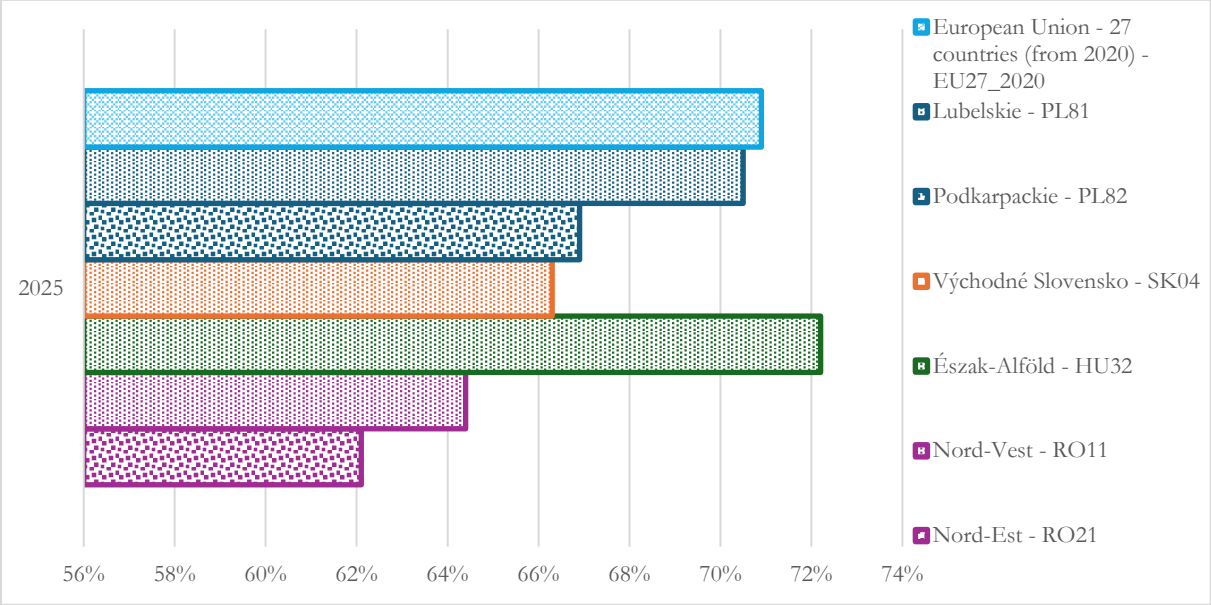
Figure 50: Employment rate in the NUTS 2 regions under review, 2025 (%)



Source: *Eurostat*

Higher employment levels were recorded in the Hungarian, Polish, and Slovak territories, whereas the lowest values were concentrated in the Romanian regions, indicating substantial spatial disparities within the study area.

Figure 51: Employment rate at NUTS 2 level, 2025 (%)

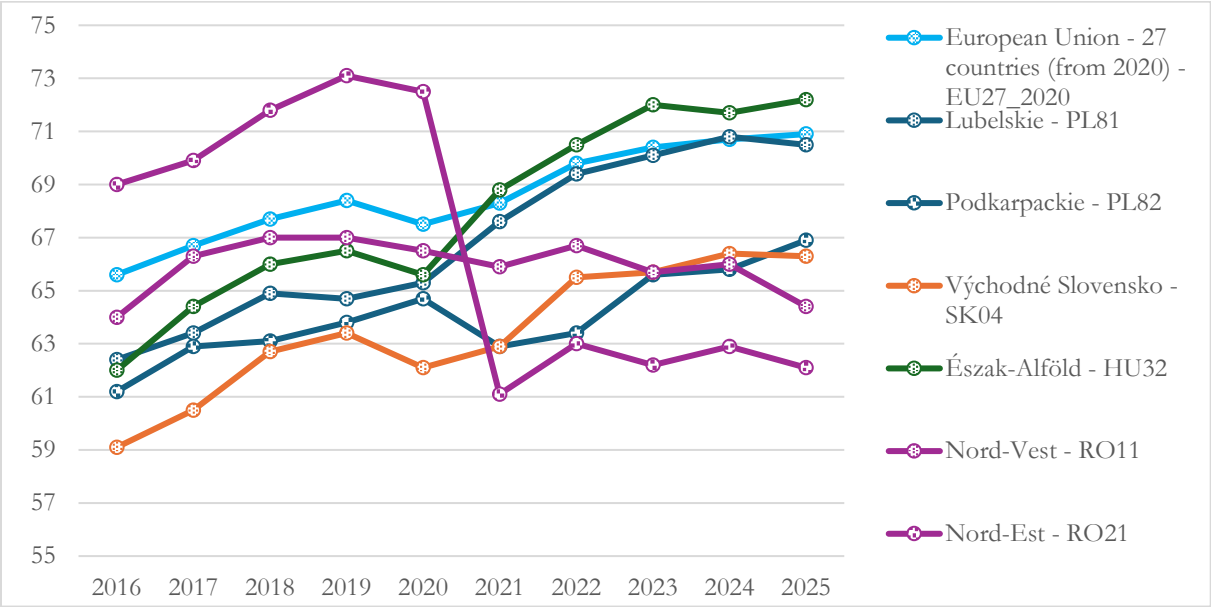


Source: *authors' compilation based on Eurostat data*

On the basis of the 2025 data, the employment rate was below the EU-27 average of 70.9% in every NUTS 2 territory under review except Észak-Alföld. In most regions, the employment rate among the working-age population was close to the respective national average. Neither Polish region exceeded the national average of 72.8%: the rate was 70.5% in Lubelskie and 66.9% in Podkarpackie. The Slovak NUTS 2 region likewise remained below the national average, with 66.3% compared with 72.3%. Észak-Alföld also recorded a lower employment rate than the Hungarian national average. Romania displayed a somewhat different pattern: the employment rate in Nord-Vest (64.4%) exceeded the national average (63%), while Nord-Est (62.1%) was only slightly below it. Within their respective countries, the regions under review generally occupied peripheral positions in terms of employment.

Észak-Alföld had the highest employment rate among the population aged 15-64 years in the territories under review. It was followed by Lubelskie, which likewise recorded a value above 70%, while Podkarpackie and Východné Slovensko occupied intermediate positions. The lowest employment rates in 2025 were observed in the two Romanian regions, Nord-Vest (64.4%) and Nord-Est (62.1%). The difference between the highest- and lowest-performing regions was approximately 10 percentage points, indicating meaningful territorial differentiation.

Figure 52: Change in the employment rate at NUTS 2 level, 2016-2025 (%)



Source: *authors' compilation based on Eurostat data*

The time-series data indicate a moderately increasing trend in most regions during much of the period, consistent with the improving EU-27 employment rate. Between 2016 and 2025, a degree of convergence in employment conditions is observable, suggesting a general improvement in labour-market participation. Persistent growth trajectories are evident in the Hungarian, Slovak, and Polish NUTS 2 regions under review. Growth was relatively steady in Podkarpackie, Lubelskie, Východné Slovensko, and Észak-Alföld. By contrast, the two Romanian territories followed the opposite pattern. Nord-Vest experienced a moderate decline accompanied by fluctuations, whereas Nord-Est recorded a substantial fall after 2020, followed by stabilisation at a lower level.

Over the period as a whole, the percentage-point change in the employment rate was positive in all selected regions except Nord-Est, where it declined by 6.9 percentage points between 2016 and 2025. The employment rate increased in Nord-Vest, but the magnitude of the change was negligible, amounting to only 0.4 percentage points. In the other regions, the increase ranged between 5 and 11 percentage points.

Table 15: Change in the employment rate in the NUTS 2 regions under review between 2016 and 2025 (percentage points)

Region	Change, 2016-2025
Lubelskie – PL81	+8,1
Podkarpackie – PL82	+5,7
Východné Slovensko – SK04	+7,2
Észak-Alföld – HU32	+10,2
Nord-Vest – RO11	+0,4
Nord-Est – RO21	-6,9

Source: authors' compilation based on Eurostat data

Overall, the employment data present a differentiated picture of labour-market conditions across the NUTS 2 regions under review. The time-series analysis shows that employment conditions improved in most territories, although development was not uniform. The Romanian regions followed less favourable trajectories, particularly Nord-Est, where labour-market conditions deteriorated. The employment-rate analysis also demonstrates that peripheral geographical location alone does not fully explain employment disparities. Észak-Alföld is not among the most economically developed regions, yet it recorded the highest employment rate among the territories under review.

2.2.5 Unemployment

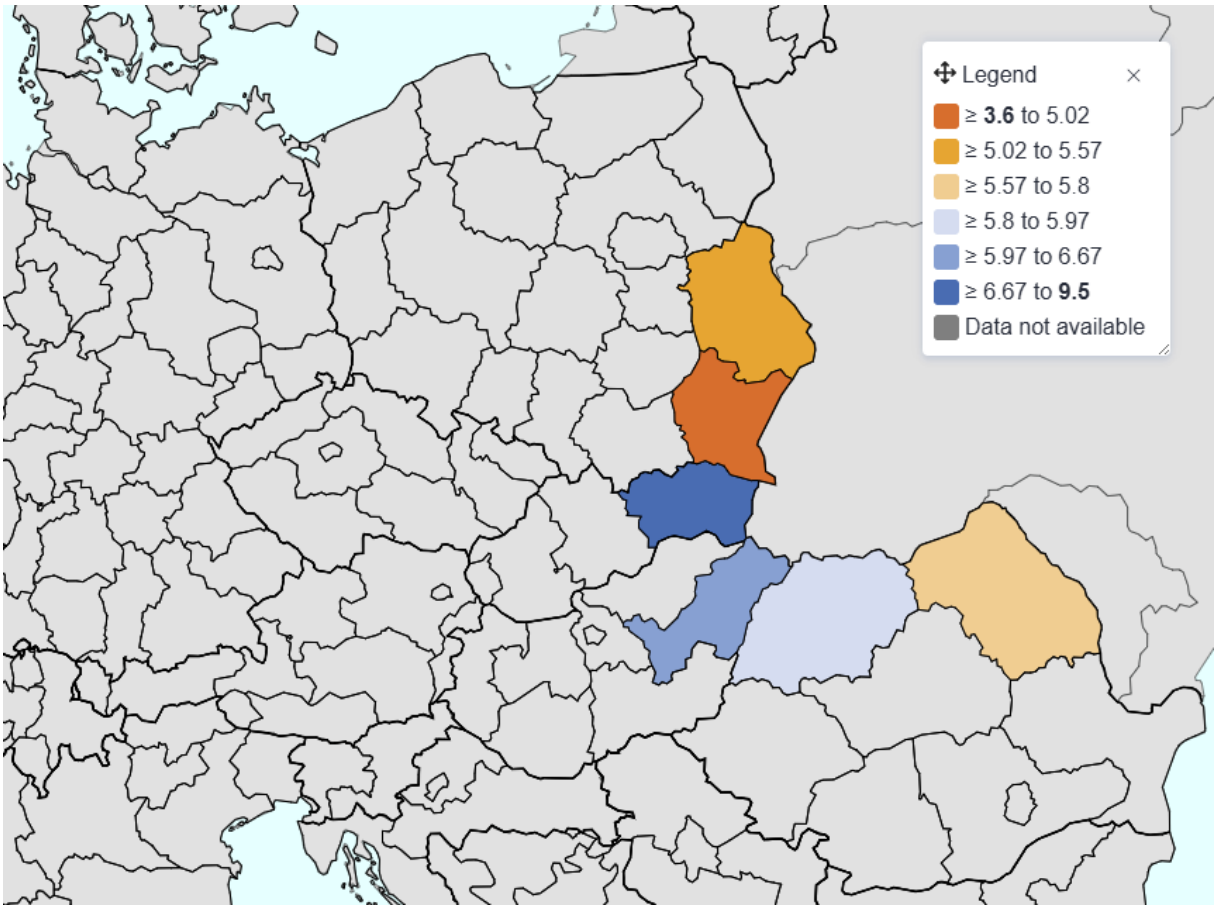
Alongside the employment rate, the unemployment rate is one of the most appropriate indicators for analysing labour-market conditions. It measures the proportion of economically active persons who are not currently employed but are actively seeking work. Interpreted together with the employment rate, it indicates the extent to which regional labour markets are capable of absorbing the available labour supply.

The analysis examines the unemployment rate among persons aged 15-74 years at NUTS 2 level, beginning with the current unemployment situation and then considering its evolution on the basis of time-series data. This approach is suitable for identifying divergent regional development trajectories in the territories along the Ukrainian border.

In addition to the general unemployment rate, the subsection examines youth unemployment. The unemployment rate among young people aged 15-24 years is a particularly important supplementary indicator, as it provides a clearer picture of the difficulties faced by labour-market entrants. It also offers insight into the population-retention capacity and longer-term competitiveness of the regions under review.

Unemployment rates differ markedly across the regions under review: the lowest values are observed in the Polish regions and the highest in Východné Slovensko.

Figure 53: Unemployment rate (ages 15-74) in the NUTS 2 regions under review, 2025 (%)



Source: *Eurostat*

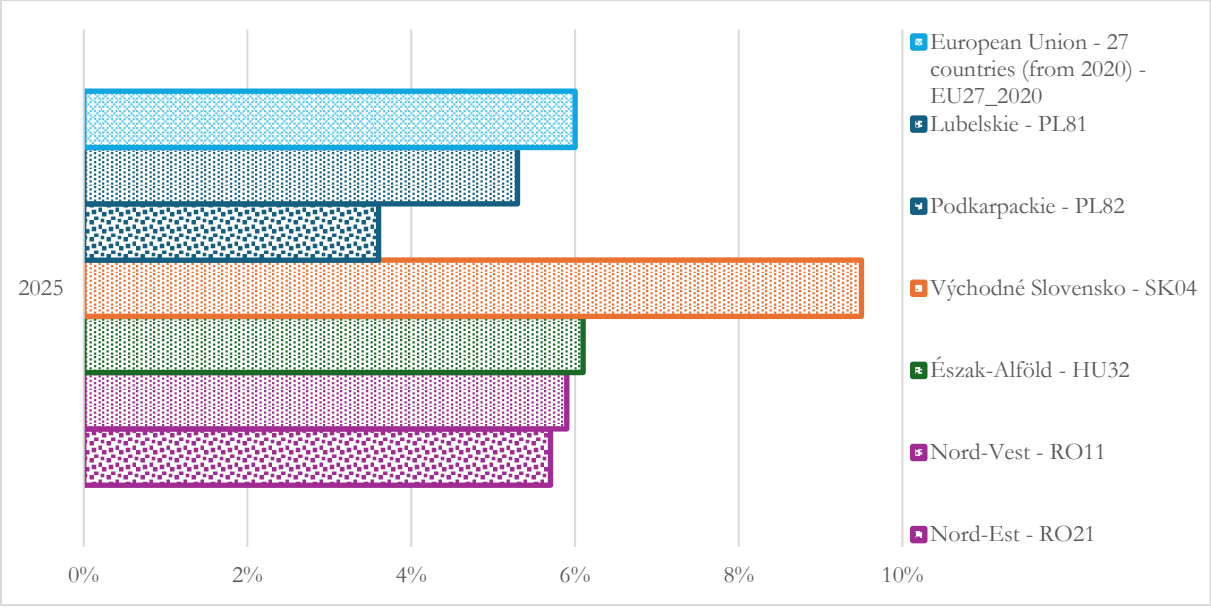
In 2025, unemployment rates ranged between 3% and 10% in the territories included in the analysis. Their positions relative to the EU-27 average were mixed: most recorded values close to or below the average, while Východné Slovensko was the sole region with an above-average unemployment rate.

At national level, a general tendency is that the unemployment rates of most territories under review exceeded their respective national averages, with the exception of the two Romanian NUTS 2 regions. Among the Polish territories, Lubelskie had an unemployment rate of 5.3%, above the national average of 3.1% and the highest among Polish regions. Podkarpackie was in a more favourable position at 3.6%, only slightly exceeding the national average. Východné Slovensko had the least favourable labour-market situation: its unemployment rate of 9.5% substantially exceeded both the Slovak national average of 5.4% and the values of other Slovak regions. Észak-Alföld also exceeded the Hungarian national average of 4.4% and had the third-highest unemployment rate nationally. In Romania, both regions remained

just below the national average of 6.1%, with rates of 5.9% in Nord-Vest and 5.1% in Nord-Est; both occupied middle-ranking positions within the country.

The most favourable situation was observed in the Polish regions, with Podkarpackie recording the lowest unemployment rate, at 3.6%. The highest value in 2025, 9.5%, was recorded in Východné Slovensko. Unemployment was approximately 5-6% in Lubelskie and the two Romanian NUTS 2 regions. Észak-Alföld was also closer to this group, with an unemployment rate of 6.1%.

Figure 54: Unemployment rate (ages 15-74) in the NUTS 2 regions under review, 2025 (%)

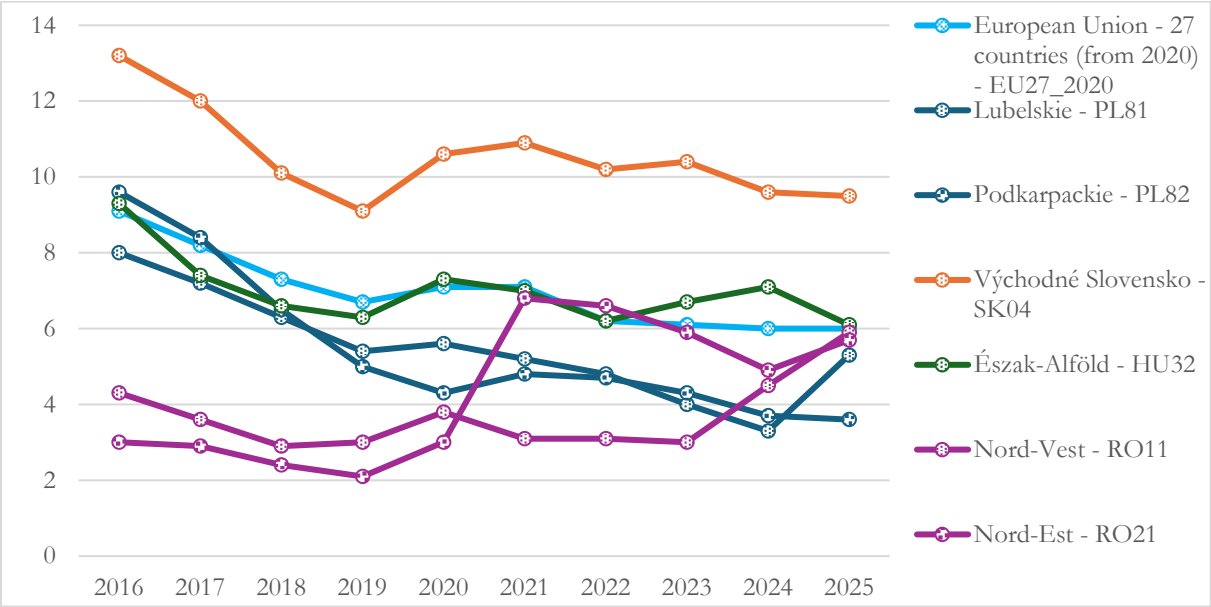


Source: *authors' compilation based on Eurostat data*

The following chart shows that unemployment followed different regional trajectories between 2016 and 2025. The Polish territories, similarly to Východné Slovensko, displayed an improving trend; however, despite the decline, unemployment in the Slovak region remained the highest throughout the period. The Romanian regions exhibited a more volatile pattern. Relative to the EU-27 average, most territories reached a more favourable or approximately equivalent position by the end of the period.

In Podkarpackie, a long-term decline reduced the unemployment rate by 6 percentage points, from 9.6% to 3.6%. Lubelskie also followed a downward trend, although unemployment began to increase again in the final years, meaning that improvement was not uniform. The unemployment rate in Észak-Alföld fluctuated moderately around an intermediate level. In the Romanian regions, an initially low unemployment rate, particularly in Nord-Est, deteriorated substantially by 2020, followed by only a partial recovery. In Nord-Vest, the unemployment rate began to rise after 2023. These developments indicate instability in the labour-market conditions of the Romanian regions.

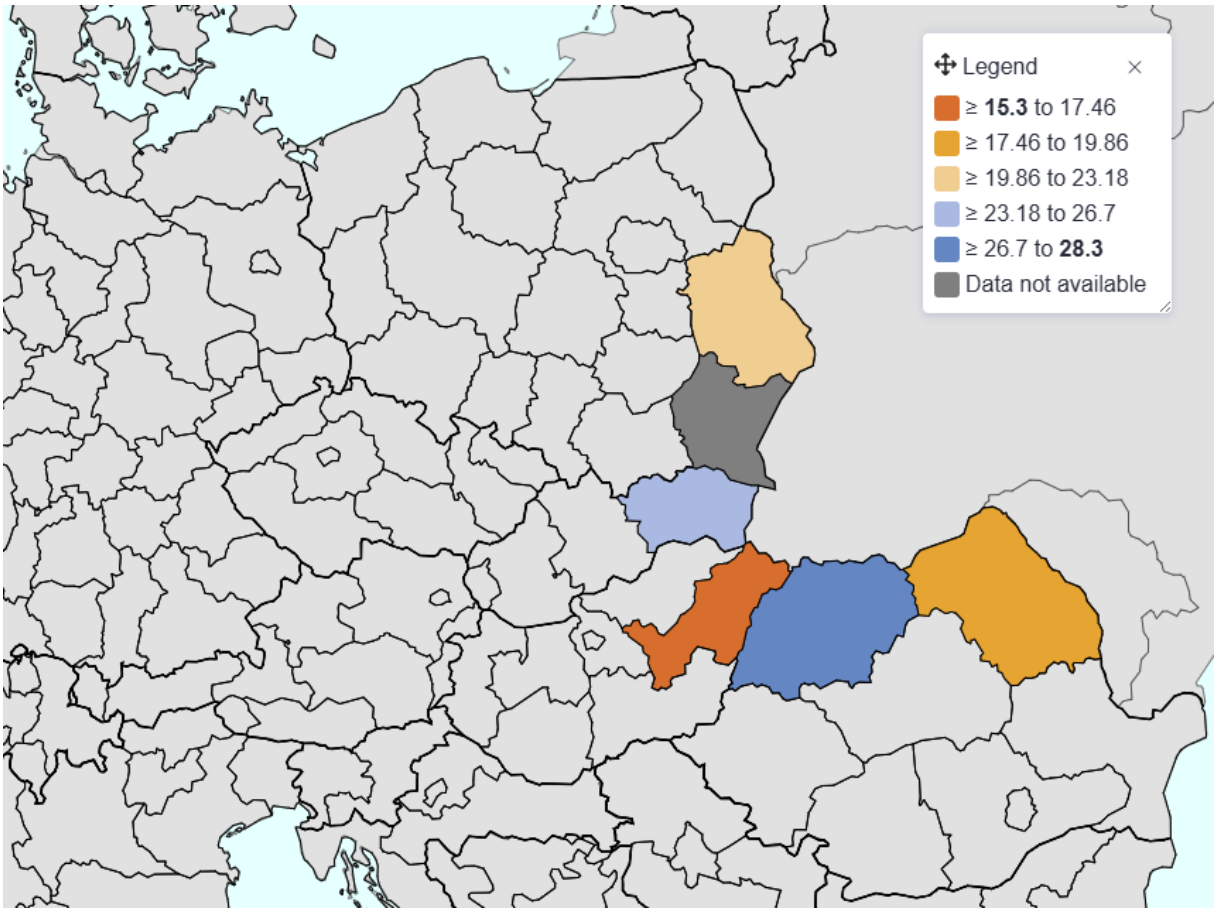
Figure 55: Development of the unemployment rate (ages 15-74) in the NUTS 2 regions under review, 2016-2025 (%)



Source: *authors' compilation based on Eurostat data*

In every NUTS 2 region for which data were available, the unemployment rate among persons aged 15-24 years substantially exceeded the general unemployment rate in 2025. This indicates that the labour-market integration of young people is considerably more difficult than that of the working-age population as a whole. Youth unemployment also displays substantial disparities among the territories along the Ukrainian border.

Figure 56: Youth unemployment rate (ages 15-24) in the NUTS 2 regions under review, 2025 (%)



Source: *Eurostat*

Youth unemployment was substantially higher than the general unemployment rate in the corresponding regions. Considerable dispersion was also observed among the youth unemployment rates of the regions under review. The EU-27 average was 15% in 2025; youth unemployment exceeded this level across almost the entire project area. Észak-Alföld was the sole exception, matching the EU average.

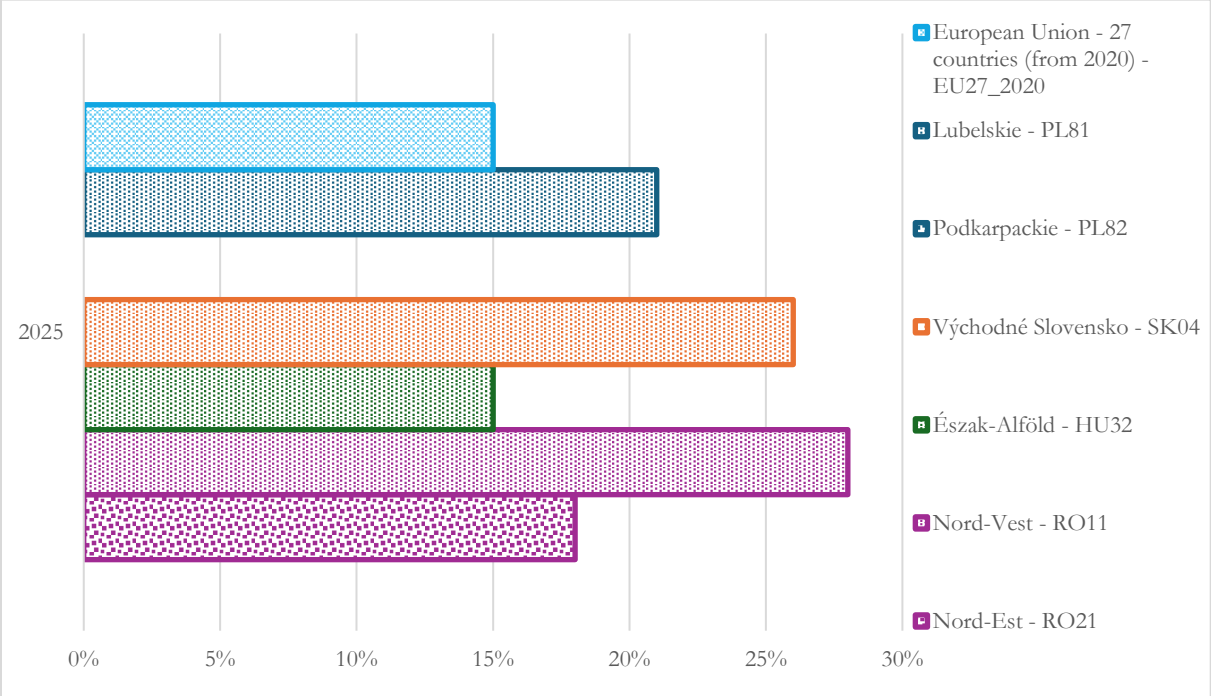
Youth unemployment generally exceeded the respective national average in the regions under review. The Polish data series is incomplete, preventing a full comparison with the other regions. Nevertheless, the available data show that youth unemployment in Lubelskie (21%) substantially exceeded the national average (12%). In Východné Slovensko, youth unemployment likewise exceeded the national average, although missing data preclude comparison with other Slovak regions. In Hungary, youth unemployment in Észak-Alföld (15%) was slightly above the national average (14%) and placed the region in the middle range nationally. Romania exhibited a divergent pattern. Nord-Vest recorded youth unemployment of 28%, above the national average of 26%. In Nord-Est, by contrast, the rate was 18%, substantially below the national average and the lowest among Romanian regions.

On the basis of the 2025 data, Észak-Alföld in Hungary occupied the most favourable position, while Nord-Vest in Romania was the least favourable. Youth unemployment data for Podkarpackie were unavailable for 2025, so the region cannot be included fully in the comparison. Its most recent figure refers to 2023, when the youth unemployment rate was 21%.

In Východné Slovensko, the difficult labour-market integration of young people coincides with a high general unemployment rate, together indicating an unfavourable labour-market situation. In Nord-Vest, the exceptionally high youth unemployment rate suggests that problems affecting young people are considerably more severe than the general unemployment rate alone would imply.

Overall, entry into the labour market poses serious challenges for young people in most of the regions under review.

Figure 57: Youth unemployment rate (ages 15-24) in the NUTS 2 regions under study, 2025 (%)



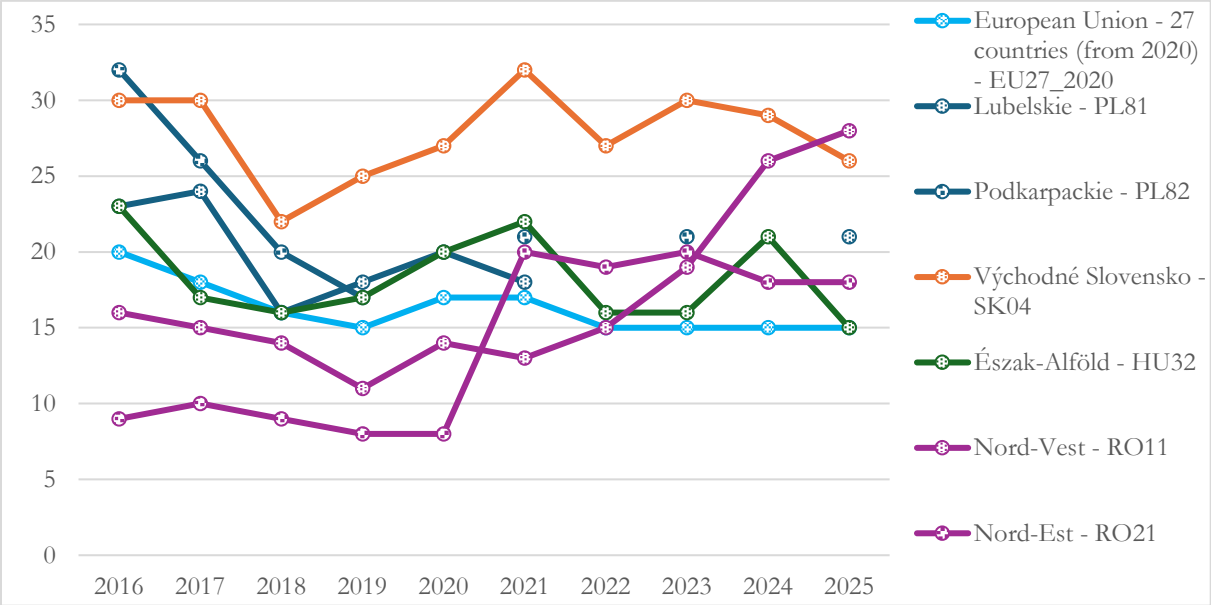
Source: *authors' compilation based on Eurostat data*

The time-series data indicate that the labour-market position of young people varied markedly across the NUTS 2 regions under study between 2016 and 2025. It should be emphasised that trends in the youth unemployment rate were not consistently aligned with changes in the overall unemployment rate in every region. This suggests that young people's transition into the labour market constitutes a distinct policy challenge in its own right.

Between 2016 and 2025, the most adverse youth-unemployment trajectories among the regions under study were observed in two territories. In Východné Slovensko, Slovakia, the indicator remained high throughout almost the entire period. In Nord-Vest, Romania, following a favourable initial position, the youth unemployment rate increased continuously by a cumulative 12 percentage points, leaving the region with the least favourable value. The negative trend in the Romanian regions is particularly noteworthy, since in the second half of the 2010s the youth unemployment rates of both regions were below the EU average. Észak-Alföld exhibited the most favourable development: despite a relatively high rate of 23 per cent in 2016, its indicator had declined to the EU-27 average of 15 per cent by 2025.

The time series for the Polish regions is incomplete, as data are unavailable for certain years in both Podkarpackie and Lubelskie; consequently, the underlying trends can be interpreted only with caution. The available observations nevertheless indicate an overall decline in the Polish regions, with youth unemployment fluctuating around 20 percent during the 2020s.

Figure 58: Trend in the youth unemployment rate (ages 15-24) in the NUTS 2 regions under study, 2016-2025 (%)



Source: *authors' compilation based on Eurostat data*

Overall, the unemployment data indicate improving labour-market conditions in the Polish, Hungarian and Slovak regions, both in terms of general unemployment and youth unemployment. Nevertheless, the analysis of the latter indicator demonstrates that entry into the labour market poses a substantially greater challenge for the 15-24 age group than the general unemployment situation of the regions would suggest. This is most clearly reflected in the Romanian and Slovak regions bordering Ukraine and may, over the longer term, weaken both their population-retention capacity and regional competitiveness.

2.3 Human Capital and Quality of Life

The human-capital potential and quality-of-life characteristics of the EU regions bordering Ukraine constitute critical dimensions of the present analysis. Regional development cannot be interpreted solely through economic performance. Contemporary approaches in regional science identify the quality of human capital as one of the principal determinants of development, encompassing the population's educational attainment, knowledge base and health status.

Theories emphasising the role of human capital posit that a more highly educated and healthier population contributes to productivity growth, stronger innovative capacity and enhanced economic competitiveness. Conversely, lower educational attainment and poor health outcomes may constrain regional development over the long term.

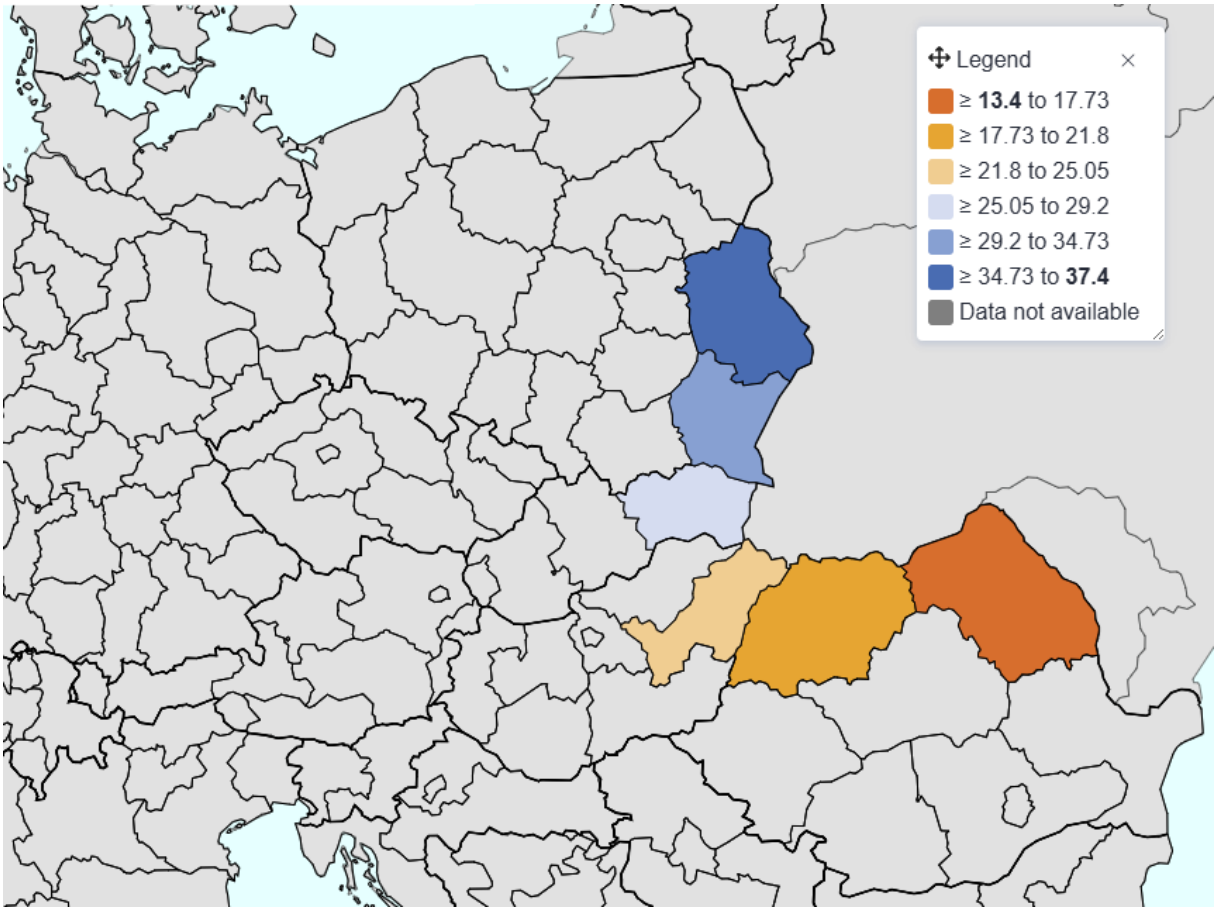
Human-capital analysis is therefore of particular importance in the regions under study. Accordingly, the following indicators are applied: the proportion of the population with tertiary educational attainment, the early leavers from education and training rate, and life expectancy at birth. Taken together, these three indicators make it possible to assess the human-capital potential of the regions and the extent to which it may support their long-term development prospects.

2.3.1 Educational Attainment and Human Capital

The quality of human capital is a key determinant of regional development, as it is closely associated with labour-market adaptability, productivity, innovative potential and the emergence of higher-value-added economic activities. Spatial disparities in educational attainment are therefore significant not only from a social perspective but also for economic development: regions characterised by lower qualification levels may have a more limited supply of skilled labour, thereby contributing to the persistence of peripheralisation over the longer term.

The analysis is based on the proportion of the population aged 25-64 with tertiary educational attainment, one of the principal indicators of the qualification structure of the working-age population. In interpreting the indicator, however, it must be recognised that it reflects not only the performance of the education system, but also the effects of migration, the attractiveness of major urban centres, labour-market structure and the level of regional economic development.

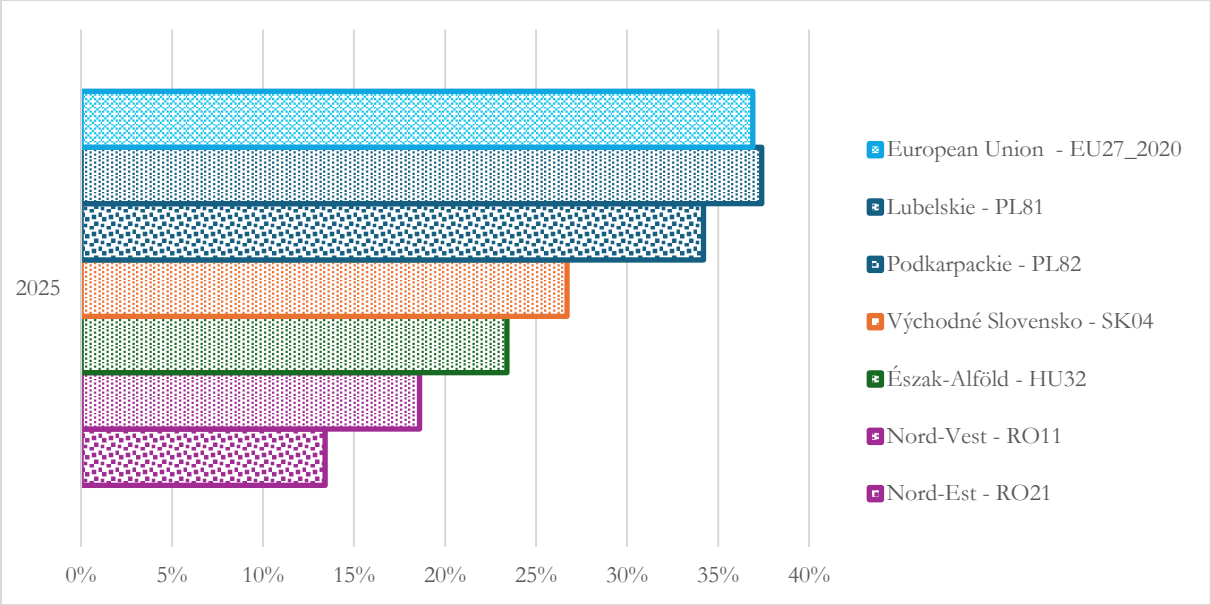
Figure 59: Share of the population aged 25-64 with tertiary educational attainment in the NUTS 2 regions under study, 2025 (%)



Source: *Eurostat*

The 2025 data reveal substantial territorial disparities among the NUTS 2 regions under study. The Polish regions occupy the most favourable position, particularly Lubelskie, whose value virtually reaches the European Union average, while Podkarpackie also records a comparatively high value. By contrast, the Romanian regions perform considerably less favourably, especially Nord-Est. Východné Slovensko and Észak-Alföld occupy intermediate positions: their values exceed those of the Romanian regions but remain below the levels recorded in the Polish regions.

Figure 60: Share of the population aged 25-64 with tertiary educational attainment in the NUTS 2 regions under study and in the European Union, 2025 (%)

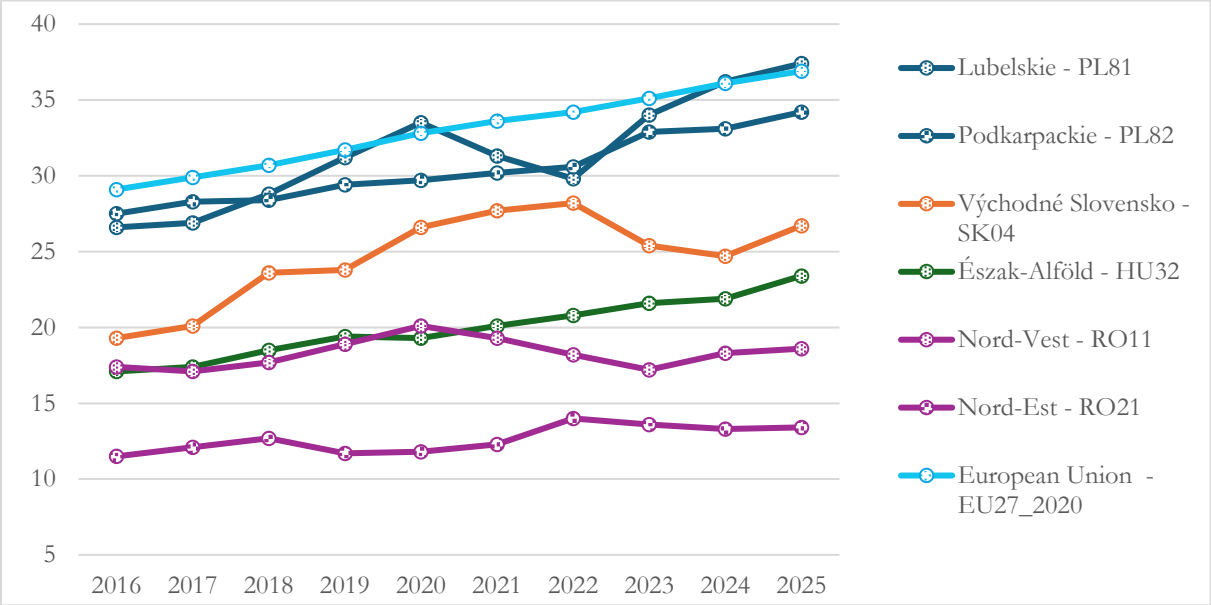


Source: *authors' compilation based on Eurostat data*

In 2025, 36.9 per cent of the population aged 25-64 in the European Union had attained tertiary education, compared with 40.0 per cent in Poland, 29.8 per cent in Slovakia, 31.6 per cent in Hungary and 19.5 per cent in Romania. Against these benchmarks, Lubelskie's value of 37.4 per cent slightly exceeded the EU average, while Podkarpackie's 34.2 per cent remained somewhat below it; both regions nevertheless lagged behind the Polish national average. Východné Slovensko, at 26.7 per cent, and Észak-Alföld, at 23.4 per cent, occupied intermediate positions among the border regions, although in both cases the proportion of tertiary-educated residents was below the respective national average. Nord-Vest, at 18.6 per cent, and Nord-Est, at 13.4 per cent, exhibited substantial deficits relative to most regions under study and even fell below Romania's already low national average.

The 2025 data indicate that the Polish regions have comparatively favourable human-capital endowments, whereas those of the Romanian regions are distinctly adverse. Východné Slovensko and Észak-Alföld lie between these two poles. These findings demonstrate that the regions bordering Ukraine do not possess a homogeneous human-capital profile: border location alone does not explain disparities in educational attainment, which are more closely associated with national education systems, economic conditions and spatial structures.

Figure 61: Change in the share of the population aged 25-64 with tertiary educational attainment in the NUTS 2 regions under study and in the European Union, 2016-2025 (%)



Source: *authors' compilation based on Eurostat data*

The 2016-2025 time series shows that the share of the population with tertiary educational attainment increased in most of the territories under study, although the pace and continuity of growth varied considerably. Across the European Union as a whole, the indicator rose from 29.1 per cent to 36.9 per cent, reflecting sustained and relatively even expansion.

The most dynamic increase occurred in Lubelskie, where the share of tertiary-educated residents rose from 26.6 per cent in 2016 to 37.4 per cent in 2025. The region thus not only improved its relative position substantially, but by 2025 had reached and marginally exceeded the EU average. Podkarpackie also recorded an unambiguous increase, from 27.5 per cent to 34.2 per cent.

The trajectory in Východné Slovensko was less uniform. A substantial increase occurred between 2016 and 2022, followed by declines in 2023 and 2024; the share of tertiary-educated residents then rose again in 2025. Over the period as a whole, the indicator nevertheless improved from 19.3 per cent to 26.7 per cent. Growth in Észak-Alföld was more moderate but relatively continuous, increasing from 17.1 per cent in 2016 to 23.4 per cent in 2025.

By contrast, the Romanian regions exhibited considerably weaker growth dynamics. Between 2016 and 2025, the indicator increased by only 1.2 percentage points in Nord-Vest and by 1.9 percentage points in Nord-Est. This suggests that their human-capital positions did not converge meaningfully towards the EU average during the period, and that disparities between the more advanced and lagging regions therefore persisted.

Table 16: Change in the share of the population aged 25-64 with tertiary educational attainment in the NUTS 2 regions under study and in the European Union, 2016-2025 (percentage points)

Region	Change, 2016-2025
Lubelskie – PL81	+10,8
Podkarpackie – PL82	+6,7
Východné Slovensko – SK04	+7,4
Észak-Alföld – HU32	+6,3
Nord-Vest – RO11	+1,2
Nord-Est – RO21	+1,9
European Union – EU27_2020	+7,8

Source: *authors' compilation based on Eurostat data*

According to the summary table, Lubelskie achieved the greatest improvement: the proportion of tertiary-educated residents increased by 10.8 percentage points between 2016 and 2025. This exceeded the average increase of 7.8 percentage points recorded across the European Union. Východné Slovensko's increase of 7.4 percentage points was also substantial, while Podkarpackie and Észak-Alföld registered gains of 6.7 and 6.3 percentage points, respectively. These regions therefore experienced a material expansion in the proportion of tertiary-educated residents, even though several remained below the EU average.

The Romanian regions improved their positions only modestly over the period. Nord-Est recorded an increase of 1.9 percentage points and Nord-Vest 1.2 percentage points, substantially below both the EU average and the changes observed in the other regions. This is particularly consequential because the Romanian regions already had lower baseline values in 2016; slower growth may thus have contributed to the persistence, and in some respects the widening, of territorial disparities.

Overall, the findings demonstrate pronounced differentiation in the human-capital conditions of the NUTS 2 regions bordering Ukraine. The Polish regions, particularly Lubelskie, have comparatively favourable educational profiles and recorded substantial convergence between 2016 and 2025. Východné Slovensko and Észak-Alföld occupy intermediate positions: despite an improving trend, their distance from the EU average remains considerable. By contrast, Nord-Vest and Nord-Est in Romania continue to be characterised by persistently low shares of tertiary-educated residents and did not converge meaningfully towards the more advanced regions during the period under review.

Territorial disparities in human capital may, over the longer term, affect economic structure, labour-market opportunities and quality of life. A lower share of tertiary-educated residents may constrain the emergence of higher-value-added sectors, weaken regional innovative capacity and reduce the likelihood that young, highly

qualified people remain in the region. This is especially salient in the territories bordering Ukraine, where, alongside demographic losses and a peripheral spatial position, the quality of human capital may play a decisive role in shaping future development trajectories.

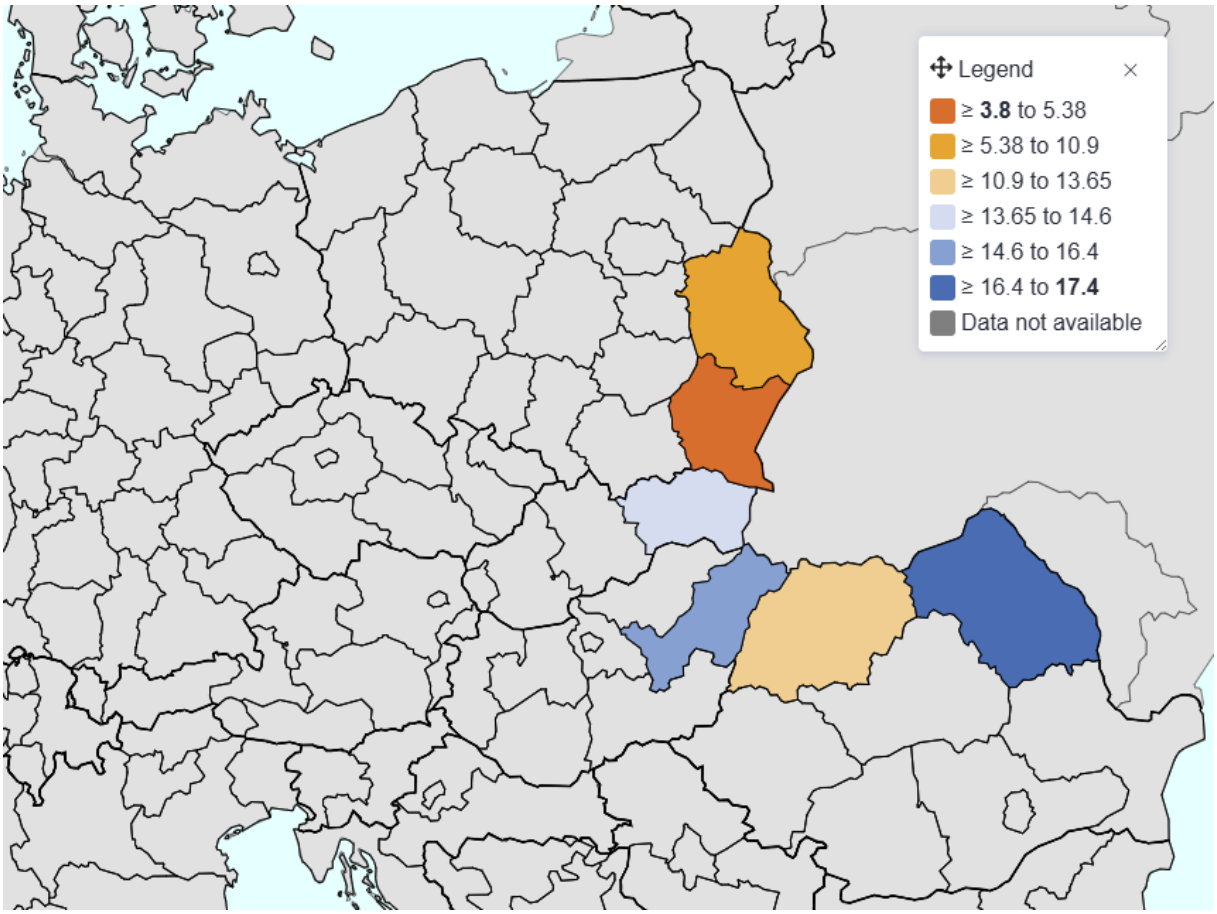
2.3.2 Early Leaving from Education and Training

An assessment of human capital cannot be confined to higher levels of educational attainment; it must also examine those who leave education and training prematurely. Early leaving from education and training is a negative indicator of human-capital reproduction, measuring the proportion of 18-24-year-olds who have attained, at most, a low level of education and are not participating in further education or training.

The indicator is employed because early leaving from education and training increases the long-term risks of unemployment, low income, precarious labour-market attachment and social exclusion. At the regional level, a higher value may signal a weaker pipeline of qualifications among the young population, with adverse consequences for economic competitiveness, labour-market adaptability and social mobility.

The analysis of early leaving from education and training complements the assessment of tertiary educational attainment. Whereas the latter captures the presence of a highly qualified workforce and higher levels of human capital, the early-leaving rate reveals territorial disparities in qualification deficits and the social risks affecting young people. The analysis therefore examines the early-leaving rate among 18-24-year-olds in the selected NUTS 2 regions.

Figure 62: Early leavers from education and training among 18-24-year-olds in the NUTS 2 regions under study, 2019 (%)



Source: *Eurostat*

In 2019, substantial territorial disparities were evident among the NUTS 2 regions under study. The lowest rates of early leaving from education and training were recorded in the Polish regions: both Podkarpackie and Lubelskie performed more favourably than the other territories examined. This indicates a comparatively stronger capacity to retain young people within the education system in the Polish border regions.

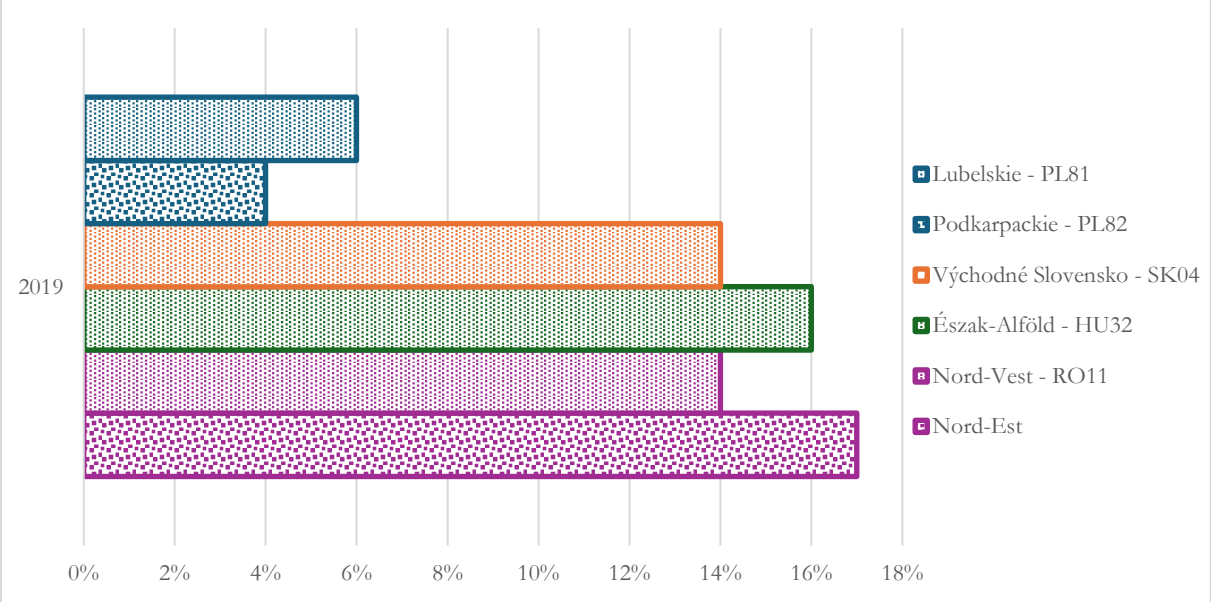
By contrast, the highest early-leaving rates were observed in Nord-Est and Észak-Alföld. In these territories, higher levels of early leaving may indicate less favourable conditions for the reproduction of human capital and greater labour-market vulnerability among young people. Východné Slovensko and Nord-Vest occupied intermediate positions, although their values also exceeded those of the Polish regions.

Early-leaving rates are highly country- and region-specific and cannot be explained solely by border location. In 2019, the share of early leavers from education and training was 10.1 per cent in the European Union, compared with 5.1 per cent in

Poland, 8.3 per cent in Slovakia, 11.9 per cent in Hungary and 15.3 per cent in Romania.

For a more precise interpretation of these differences, the regional values are also presented in a bar chart.

Figure 63: Early leavers from education and training among 18-24-year-olds in the NUTS 2 regions under study, 2019 (%)



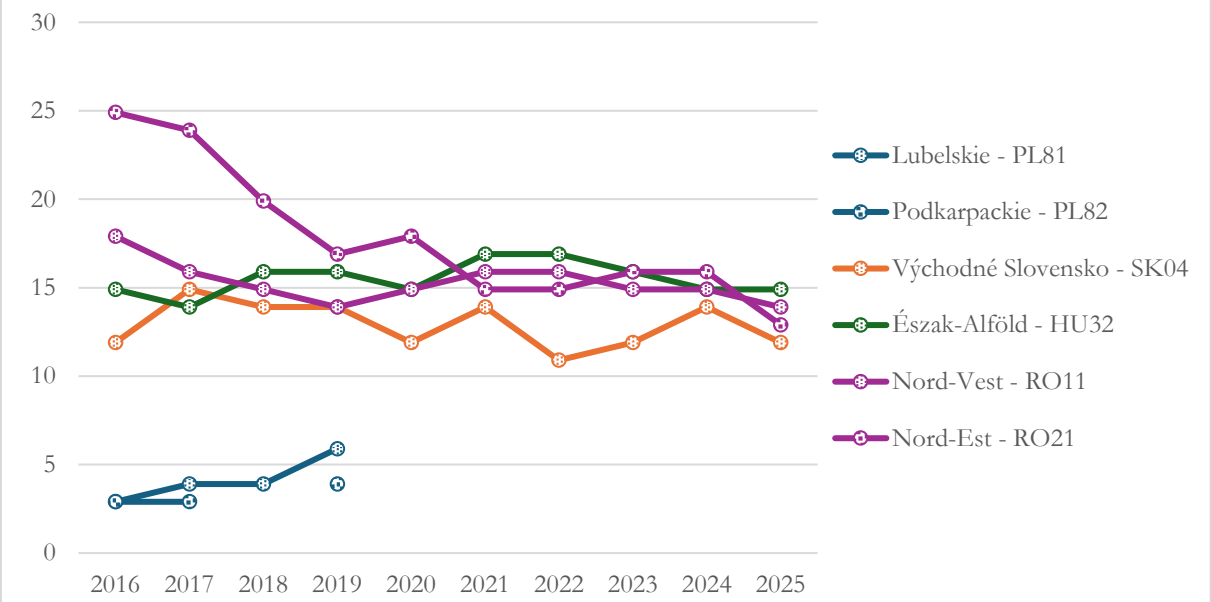
Source: *authors' compilation based on Eurostat data*

The lowest early-leaving rate was observed in Podkarpackie, where the indicator stood at 3.8 per cent in 2019. Lubelskie likewise recorded a low value of 5.7 per cent. On this indicator, the two Polish regions therefore displayed distinctly favourable human-capital conditions.

Nord-Vest and Východné Slovensko formed the middle tier. The share of early leavers was 13.5 per cent in Nord-Vest and 13.8 per cent in Východné Slovensko. These values were substantially higher than those of the Polish regions, but remained below the indicators recorded in the least favourable territories.

The highest value occurred in Nord-Est, where 17.4 per cent of 18-24-year-olds were classified as early leavers from education and training. Észak-Alföld was also in an adverse position, with a rate of 16.2 per cent.

Figure 64: Change in the early-leaving rate among 18-24-year-olds in the NUTS 2 regions under study, 2016-2025 (%)



Source: *authors' compilation based on Eurostat data*

The 2016-2025 time series reveals divergent trajectories in early leaving from education and training across the territories under study. It should be noted, however, that the data series for the Polish regions is incomplete after 2020; consequently, longer-term changes in Lubelskie and Podkarpackie can be interpreted only with caution. The available data for 2016-2019 indicate low values in both Polish regions, although Lubelskie experienced a slight increase.

Among the Romanian regions, Nord-Est recorded the most pronounced improvement. Its early-leaving rate was exceptionally high at 24.7 per cent in 2016, but had fallen to 12.8 per cent by 2025. This constitutes substantial progress, although in 2019 the region still ranked among the least favourable territories. Nord-Vest also experienced a decline, from 18.3 per cent in 2016 to 13.8 per cent in 2025. Thus, over the period as a whole, both Romanian regions exhibited a favourable direction of change.

The time series for Észak-Alföld was considerably more stable, but remained at an adverse level. The indicator stood at 15.1 per cent in 2016 and 14.7 per cent in 2025, indicating no substantive improvement. Persistently high early-leaving rates suggest that structural deficiencies in the qualification profile of the young population may remain unresolved.

Values in Východné Slovensko were more volatile: the early-leaving rate was 11.5 per cent in 2016 and 11.8 per cent in 2025. Increases occurred on several occasions during the period, particularly in 2017, 2018, 2021 and 2024. Although the region's 2025 value was below that of Észak-Alföld or Nord-Vest, the fluctuations indicate the absence of an unequivocally improving trend.

Taken together, the results show that human-capital conditions in the NUTS 2 regions under study are highly differentiated when assessed through early leaving from education and training. On the available evidence, the Polish regions occupy the most favourable positions, whereas Észak-Alföld and Nord-Est recorded particularly high values in 2019. The Romanian regions nevertheless experienced substantial reductions between 2016 and 2025, indicating movement in a favourable direction.

Territorial disparities in early leaving from education and training may have long-term implications for labour-market prospects and social mobility. In regions where larger proportions of young people leave education prematurely, the supply of skilled labour may be more constrained and the social risks associated with low educational attainment may intensify. This is particularly important in the territories bordering Ukraine, where the quality of human capital, alongside demographic and economic challenges, plays a decisive role in shaping long-term development opportunities.

2.3.3 Life Expectancy and Quality of Life

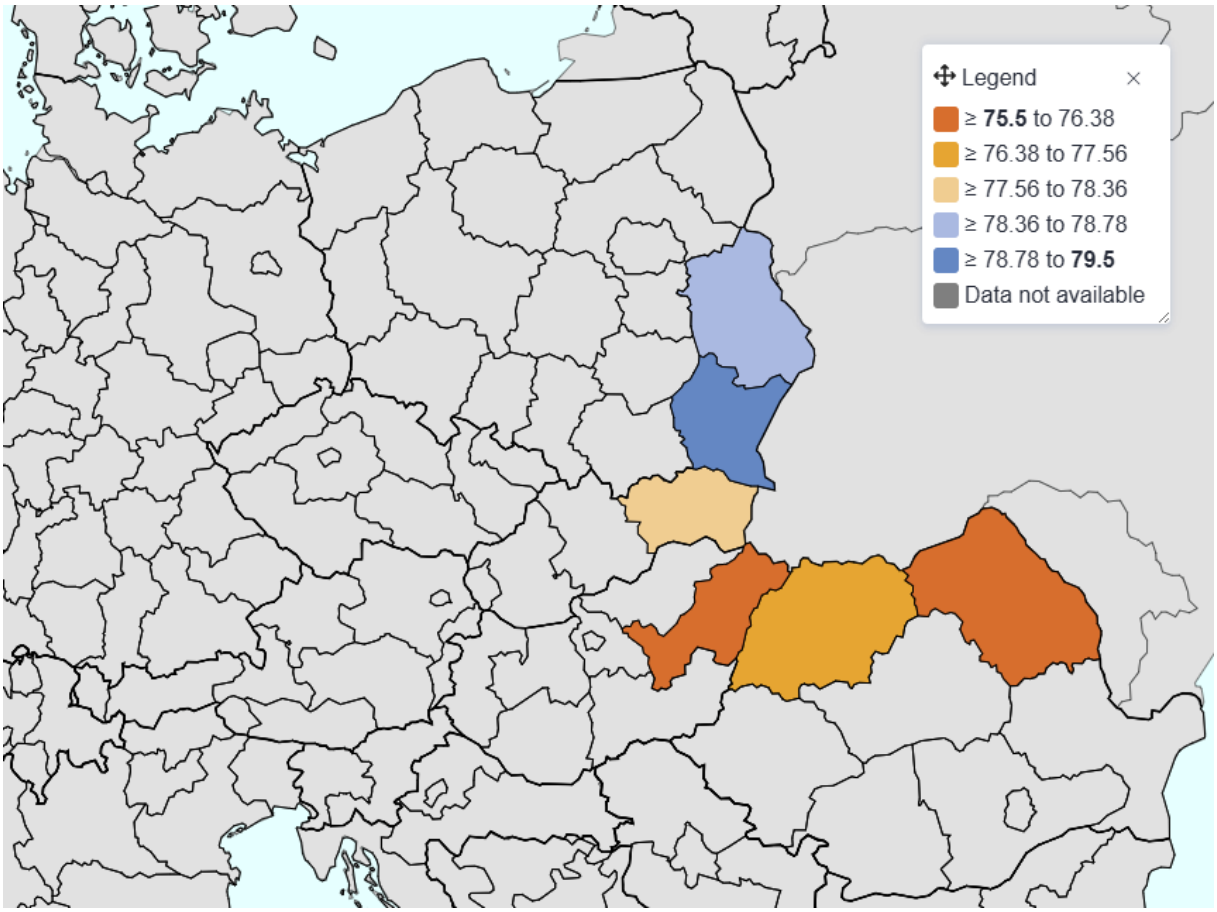
The health status of the population is a fundamental dimension of human capital. The most widely used indicator for its regional assessment is life expectancy at birth, which expresses the average number of years a newborn would be expected to live if the mortality conditions prevailing in the reference year remained constant. The indicator provides indirect information not only on the performance of the healthcare system, but also on living conditions, income levels, social inequalities and the general level of regional development.

Life expectancy is applied because health status is difficult to measure directly at the regional level, whereas mortality patterns reflect the cumulative, long-term effects of the socio-economic environment. Higher life expectancy generally indicates more favourable quality-of-life conditions, better access to healthcare and a more stable social environment, while lower values may signal the accumulation of territorial disadvantage, poorer living conditions and elevated health risks.

In 2024, life expectancy at birth was 78.5 years in Poland, 78.4 years in Slovakia, 76.8 years in Hungary and 76.5 years in Romania.

The indicator is particularly relevant to the regions bordering Ukraine, as it reveals the extent to which demographic, economic and social disparities are reflected in the population's life chances. The analysis examines life expectancy at birth at NUTS 2 level, first in terms of territorial disparities in 2024 and subsequently through changes between 2016 and 2024.

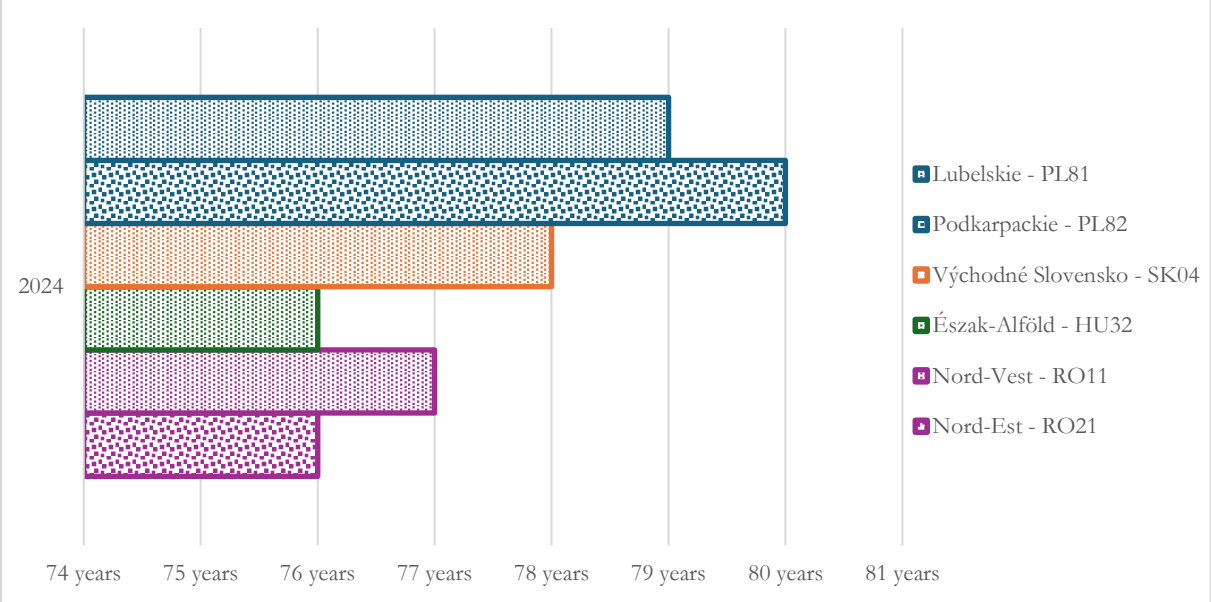
Figure 65: Life expectancy at birth in the NUTS 2 regions under study, 2024 (years)



Source: *Eurostat*

The 2024 data reveal appreciable differences in life expectancy among the NUTS 2 regions under study.

Figure 66: Life expectancy at birth in the NUTS 2 regions under study, 2024 (years)



Source: *authors' compilation based on Eurostat data*

Among the regions under study, Podkarpackie recorded the highest life expectancy in 2024, at 80 years. Lubelskie also performed favourably, with a value of 79 years. On this indicator, the two Polish regions therefore clearly stand out from the other territories examined.

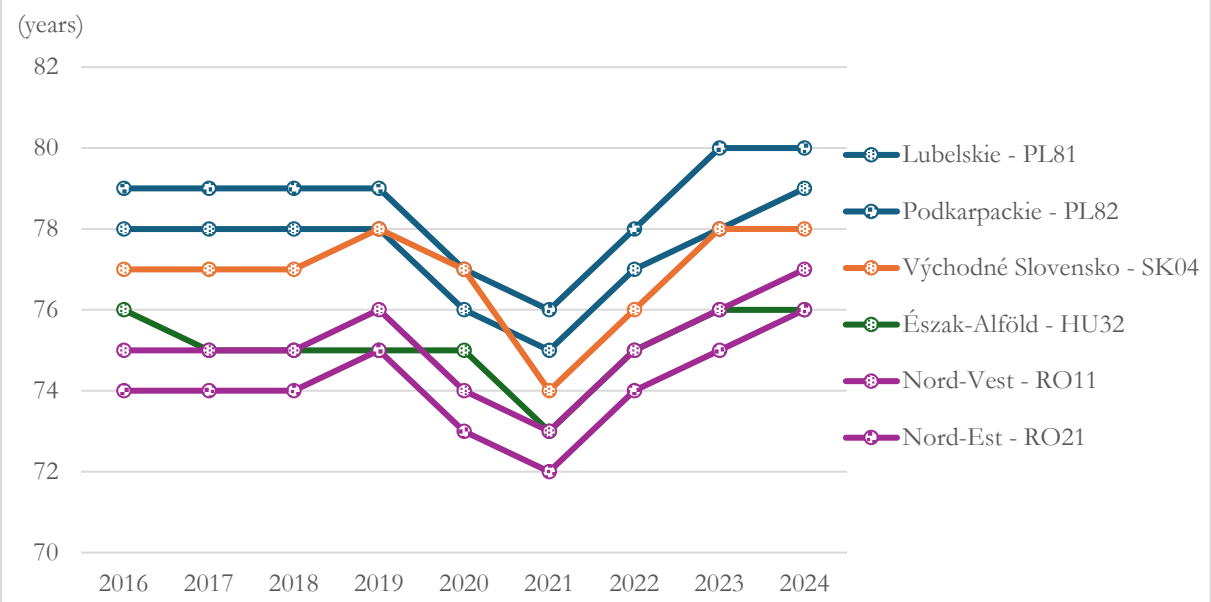
Life expectancy in Východné Slovensko was 78 years, placing the region behind the Polish territories but ahead of the Hungarian and Romanian regions. Nord-Vest recorded 77 years, while both Észak-Alföld and Nord-Est stood at 76 years. The four-year gap between the highest and lowest values represents a substantial regional disparity in quality of life.

The spatial pattern of life expectancy is partly consistent with the preceding indicators of human capital and socio-economic development. The Polish regions, which recorded more favourable values, also occupied comparatively stronger positions on several other indicators, whereas the lower life expectancy in Észak-Alföld and the Romanian regions points to the multidimensional nature of territorial disadvantage. It should nevertheless be stressed that life expectancy changes only gradually; its interpretation therefore requires consideration not only of the situation in a single year, but also of longer-term trends.

The 2016-2024 time series reveals several common features in the evolution of life expectancy across the regions under study. In most territories, the period from 2016 to 2019 was characterised by relative stability or modest improvement, followed by a decline in 2020 and, especially, in 2021. This discontinuity clearly corresponds to the COVID-19 pandemic, which adversely affected mortality conditions and life expectancy throughout Europe.

The magnitude of the pandemic effect nevertheless varied by region. The decline appears to have been particularly pronounced in Nord-Est, where the indicator fell to one of its lowest levels in 2021. Nord-Vest and Észak-Alföld also experienced discernible reductions, while the decline was less marked in the Polish regions. After 2022, life expectancy at birth increased in every region under study.

Figure 67: Life expectancy at birth in the NUTS 2 regions under study, 2016-2024 (years)



Source: *authors' compilation based on Eurostat data*

Podkarpackie exhibited the most favourable trajectory, with life expectancy increasing to 80 years by 2024. Lubelskie likewise stabilised at a high level of 79 years. Východné Slovensko also improved after the 2021 decline, reaching 78 years in 2024. In Észak-Alföld, no substantive improvement is evident over the period as a whole, as the region still recorded 76 years in 2024. The Romanian regions, by contrast, ended the period at higher levels than in the baseline year.

Table 17: Life expectancy at birth in the NUTS 2 regions under study, 2016-2024 (years)

Region	Change, 2016-2025
Lubelskie – PL81	+1
Podkarpackie – PL82	+1
Východné Slovensko – SK04	+1
Észak-Alföld – HU32	0
Nord-Vest – RO11	+2
Nord-Est – RO21	+2

Source: *Eurostat*

The summary table shows that the largest improvements occurred in the Romanian regions: life expectancy increased by two years in both Nord-Vest and Nord-Est between 2016 and 2024. This may partly indicate moderate convergence from a less favourable baseline; nevertheless, their 2024 values still placed them in the lower tier of the regions under study.

Lubelskie, Podkarpackie and Východné Slovensko each recorded a one-year improvement. Their more favourable initial values also left less scope for further increase, while their overall positions remained comparatively strong in 2024. The table indicates no change in Észak-Alföld, where life expectancy was identical in 2016 and 2024. It should be noted, however, that life expectancy had increased in the region before the COVID-19 pandemic, followed by a substantial decline during the pandemic. This is an adverse outcome, particularly because Észak-Alföld remained among the regions with the lowest life expectancy in 2024.

Overall, the results demonstrate pronounced differentiation in quality-of-life conditions among the NUTS 2 regions bordering Ukraine when assessed through life expectancy. The Polish regions, especially Podkarpackie and Lubelskie, are characterised by more favourable life prospects, whereas Észak-Alföld and the Romanian regions record lower values. Východné Slovensko occupies an intermediate position, although its 2024 value places it closer to the more favourably positioned territories.

Developments between 2016 and 2024 also show that life expectancy responded sensitively to exceptional mortality shocks. The decline of 2020-2021 was evident in every region, followed by a general recovery after 2022. Returning to pre-pandemic levels, however, did not produce an equivalent degree of convergence in every territory: stagnation in Észak-Alföld and the persistently low values of the Romanian regions indicate that quality-of-life disparities may remain entrenched.

Over the longer term, territorial disparities in life expectancy may also affect the quality of human capital, labour-market participation and social sustainability. Regions characterised by poorer life prospects may experience greater losses of healthy life years, weaker health among the working-age population and greater pressure on healthcare and social-service systems. This confirms that any assessment of development opportunities in the territories bordering Ukraine must consider quality-of-life indicators alongside economic and demographic measures.

2.4 Innovation, Infrastructure and Modernisation

In analysing regional development, particular importance attaches to the factors that determine economic adaptability, competitiveness and long-term development potential. This section examines the regional characteristics of innovative capacity and modernisation in the regions bordering Ukraine through indicators including per

capita research and development expenditure, the share of personnel employed in research and development, and the proportion of households with internet access.

At NUTS 2 level, research and development expenditure illustrates the financial foundations of innovation and the scale of resources devoted to knowledge creation, whereas the share of personnel employed in R&D reveals the development of the human-resource base underpinning innovation. Analysis of the proportion of households with internet access provides a clearer picture of digital-infrastructure development, which is now a fundamental precondition for socio-economic modernisation.

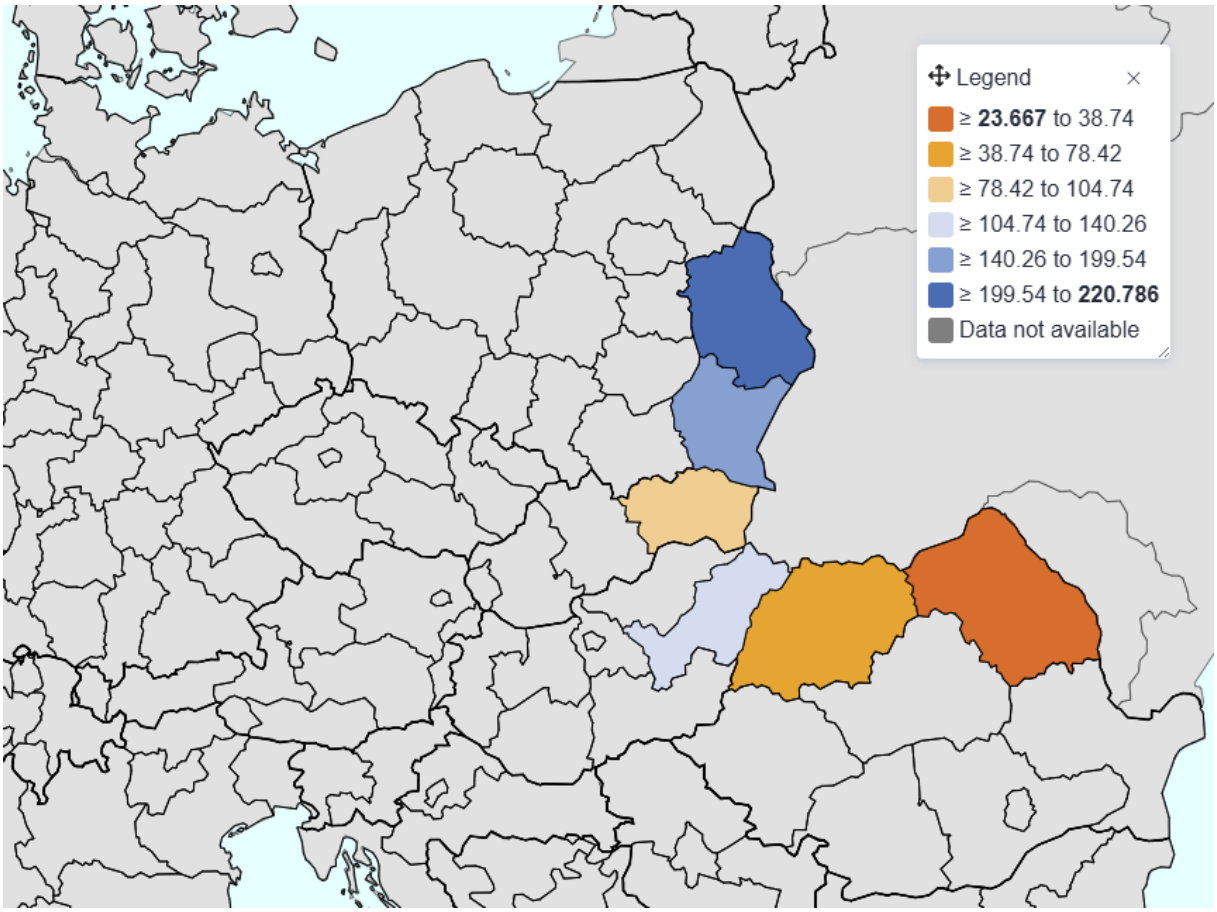
The section aims to determine the extent to which the innovative and infrastructural endowments of the regions under study contribute to their levels of development. Comparative analysis of the selected indicators enables the assessment of multiple dimensions of innovative potential and modernisation and may provide a basis for interpreting the development-policy and cross-border processes discussed in subsequent sections.

2.4.1 Research and Development Expenditure

The analysis of research and development expenditure is a fundamental component of assessing innovative capacity. The level of R&D expenditure indicates the resources committed by regional economic actors, institutions and research organisations to the creation of new knowledge, technological development and innovation activities.

The indicator is justified because, in a knowledge-based economy, research and development is a key determinant of long-term competitiveness and economic modernisation. At the regional level, higher R&D expenditure tends to indicate a more advanced economic structure, stronger innovative potential and more favourable development prospects.

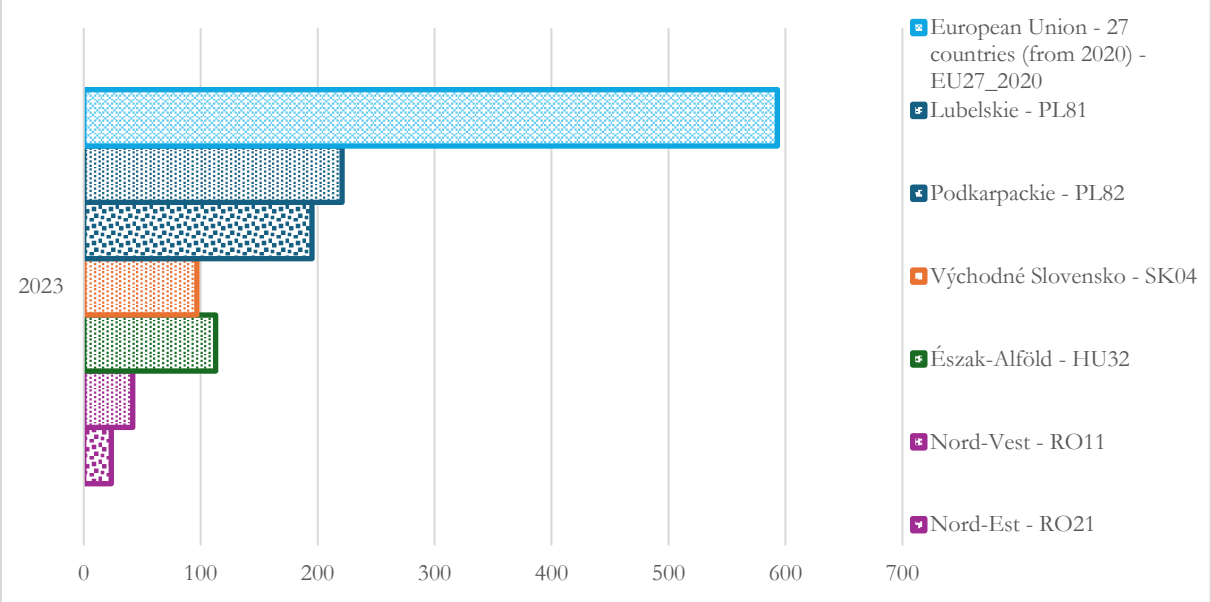
Figure 68: Gross domestic expenditure on R&D per capita in the NUTS 2 regions under study, 2023, PPS at constant 2005 prices



Source: *Eurostat*

The figure presents gross domestic expenditure on R&D per capita in 2023, expressed in purchasing power standards at constant 2005 prices. The data reveal pronounced territorial disparities. Lubelskie recorded the highest value among the regions under study, at approximately 220 PPS per capita, followed by Podkarpackie at close to 200 PPS per capita. The corresponding values were about 115 PPS per capita in Észak-Alföld and approximately 100 PPS per capita in Východné Slovensko. The two Romanian regions performed at substantially lower levels: around 40 PPS per capita in Nord-Vest and only about 25 PPS per capita in Nord-Est. Every region under study remained far below the EU-27 average of nearly 600 PPS per capita. These results point to the strong regional concentration of R&D resources and substantial disparities among the territories examined. Notably, the highest regional value was almost ten times the lowest, demonstrating the extremely uneven territorial distribution of per capita research and development resources across the NUTS 2 regions under study.

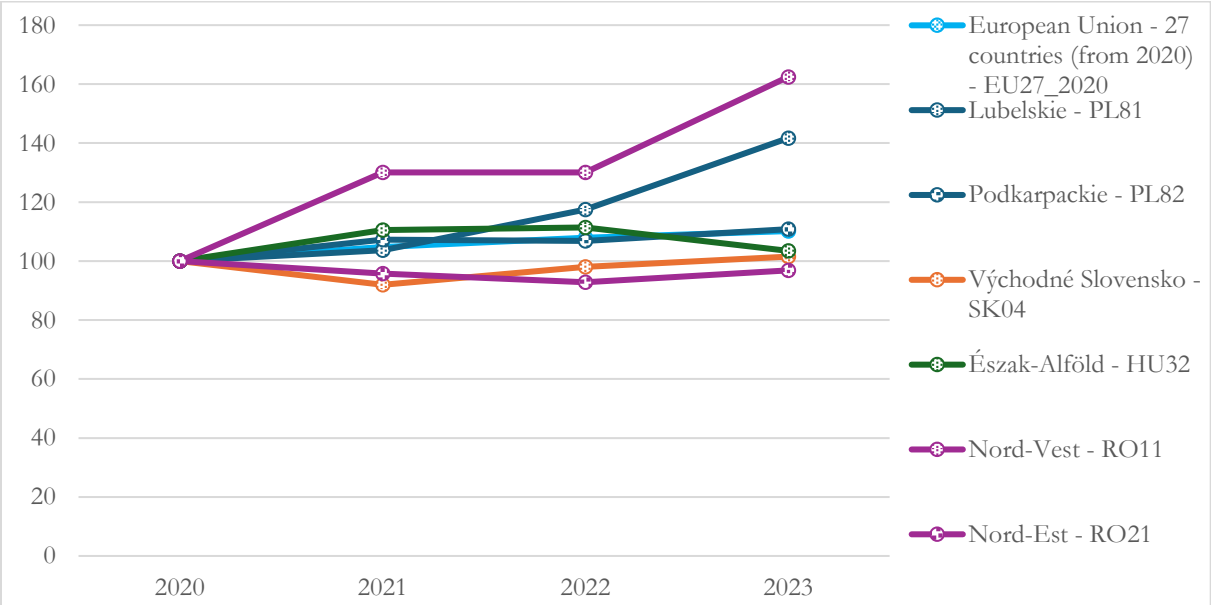
Figure 69: Gross domestic expenditure on R&D per capita in the NUTS 2 regions under study, 2023, PPS at constant 2005 prices



Source: *authors' compilation based on Eurostat data*

Between 2020 and 2023, markedly divergent trends emerged in per capita R&D expenditure. The most dynamic increases occurred in Nord-Vest and Lubelskie, while Podkarpackie followed a moderate growth path broadly comparable to that of the EU-27. In Észak-Alföld, favourable developments in 2021-2022 stalled in 2023, while Východné Slovensko and Nord-Est had not fully regained their 2020 levels by the end of the period. Overall, development disparities among the regions widened, although the effect of low baseline values must be considered in those territories displaying rapid growth.

Figure 70: Trend in R&D expenditure per capita, 2020-2023 (2020 = 100)



Source: *authors' compilation based on Eurostat data*

Lubelskie was closest to its national average: regional expenditure corresponded to approximately 61.5 per cent of the Polish national level of 359 PPS per capita, while Podkarpackie attained about 54.4 per cent. Nord-Vest represented approximately 52.2 per cent of Romania's national average of 79 PPS per capita. By contrast, expenditure in Nord-Est amounted to only 29.6 per cent of the national value, the largest relative deficit among the regions under study. Východné Slovensko reached approximately 40.5 per cent of Slovakia's national average of 239 PPS per capita, while Észak-Alföld achieved 40.1 per cent of the Hungarian national value of 281 PPS per capita. Thus, in both regions, per capita R&D expenditure was approximately 60 per cent below the respective national average.

Overall, the findings indicate that R&D expenditure is strongly concentrated territorially within the countries concerned. It should also be emphasised that none of the eastern and peripheral regions under study reached two thirds of its respective national average.

According to the 2023 data, per capita R&D expenditure in every NUTS 2 region under study fell substantially below the EU-27 average of 593 PPS per capita. Lubelskie was closest to the EU level, reaching approximately 37.2 per cent of the EU-27 average. Podkarpackie's expenditure corresponded to 32.9 per cent of the EU average. The value for Észak-Alföld represented only 19 per cent, and that for Východné Slovensko 16.3 per cent, of the EU-27 average. The deficits in the two Romanian regions were more pronounced still: Nord-Vest reached 7 per cent and Nord-Est only 4 per cent of the EU average.

In summary, even the region with the highest observed value failed to reach 40 per cent of the EU-27 average. This demonstrates both the substantial regional disparities in per capita R&D expenditure and the considerable lag of the regions under study relative to the European Union benchmark.

Table 18: Per capita R&D expenditure in the NUTS 2 regions under study relative to the EU-27 and respective national averages, 2023 (EU-27 = 100)

Region	National average = 100	EU-27 = 100
Lubelskie – PL81	61,5%	37,2%
Podkarpackie – PL82	54,4%	32,9%
Východné Slovensko – SK04	40,5%	16,3%
Észak-Alföld – HU32	40,1%	19%
Nord-Vest – RO11	52,2%	7%
Nord-Est – RO21	29,6%	4%

Source: *Eurostat*

The principal finding of this section is the existence of substantial disparities among the regions under study, illustrated by the pronounced difference in per capita R&D expenditure between Lubelskie and Nord-Est. At the same time, expenditure in every region remained considerably below the EU average. This may indicate that resources available for research and development are constrained across the project area as a whole.

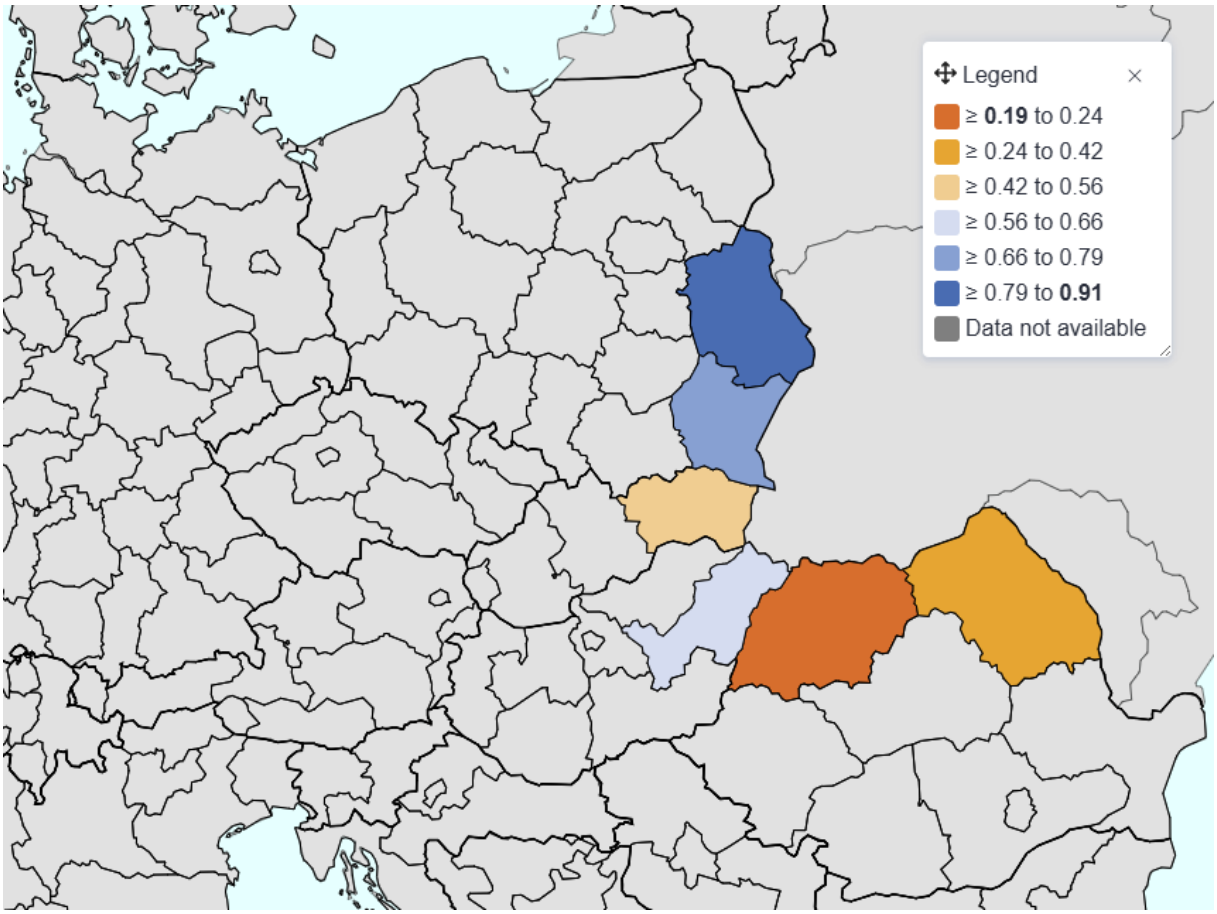
2.4.2 Share of Personnel Employed in Research and Development

Innovative capacity cannot be assessed solely through research and development expenditure, because the human-resource base of innovative activity is as important as its financial resources. Accordingly, this section also examines R&D personnel as a share of total employment, a key indicator of the regional presence of the knowledge-based economy.

The indicator measures the relative weight, within each region's workforce, of personnel directly engaged in scientific, research or development activities. It therefore captures the human-resource dimension of innovation and complements the expenditure-based assessment of R&D.

The indicator is suitable for comparing regional innovative capacity and knowledge-based economic potential, since the presence of R&D personnel is closely associated with technological progress, competitiveness and long-term economic growth. The analysis is conducted at NUTS 2 level, allowing a more detailed representation of territorial disparities and convergence processes.

Figure 71: R&D personnel as a share of total employment in the NUTS 2 regions under study, 2023 (%)



Source: *Eurostat*

The figure clearly shows that the share of R&D personnel in total employment in the selected regions remained substantially below the EU level. In most regions, the indicator ranged between 0.2 and 0.9 per cent, compared with an EU average of 1.7 per cent in 2023. In every region analysed, the share of personnel employed in R&D was below the respective national average. Relative to other regions within their countries, most of the selected territories occupied middle-ranking positions.

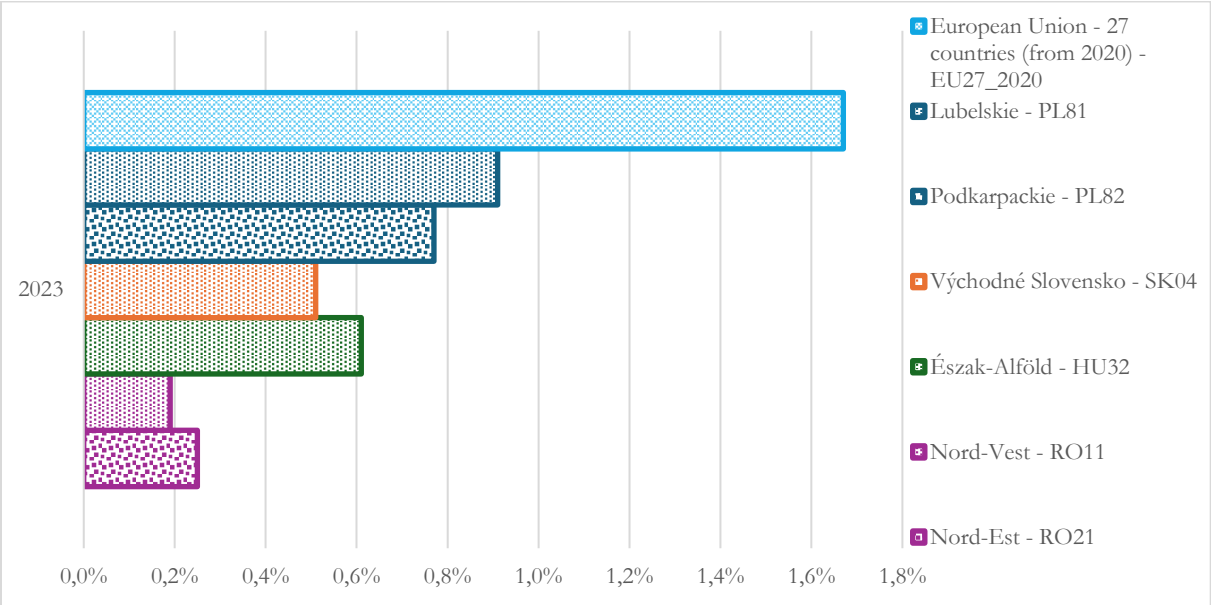
In the Polish regions, the indicator was below the national average of 1.19 per cent but remained at an intermediate level within Poland. In Východné Slovensko, R&D personnel accounted for 0.51 per cent of total employment, well below the Slovak national average of 0.95 per cent. A similar pattern characterised Észak-Alföld, which also remained below Hungary's national level of 1.31 per cent. The Romanian regions, Nord-Vest at 0.19 per cent and Nord-Est at 0.25 per cent, likewise recorded values below the national average of 0.46 per cent and may be regarded as peripheral in this dimension.

The values reveal substantial differences among the regions included in the analysis. Lubelskie recorded the highest share, at 0.91 per cent, followed by Podkarpackie at

0.77 per cent. The two Polish regions therefore displayed the strongest performance among the territories under study. Észak-Alföld occupied an intermediate position, with R&D personnel accounting for 0.61 per cent of total employment. Východné Slovensko also ranked in the middle tier in 2023, at 0.51 per cent. The lowest values were associated with the two Romanian regions: both Nord-Vest and Nord-Est recorded shares below 0.3 per cent, indicating an exceptionally limited presence of R&D personnel.

Alongside employment shares, it is useful to reconsider the per capita R&D expenditure analysed in the preceding section, as the two indicators together provide a clearer picture of the regional presence of the knowledge-based economy. In general, a positive relationship is observable: regions with higher per capita R&D expenditure also tend to have a higher share of R&D personnel. This pattern is particularly evident in the Polish, Slovak and Hungarian regions. The relationship differs, however, in Nord-Vest and Nord-Est. In the former, comparatively higher per capita R&D expenditure was not accompanied by a larger share of R&D personnel. This suggests that the scale of R&D human resources is influenced not only by expenditure levels, but also by the economic structure of the region.

Figure 72: R&D personnel as a share of total employment in the NUTS 2 regions under study, 2023 (%)



Source: *authors' compilation based on Eurostat data*

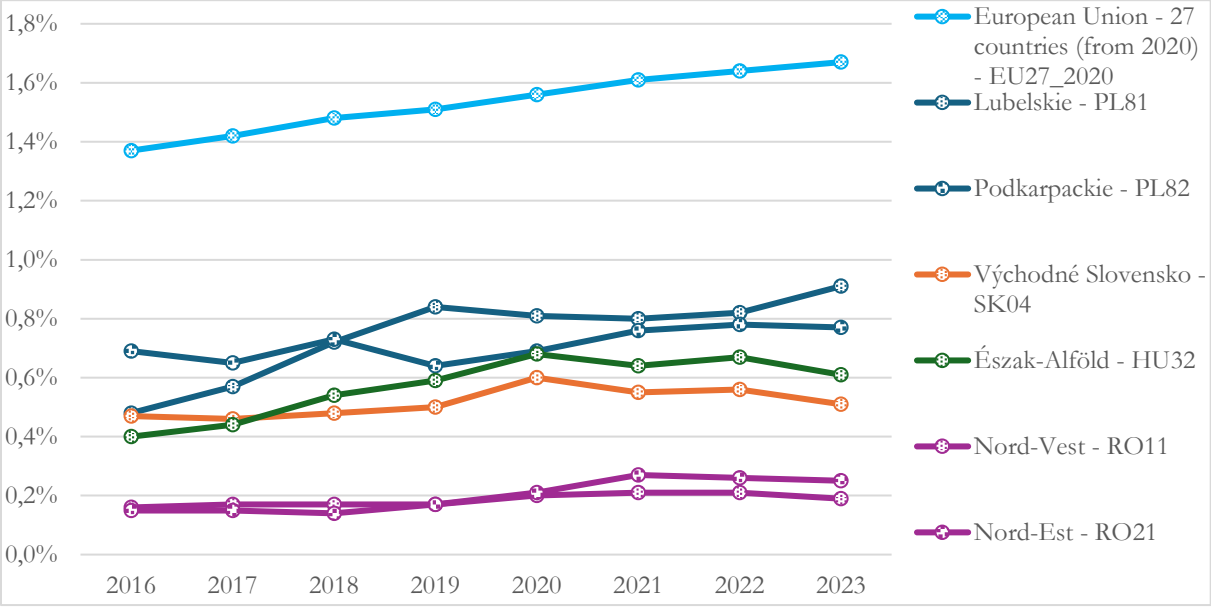
The data indicate uneven growth in the share of R&D personnel in the regions under study between 2016 and 2023, in marked contrast to the continuously rising trend observed across the European Union.

In most regions, the share increased during the first half of the 2016-2023 period, but was subsequently followed by stagnation or a moderate decline. This suggests that the

expansion of R&D employment at regional level cannot be regarded as a consistently stable process.

The ranking of the regions and the disparities among them remained relatively stable over the period. The more favourably positioned territories maintained higher levels throughout, whereas the weaker regions exhibited no pronounced convergence. This suggests that territorial disparities in R&D human resources are persistent and that only modest change can be expected in the short term.

Figure 73: Trend in R&D personnel as a share of total employment in the EU and the NUTS 2 regions under study, 2016-2023 (%)



Source: *authors' compilation based on Eurostat data*

Across the period under review, the share of R&D personnel increased in every territory, indicating that the relative weight of R&D employment expanded in all regions. The magnitude of change in percentage points, however, reveals substantial regional differences. Stronger growth was recorded particularly in Lubelskie, Észak-Alföld and Nord-Est, while other territories experienced only moderate change. Owing to the scale of its increase, Nord-Est overtook Nord-Vest during the second half of the period.

Table 19: Change in R&D personnel as a share of total employment in the NUTS 2 regions under study, 2016-2023 (percentage points)

Region	Change, 2016-2025
Lubelskie – PL81	0,43
Podkarpackie – PL82	0,08
Východné Slovensko – SK04	0,04
Észak-Alföld – HU32	0,21
Nord-Vest – RO11	0,03
Nord-Est – RO21	0,1

Source: *authors' compilation based on Eurostat data*

R&D personnel as a share of total employment displays pronounced territorial disparities among the NUTS 2 regions under study. According to the latest available data for 2023, every region remained below the European Union average, indicating that the weight of R&D employment in these territories continued to be more limited than at EU level.

The time-series analysis shows that regional development trajectories differ substantially from the EU pattern and are better characterised by volatility and stagnation. Territorial disparities may therefore be regarded as persistent despite the increase in the share of personnel employed in R&D.

Overall, the indicator points to positive but highly uneven territorial development in R&D employment. Although the expansion of research and development human-resource capacity is observable in the regions under study, its magnitude is insufficient to constitute substantive convergence.

2.4.3 Internet Access and Digital Infrastructure

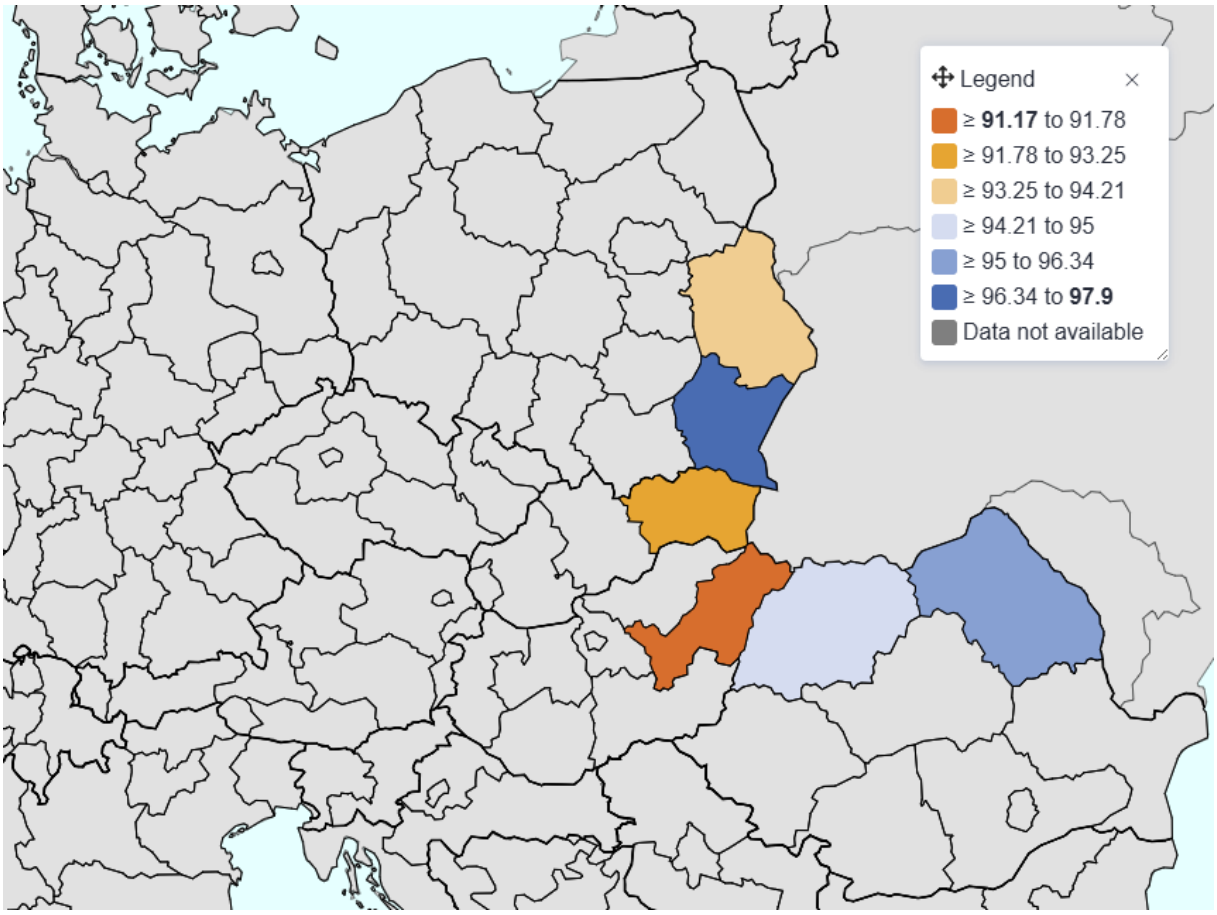
The development of digital infrastructure is now a fundamental prerequisite for regional modernisation. Socio-economic processes increasingly depend on digital connectivity; consequently, internet access is an important dimension in evaluating regional development.

The analysis employs the proportion of households with internet access, which indicates the extent to which regional populations can access digital services and online resources. The indicator is particularly relevant to education, employment, business activity and access to public services and may therefore be interpreted as a fundamental measure of modernisation and socio-economic convergence.

For the regions bordering Ukraine, the indicator makes it possible to assess the extent to which peripheral location is reflected in the development of digital

infrastructure and whether digital connectivity constitutes a constraint or an asset for further regional development.

Figure 74: Share of households with internet access in the NUTS 2 regions under study, 2025 (%)



Source: *Eurostat*

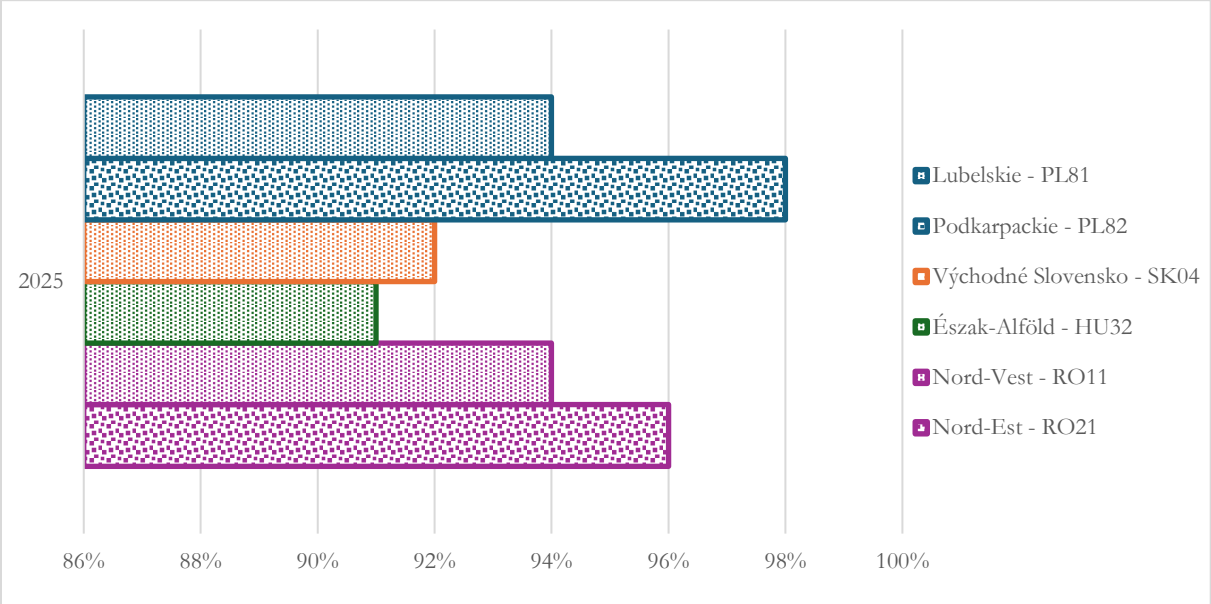
Overall, internet-access levels were high in every region, as demonstrated by values above 90 per cent. This indicates that household internet access has become widespread. In general, the regions recorded values close to their respective national averages. Among the Polish regions, 94 per cent of households in Lubelskie had internet access, two percentage points below the national average, while the corresponding share in Podkarpackie was 98 per cent. Východné Slovensko, at 92 per cent, equalled the Slovak national average, whereas Észak-Alföld lagged two percentage points behind Hungary's national average of 93 per cent. In Romania, Nord-Vest was one percentage point below the national average of 95 per cent, while Nord-Est exceeded it by the same margin. On this indicator, it is difficult to characterise the regions as digitally peripheral: all recorded values above 90 per cent and only minor territorial disparities were observable.

Podkarpackie recorded the highest value by a clear margin, with internet access in 98 per cent of households. Nord-Est ranked second, at 96 per cent. Lubelskie and Nord-

Vest occupied intermediate positions, each with 94 per cent. Lower, though still high, shares were recorded in Východné Slovensko and Észak-Alföld in 2025, at 92 and 91 per cent, respectively.

Regional disparities were comparatively modest, with a seven-percentage-point difference between the highest and lowest values. Thus, although territorial variation remained, the overall level of digital infrastructure across the area under study was broadly balanced.

Figure 75: Share of households with internet access in the NUTS 2 regions under study, 2025 (%)



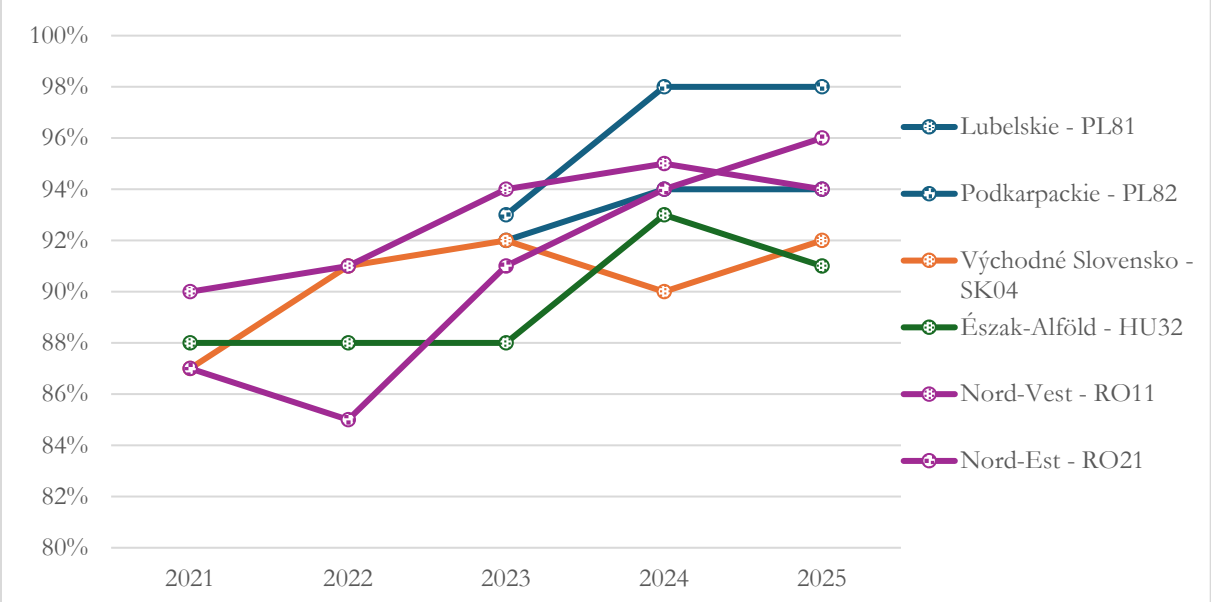
Source: *authors' compilation based on Eurostat data*

Most regions experienced an increase between 2021 and 2025. Data availability for the Polish regions was limited over the period; nevertheless, the strongest improvement between 2023 and 2025 was observed in Podkarpackie. In Lubelskie, the proportion of households with internet access increased from 2023 to 2024 and then stabilised.

Following a decline in 2022, Nord-Est improved continuously, and by 2025 internet access was available in 96 per cent of households. Starting from a comparatively high level, Nord-Vest followed a more gradual and balanced upward trajectory, although a slight decline occurred in 2025 after the 2024 peak.

Východné Slovensko followed a volatile trajectory but exhibited an overall positive change. The data for Észak-Alföld likewise reveal fluctuations. Stagnation between 2021 and 2023 was interrupted by substantial growth in the following year; however, the region did not remain on this upward path, and a slight decline was observed by 2025.

Figure 76: Change in the share of households with internet access in the NUTS 2 regions under study, 2021-2025 (%)



Source: *authors' compilation based on Eurostat data*

The available data indicate positive change in household internet access in every region. The largest increases occurred in Východné Slovensko and Nord-Est, where the indicator rose by five percentage points between 2021 and 2025. Nord-Vest followed with a similarly favourable increase of four percentage points. Among the regions for which a complete series was available, Észak-Alföld recorded the smallest increase, at three percentage points.

Although the Polish data are incomplete for the full period, Podkarpackie experienced a substantial short-term improvement of five percentage points between 2023 and 2025, while the increase in Lubelskie was more moderate.

Table 20: Change in the share of households with internet access in the NUTS 2 regions under study, 2021-2025 (percentage points)

Region	Change, 2016-2025
Lubelskie – PL81	2 (2023–2025)
Podkarpackie – PL82	5 (2023–2025)
Východné Slovensko – SK04	5
Észak-Alföld – HU32	3
Nord-Vest – RO11	4
Nord-Est – RO21	5

Source: *authors' compilation based on Eurostat data*

In 2025, the share of households with internet access was generally high across the NUTS 2 regions under study. In most regions, the indicator exceeded 90 per cent, demonstrating that home internet access had become widespread throughout the area. Minor disparities nevertheless remained. Some Polish and Romanian regions occupied the most favourable positions, while Észak-Alföld and Východné Slovensko exhibited more moderate, though still positive, development. Overall, household internet access reached a high level in the NUTS 2 regions under study and improved over the 2021-2025 period.

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3. Review and Update of Existing Studies

This chapter presents completed and ongoing projects that are most closely aligned with the thematic focus of the Bridge2EastCE project.

3.1 3P4SSE

Public-Private Partnership for Social and Solidarity Economy (Interreg Central Europe)
https://www.interreg-central.eu/projects/3p4sse/

3P4SSE aims to reduce regional social and economic disparities by strengthening Social and Solidarity Economy (SSE) ecosystems through improved governance and cross-sectoral cooperation. The project promotes collaboration between public authorities, private organisations, civil society, and social economy actors by establishing multilevel partnership networks and developing a common transnational strategy. Through pilot actions, regional action plans, capacity-building activities, and knowledge-sharing platforms, the partnership supports more inclusive regional development and encourages innovative governance models that address social exclusion and territorial inequalities. The project also establishes long-term cooperation mechanisms designed to strengthen regional resilience and social cohesion across Central Europe.

Bridge2East and 3P4SSE share a common focus on strengthening multi-level governance, stakeholder cooperation, and improving regional development through collaborative approaches. However, the projects differ substantially in their thematic scope. While 3P4SSE concentrates on strengthening Social and Solidarity Economy (SSE) ecosystems and fostering cooperation between public, private, and civil society actors, Bridge2East addresses broader territorial governance challenges by establishing an Interregional Territorial Planning Cooperation (ITPC) framework for the eastern border regions of Central Europe. Bridge2East therefore complements 3P4SSE by providing an integrated territorial planning perspective that can support the governance environment in which social economy initiatives operate, while additionally addressing migration, labour market dynamics, and the opportunities arising from Ukraine's future reconstruction and EU integration.

3.2 Arrival Regions

Interreg Central Europe
https://programme2014-20.interreg-central.eu/Content.Node/Arrival-Regions.html

Arrival Regions is a project that focuses on strengthening the capacity of small and medium-sized cities to successfully integrate migrants and refugees. Recognising that many local authorities were insufficiently prepared to respond to increasing

migration flows, the project developed innovative governance approaches and practical tools to support municipalities in managing integration processes. The partnership promoted cooperation between public authorities, social service providers, educational institutions, employers, and civil society organisations to improve access to housing, education, employment, and public services for newly arrived migrants. Through pilot actions, policy recommendations, and the exchange of good practices among participating regions, Arrival Regions contributed to more inclusive local governance and enhanced the ability of cities to address the social and economic challenges associated with migration in a coordinated and sustainable manner.

Both Bridge2East and Arrival Regions address migration-related challenges and promote cooperation among public authorities and regional stakeholders. However, Arrival Regions primarily focuses on improving the local integration of migrants and refugees into host communities, whereas Bridge2EastCE approaches migration from a territorial governance and strategic planning perspective. Bridge2East further expands Arrival Regions' by developing long-term interregional planning mechanisms that help border regions jointly manage the socio-economic impacts of migration while strengthening governance capacities across multiple administrative levels.

3.3 BorderLabs CE

Participatory Cross-Border Governance for Transition Management (Interreg Central Europe)
https://www.interreg-central.eu/projects/borderlabs-ce/

BorderLabs CE is a project that aims to improve participatory cross-border governance in Central European border regions. The project addresses persistent administrative and legal barriers that continue to affect cross-border communities despite increasing European integration. Partners jointly develop and test innovative governance models for integrated cross-border strategy development, participatory decision-making, sustainable tourism, local product networks, and the management of border obstacles. The project also creates a multimedia learning platform and prepares a Charter for Participatory Cross-Border Cooperation Governance, providing practical guidance for public authorities seeking to strengthen territorial integration and cooperation beyond national borders.

Bridge2East and BorderLabs both promote stronger cross-border governance, stakeholder participation, and cooperation between neighbouring regions. However, BorderLabs focuses primarily on participatory governance models and overcoming administrative barriers in border areas, while Bridge2East develops a comprehensive macro-regional territorial planning framework for the eastern periphery of Central Europe. Bridge2East complements BorderLabs by translating participatory governance principles into long-term strategic planning mechanisms capable of

addressing demographic, economic, and migration-related challenges across a wider macro-regional area.

3.4 Central Mountains

Strengthening Governance Models for Sustainable Development of Mountain Areas (Interreg Central Europe)
https://www.interreg-central.eu/projects/central-mountains/

Central Mountains aims to strengthen governance and cooperation among mountain regions stretching from the Alps to the Carpathians. The project recognises that mountain areas often face similar environmental, economic, and demographic challenges while lacking coordinated governance structures across national borders. To address these issues, the partnership develops a joint strategy, regional action plans, and pilot activities that improve cooperation between regional authorities and other stakeholders. By establishing long-term governance mechanisms and promoting integrated territorial planning, the project supports sustainable development, enhances regional cohesion, and creates durable cooperation structures that remain operational beyond the project lifetime.

Both projects seek to strengthen territorial governance through integrated planning and long-term cooperation among regional stakeholders. Nevertheless, Central Mountains focuses specifically on sustainable development in mountain regions, whereas Bridge2East addresses the governance challenges of peripheral border regions neighbouring Ukraine. Bridge2East builds upon Central Mountains by applying similar governance principles to territories facing different socio-economic challenges, particularly demographic decline, migration pressures, and cross-border development needs.

3.5 GEtCoheSive

Governance Enhancement for Cohesive Societies (Interreg Central Europe)
https://www.interreg-central.eu/projects/getcohesive/

GEtCoheSive focuses on strengthening inclusive governance practices and increasing citizen participation in public decision-making processes. The project recognises that many local and regional authorities face difficulties in involving citizens effectively in policy development. To address this challenge, partners cooperate in developing and testing participatory governance methods that improve communication between public administrations and local communities. Through pilot actions, transnational learning activities, and the preparation of local action plans, the project promotes more transparent, inclusive, and responsive governance models that contribute to stronger social cohesion across Central European regions.

Bridge2East and GEtCoheSive both aim to improve governance by encouraging cooperation and stakeholder participation in public decision-making. However, GEtCoheSive mainly focuses on increasing citizen participation and inclusive

governance at the local level, while Bridge2East concentrates on strengthening institutional cooperation among territorial planning authorities across regional and national levels. Bridge2EastCE complements GEtCoheSive by integrating participatory governance into a broader macro-regional planning framework designed to support long-term territorial development.

3.6 GOV4PeaCE

Governance for Peace and Cultural Heritage (Interreg Central Europe)
https://www.interreg-central.eu/projects/gov4peace/

GOV4PeaCE is an Interreg Central Europe project that develops innovative governance models for the preservation and sustainable use of World War I cultural heritage in remote regions of Central Europe. The project addresses the fragmented management of historical sites by promoting coordinated cross-border and cross-sectoral cooperation between public authorities, cultural institutions, tourism organisations, and local stakeholders. Partners jointly establish governance structures, test pilot actions, and develop integrated management strategies that enhance the socio-economic value of cultural heritage while preserving its historical significance. Through transnational cooperation and knowledge exchange, GOV4PeaCE demonstrates how shared governance approaches can contribute to sustainable regional development and strengthen cooperation between neighbouring territories.

Both Bridge2East and GOV4PeaCE promote integrated governance models and cross-border cooperation among public institutions and regional stakeholders. Moreover, GOV4PeaCE applies these governance approaches to the management of cultural heritage sites, whereas Bridge2EastCE focuses on territorial development and governance challenges affecting eastern border regions. Bridge2East expands GOV4PeaCE's focus by extending integrated governance principles beyond heritage management to broader socio-economic development, migration, labour market resilience, and strategic territorial planning.

3.7 LOS_DAMA!

Interreg Alpine Space
https://www.alpine-space.eu/project/los_dama/

LOS_DAMA! (Landscape and Open Space Development in Alpine Metropolitan Areas) is an Interreg Alpine Space project that focuses on improving governance and spatial planning for peri-urban green infrastructure. The project supports public authorities and planning organisations in developing integrated planning approaches that balance urban growth with environmental protection. Through pilot actions, stakeholder participation, and transnational cooperation, the project develops planning tools and governance models that help preserve natural and cultural landscapes while promoting sustainable territorial development. The project also

produces practical guidelines and recommendations that can be transferred to other European regions facing similar planning challenges.

Bridge2East and LOS_DAMA! both recognise the importance of integrated spatial planning and cooperation among public authorities for sustainable territorial development. Whilst LOS_DAMA! primarily addresses landscape management and green infrastructure in Alpine metropolitan areas, Bridge2East focuses on governance and strategic planning in peripheral cross-border regions. Bridge2East complements LOS_DAMA! by applying integrated planning principles to socio-economic development and institutional cooperation in territories facing different geographical and development challenges.

3.8 MECOG-CE

Strengthening Metropolitan Cooperation and Governance in Central Europe (Interreg Central Europe)
https://www.interreg-central.eu/projects/mecog-ce/

MECOG-CE focuses on improving governance and cooperation in metropolitan regions across Central Europe. The project brings together metropolitan authorities, research institutions, and regional organisations to identify and test innovative governance models that strengthen cooperation between urban centres and their surrounding functional areas. Through policy analysis, pilot actions, and stakeholder engagement, the partnership develops practical governance tools, action plans, and a common strategy for metropolitan cooperation. The project also facilitates the exchange of experiences between participating regions, contributing to more effective territorial governance and better coordination of strategic planning processes.

Both projects strengthen governance structures and encourage cooperation between public institutions responsible for territorial development. However, MECOG-CE concentrates on metropolitan governance and cooperation between cities and their surrounding functional areas, whereas Bridge2East focuses on peripheral border regions with limited institutional capacities. Bridge2East expands MECOG-CE by adapting collaborative governance approaches to less-developed border regions and by establishing a macro-regional planning framework capable of supporting future cooperation with Ukraine.

3.9 Planning4U

Interreg NEXT Hungary–Slovakia–Romania–Ukraine
https://next.huskroua-cbc.eu/launch-of-the-planning4u-project-strengthening-cross-border-cooperation/

Planning4U is an Interreg NEXT Hungary–Slovakia–Romania–Ukraine project that aims to strengthen territorial planning capacities in the participating border microregions. The project promotes integrated and evidence-based territorial planning by supporting cooperation between public authorities, planning institutions,

and regional stakeholders. Its activities include the development of common planning methodologies, capacity-building programmes, stakeholder engagement, and the preparation of strategic planning documents. Through joint analyses and the exchange of good practices, Planning4U seeks to improve the quality of regional planning, enhance institutional cooperation, and support sustainable socio-economic development in border regions.

Bridge2East is closely related to Planning4U, as both projects strengthen territorial planning capacities, promote evidence-based planning, and encourage cooperation among public authorities and regional stakeholders in border regions. Nevertheless, their geographical scale and strategic objectives differ. Planning4U primarily develops common planning methodologies and strategic planning documents within the Hungary–Slovakia–Romania–Ukraine border programme area, whereas Bridge2East establishes a macro-regional governance framework connecting multiple Central European regions bordering Ukraine. Bridge2East complements Planning4U by transforming planning methodologies into a long-term Interregional Territorial Planning Cooperation (ITPC) framework, introducing pilot testing focused on migration and labour market interactions, and creating governance mechanisms designed to support coordinated territorial development beyond individual cross-border regions.

3.10 SIforREF

Integrating Refugees in Society and the Labour Market Through Social Innovation (Interreg Central Europe)
https://programme2014-20.interreg-central.eu/Content.Node/SiforREF.html

SIforREF focuses on improving the integration of refugees into society and the labour market through socially innovative approaches. The project brings together public authorities, researchers, civil society organisations, and local stakeholders to develop and test new integration models in several Central European cities. Through pilot actions, policy evaluation, and stakeholder cooperation, SIforREF created a toolbox of social innovation practices, policy recommendations, and a transnational strategy supporting refugee inclusion. The project places particular emphasis on cooperation between local governments, NGOs, employers, and educational institutions to strengthen long-term social cohesion and labour market participation of refugees.

Bridge2East and SIforREF both recognise migration as a major challenge requiring coordinated action by public authorities and other stakeholders. However, SIforREF focuses on the social and labour market integration of refugees through social innovation, while Bridge2East concentrates on territorial governance, strategic planning, and institutional coordination in regions affected by migration. Bridge2East complements SIforREF by providing a macro-regional governance framework that enables border regions to jointly anticipate and manage migration-related demographic and labour market changes as part of broader territorial development strategies.

4. Key Ukrainian War and Postwar Dynamics Affecting Border Regions

4.1 Ukraine's Territorial and Administrative Reforms and Cross-Border Governance

Between 2015 and 2020, Ukraine carried out a comprehensive administrative and decentralisation reform that fundamentally changed the country's system of public administration, local government, and territorial planning. The main goal of the reform was to transform the highly centralised state system by transferring more decision-making powers and responsibility for public service delivery to local governments. However, decentralisation was not limited to the reorganisation of public administration. It also aimed to create a new system of territorial governance that is more closely aligned with European principles of local self-government and regional development. As a result of the reform, the role of local governments changed significantly, their financial autonomy was strengthened, and the territorial planning system was also fundamentally reformed (Mitru, 2025).

The reform was based on the "Ukraine 2020" Sustainable Development Strategy, adopted on 12 January 2015. This strategy identified decentralisation as one of the country's most important reforms. It was based on the idea that European living standards and an effective public administration system could only be achieved through a local government system with enough decision-making powers and financial independence. Therefore, the main goal of decentralisation was not only to reduce the role of the central government but also to create strong local communities that could set their own development goals, organise public services, and support local economic development. The reform also aimed to follow the main principles of the European Charter of Local Self-Government, especially the principles of subsidiarity and the financial independence of local governments (Horbliuk & Brovko, 2022).

One of the most important parts of the reform was the reorganisation of Ukraine's administrative and territorial structure. Before decentralisation, Ukraine had 27 regions (oblasts), 490 districts (rayons), 11.694 local councils, and nearly 30.000 settlements. After the reform was completed in 2020, the number of regions remained the same, but the number of districts was reduced from 490 to 136. At the same time, local councils were merged, and 1.469 territorial communities (hromadas) were created instead of the previous 11.694 local councils. At first, the amalgamation process was voluntary. However, this approach was not successful in all parts of the country. In particular, there was little willingness to merge communities in Zakarpattia. As a result, the Ukrainian government completed the reform by introducing mandatory amalgamation across the country. This ensured that an unified local government structure was established throughout Ukraine (Horbliuk & Brovko, 2022).

At the same time, fiscal decentralisation also became an important part of the reform. Before the reform, local budgets were mainly controlled by the central government.

After the reform, local governments received greater control over their financial resources. As a result, local communities became more interested in increasing their own revenues, preparing local economic development programmes, and using local tax revenues more effectively. Greater financial autonomy not only improved the quality of public services but also increased the accountability of local governments, as more development decisions were made by locally elected authorities. This also changed the relationship between local state administrations and local governments, which gradually became based more on cooperation than on central control (Anisimov et al., 2024).

However, decentralisation was not limited to strengthening local governments. One of the key features of the reform was the transformation of the regional, or oblast, level of governance. While hromadas became mainly responsible for providing local public services, oblasts took on strategic development functions. The responsibilities of the regional (oblast) level include coordinating regional development policy, territorial planning, vocational education and training, developing and maintaining transport infrastructure of regional importance, organising regional transport connections, environmental protection, and coordinating specialised healthcare services. As a result of decentralisation, the role of the oblast level increasingly shifted towards strategic planning, the coordination of regional development policy, and the integration of sectoral policies (OECD, 2022).

Changes in the Territorial Planning System during Decentralisation

Along with the administrative reform, Ukraine's territorial planning system also went through major changes. However, the importance of these reforms can only be understood by looking at the previous planning system. As part of the Soviet Union, Ukraine had a highly centralised planning system, where decisions on development and spatial planning were made only at the national level. Planning documents followed a strict hierarchy. National plans determined the content of regional and local plans, which had very little independence. Local and regional plans were not prepared as separate development documents but mainly served to implement decisions made by the central government. This limited the ability of regions to plan according to their own needs and reduced cooperation between neighbouring territories. Another characteristic of the system was that many planning documents were not publicly available, which limited transparency and public participation. The legacy of the Soviet period continued not only in the planning system but also in the institutional structure. After Ukraine became independent, territorial planning was still mainly carried out by state institutes that had developed from former Soviet organisations. One of the most important of these was the Dipromisto State Research and Design Institute for Urban Planning, which held a dominant position in planning for many years. These institutes had exclusive access to geodetic and spatial data, making it almost impossible for private planning companies to enter the sector. As a result, development decisions were based on the work of a small group of state experts, while competition and innovation remained limited. As the market economy

gradually developed, the number of state planning contracts decreased, and the monopoly of the large state institutes slowly disappeared. At the same time, many smaller private planning companies entered the sector and introduced new approaches to urban and regional planning. By 2015, this process had reached a turning point. The traditional state institutes had lost their dominant position, and a more competitive planning environment had been created (Anisimov et al., 2024).

Despite these changes, the main problems of Ukraine's territorial planning system remained until the start of the decentralisation reform. Although several deregulation and liberalisation measures were introduced in the early 2010s, they did not lead to major changes in the planning system. This was also confirmed by a World Bank report published in 2015, which found that Ukraine's territorial and urban planning system was still largely based on the legacy of the Soviet period. According to the report, the legal framework, planning objectives, and practical implementation did not form a coherent system. As a result, the planning system slowed economic development, increased regional inequalities, and made it more difficult for less developed areas to catch up. Fiscal decentralisation brought important improvements, but territorial planning still lacked a clear institutional and policy framework. It was also unclear whether the main purpose of the planning system was to improve competitiveness, support sustainable development, protect the environment, or promote social well-being. This created uncertainty at both the local and regional levels (Anisimov et al., 2024).

By 2020, integrated territorial planning had become the main approach to planning in Ukraine. This brought the country's planning system much closer to the principles of regional development used in the European Union. However, the transition away from the Soviet planning system was not yet complete. Many of the reform's results only began to appear gradually as public institutions adapted to the new system over time (Mitru, 2025).

The institutional framework for cross-border cooperation was further strengthened by Law No. 3668-IX, adopted in 2024, entitled On International Territorial Cooperation of Communities. The law created a new legal basis for the international cooperation of territorial communities. It allows communities to sign bilateral and multilateral international agreements, establish Euroregions, and join or leave existing Euroregional organisations. These changes significantly expand the international role of local governments and enable them to take a more active part in cross-border development projects. The law also gives new responsibilities to local state administrations. These include supporting cooperation with foreign partners and initiating and implementing cross-border development projects. In addition, the central government body responsible for regional policy became responsible for coordinating international territorial cooperation and regional programmes that support cross-border cooperation. The law also states that these programmes must be consistent with national and regional development strategies, helping to improve coordination between different planning levels. The importance of this law goes beyond creating a legal framework for international cooperation. By strengthening

the international links of local communities, it supports the development of multi-level territorial governance, promotes the economic and social integration of border regions, and contributes to Ukraine's closer integration with the European Union. Therefore, Law No. 3668-IX can be seen as an important extension of the decentralisation reform, strengthening the international role of territorial communities within a clear institutional framework (UCORD, 2024).

The Impact of the War on Decentralisation

The decentralisation reform was not fully completed after 2020. The final division of responsibilities between the executive authorities and local governments has still not been clearly defined, creating uncertainty in several areas of public administration. To complete the reform, Ukraine still needs to further reform the local state administration system, introduce the prefect system, and adopt constitutional amendments related to decentralisation. These issues remain some of the most important unfinished parts of the reform. Russia's full-scale invasion in February 2022 created a completely new situation for the decentralisation process. Under martial law, Local Military Administrations (LMAs) were established in many parts of the country and temporarily took over some local administrative responsibilities. They were mainly created in areas close to the front line, in territories that had been liberated from Russian occupation, or in places where local governments were unable to perform their constitutional duties. Although the creation of military administrations was necessary for security and defence reasons, it also strengthened the role of the central government. In several regions, elected local governments and military administrations operated at the same time, leading to overlapping responsibilities and uncertainty in local administration (Darkovich & Savisko, 2024).

Military administrations are temporary institutions that operate only during the period of martial law. According to Ukrainian legislation, they are automatically dissolved within thirty days after martial law ends, and their responsibilities are returned to the regular local government system. As the security situation improves, this process has already started in some parts of the country. However, the continuation of the war still creates major challenges for preserving the achievements of decentralisation. Although the stronger role of the central government can be justified in the short term, the long-term success of the reform depends on the gradual restoration of the original decentralised institutional system after martial law ends (Nehara et al., 2025).

Overall, the decentralisation reform carried out between 2015 and 2020 can be considered one of the most important administrative reforms in Ukraine's history. As a result of the reform, local governments became stronger, the administrative and territorial structure was reorganised, local financial autonomy increased, and the territorial planning system gradually moved closer to European Union practices. Although the war has temporarily slowed down or partly reversed some parts of the decentralisation process, the main achievements of the reform continue to shape the development of Ukraine's system of public administration. One of the main tasks

during the post-war recovery will be to strengthen the institutional framework of decentralisation, clearly define the responsibilities of different levels of government, and continue the modernisation of the territorial planning system. In the long term, these changes can support Ukraine's European integration and contribute to more balanced regional development. The decentralisation reform has also improved public access to strategic planning documents. Regional development strategies and their implementation plans are available through the GIS Regional Development information system, which provides a single platform for national, regional, and many local development documents. This has increased the transparency of the planning system and made it easier to coordinate development strategies across different territorial levels. Overall, these reforms have created a more decentralised, transparent, and development-oriented system of territorial governance, providing an important foundation for Ukraine's future reconstruction and European integration.

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4.2 Key Planning and Development Documents Relevant for Ukrainian Border Regions Since 2022

4.2.1 National Recovery and Strategic Planning Framework

Ukraine Recovery Plan (URC 2022, Lugano)

Purpose: Main national strategic framework for Ukraine's recovery, reconstruction and EU integration after the full-scale invasion.

Key relevance:

- Build Back Better approach;
- EU integration;
- transport and logistics development;
- western regions as strategic gateways to the EU;
- economic transformation and resilience.

Documents:

- URC 2022 Recovery Plan: https://www.urc-international.com/past-conferences/urc22/urc2022-recovery-plan
- Lugano Declaration: https://www.eda.admin.ch/en/ukraine-recovery-conference-urc2022-lugano-en

Recovery Portal of Ukraine

Purpose: Official platform for recovery programmes, projects and investment priorities.

Links:

- https://recovery.gov.ua
- Projects database: https://recovery.gov.ua/project

National Council for Recovery of Ukraine

Purpose: Strategic coordination of recovery policies and reforms.

Link:

- https://www.kmu.gov.ua/en/national-council-recovery-ukraine-war/about-national-council-recovery-ukraine-war

4.2.2 EU–Ukraine Strategic Framework

EU–Ukraine Solidarity Lanes

Importance: Most important post-2022 framework affecting western border regions.

Focus:

- logistics corridors;
- border capacity;
- rail and road connectivity;
- exports and imports;
- cross-border infrastructure.

Documents:

- European Commission: https://commission.europa.eu/topics/eu-solidarity-ukraine/eu-assistance-ukraine/eu-ukraine-solidarity-lanes_en
- DG MOVE: https://transport.ec.europa.eu/ukraine/eu-ukraine-solidarity-lanes_en
- Official Action Plan: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52022DC0217

TEN-T Integration of Ukraine

Purpose: Integration of Ukraine into the European transport network.

Focus:

- strategic transport corridors;
- railway interoperability;
- standard gauge development;

- connectivity with Poland and the EU.

Relevant documents:

- High-Level Understanding: https://transport.ec.europa.eu/transport-themes/international-relations/enlargement-and-neighbourhood-countries/ukraine_en

EU Accession Screening Process

Purpose: Alignment of Ukrainian transport and infrastructure policies with EU standards.

Relevant information:

- https://www.eeas.europa.eu/delegations/ukraine_en

4.2.3 Interreg and Cross-Border Cooperation Framework

Interreg NEXT Poland–Ukraine 2021–2027

Importance: Main framework for cross-border cooperation between Poland and Ukraine.

Priorities:

- border infrastructure;
- accessibility;
- transport connectivity;
- institutional cooperation.

Link:

- Programme website: https://www.pl-ua.eu

4.2.4 Regional Planning Documents

Lviv Oblast
Key document:

- Development Strategy of Lviv Oblast 2021–2027 СТРАТЕГІЯ розвитку Львівської області на період 2021-2027 років

Links:

- https://loda.gov.ua
- https://lvivoblrada.gov.ua

Key post-2022 priorities:

- IDPs;
- logistics;
- border infrastructure;
- economic resilience;
- EU integration.

Volyn Oblast
Key document:

- Development Strategy of Volyn Oblast until 2027 Стратегія розвитку – Волинська обласна рада

Links:

- https://voladm.gov.ua
- https://volynrada.gov.ua

Key post-2022 priorities:

- border communities;
- logistics;
- labour market adaptation;
- veteran reintegration.

Zakarpattia Oblast
Key document:

- Development Strategy of Zakarpattia Oblast 2021–2027 Strategi_2027_Transcarpathia.pdf

Link:

- https://carpathia.gov.ua

Key post-2022 priorities:

- energy resilience;

- transport infrastructure;
- digitalisation;
- border development.

4.3 Main Planning Implications for Bridge2EastCE

Across national, EU and regional planning documents, several common priorities are visible:

- **Strengthening border infrastructure;**
- **Logistics and transport development;**
- **Labour market adaptation;**
- **Management of migration and demographic change;**
- **Regional resilience;**
- **Cross-border connectivity;**
- **Coordination between governance levels;**
- **Preparation for Ukraine's EU integration;**
- **Development of western Ukrainian regions as strategic gateways to the EU.**

4.4 Ukraine's Economic Restructuring

4.4.1 Introduction

This chapter examines the economic performance and relative position of the five selected western Ukrainian oblasts before the full-scale invasion. The analysis uses the regions' share of national gross regional product, chain-linked real GRP indices, per capita GRP relative to the national average, and the sectoral composition of gross value added. These indicators provide complementary information on the economic weight, growth trajectory, relative development level and structural characteristics of the selected regions. Their combined assessment makes it possible to identify the regional disparities that were already present before 2022.

The analysis focuses on five western Ukrainian oblasts: Volyn, Lviv, Zakarpattia, Ivano-Frankivsk and Chernivtsi. The regions were selected because of their proximity to the European Union, their growing cross-border and logistical importance, and their potentially changing role within Ukraine's economic and demographic structure

after 2014. Whenever data availability allowed, the selected oblasts were compared both with the national average and with all other Ukrainian regions.

The analysis distinguishes between two main periods. The years 2014–2021 represent the period between the outbreak of the conflict in eastern Ukraine and the beginning of the full-scale invasion. For this period, relatively consistent official regional statistics are available on economic performance and labour-market conditions. The period beginning in 2022 is analysed separately, using indicators related to foreign direct investment, internal displacement, local budget priorities and business relocation. This separation is necessary because the full-scale war caused a major break in the availability, territorial coverage and comparability of conventional regional statistics.

The analysis combines official statistical, administrative and survey-based data from several sources. Gross regional product, gross value added, employment and unemployment data were obtained from the State Statistics Service of Ukraine (Ukrstat). Consistent regional GRP and labour-market time series are available only up to 2021; therefore, these indicators are used primarily to examine regional economic and labour-market developments before the full-scale invasion. Net foreign direct investment flows were sourced from the National Bank of Ukraine. As FDI is measured as a net flow, negative values indicate that capital outflows exceeded inflows during the given period. Data on local budget revenues, expenditures and social expenditure were obtained from the Open Budget platform.

Business relocation data were obtained from Opendatabot. The indicator records changes in companies' registered legal addresses between Ukrainian regions. One company may change its registered address more than once, and the number of relocation events may therefore exceed the number of companies involved. A change in legal address does not necessarily imply the complete physical relocation of production facilities, assets or employment.

Because the post-2022 indicators differ in source, methodology and statistical coverage from the official regional series available up to 2021, the two periods are analysed separately rather than combined into a single continuous time series.

Regional economic performance was assessed using the oblasts' share of national GRP, real GRP indices, per capita GRP relative to the national average, and the sectoral composition of gross value added. Labour-market conditions were examined through employment and unemployment rates for the population aged 15–70.

The post-2022 analysis covers average annual net FDI flows, the estimated presence of internally displaced persons, local budget balance, the share of social expenditure and interregional business relocation. Changes in rates and expenditure shares are expressed in percentage points, while the business relocation balance is calculated as the number of arriving companies minus the number of departing companies.

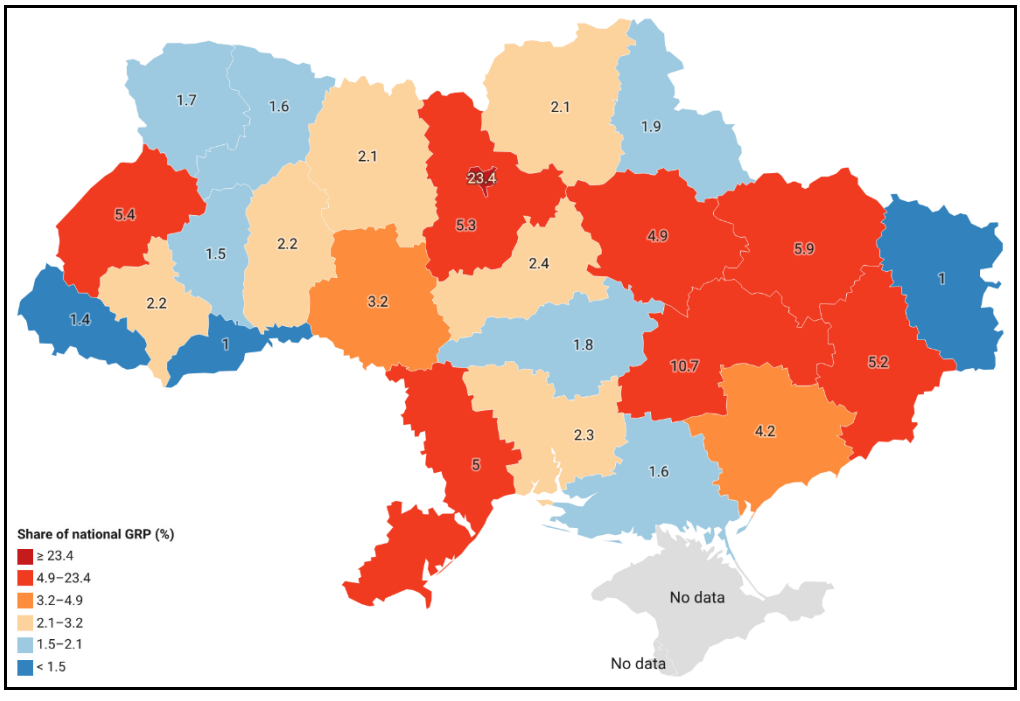
4.4.2 Economic Performance and Regional Position before the Full-Scale Invasion

This chapter examines the economic performance and relative position of the five selected western Ukrainian oblasts before the full-scale invasion. The analysis uses the regions' share of national gross regional product, chain-linked real GRP indices, per capita GRP relative to the national average, and the sectoral composition of gross value added. These indicators provide complementary information on the economic weight, growth trajectory, relative development level and structural characteristics of the selected regions. Their combined assessment makes it possible to identify the regional disparities that were already present before 2022.

Regional Economic Weight

The spatial distribution of gross regional product in 2021 remained highly concentrated. Kyiv City alone generated 23.4% of Ukraine's total GRP, while Dnipropetrovsk and Kharkiv oblasts accounted for a further 10.7% and 5.9%, respectively, reflecting the continued dominance of the capital and the country's major industrial centres. Among the five selected western regions, Lviv clearly stood out with a share of 5.4%, comparable to that of Kyiv Oblast and Donetsk, whereas Ivano-Frankivsk accounted for 2.2%, Volyn for 1.7%, Zakarpattia for 1.4% and Chernivtsi for only 1.0%. Together, the five selected regions generated 11.7% of national GRP, only around half of Kyiv City's contribution, highlighting both Lviv's regional importance and the relatively limited economic weight of the other four western oblasts. Together, the five selected regions generated 11.7% of Ukraine's total GRP in 2021, amounting to only half of Kyiv City's contribution.

Figure 77: Share of Ukraine's Total Gross Regional Product by Oblast, 2021 (%)



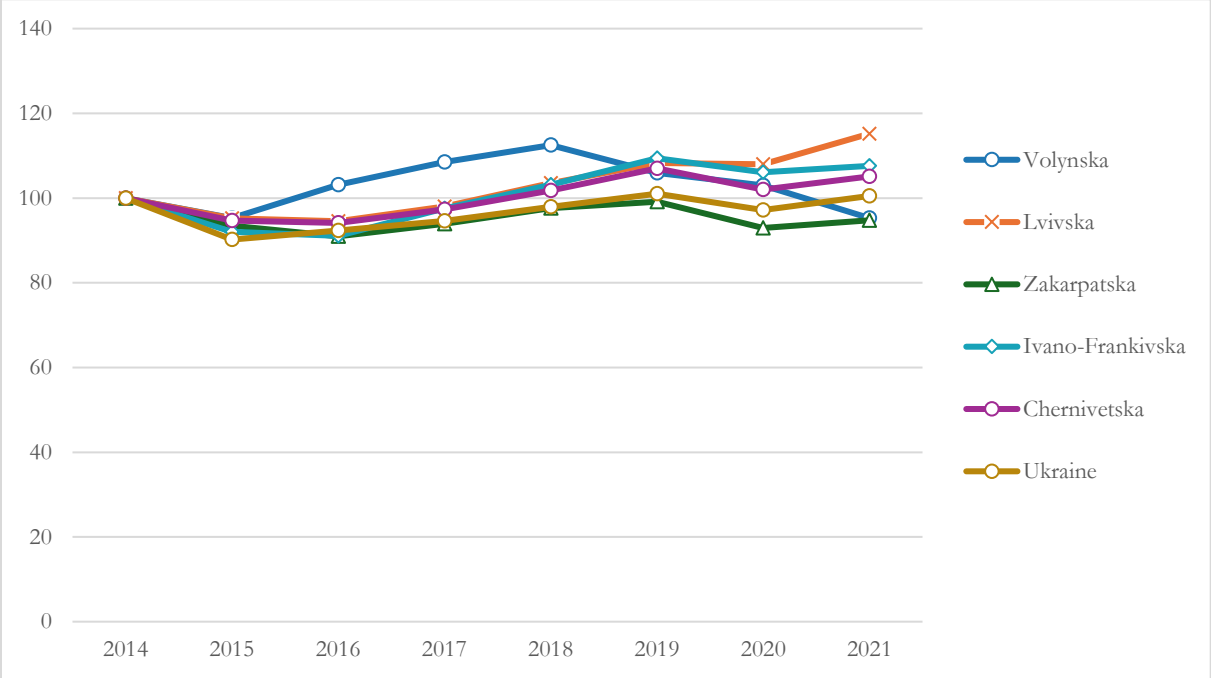
Source: State Statistics Service of Ukraine (Ukrstat)

The development of real gross regional product followed a broadly similar pattern across the selected regions, with an initial decline in 2015 followed by a gradual recovery. At the national level, real economic output returned only slightly above its 2014 level by 2021, indicating overall stagnation during the period.

The trajectories of the five selected oblasts nevertheless differed considerably. Lviv recorded the strongest long-term performance, reaching approximately 115% of its 2014 level by 2021. Volyn expanded rapidly between 2015 and 2018, but much of this gain was subsequently lost, and its real GRP fell below the 2014 level by 2021. Zakarpattia also remained below its baseline, reflecting a persistently weaker growth path. Ivano-Frankivsk and Chernivtsi showed more moderate but relatively stable recovery, ending the period above their 2014 levels.

Overall, Lviv was the only selected region to demonstrate a clear and sustained improvement, while the performance of Volyn and Zakarpattia remained weaker than the national trend. This confirms the increasingly differentiated economic trajectories of the western Ukrainian oblasts even before the full-scale invasion.

Figure 78: Changes in Real Gross Regional Product, 2014–2021 (2014 = 100)



Source: State Statistics Service of Ukraine (Ukrstat)

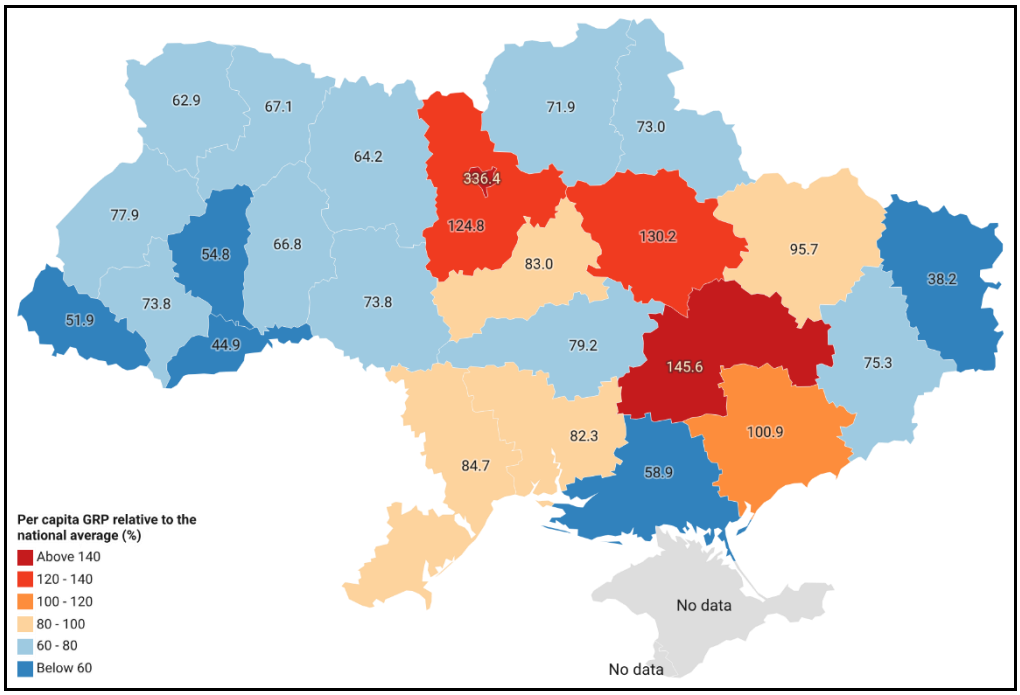
Relative Development Position

The map shows substantial territorial disparities in per capita gross regional product across Ukraine in 2014. Kyiv City stood out sharply, with a level more than three times the national average. Several central and eastern industrial oblasts, particularly Dnipropetrovsk, Poltava and Kyiv Oblast, also recorded above-average values, reflecting the concentration of administrative functions, industrial production and

higher-value economic activities in a limited number of regions. At the same time, the outbreak of the conflict in eastern Ukraine had already begun to weaken the economic position of the directly affected territories, especially Donetsk and Luhansk oblasts.

By contrast, the western oblasts generally remained below the national average. This also applied to all five selected regions. Lviv recorded the strongest position among them, at 77.9% of the national average, followed by Ivano-Frankivsk at 73.8% and Volyn at 62.9%. Zakarpattia reached 51.9%, while Chernivtsi had the lowest value within the group, at 44.9%. Overall, the selected western regions entered the post-2014 period from a comparatively weaker level of economic development, although notable differences were already visible within the group.

Figure 79: Per Capita Gross Regional Product by Oblast Relative to the National Average, 2014 (Ukraine = 100)



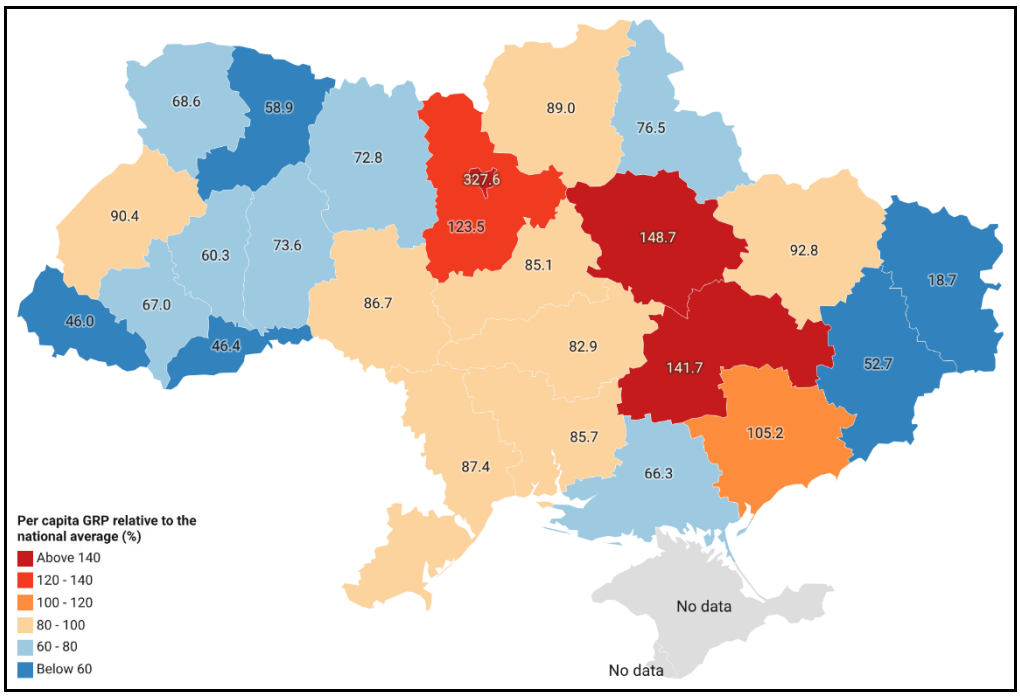
Source: State Statistics Service of Ukraine (Ukrstat)

By 2021, Ukraine's regional economic structure remained highly polarised. The country's leading economic centres remained largely unchanged by 2021, while the conflict-affected eastern regions experienced a further deterioration in their relative economic position.

All five selected western oblasts remained below the national average in 2021, although their development paths differed. Lviv recorded the strongest position, increasing from 77.9% to 90.4% of the national average and moving considerably closer to the countrywide level. Volyn also improved moderately, from 62.9% to 68.6%. By contrast, Ivano-Frankivsk declined from 73.8% to 67.0%, while Zakarpattia fell from 51.9% to 46.0%. Chernivtsi remained among the weakest regions, despite a slight increase from 44.9% to 46.4%.

Overall, the comparison with 2014 shows that the relative position of western Ukraine did not improve uniformly. Lviv experienced clear economic convergence, whereas Zakarpattia and Ivano-Frankivsk moved further away from the national average.

Figure 80: Per Capita Gross Regional Product by Oblast Relative to the National Average, 2021 (Ukraine = 100)



Source: State Statistics Service of Ukraine (Ukrstat)

Sectoral Structure of Gross Value Added

The sectoral composition of gross value added reveals marked structural differences among the selected western Ukrainian regions. Services represented the largest share in every region, although their importance varied considerably. Zakarpattia had the most service-oriented economy, with services accounting for 72% of GVA, followed by Chernivtsi at 67% and Lviv at 66%, all above the national average of 60%.

Ivano-Frankivsk displayed the strongest industrial profile, with industry contributing 31% of GVA, exceeding both the national average of 27% and the corresponding shares of the other selected regions. Lviv also had a relatively strong industrial base at 26%, combined with the lowest agricultural share among the five regions, at 9%. This indicates a comparatively diversified economic structure.

By contrast, agriculture remained particularly important in Chernivtsi, where it accounted for 20% of GVA, and in Volyn, where its share reached 16%. Both regions also recorded comparatively low industrial shares, especially Chernivtsi at 13%.

Zakarpattia similarly had a weak industrial component, at 15%, despite its high service-sector share.

Overall, the table indicates that the selected regions did not form a uniform economic area. Lviv combined a strong service sector with a relatively developed industrial base, Ivano-Frankivsk showed the clearest industrial specialisation, while Zakarpattia and Chernivtsi were characterised by weaker industrial activity and a greater dependence on services or agriculture. Volyn occupied an intermediate position, although its industrial share remained well below the national average.

Table 41: Distribution of Gross Value Added by Main Economic Sector in the Selected Regions, 2021 (%)

Regions	Agriculture	Industry	Services
Volyn Oblast	16%	19%	64%
Lviv Oblast	9%	26%	66%
Zakarpattia Oblast	13%	15%	72%
Ivano-Frankivsk Oblast	13%	31%	56%
Chernivtsi Oblast	20%	13%	67%
Ukraine	13%	27%	60%

Note: Totals may not equal 100% due to rounding
***Source**: State Statistics Service of Ukraine (Ukrstat)*

4.4.3 Labour-Market Conditions and Trends, 2015–2021

This chapter assesses labour-market conditions in the selected regions using employment and unemployment rates for the population aged 15–70. The employment rate indicates the capacity of regional economies to integrate the working-age population into economic activity, while the unemployment rate reflects the extent of unused labour resources. The analysis combines the regional situation in 2021 with trends observed between 2015 and 2021, allowing both the spatial differences and the changes over time to be evaluated. Particular attention is paid to how the selected regions performed relative to the national average.

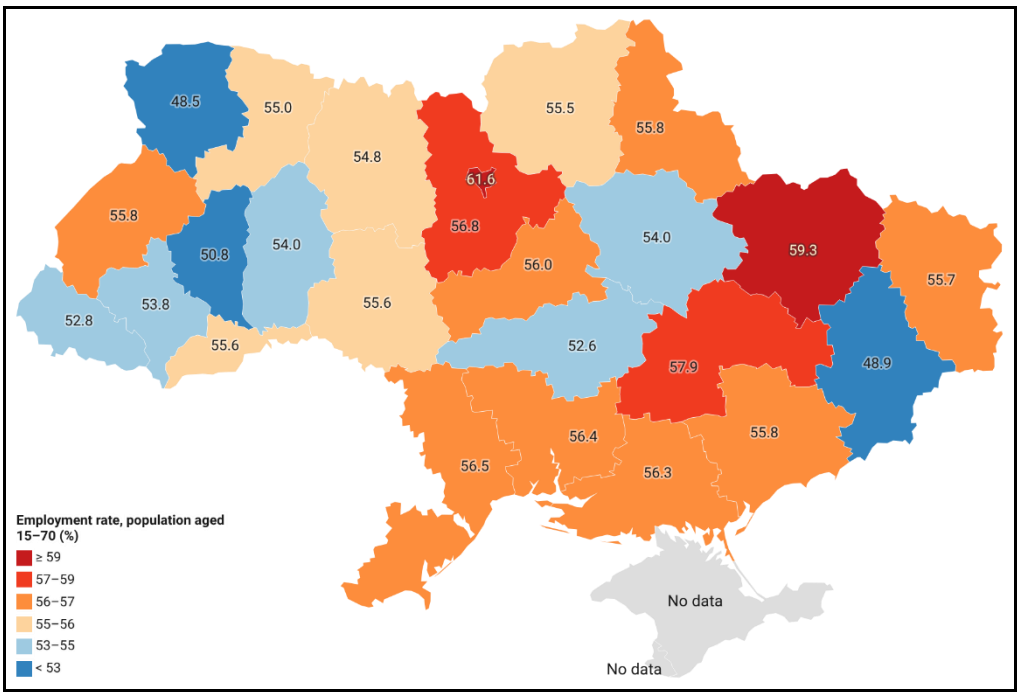
Employment

The employment rate in Ukraine showed considerable regional variation in 2021. The highest values were recorded in Kyiv City (61.6%), Kharkiv (59.3%) and Dnipropetrovsk (57.9%), reflecting the stronger labour demand of the capital and the country's main urban and industrial centres. By contrast, several western and conflict-affected eastern oblasts recorded rates below the national average of 55.7%.

Among the five selected western regions, Lviv had the most favourable position, with an employment rate of 55.8%, slightly above the national average. Chernivtsi followed closely at 55.6%, while Ivano-Frankivsk (53.8%) and Zakarpattia (52.8%) remained

below the countrywide level. Volyn recorded the lowest value within the group, at only 48.5%, and was also among the weakest-performing regions nationally. Overall, the results highlight significant labour-market differences among the selected western oblasts, with Lviv displaying a relatively stable position and Volyn facing the most pronounced employment challenges.

Figure 81: Employment Rate by Oblast in Ukraine, 2021 (%)



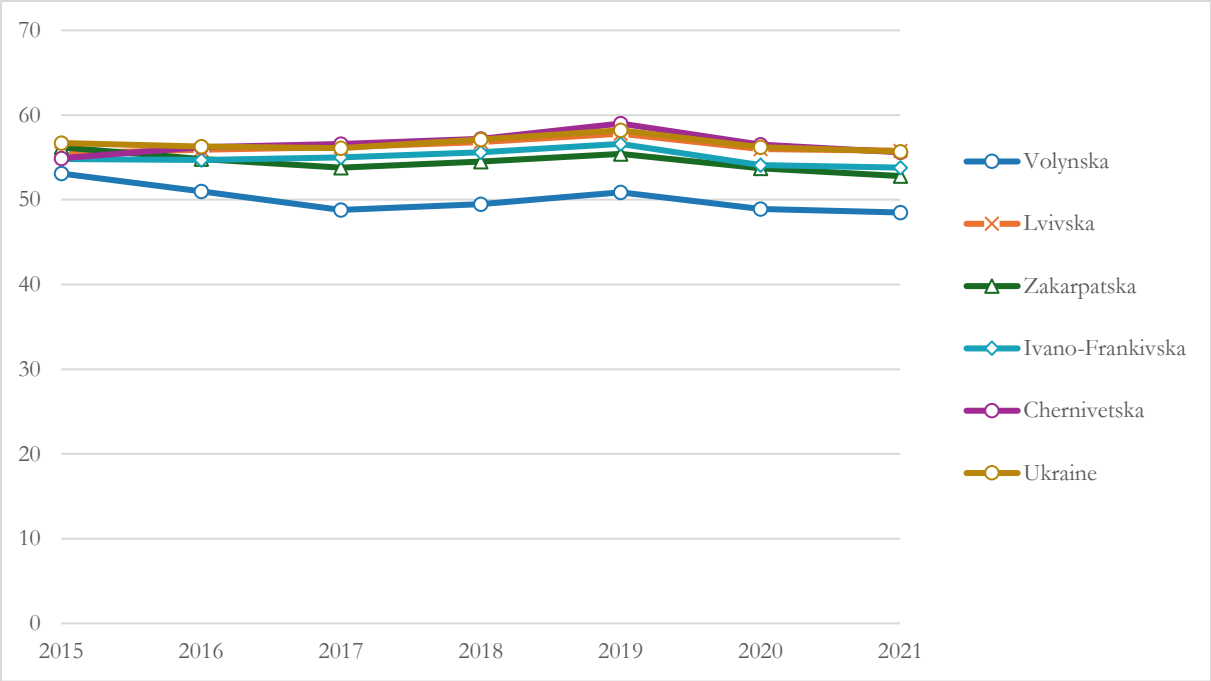
Source: State Statistics Service of Ukraine (Ukrstat)

Employment rates in Ukraine and in most of the selected western oblasts remained relatively stable between 2015 and 2019, followed by a general decline in 2020 and 2021. At the national level, the employment rate decreased slightly from 56.7% in 2015 to 55.7% in 2021, with the highest value recorded in 2019.

The regional trajectories nevertheless differed considerably. Lviv maintained the most stable position, with its employment rate increasing slightly from 55.5% to 55.8% and remaining close to the national average throughout the period. Chernivtsi also recorded relatively favourable values, although its employment rate declined after reaching a peak in 2019. By contrast, Volyn showed the weakest performance: its employment rate fell from 53.1% in 2015 to 48.5% in 2021 and remained consistently below the other selected regions. Zakarpattia also experienced a notable decline, from 56.2% to 52.8%, while Ivano-Frankivsk ended the period below the national average.

Overall, the results indicate a widening difference within the group: Lviv retained a comparatively stable labour-market position, whereas Volyn and Zakarpattia experienced the most pronounced deterioration.

Figure 82: Employment Rate of the Population Aged 15–70 in the Selected Regions and Ukraine, 2015–2021 (%)



Source: State Statistics Service of Ukraine (Ukrstat)

Unemployment

The employment and unemployment indicators used in this chapter were obtained from the Data Bank of the State Statistics Service of Ukraine. The unemployment rate is based on the Labour Force Survey and follows the methodology of the International Labour Organization. It refers to the population aged 15–70 and is calculated as the proportion of unemployed persons within the labour force of the same age group. Consequently, the indicator should not be confused with registered unemployment, which includes only persons officially registered with the public employment service.

The results should also be interpreted with caution at the regional level. Labour Force Survey estimates are based on a household sample, and their statistical reliability is generally lower for individual oblasts than for Ukraine as a whole because of the smaller regional sample sizes. This limitation is particularly relevant for the unemployment rate, which is less precisely estimated at the regional level than the employment rate.

This methodological distinction is particularly important in the case of Zakarpattia. In 2021, the Zakarpattia Regional Statistical Office estimated 60.6 thousand unemployed persons and an ILO-based unemployment rate of 11.1%, while only 4.5 thousand persons were registered as unemployed with the regional employment service at the end of the year. This substantial difference does not indicate a statistical

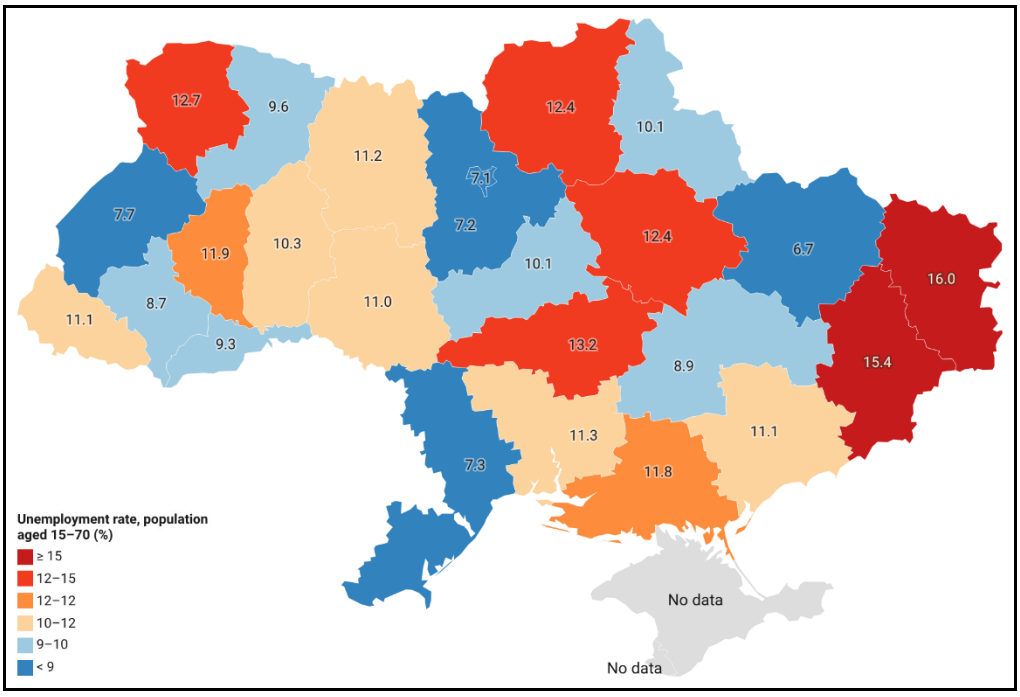
error, but reflects the different definitions, reference periods and populations covered by the two indicators.[1]

The unemployment rate also displayed marked regional differences in 2021. The highest values were concentrated mainly in the conflict-affected eastern oblasts, particularly Luhansk (16.0%) and Donetsk (15.4%), while relatively low unemployment was recorded in Kharkiv (6.7%), Kyiv City (7.1%) and Kyiv Oblast (7.2%). The national unemployment rate stood at 9.9%.

Among the five selected western oblasts, Lviv had the most favourable position, with an unemployment rate of 7.7%, followed by Ivano-Frankivsk at 8.7% and Chernivtsi at 9.3%, all below the national average. By contrast, Zakarpattia recorded a rate of 11.1%, while Volyn reached 12.7%, the highest value among the selected regions and one of the highest in Ukraine.

Taken together with the employment-rate map, the results confirm Lviv's comparatively favourable labour-market position. Volyn showed the weakest performance, combining the lowest employment rate with the highest unemployment rate among the five selected oblasts, while Zakarpattia also faced notable labour-market difficulties.

Figure 83: ILO-based Unemployment Rate of the Population Aged 15–70 by Oblast in Ukraine, 2021 (%)



Source: State Statistics Service of Ukraine (Ukrstat)

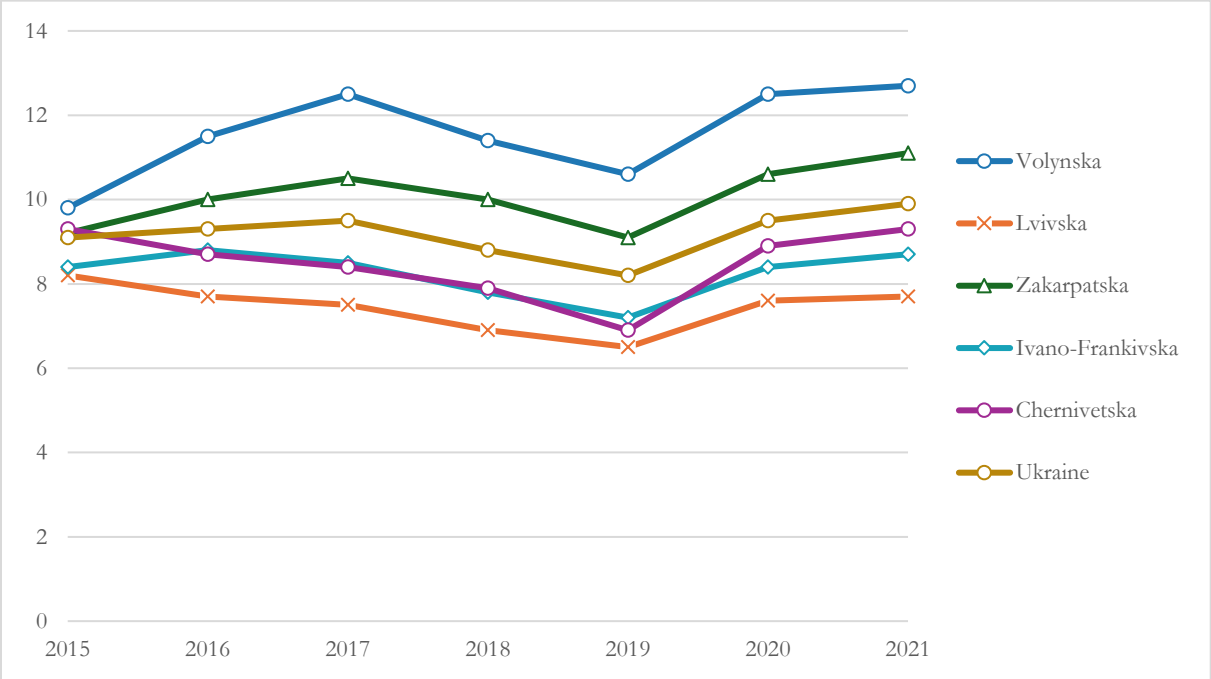
[1] https://zak.dcz.gov.ua/novyna/diyalnist-zakarpatskoyi-oblasnoyi-sluzhby-zaynyatosti-u-2021-roci

The unemployment rate generally declined in Ukraine and in most of the selected western oblasts until 2019, before increasing again in 2020 and 2021. At the national level, it fell from 9.1% in 2015 to 8.2% in 2019, then rose to 9.9% by 2021, reflecting the deterioration in labour-market conditions during the COVID-19 pandemic.

The regional trajectories differed considerably. Volyn recorded the weakest performance, with unemployment increasing by 2.9 percentage points, from 9.8% in 2015 to 12.7% in 2021. Zakarpattia also experienced a marked rise of 1.9 percentage points, reaching 11.1%. By contrast, Lviv maintained the most favourable position: its unemployment rate declined from 8.2% to 7.7% and remained well below the national average. Ivano-Frankivsk increased only slightly, from 8.4% to 8.7%, while Chernivtsi returned to its 2015 level of 9.3%.

Overall, the results confirm substantial labour-market differences within western Ukraine, with Lviv showing the strongest and Volyn the weakest performance among the five selected oblasts.

Figure 84: ILO-based Unemployment Rate of the Population Aged 15–70 in the Selected Regions and Ukraine, 2015–2021 (%)



Source: State Statistics Service of Ukraine (Ukrstat)

4.4.4 Foreign Direct Investment before and after the Full-Scale Invasion

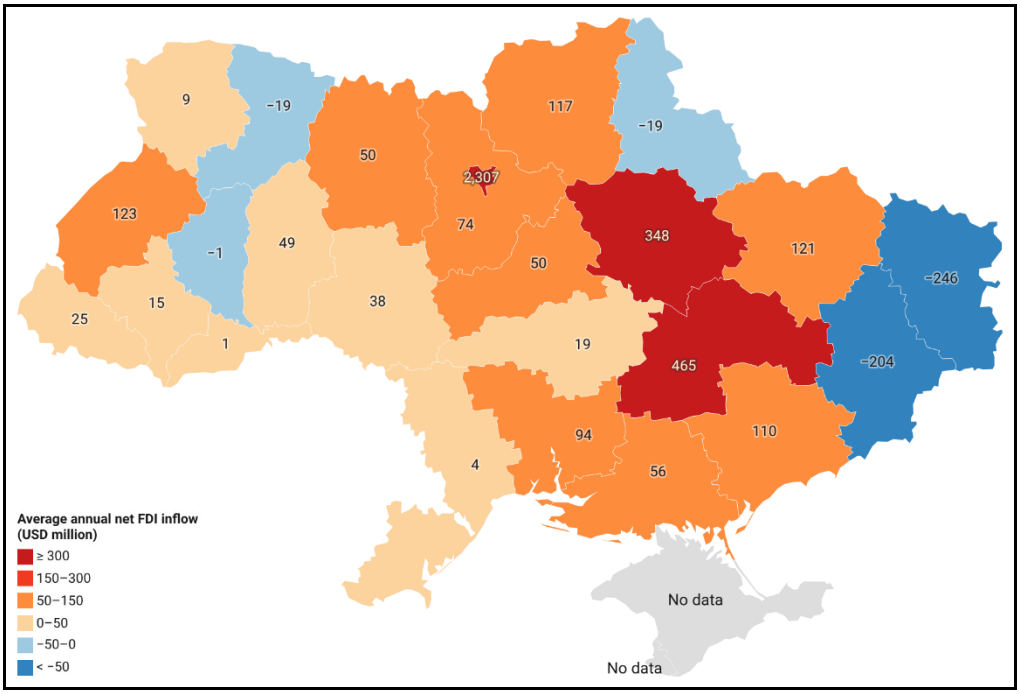
This chapter examines foreign direct investment as an indicator of regional investment attractiveness and economic confidence. Net FDI inflows are analysed for two periods: 2015–2021 and 2022–2025, enabling a comparison of regional investment patterns before and after the outbreak of the full-scale war. The use of multi-year averages reduces the effect of strong annual fluctuations and helps identify more persistent spatial patterns. As the indicator measures net investment flows,

negative values represent net capital outflows rather than an absence of foreign investment.

Pre-war Regional FDI Patterns Between 2015 and 2021, net FDI inflows in Ukraine were strongly concentrated in Kyiv City and a limited number of major industrial regions. Kyiv City recorded by far the highest annual average, while Dnipropetrovsk and Poltava also attracted substantial inflows. By contrast, Donetsk and Luhansk showed pronounced net capital outflows, reflecting the adverse economic effects of the conflict in eastern Ukraine.

Among the five selected western oblasts, Lviv clearly occupied the strongest position, with an average annual net inflow of USD 123 million. The remaining regions attracted considerably smaller amounts: Zakarpattia recorded USD 25 million, Ivano-Frankivsk USD 15 million, Volyn USD 9 million and Chernivtsi only USD 1 million. Overall, all five selected regions maintained positive average balances, but Lviv was the only one with a nationally significant level of FDI inflow. Together, the five selected oblasts accounted for approximately 4.7% of Ukraine's average annual net FDI inflow between 2015 and 2021.

Figure 85: Average Annual Net FDI Inflow by Oblast in Ukraine, 2015–2021



Source: *National Bank of Ukraine (NBU)*

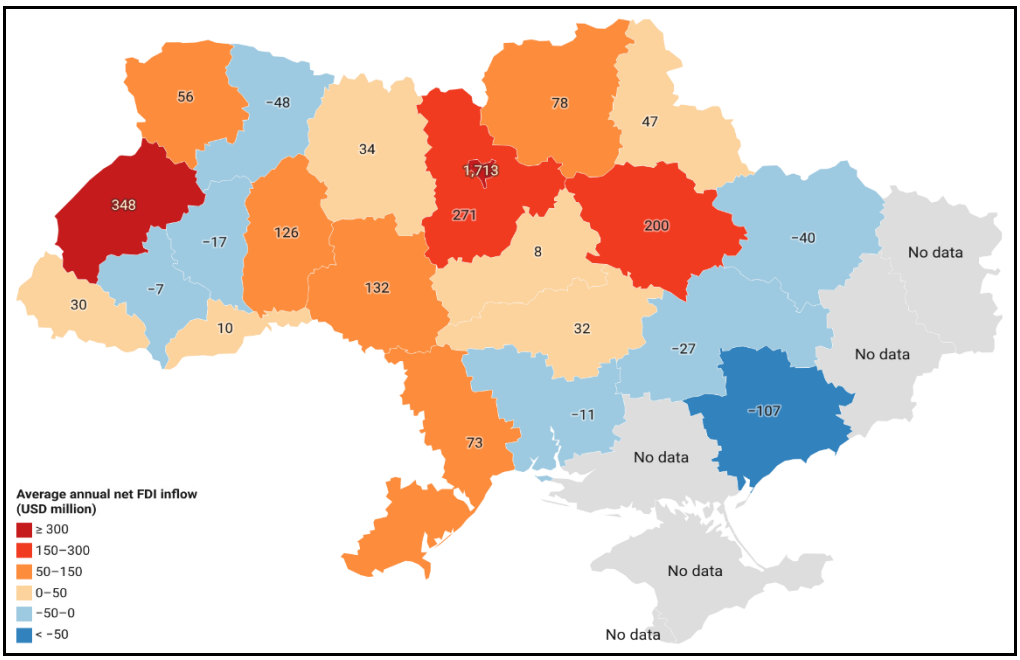
Wartime Regional FDI Patterns

According to data from the National Bank of Ukraine, Ukraine's net foreign direct investment inflows fluctuated considerably between 2015 and 2021 following the outbreak of the military conflict in eastern Ukraine, but showed an overall upward trend. After the decline recorded in 2020, net FDI inflows reached USD 7.32 billion in 2021, the highest level observed during the period under review.

The outbreak of the full-scale war caused a major disruption in 2022, when net inflows fell to USD 349 million. Following a partial recovery in the subsequent years, net foreign direct investment inflows declined again to USD 1.84 billion in 2025. The annual average for 2022–2025 amounted to USD 2.52 billion, approximately 31% below the average of USD 3.64 billion recorded between 2015 and 2021.

Based on the annual average for 2022–2025, Lviv Oblast clearly stood out, recording net inflows of USD 348 million. It ranked among Ukraine's most important regional investment destinations and significantly outperformed the other four selected western oblasts. Average annual net inflows amounted to USD 56 million in Volyn Oblast, USD 30 million in Zakarpattia Oblast and USD 10 million in Chernivtsi Oblast. By contrast, Ivano-Frankivsk Oblast recorded a slight average net capital outflow following the outbreak of the full-scale war.

Figure 86: Average Annual Net FDI Inflow by Oblast in Ukraine, 2022–2025



Source: National Bank of Ukraine (NBU)

4.4.5. Business Relocation and Wartime Economic Adaptation

This chapter analyses interregional business relocation as one of the indicators of corporate adaptation to wartime conditions. The analysis covers the annual number of relocation events, the regional balance between arriving and departing companies, and the economic activities of relocated businesses. These indicators reveal the intensity, territorial direction and sectoral composition of business mobility. However, relocation refers to a change in a company's registered legal address and does not necessarily imply the complete physical transfer of production facilities, assets or employment.

National Relocation Trend

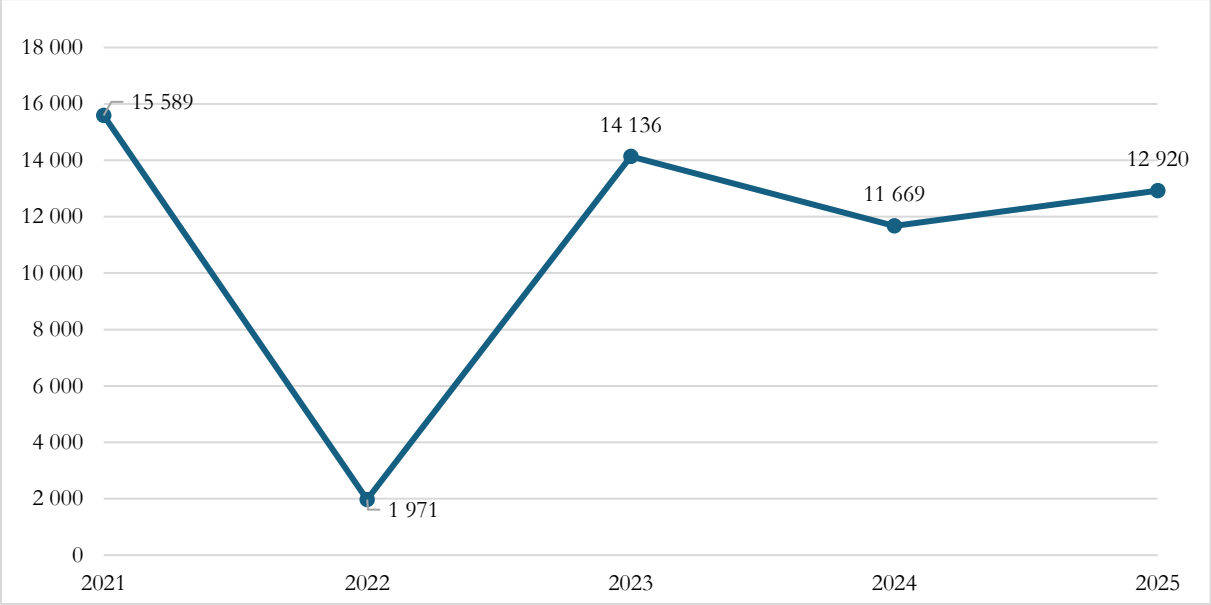
The number of interregional business relocations[2] in Ukraine fluctuated sharply between 2021 and 2025. In 2021, 15 589 relocation events were recorded, followed by a dramatic decline to only 1 971 in 2022. This fall coincided with the outbreak of the full-scale war and likely reflected the disruption of normal business operations, registration procedures and administrative data collection.

Business mobility recovered strongly in 2023, when the number of relocations increased to 14 136, approaching the pre-war level. This was followed by a moderate decline to 11 669 in 2024. In 2025, the number rose again to 12 920, representing an increase of approximately 11% compared with the previous year, although it remained around 17% below the 2021 level.

Overall, the figures suggest that interregional business relocation became a persistent feature of Ukraine's wartime economic adjustment. After the exceptional disruption of 2022, relocation activity returned to a relatively high level, indicating continued adaptation by enterprises to changing security conditions, markets and operating environments.

[2] Business relocation refers to changes in companies' registered legal addresses and does not necessarily imply the complete physical relocation of production, assets or employment.

Figure 87: Annual business relocations in Ukraine, 2021–2025

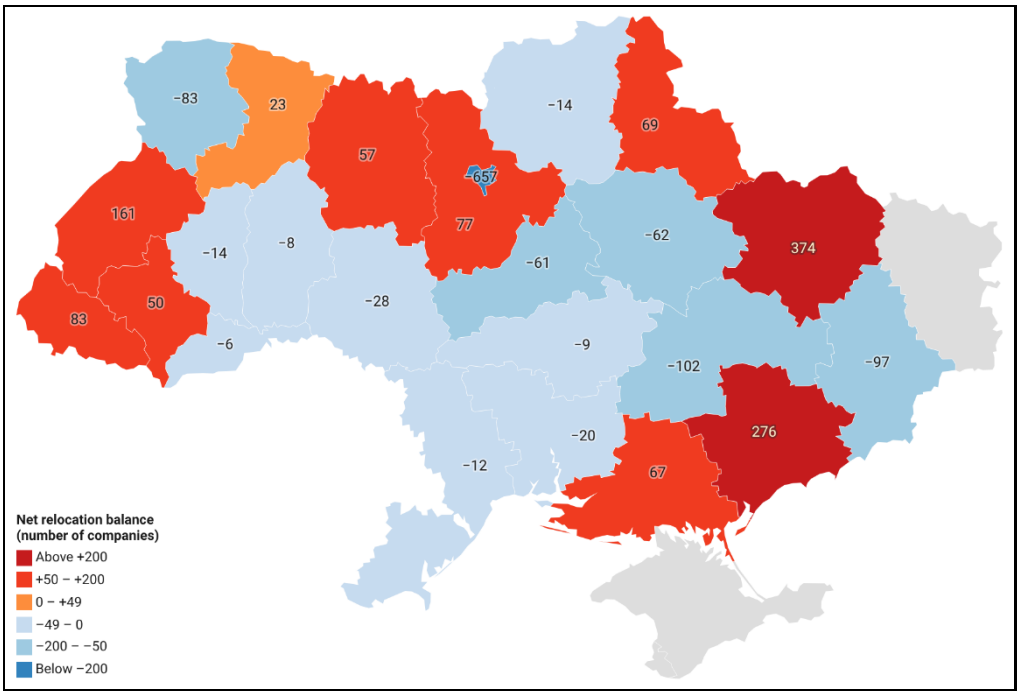


Source: Opendatabot

Regional Relocation Balance

The five selected western oblasts followed different trajectories. Lviv recorded the strongest positive balance, with 161 more companies arriving than leaving, while Zakarpattia also showed a notable gain of 83 companies. These were the third- and fourth-highest net relocation balances in Ukraine, respectively, highlighting the strong attractiveness of both regions as business destinations. Ivano-Frankivsk recorded a more moderate positive balance of 50 companies. By contrast, Volyn registered a net loss of 83 companies, while Chernivtsi remained close to balance, with a slight negative value of –6. These differences indicate that western border location alone did not ensure a favourable business relocation balance, although Lviv and Zakarpattia clearly stood out among the country's most attractive regions.

. Figure 88: Net Business Relocation Balance by Oblast in Ukraine, January–August 2025



Source: Opendatabot

Sectoral Composition of Relocated Companies

The sectoral distribution of relocated companies[3] in 2025 was dominated by wholesale trade, which accounted for 3 798 companies, or 31.1% of the total. Construction, real estate and agriculture followed, although each represented only around 5–6%. Retail trade, transport, automobile trade and repair, IT, and electricity and gas supply each accounted for relatively small shares.

The large proportion of wholesale trade suggests that business relocation was concentrated mainly in commercially oriented and relatively mobile activities rather than in capital-intensive production. At the same time, the broad "Other" category represented 36.6%, indicating considerable diversity among the remaining activities. Overall, the data show that relocation affected a wide range of sectors, but trade-related businesses played the most prominent role.

[3] The data refer to changes in companies' registered legal addresses and do not necessarily indicate the physical relocation of production facilities, assets or employment.

Table 42: Distribution of Relocated Companies by Economic Activity in Ukraine, 2025

Category	Number of relocated companies	Proportion of relocated companies
Wholesale trade	3 798	31.1%
Construction	732	6%
Real estate	645	5.3%
Agriculture	639	5.2%
Retail trade	526	4.3%
Transport	439	3.6%
Auto trade and repair	389	3.2%
IT	308	2.5%
Electricity and gas supply	251	2.1%
Other	4 470	36.6%

Source: Opendatabot

4.5 Migration and Resettlement

Information on internally displaced persons was drawn from the International Organization for Migration's General Population Survey. The regional estimates refer to the de facto presence of IDPs as of 30 March 2026. The underlying survey was conducted between 12 January and 30 March 2026 using computer-assisted telephone interviews and random-digit dialling. Consequently, the regional figures should be interpreted as estimates rather than administrative counts.

4.5.1 Wartime Demographic and Fiscal Pressures

This chapter explores the demographic and fiscal pressures associated with the full-scale war. It examines the estimated number and duration of internal displacement, the balance between local budget revenues and expenditures, and changes in the share of social expenditure. These indicators help assess the scale of the additional population and service burden faced by host regions, as well as their fiscal capacity and changing expenditure priorities. The indicators are interpreted jointly, although the available data do not establish a direct causal relationship between the presence of internally displaced persons and changes in social spending.

Internal Displacement

According to estimates by the International Organization for Migration (IOM), approximately 3.9 million de facto internally displaced persons were living in Ukraine as of March 2026. Their share of the country's population remained broadly stable between December 2025 and March 2026, increasing slightly from 12.0% to 12.5%.

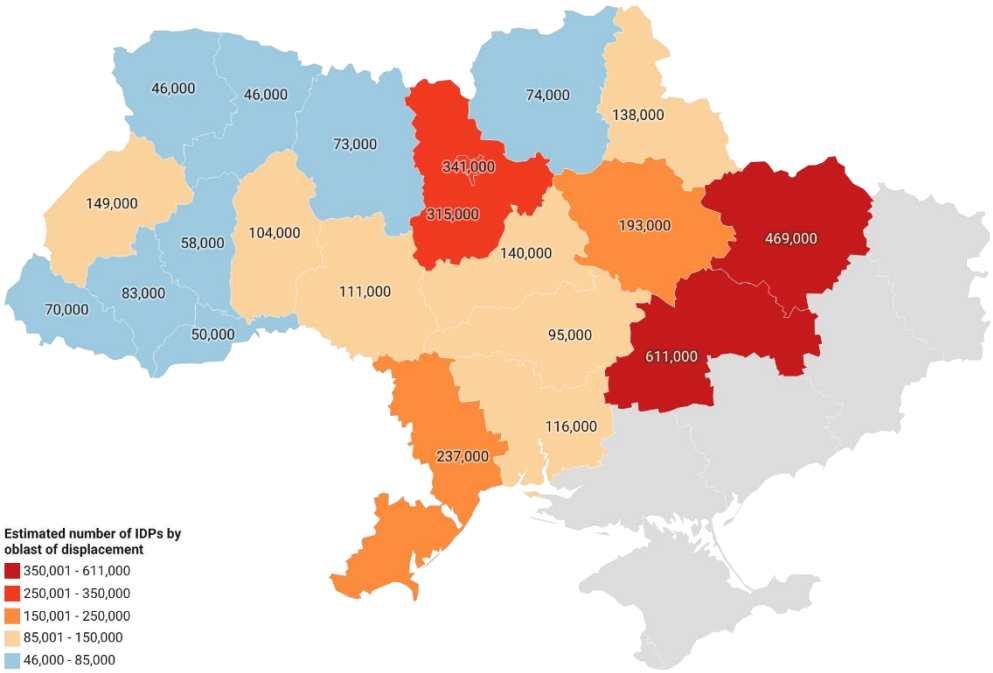
The spatial distribution of internally displaced persons (IDP) remained strongly concentrated in major eastern and central host regions. Dnipropetrovsk recorded the largest estimated IDP population, with 611,000 persons, followed by Kharkiv with 469,000, Kyiv City with 341,000 and Kyiv Oblast with 315,000. This indicates that

proximity to areas of origin, large urban labour markets and greater service capacity continued to shape displacement patterns.

Among the five selected western regions, Lviv hosted by far the largest number of IDPs, with an estimated 149,000 persons (3.9%). It was followed by Ivano-Frankivsk with 83,000 persons (2.2%), Zakarpattia with 70,000 IDPs (1.8%), Chernivtsi with 50,000 persons (1.3%) and Volyn with 46,000 IDPs (1.2%). Together, these five regions accommodated approximately 398,000 IDPs, or around 10% of Ukraine's estimated displaced population. Their role was therefore significant, although considerably smaller than that of the main eastern and central hosting regions.

According to the International Organization for Migration (IOM) The long duration of displacement is particularly relevant for the selected western regions. The share of IDPs displaced for more than two years reached 79% in Ivano-Frankivsk Oblast and 77% in Lviv Oblast, compared with 69% nationally.

. Figure 89: Estimated de facto IDPs presence by oblast of displacement (March 2026)



Source: International Organization for Migration (IOM), Ukraine Internal Displacement Report, May 2026

Changes in Social Expenditure

The share of social expenditure increased markedly in all five selected western oblasts between 2018 and 2025, while the national trend moved in the opposite direction. The strongest increase was recorded in Zakarpattia, where the share rose by 14.00 percentage points, from 2.84% to 16.84%. Ivano-Frankivsk followed with an increase of 11.48 percentage points, while Chernivtsi, Volyn and Lviv recorded increases of 9.20, 8.07 and 6.30 percentage points, respectively.

In 2025, Zakarpattia had the highest share of social expenditure among the selected regions, at 16.84%, followed by Ivano-Frankivsk at 13.36% and Chernivtsi at 12.02%. Volyn also exceeded the national average of 8.28%, reaching 9.60%, while Lviv, at 8.22%, remained only marginally below the national level. This represents a substantial change compared with 2018, when all five selected oblasts were far below the national average of 16.62%.

The increase may partly be associated with the arrival and prolonged presence of internally displaced persons, which placed additional pressure on housing support, social assistance and public services in the host regions. This relationship appears particularly plausible in Zakarpattia, Ivano-Frankivsk and Chernivtsi, where the social expenditure shares increased most strongly. However, the figures alone do not demonstrate a direct causal relationship, as changes may also reflect broader wartime budget restructuring, shifts in local expenditure priorities or changes in total expenditure.

Table 43: Share of Social Expenditure in Total Expenditure in the Selected Regions, 2018 and 2025

Regions	Social expenditure, 2025 (%)	Social expenditure, 2018 (%)	Change, 2018–2025 (percentage points)
Volyn Oblast	9.60	1.53	8.07
Lviv Oblast	8.22	1.92	6.30
Zakarpattia Oblast	16.84	2.84	14.00
Ivano-Frankivsk Oblast	13.36	1.88	11.48
Chernivtsi Oblast	12.02	2.82	9.20
Ukraine	8.28	16.62	−8.34

Source: Openbudget.ua

4.6 Examples of socio-economic changes in Zakarpattia since the outbreak of the war

In April 2023, staff members of the Research Institute for National Strategy participated in fieldwork in Transcarpathia (Zakarpattia or Zakarpatska Oblast; Ukraine) with the aim of obtaining a realistic picture of the situation of the local community living there and of the prevailing conditions in the county, as well as collecting and formulating development proposals, observations and experiences that could serve as a basis for the implementation of joint cross-border projects within the framework of the Interreg VI-A NEXT HUSKROUA Programme, expected to be launched in the near future. Accordingly, the participants in the fieldwork held discussions with representatives of local governments, educational institutions, churches and civil society organisations, as well as with entrepreneurs. In addition to the predominantly bilateral meetings, the Research Institute for National Strategy

also organised a development policy workshop during the week with the participation of development policy professionals and other experts in fields such as demography, tourism, culture, enterprise development and agriculture. The most important findings of the fieldwork are summarised below according to the main thematic areas.

The Russo–Ukrainian war has transformed the social and economic processes of Transcarpathia in both adverse and, to some extent, favourable ways. The arrival of a large number of internally displaced persons placed a considerable burden on the county's housing, social and infrastructure systems, while humanitarian organisations, local governments, churches and civil society actors assumed a key role in providing assistance to those affected and coordinating humanitarian aid. At the same time, population growth and the relocation of companies from Eastern Ukraine to the region also generated new economic dynamism, particularly in the areas of Uzhhorod and Mukachevo, where the expansion of the labour market, increasing investment (including foreign capital) and rising county budget revenues indicate longer-term development opportunities. Furthermore local political and economic actors have expressed a strong interest in attracting greater foreign investment – both private and public – to Zakarpattia Oblast and in strengthening the region's economic ties with EU member states.

4.6.1 Demography, humanitarian assistance

According to estimates, between 340,000 and 400,000 of the refugees who arrived in Transcarpathia as a result of the war may have remained in the county. (According to the Hungarian Interchurch Aid, the estimated figure was considerably lower in 2023, at approximately 120,000–150,000 people. Meanwhile, based on the latest Internal Displacement Report of the International Organization for Migration (IOM) from January 2026, the estimated number of internally displaced persons in Zakarpattia is approximately 70,000).[4] A significant proportion of them are children and persons in need of care. Large numbers of refugees also arrived together with relocated companies. Trends observed so far indicate that internally displaced persons are not concentrated in Hungarian-inhabited areas, but primarily in Uzhhorod and Mukachevo, and due to their predominantly urban lifestyles, this situation is likely to persist in the longer term. The population of Uzhhorod – based on local reports and field observations of Research Institute for National Srategy – may have nearly doubled, increasing from 120,000 to 200,000 inhabitants.

Most refugees have entered the labour market, largely owing to the arrival of relocated companies, and their continued residence in the county can therefore be anticipated.

[4] Source: https://dtm.iom.int/sites/g/files/tmzbdl1461/files/reports/IOM_UKR_Internal%20Displacement%20Report_GPS%20R21_January_2025.pdf

Following the outbreak of the war, humanitarian organisations in Transcarpathia collectively assumed responsibility for receiving, assisting and accommodating refugees, providing information at border crossing points to those continuing their journeys abroad, and maintaining continuous assistance services for them. They also organised, and continue to organise, the reception, distribution and onward delivery of humanitarian aid shipments, not only within Transcarpathia but throughout Ukraine.

According to information provided by the county leadership, the most serious current problem is the accommodation of internally displaced persons, including those arriving together with relocated companies. Of the 340,000 refugees, approximately 120,000–130,000 are children, 20,000 are persons with disabilities, and a large number are elderly people, for whom it has been difficult to provide adequate care. According to stakeholders involved in coordinating humanitarian assistance arriving from Hungary, the Hungarian relief operation is highly significant even in comparison with the efforts of other countries in the region. They are able to respond very rapidly; as a result, they were among the first to carry out reconstruction activities in Bucha, where a kindergarten was established using a container-based solution.

4.6.2 Economy

The county previously benefited from the redistribution system, but it lost its beneficiary status as a result of economic development, which has created new challenges. Although its revenues are increasing due to economic growth, it now receives less funding from the central government because it no longer qualifies as a beneficiary county.

Transcarpathia is currently experiencing economic growth, which, according to local stakeholders, may be sustained over the longer term. This is primarily attributable to companies relocating from other parts of Ukraine as a result of the war. At the same time, local reports also indicate that neighbouring countries – particularly Czechia, Slovakia and Poland, as well as Austria – have been contributing to the region's development since the outbreak of the war through private investment, aid programmes supporting Ukrainian public authorities and infrastructure development It has been this way since the beginning of the war.Hungary's economic presence and Hungarian investments in Transcarpathia, however, are less visible and less significant compared to the aforementioned actors. They are not as significant as Polish, Slovak, and Czech investments. , Nevertheless, according to several local Ukrainian and Hungarian stakeholders, there would be strong demand for increased private and public investment from Hungary in the region. Since 2016, Hungary has also operated a several tens of billions of HUF public economic development programme in the region. However, in recent years its implementation has encountered a number of difficulties. The programme has primarily targeted micro- and small enterprises in predominantly Hungarian-inhabited areas, providing support mainly for agricultural and tourism-related development projects.Since 2016, a publicly funded economic

development programme worth HUF 50 billion has also been implemented in the country, although its implementation has faced difficulties in recent years. The programme primarily supported micro and small enterprises in predominantly Hungarian-populated areas, particularly through agricultural and tourism development projects..

As already mentioned above, relocated companies and internally displaced persons also stimulated the local economy. The county leadership expects these relocating companies relocating, whose activities are either export-oriented or heavily dependent on imports and which represent advanced technologies, such as information technology and wind turbine manufacturing, to maintain a presence in Transcarpathia for at least ten years. Based on our experience, these companies are well positioned to enter the European Union market, largely owing to their export-oriented business profiles. As a result of the influx of relocating companies and labour, as well as the increase in foreign investment, the county's budget increased by 40% following the outbreak of the war.

Development has accelerated primarily in Mukachevo and Uzhhorod. Local reports suggest that the population of Uzhhorod may have doubled in recent years, which is also evident in the expansion of the built-up areas of the city and its agglomeration. The population of Uzhhorod may have doubled in recent years, and this is also reflected in the expansion of the built-up area.Economic growth also has a negative aspect from the county's perspective: the region is likely to lose access to public development funding in the longer term. According to the county leadership, all forms of European Union or Hungarian financial support and investment are therefore of vital importance to the region.

The region has faced a dual economic impact stemming from internal displacement. On the one hand, the arrival of internally displaced persons has increased the burden on public services and local expenditures. On the other hand, labour shortages have intensified, as a considerable number of displaced people have migrated abroad. These developments have contributed to substantial wage increases in the region.

5. Review of Partner Regions' Development Strategies and Plans

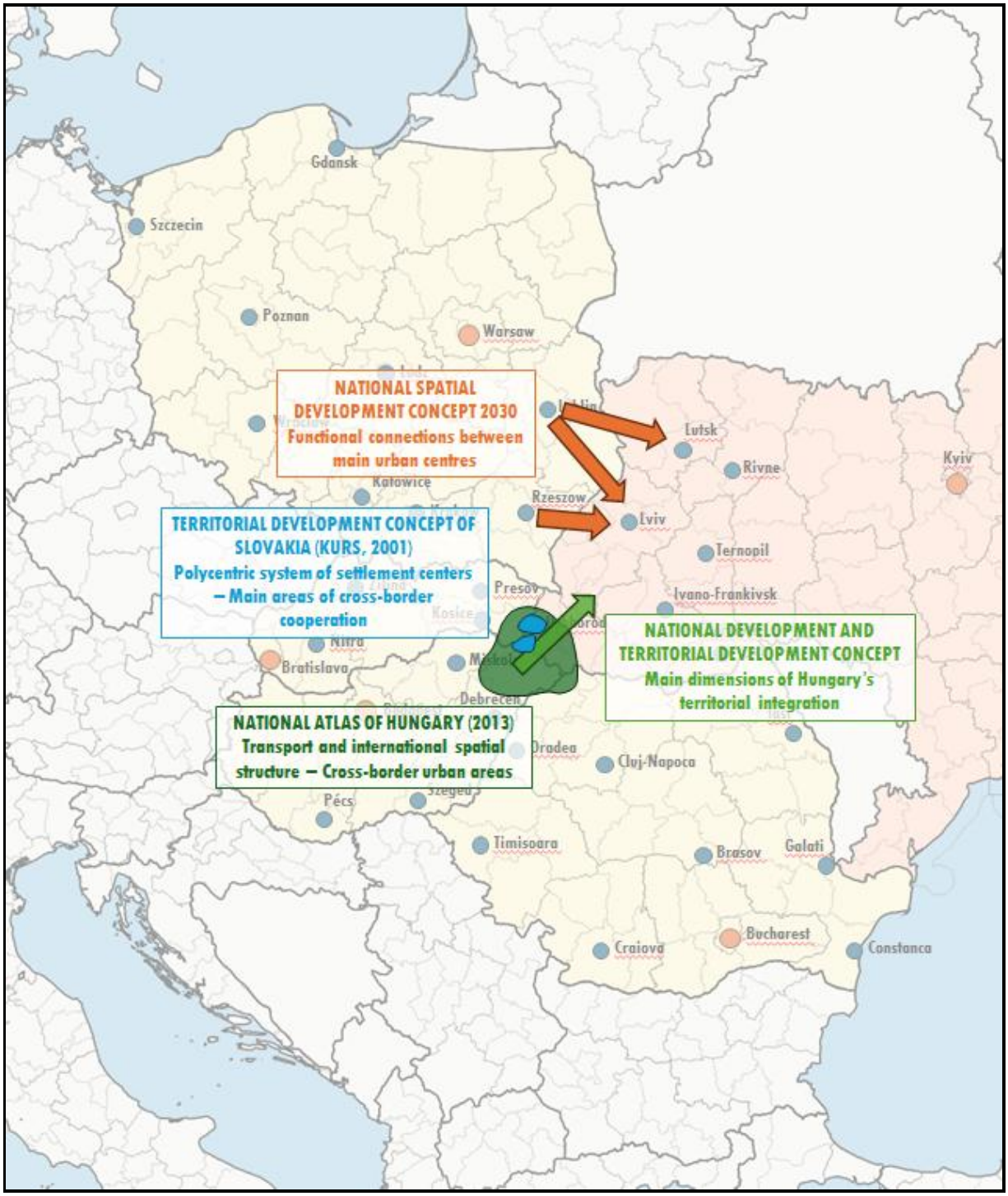
5.1 Graphic Analysis

The primary objective of this spatial analysis was to identify and visualize macro-regional spatial development patterns and cross-border functional ties between the project partner countries—Poland, Slovakia, Romania, and Hungary—and Ukraine. The analysis specifically targeted integrated spatial networks, cross-border urban areas, and strategic development axes that extend beyond the external borders of the European Union towards Ukrainian regional centres. The research relied on a dual-source approach to gather spatial data, combining the internal analysis of strategic, spatial, and territorial development documents uploaded by the project partners with comprehensive desktop research of official, publicly available national spatial planning concepts and territorial strategies.

To ensure visual verifiability and structural clarity, a strict, graphics-based filtering criterion was applied during the data extraction process. The analysis relied exclusively on existing cartographic visualisations, spatial synthesis maps, and structural diagrams within the reviewed source materials. Consequently, any potential cross-border cooperation patterns or functional links that were only described textually within the planning narratives—but lacked explicit cartographic delineation—were systematically excluded from the synthesis. While the spatial planning documents of Poland, Slovakia, and Hungary yielded explicit visual representations of these connections, the evaluation of Romania's national strategic documents did not result in the identification of such explicit cartographic representations towards Ukraine.

The identified spatial vectors, functional urban zones, and cross-border development axes were ultimately harmonized and integrated into a single, unified synthesis map. By consolidating these diverse national data sources, the resulting map provides a comparative, macro-regional overview of how different national planning frameworks conceptualize territorial integration and regional embeddedness towards Ukraine. This visual synthesis serves as a tool to evaluate the alignment of national spatial priorities along the European Union's external frontier, highlighting the active corridors of functional cross-border dynamics.

Figure 90: Cross-border functional connections and spatial development axes towards Ukraine



Source: Own edition

5.2 Review of Development Strategies and Plans

This subsection is based on the documents collected by our Partners.

National level:

- National Strategy for Regional Development 2030: Socially Sensitive and Territorially Balanced Development, Poland, 2019.
- Vision and Development Strategy of Slovakia to 2030 - Long-Term Sustainable Development Strategy of the Slovak Republic, 2020.
- National Development 2030 - National Development and Territorial Development Concept, Hungary, 2013/2014.
- Romania's Sustainable Development Strategy 2030, 2018.

Regional level:

- Strategia rozwoju wojewodztwa - Podkarpackie 2030 [Development Strategy of Podkarpackie Voivodeship 2030], 2020.
- Strategia Rozwoju Wojewodztwa Lubelskiego do 2030 roku [Development Strategy of Lubelskie Voivodeship to 2030], 2021.
- Szabolcs-Szatmár-Bereg Megyei Teruletfejlesztesi Koncepcio, I. kotet: Elokeszito fazis - Helyzetelemzes, helyzetertekeles [County Territorial Development Concept, Volume I: Diagnosis], 2021.
- Szabolcs-Szatmár-Bereg Megyei Teruletfejlesztesi Koncepcio, II. kötet: Javaslattevő fázis - Felulvizsgalat [County Territorial Development Concept, Volume II: Proposal Phase], 2021.
- Program hospodarskeho rozvoja a socialneho rozvoja Kosickeho samospravneho kraja na roky 2023-2027 (s vyhladom do roku 2030), A. Uvod, B. Analyticka cast, C. SWOT analyza [Košice Regional Development Programme: Introduction, Analysis and SWOT], 2024.
- Program hospodarskeho rozvoja a socialneho rozvoja Prešovskeho samospravneho kraja na roky 2021-2030, Skratena verzia 2.0 [Prešov Economic and Social Development Programme, Shortened Version 2.0].
- Strategia de Dezvoltare a Judetului Satu Mare pentru perioada 2021-2030, varianta sintetica [Satu Mare County Development Strategy 2021-2030, Synthetic Version].
- Strategia de Dezvoltare Durabila a Judetului Maramures, perioada 2021-2027 - Analiza situatiei existente [Maramures Sustainable Development Strategy: Situation Analysis].
- Strategia de Dezvoltare Durabila a Judetului Maramures pentru perioada 2021-2027 - Portofoliul de proiecte [Maramures Sustainable Development Strategy: Project Portfolio].
- Strategia de Dezvoltare Durabila a Judetului Maramures, perioada 2021-2027 - Obiective strategice, politici si programe [Maramures Sustainable Development Strategy: Strategic Objectives, Policies and Programmes], revised July 2022.

Settlement level:

- **Rzeszów:** Studium uwarunkowań i kierunków zagospodarowania przestrzennego miasta Rzeszowa, September 2023.
- **Lublin:** Strategia Lublin 2030, November 2021.
- **Košice:** Územný plán mesta Košice, A.B.D. Textová časť – čistopis, approved 26 June 2025.
- **Nyíregyháza:** Nyíregyháza Megyei Jogú Város Fenntartható Városfejlesztési Stratégia 2021–2027, April 2022.
- **Satu Mare:** Strategia Integrată de Dezvoltare Urbană a Municipiului Satu Mare 2023–2030.
- **Baia Mare:** Strategia Integrată de Dezvoltare – Zona Urbană Funcţională Baia Mare 2030.

Because the documents differ in purpose, date and legal status, the analysis compares strategic direction and treatment of cross-border relations rather than assigning a uniform performance score.

5.2.1 Comparative Analysis of Development Strategies to 2030 (National level)

Introduction

This analysis compares four strategic documents with a 2030 horizon. Although all four seek to guide long-term development, they do not perform identical functions. The Polish document is a national regional-policy strategy; the Slovak document combines sustainable development with the role of a national regional-development strategy; the Hungarian concept is a broad national development and territorial framework; and the Romanian strategy is a national roadmap for implementing the United Nations Sustainable Development Goals.

The comparison focuses on strategic purpose, thematic priorities, territorial logic, governance, financing, implementation and monitoring. A separate chapter examines the similarities and differences among the documents. Particular attention is given to references to neighbouring countries, cross-border development and Ukraine. Because the four strategies were prepared between 2013 and 2020, their treatment of Ukraine reflects the policy environment before Russia's full-scale invasion in 2022 and should be read as a historical strategic baseline rather than a current geopolitical assessment.

1. Strategic Profile of the Four Documents

Poland: National Strategy for Regional Development 2030

Poland's National Strategy for Regional Development 2030, published in 2019, translates the socially sensitive and territorially balanced development pillar of the Strategy for Responsible Development into a dedicated regional-policy framework. Its primary concern is the uneven distribution of development opportunities within Poland. It therefore combines support for competitiveness in all regions with concentrated intervention in territories facing persistent structural disadvantages.

The strategy identifies seven groups of challenges: climate and environmental risks; demographic decline; human and social capital; productivity and innovation; infrastructure; the quality of development governance and financing; and territorial inequalities. Its three specific objectives are to increase social, economic, environmental and spatial cohesion; strengthen regional competitive advantages; and improve the quality of management and implementation of territorially oriented policies. Priority territories include Eastern Poland, areas threatened by permanent marginalisation, medium-sized cities losing socio-economic functions, Silesia and degraded areas.

The Polish document is strongly operational. It links national ministries, voivodeship governments, local authorities and socio-economic partners through programme contracts, sectoral contracts, territorial agreements, regional operational programmes, integrated territorial investments and strategic projects. Its monitoring architecture relies on national and regional statistical and territorial observatories, regular reporting and evaluation. Financing is expected to combine the state budget, local-government resources, European Union cohesion funds and repayable financial instruments.

Slovakia: Vision and Development Strategy of Slovakia to 2030

Slovakia 2030, dated December 2020, is both the country's long-term sustainable development strategy and its national regional-development strategy. It translates the UN 2030 Agenda and the European Green Deal into Slovak conditions, while also responding to the European Union's 2021-2027 programming period and the effects of the COVID-19 pandemic. Its vision is explicitly human-centred: Slovakia is presented as people and regions seeking a satisfied and full life.

The document is organised into three integrated development programmes. The first protects and develops human, natural and cultural resources, covering population, education, health, the rule of law, security and environmental assets. The second promotes the sustainable use of resources through innovation-based regional economies, green infrastructure and economic resilience. The third develops communities through more effective public administration, stronger local and regional economies, and accessible infrastructure, services and housing.

Slovakia 2030 places particular emphasis on horizontal coordination across ministries and vertical coordination among national, regional and local government. It envisages implementation through a national investment plan, sectoral strategies, regional and municipal development programmes, integrated territorial strategies and EU programmes. Monitoring is to use national indicators, including a composite measure drawing on the Social Progress Index, with annual implementation reports submitted to the government and political oversight by the Government Council for the 2030 Agenda.

Hungary: National Development 2030

Hungary's National Development 2030 - the National Development and Territorial Development Concept - was prepared in 2013 and adopted as an annex to a parliamentary resolution in early 2014. It establishes a long-term national vision to 2030 while also setting priorities for the 2014-2020 European Union programming period. The document is both an overarching development-policy concept and a territorial-development framework, intended to guide sectoral strategies, the Partnership Agreement and operational programmes.

Its architecture is broader and more normative than that of the other documents. Four overarching goals address value-creating and employment-generating economic development; demographic renewal and a healthy society; sustainable use of natural resources and environmental protection; and a sustainable spatial structure based on territorial potential. These are supported by thirteen specific objectives, including seven sectoral objectives and six territorial objectives. Strong themes include national economic repositioning, population growth, local economies, rural development, knowledge and innovation, social solidarity, a service-oriented state, resource security, Budapest's role, the development of regional growth centres and the strengthening of Hungary's macroregional position.

The Hungarian concept provides a strategic framework rather than a single detailed delivery mechanism. Its implementation logic runs through national and EU-funded sectoral and territorial programmes, county and capital-city development plans, and operational programmes. It stresses that territorial considerations must be integrated throughout planning, implementation, evaluation and monitoring. Compared with the Polish strategy, it contains a wider national vision but less detailed institutional sequencing for delivery after the programming phase.

Romania: Sustainable Development Strategy 2030

Romania's Sustainable Development Strategy 2030 was adopted by government decision in November 2018. It is the most directly aligned with the UN 2030 Agenda, using all seventeen Sustainable Development Goals as its organising structure. Each goal contains a diagnosis, shorter-term Horizon 2020 objectives and 2030 targets. The strategy is citizen-centred and presents sustainable development as a balance among economic prosperity, social equity and environmental protection.

The Romanian document covers poverty, food, health, education, gender equality, water, energy, employment, industry and infrastructure, inequalities, cities, consumption and production, climate, aquatic and terrestrial ecosystems, institutions and international partnerships. It is less spatially differentiated than the Polish or Hungarian strategies, but it repeatedly addresses rural-urban disparities, regional infrastructure, sustainable cities, the Danube, the Black Sea and the need for convergence with European Union standards.

Implementation is coordinated by the Department of Sustainable Development and is supported by an interdepartmental committee, sustainable-development hubs and

experts, a stakeholder coalition, an advisory council and an action plan. The National Institute of Statistics is responsible for the national indicator set, while progress is also reported at EU and UN level. The approach is institutionally clear on coordination and monitoring, although financing is generally embedded in sectoral policies, national budgets and EU programmes rather than presented as a single territorial financing system.

2. Similarities Among the Four Strategies

A Shared 2030 Horizon and European Policy Framework

All four documents use 2030 as the principal long-term horizon and place national development within a European framework. European Union cohesion policy, the Europe 2020 legacy, the Green Deal, the 2021-2027 programming cycle or the broader process of European convergence shape their objectives and instruments. Even where the conceptual language differs, each strategy assumes that national priorities must be connected to EU funding, regulation and transnational cooperation.

Integration of Economic, Social and Environmental Development

The strategies reject a narrow understanding of development based only on gross domestic product. Poland emphasises cohesion and quality of regional development; Slovakia explicitly links resources, communities and sustainability; Hungary combines economic renewal with demography, social values and environmental security; and Romania follows the three pillars of sustainable development across the seventeen SDGs. In all four cases, competitiveness is expected to reinforce, rather than replace, social inclusion and environmental responsibility.

Territorial Cohesion and Place-Based Development

Each document recognises that development challenges are spatially uneven. The common response is a place-based approach that adapts interventions to local potential and local disadvantage. Rural areas, smaller towns, peripheral territories, structurally weak regions and urban-rural linkages receive attention in every strategy. All four also support polycentric development, stronger regional centres, improved accessibility and better-quality public services outside the largest metropolitan areas.

Human Capital, Demography and Social Resilience

Population ageing, migration, labour shortages, educational performance, health and social exclusion are recurring concerns. Poland and Slovakia emphasise regional access to services and skills; Hungary gives unusually strong prominence to a demographic turnaround, family policy and national-community renewal; Romania addresses these issues across the SDGs on poverty, health, education, inequalities and institutions. The shared assumption is that long-term competitiveness depends on healthier, better educated and more socially integrated citizens.

Innovation, Infrastructure and the Green Transition

Innovation, digitalisation, research, entrepreneurship and higher-value production are central to all four documents. They also converge on the importance of transport and digital connectivity, energy efficiency, renewable energy, climate adaptation, water management, biodiversity and circular-economy principles. The balance differs, but each strategy seeks to move away from development based mainly on low labour costs, resource intensity or metropolitan concentration.

Multi-Level Governance, Partnership and Monitoring

All four strategies call for cooperation among central government, regional and local authorities, business, universities, social partners and civil society. They recognise that fragmented sectoral administration weakens results and that integrated planning should link objectives, investments and territorial needs. Each also includes monitoring or indicators, although the institutional depth varies. Poland and Romania provide the clearest formal monitoring systems, Slovakia proposes a strong indicator-based annual review, and Hungary embeds monitoring in the wider planning and programming cycle.

3. Key Differences Among the Four Strategies

Different Strategic Functions and Organising Logics

The most important difference is that the documents are not equivalent in scope. Poland's strategy is specialised: it governs regional policy and territorial intervention. Slovakia combines sustainable development with national regional strategy. Hungary offers the broadest national development and spatial concept, with a strong emphasis on national economic and demographic renewal. Romania is primarily an SDG implementation roadmap. Their structures reflect these functions: three regional-policy objectives in Poland, three integrated programmes in Slovakia, four overarching and thirteen specific goals in Hungary, and seventeen SDGs in Romania.

Variation in Territorial Specificity

Poland is the most precise in identifying categories of territories requiring intervention and in linking them to dedicated instruments. Hungary is also strongly territorial, but its approach is more visionary and macroregional, linking national spatial structure, county priorities, rural development and the Carpathian Basin. Slovakia provides a typology of regions and stresses functional strategic-planning regions, while Romania usually approaches territory through sectoral targets, rural-urban disparities, infrastructure and ecosystem regions rather than through a comprehensive system of designated intervention areas.

Different Degrees of Operationalisation

The Polish strategy is the most developed in terms of contracts, territorial agreements, operational programmes, strategic projects and the allocation of responsibilities. Romania has a clear central coordination and reporting framework

but relies on separate sectoral instruments to deliver many targets. Slovakia establishes an integrated governance model and indicator system, but leaves substantial operational detail to later investment plans and territorial strategies. Hungary establishes the strategic basis for programmes and funding but is primarily a concept document rather than an implementation manual.

Distinct Political and Conceptual Language

The Hungarian strategy uses the strongest language of national cohesion, demographic renewal, self-reliance and the economic role of Hungarian communities across borders. The Polish strategy is more technocratic and territorial, focusing on endogenous potential, strategic intervention areas and regional competitiveness. Slovakia combines the language of sustainability, resilience, community development and integrated public governance. Romania follows the universal vocabulary of the 2030 Agenda, emphasising citizens, targets, international obligations and the principle that no one should be left behind.

Different International Orientations

All four recognise the importance of international cooperation, but they do so for different reasons. Hungary treats external relations as part of national economic positioning and Carpathian Basin integration. Romania connects international cooperation to SDG partnerships, development assistance, the Danube and Black Sea regions. Poland concentrates on the development of border areas and their integration with domestic and European networks. Slovakia frames cross-border cooperation as a practical tool for improving services, mobility, institutional capacity and the economic use of border location.

4. Neighbouring Countries and the Ukraine Dimension

Poland

The Polish strategy treats relations with neighbouring countries mainly through the territorial problems and opportunities of border regions. Areas along the external border of the European Union are described as peripheral and adjacent to less-developed regions. The strategy therefore calls for better connections to domestic growth centres, use of cross-border cooperation, support from European territorial and neighbourhood instruments, and openness of borders combined with security. It also envisages cross-border functional areas based on joint local or supralocal strategies and consultations with partners on the other side of the border.

Ukraine is not given a dedicated policy section. It appears in the economic diagnosis as an export market that had been among the second- or third-most important destinations for several Polish regions in 2007 but had lost relative importance by 2016 as EU markets became dominant. Ukraine is therefore present mainly indirectly: through Eastern Poland, the external EU border, transnational transport corridors such as Via Carpatia, the proposed Carpathian macroregional strategy and the general framework for cross-border development. The document's emphasis is on

reducing peripheral status rather than defining a bilateral Polish-Ukrainian development agenda.

Slovakia

Slovakia 2030 contains a specific category for regions, cities and municipalities in border and cross-border territories. It proposes joint strategies and institutional structures for regional and local cross-border cooperation, the use of resources and demand on both sides of a border, cross-border public transport, linked emergency and rescue services, improved legal and administrative cooperation, stronger citizen-to-citizen and institutional relations, and cooperation in border management, migration, cultural heritage and green infrastructure.

The document does not name Ukraine or any other neighbouring state in this section. Consequently, the Slovak-Ukrainian border is covered implicitly rather than through a country-specific programme. The strategic logic is functional and symmetrical: every border should become a development asset, and neighbouring regions should combine resources and services. Ukraine receives no separate geopolitical, trade or reconstruction perspective in the text.

Hungary

Hungary's concept contains the most detailed and politically explicit treatment of neighbouring countries. It presents the Carpathian Basin as a natural geographical, ecological, economic and cultural unit and calls for cross-border regions, renewed functional catchment areas, improved accessibility, economic cooperation and stronger links with Hungarian communities living in neighbouring states. It also situates Hungary within the Visegrad and Danube regions and seeks a stronger Central European hub role for Budapest and regional cities.

Ukraine is explicitly identified, together with Russia and the Balkans, as a priority direction for opening toward non-EU European markets. The stated aims are broader trade, deeper sectoral cooperation, participation in modernisation programmes and the use of growth opportunities by Hungarian companies. The concept also provides a concrete diagnosis of the Hungarian-Ukrainian border region: an unbalanced economic structure, weak innovation, high unemployment in some areas, a large agricultural share, inadequate transport and environmental infrastructure, but also tourism, labour and east-west transit potential. It highlights the Zahony-Chop-Cierna nad Tisou area as a possible three-country logistics node and advocates closer links from Nyiregyhaza toward Transcarpathia and Mukachevo.

This is also connected to Hungary's national-policy perspective. The strategy treats Hungarian communities beyond the state border as potential bridges for cultural, educational, business and public-service cooperation. It therefore links cross-border economic development with the preservation of identity and institutions. Among the four documents, Hungary gives Ukraine the broadest combination of economic, territorial, transport and community-related attention.

Romania

Romania addresses neighbouring countries through international partnerships, development assistance, cross-border infrastructure and shared ecosystems. The Republic of Moldova receives the strongest bilateral emphasis: Romania is described as its principal aid donor from 2013 and main economic partner from 2014, with cooperation in justice, anti-corruption, chambers of commerce, education, public institutions, local government and civil society. Serbia and Ukraine are listed among the main recipients of Romanian development assistance, while Bulgaria and other Danube and Black Sea states appear in environmental and regional cooperation.

Ukraine is explicitly mentioned in two practical contexts. First, it is a beneficiary of Romanian official development assistance. Second, Romania reports a 2018 arrangement with Ukraine to harmonise the prohibition period for sturgeon fishing on the shared Danube border area, following a similar arrangement with Bulgaria. The wider strategy also supports modern and sustainable regional and cross-border infrastructure, cooperation with upstream Danube countries, and the involvement of Black Sea countries in responsible resource management. Romania's Ukraine dimension is therefore narrower than Hungary's but more concrete than the Polish and Slovak references, focusing on development cooperation and shared environmental governance.

Comparative Assessment of the Ukraine Dimension

The four documents reveal a clear hierarchy of attention. Hungary provides the most extensive Ukraine-specific territorial and economic analysis. Romania includes Ukraine in targeted development-assistance and Danube-management measures. Poland provides an important framework for eastern border development and cross-border functional integration, but Ukraine itself is only briefly named. Slovakia offers a sophisticated generic model for border cooperation that applies to Ukraine without naming it.

The limited treatment of security, refugees, reconstruction and supply-chain reorientation is explained by the publication dates. The strategies were written before 2022, when Ukraine was primarily viewed as a neighbouring market, a partner in border-region development, an aid recipient or a participant in environmental cooperation. For future revisions, the common strategic themes most relevant to Ukraine would be resilient transport and energy connections, customs and border capacity, cross-border public services, environmental management, humanitarian and social integration, business and labour-market links, and preparation for reconstruction and European integration.

5. Overall Assessment and Conclusions

The four strategies belong to a common Central and Eastern European development tradition: they seek convergence with more developed EU economies while reducing internal territorial and social disparities. They all combine competitiveness, public services, environmental sustainability and stronger institutions, and all recognise

that national development depends on regional and local capacity. Their differences arise primarily from institutional purpose and historical context rather than from fundamentally opposing objectives.

Poland offers the strongest model for targeted regional intervention and multi-level implementation. Slovakia presents the most explicit synthesis of sustainable development, community well-being and integrated territorial governance. Hungary provides the broadest national and macroregional vision, with distinctive emphasis on demographic renewal, the Carpathian Basin and cross-border Hungarian communities. Romania supplies the clearest SDG-based structure, with comprehensive social and environmental targets and a formal national system for sustainable-development coordination and reporting.

From the perspective of neighbouring countries, the strategies demonstrate four different models: border-region integration in Poland; functional cross-border service cooperation in Slovakia; macroregional, economic and national-community integration in Hungary; and international partnership, aid and shared-ecosystem management in Romania. Ukraine is most visible where the strategy itself has a strong external or macroregional dimension. **A future generation of strategies would need to combine these approaches and add resilience, security and reconstruction as core components of regional development policy.**

5.2.2 Comparative Analysis of Development Strategies in the EU-Ukraine Border Area to 2030 (Regional level)

Introduction

This report compares the development strategies and supporting analytical documents of seven regions situated in the wider Central European border zone adjoining Ukraine: Podkarpackie and Lubelskie in Poland; Szabolcs-Szatmár-Bereg in Hungary; the Košice and Prešov self-governing regions in Slovakia; and Satu Mare and Maramures counties in Romania. The analysis is based on ten uploaded documents because the Hungarian concept is divided into diagnostic and strategic volumes, while the Maramures strategy is supported by a separate diagnosis and project portfolio.

The documents are not identical in legal status, date, scope or level of operational detail. Podkarpackie and Lubelskie are full regional strategies to 2030. Szabolcs-Szatmár-Bereg combines a detailed situation assessment with a proposal-oriented development concept. The Košice file contains the introduction, analytical section, SWOT analysis and environmental assessment of a programme for 2023-2027 with an outlook to 2030, but not the complete final intervention framework. The Prešov document is a shortened version of the 2021-2030 programme and presents an updated integrated territorial strategy. Satu Mare is a synthetic county strategy, while the Maramures package includes the most complete combination of diagnosis, objectives, policies and projects.

The comparison examines strategic vision, economic transformation, human and social development, transport and accessibility, environmental transition, territorial

cohesion, governance and implementation. A separate chapter identifies similarities and differences. Another chapter reviews how each strategy treats neighbouring countries and cross-border relations, with particular attention to Ukraine. This chronological context is essential: most strategies were prepared before Russia's full-scale invasion in February 2022, whereas the revised Maramures material explicitly records the refugee and humanitarian consequences of the war.

Central finding: All seven regions regard border location as both a structural disadvantage and a development asset. Their common agenda is to convert peripheral position into connectivity, investment, tourism and institutional cooperation; however, the depth of Ukraine-specific planning varies substantially.

1. Scope and Strategic Architecture

Podkarpackie Voivodeship

The Podkarpackie 2030 strategy presents the region as an area of innovative and sustainable economic development that responsibly uses its internal potential, provides a high quality of life in all subregions, leads the development of Eastern Poland and participates actively in cross-border relations. This formulation links three ambitions: catching up within Poland, strengthening internationally competitive specialisations and turning the Ukrainian and Slovak borders into functional development resources.

Its strategic architecture is organised around four thematic areas: economy and science; human and social capital; infrastructure for sustainable development and the environment; and accessibility of services. A horizontal territorial dimension connects these themes to subregional needs, functional areas, cities and rural territories. The strongest economic elements are aviation and aerospace, automotive and electromechanical industries, information technologies, high-value food production, research and development, and circular-economy solutions.

The strategy is comparatively operational. It associates priorities with institutions, financing sources, monitoring indicators and territorial intervention. Its indicative allocation places the largest share of resources on infrastructure, sustainable development and the environment, followed by human and social capital and the knowledge-based economy. Cross-border transport, border-crossing capacity, logistics and the Carpathian macroregional perspective are integrated into the development model rather than treated as a marginal diplomatic topic.

Lubelskie Voivodeship

Lubelskie 2030 adopts a territorially balanced and functionally integrated model focused on quality of life. Its vision combines rational use of agricultural, environmental and cultural assets with creativity, research, innovation and partnership in governance. The region seeks to become a strategic producer of final

goods based on agricultural raw materials and a provider of health, leisure and tourism services in a safe and attractive environment.

The strategy has four main strategic goals: shaping the region's strategic agricultural resources; strengthening connections and functional systems; developing an innovative economy based on regional resources and potential; and strengthening social capital. This combination reflects Lubelskie's distinctive position as an agricultural border region with significant demographic decline, a dispersed settlement system and major eastward transport and customs functions.

Lubelskie provides one of the clearest territorial descriptions among the reviewed documents. It identifies national and regional strategic intervention areas, functional urban zones, permanently marginalised municipalities and border territories. Implementation is linked to programme and sectoral contracts, territorial agreements, European funds, Interreg and cooperation among the regional government, local authorities, universities, business and civil society.

Szabolcs-Szatmár-Bereg County

The two-volume Szabolcs-Szatmár-Bereg concept combines a broad diagnosis with a revised proposal for county development. Its three overarching goals describe an active county, a solidary county and an attractive county. These are translated into seven strategic goals: a competitive food economy; a green county; a proactive county; a skilled county; a developed regional centre; dynamic secondary centres and district service centres; and liveable rural areas with catching-up external peripheries.

The county's model is especially territorial. Nyiregyhaza is treated as the principal centre, while Kisvárda, Mátészalka, Nyírbator, Vásárosnamény and other district centres are assigned differentiated service and growth roles. External peripheries are not approached only as disadvantaged areas; they are also understood as territories whose historical markets, service catchments and transport relationships continue across the borders with Ukraine, Romania and Slovakia.

The strategy gives a major role to the food economy, agricultural modernisation, logistics, green infrastructure, skills and social catch-up. Its partnership framework includes public authorities, economic actors, universities, civil society, neighbouring counties and organisations engaged in border cooperation. This makes the document both locally granular and explicitly outward-looking.

Košice Self-Governing Region

The Košice document is primarily an analytical and SWOT foundation for the 2023-2027 economic and social development programme, with an outlook to 2030. It therefore offers a strong evidence base but does not provide the same complete final objective, financing and project hierarchy as the other full strategies. Direct comparison of implementation instruments must take this scope limitation into account.

The analysis depicts a region with a powerful metropolitan core, universities, research institutions, information-technology and robotics clusters, a large industrial

base, cultural assets and an international airport. At the same time, it records high unemployment and poverty in several districts, marginalised Roma communities, brain drain, weak road and bridge infrastructure, incomplete water and sewerage networks, insufficient broadband, health and social-service gaps, environmental burdens and marked internal disparities.

Košice's strategic significance is defined by its intersection of west-east and north-south corridors. The city and region function as a national transport, industrial and educational node, while the eastern part of the region connects Slovakia to Ukraine through road, conventional rail and broad-gauge freight infrastructure. The analytical document sees Hungary, Ukraine and Poland as nearby markets and tourism sources, but it remains more diagnostic than programmatic in defining bilateral cooperation.

Prešov Self-Governing Region

The Prešov programme defines a 2030 vision of a region that provides equal opportunities and broad possibilities for personal development, uses its internal potential wisely and supports the regional economy while ensuring sustainable resource use. Its main objective is to create conditions for balanced territorial development and a higher quality of life.

Four priorities structure the programme: an innovative and competitive regional economy; better living conditions; developed infrastructure and energy in a favourable environment; and strategic management for territorially balanced development. These priorities are implemented through six strategic objectives, twenty specific objectives and eight integrated project packages in the updated integrated territorial strategy.

The Prešov document is strongly implementation-oriented. It packages interventions across human resources, low-carbon and circular economy, transport, green development, communities, mobility and strategic management so that investments can be coordinated across sectors, places and time. Its border dimension is less country-specific than those of the Polish and Hungarian strategies, but intermunicipal, interregional and cross-border cooperation is included as an eligible component of smart and functional regional development.

Satu Mare County

The Satu Mare 2021-2030 synthetic strategy defines the county as an attractive area for living and tourism, with a high quality of life in a hospitable and sustainable environment and valuable opportunities for a competitive economy. Three key priorities support this vision: improving residents' quality of life; capitalising on tourism potential; and increasing economic competitiveness.

Five specific objectives provide the sectoral structure: a sustainable and resilient economy supported by innovative technologies; protection and valorisation of the natural and human environment, landscape and cultural heritage; improved territorial connectivity and basic infrastructure; high-performing health and education services with social inclusion and protection; and high-quality public services supported by consolidated administrative capacity.

The strategy is concise and project-oriented. It highlights the Satu Mare bypass, major water and wastewater investment, rail improvements, drainage and flood-management works, an industrialisation museum and the Satu Mare-Oar-Hungarian border express-road connection. Its development logic is strongly shaped by access to Hungary, Ukraine and the wider Carpathian transport space, although the flagship project list gives greater operational visibility to the Hungarian connection.

Maramures County

The Maramures package offers the most extensive documentation set in the comparison: a detailed situation analysis, a strategy revised in July 2022 and a separate project portfolio. Its vision for 2035 describes a stable and safe community in which innovative protection of the landscape supports a place of residence and a tourism and business destination of European importance. The 2030 targets emphasise public-private investment, high-value employment, functional and attractive local communities, multiculturalism and protection of a unique natural setting.

Four strategic objectives guide the county: transition toward an economy able to respond to current transformation and future challenges; decent living conditions and equitable personal-development opportunities through public infrastructure and services; lower emissions, biodiversity conservation and energy transition; and good governance with stronger local administrative capacity for development, territorial cooperation and partnership.

The strategy is translated into specific objectives, policies and programmes, while the portfolio assigns concrete project proposals to those programmes. Connectivity, tourism, public services, disaster management, environmental rehabilitation, energy efficiency and cross-border cooperation are all represented. Because the strategy was revised after February 2022, it also contains a direct account of Ukrainian refugee flows, volunteering, accommodation and humanitarian support - a feature absent from the earlier documents.

2. Cross-Cutting Thematic Comparison

Economic Transformation, Innovation and Business Development

All seven regions seek to raise productivity and move from low-value or resource-dependent activities toward innovation, digitalisation and more resilient business structures. Nevertheless, the starting points differ. Podkarpackie has the clearest advanced-industry profile, especially aerospace, automotive manufacturing and private-sector research. Košice combines heavy industry with a strong metropolitan information-technology and research ecosystem. Prešov is more focused on strengthening business competitiveness, investment readiness and labour-market access across a less industrially concentrated territory.

Lubelskie and Szabolcs-Szatmár-Bereg place agriculture and food processing closer to the centre of their development models. Lubelskie aims to convert high-quality agricultural resources into final products and larger value chains, while the Hungarian county identifies a competitive food economy as a strategic goal. In both

cases, the challenge is not simply to maintain agricultural production, but to improve processing, branding, innovation, logistics and market access.

The Romanian county strategies emphasise resilience, entrepreneurship and tourism more than sector-specific industrial specialisation. Satu Mare frames a sustainable economy supported by innovative technologies as one of five sectoral objectives. Maramures explicitly connects future competitiveness with better links to major markets, business-support infrastructure, digitalisation, a flexible workforce and a shift toward higher-value activities. Both counties see natural and cultural assets as economic resources, but Maramures develops this link through a more extensive policy and project architecture.

Demography, Human Capital and Social Inclusion

Demographic decline, ageing, outward migration and labour shortages are common concerns. Lubelskie, Prešov, Košice, Szabolcs-Szatmár-Bereg and the Romanian counties all face the loss of young and skilled people from peripheral and rural areas. The strategies consequently combine education, vocational training, labour-market adaptation, housing, healthcare and place attractiveness. The underlying assumption is that economic investment cannot be sustained unless regions retain residents and provide accessible services.

Social inclusion is particularly prominent in the Slovak and Hungarian documents. Košice records severe poverty, long-term unemployment and a high share of residents in marginalised Roma settlements in several districts. Prešov integrates social services, poverty reduction, health, education and inclusive communities within its second priority. Szabolcs-Szatmár-Bereg's 'solidary county' objective targets deep poverty and the catch-up of lagging territories. Lubelskie also treats depopulation and uneven service access as core territorial problems rather than only social-policy issues.

Satu Mare and Maramures connect quality of life with public infrastructure and services. Satu Mare's strategic objective covers health, education, inclusion and social protection, while Maramures links decent housing and equitable opportunity to education, health, social services, culture, youth and recreation. The Romanian documents place somewhat more emphasis on municipal utility networks and the physical quality of settlements; the Polish and Slovak documents more explicitly integrate social policy with territorial intervention and labour-market structures.

Transport, Logistics and Accessibility

Transport is the theme most directly shaped by the Ukrainian border. Podkarpackie and Lubelskie manage major road and rail crossing systems on the European Union's external border. Their strategies combine domestic accessibility with customs capacity, border services, logistics and international corridors. Podkarpackie highlights the Przemysl-Medyka area, the restoration and modernisation of rail links, border-crossing upgrades and the use of the Carpathian corridor. Lubelskie identifies Dorohusk, Hrebenne, Hrubieszow and other crossings as strategic gateways toward Ukraine and Belarus.

Szabolcs-Szatmár-Bereg treats the Zahony area as a major east-west logistics and transshipment node and connects border accessibility to regional growth axes toward Uzhhorod and Berehove. Košice's broad-gauge railway, the Košice-Cierna nad Tisou-Chop line and the road corridors toward Vysne Nemecke give the region a similar logistics function. However, the Košice document focuses more on existing infrastructure, constraints and market access than on a complete portfolio of cross-border interventions.

Prešov's most explicit international transport orientation is toward Poland, including the north-south corridor and future R4 connections. Ukraine is less visible in the shortened strategy even though the region borders it. Satu Mare identifies the E58 corridor, the DN1C and railway line 402 toward Halmeu and Ukraine, but its major flagship connection is the express road to the Hungarian M49. Maramures diagnoses inadequate connection with Ukraine, limited border-crossing capacity and the undersized Sighetu Marmatiei bridge, and includes road and rail cross-border proposals in its project portfolio.

Environment, Climate and Natural Heritage

Climate adaptation, biodiversity, water management, renewable energy and circular economy appear in every strategy. The environmental agenda is especially important because the border region contains the Carpathians, major river basins, protected areas and flood-prone territories. Environmental policy is therefore both local and transboundary: floods, river pollution, forest management and ecosystem corridors cannot be managed effectively by one jurisdiction alone.

Podkarpackie and Lubelskie balance conservation with tourism and renewable-energy development. Szabolcs-Szatmár-Bereg's 'green county' objective links nature protection, climate resilience, water management and liveability. Prešov combines climate adaptation, waste transformation, renewable energy and sustainable mobility. Košice records significant environmental burdens from industry and contaminated sites, while also identifying geothermal energy, protected areas and landscape tourism as underused assets.

The Romanian strategies give landscape and heritage particularly strong roles. Satu Mare's vision and objectives combine environmental protection with tourism, public-space quality and resilience. Maramures places landscape at the centre of its identity and economic vision, while its policies cover biodiversity, forestry, water, contaminated sites, floods, emergency infrastructure, renewable energy and cross-border risk-management programmes. Shared rivers, especially the Tisa, make cooperation with Ukraine directly relevant.

Territorial Cohesion and the Urban-Rural System

The strategies reject a purely sectoral model of development. They identify different territorial types and seek to connect urban centres with rural hinterlands and peripheral border zones. Lubelskie uses a polycentric model and strategic intervention areas. Podkarpackie applies a territorial dimension across thematic priorities. Prešov organises implementation through integrated territorial packages,

and Košice distinguishes the metropolitan core from weaker eastern, southern and rural districts.

Szabolcs-Szatmár-Bereg develops the most explicit hierarchy of centres and external peripheries. Its strategy seeks to strengthen Nyiregyhaza, energise secondary centres and use district towns to organise services for rural areas. It also treats former cross-border catchment centres such as Uzhhorod, Berehove, Satu Mare and Carei as relevant to present-day functional development. This historical-functional perspective is distinctive among the reviewed strategies.

Satu Mare identifies a county urban system centred on Satu Mare, with Carei and Negresti-Oas as secondary poles. Maramures integrates Baia Mare, Sighetu Marmatiei and smaller towns with differentiated rural microregions. Both Romanian strategies stress basic infrastructure and municipal service quality as prerequisites for territorial cohesion. The overall regional pattern is consistent: metropolitan or county centres possess innovation and services, while border and rural zones require improved accessibility, public services and locally adapted economic opportunities.

Governance, Financing and Monitoring

All strategies rely heavily on European Union cohesion policy, national programmes and multi-level governance. The strongest implementation systems are found in Podkarpackie, Lubelskie, Prešov and Maramures. The Polish strategies link objectives to territorial contracts, regional programmes, monitoring bodies and indicators. Prešov's integrated territorial strategy packages projects and financing into coordinated thematic and spatial interventions. Maramures combines policies with a separate project portfolio, enabling a direct line from diagnosis to investment proposals.

Szabolcs-Szatmár-Bereg provides a broad partnership and coherence framework, including municipal, economic, institutional and social working groups. Satu Mare is more compact, using action-plan tables and major projects to operationalise the vision. The Košice document is less comparable in this respect because the uploaded file stops at analysis and SWOT; it should be understood as a planning foundation rather than evidence that the region lacks an implementation system.

Cross-border programmes, especially Interreg, are recurring financial and institutional instruments. Lubelskie explicitly connects border development to the Poland-Belarus-Ukraine cooperation framework of the programming period in which the strategy was prepared. Maramures, Satu Mare and the Hungarian and Slovak regions also draw on cross-border and transnational cooperation mechanisms. The practical value of these instruments is highest where the strategy identifies concrete shared services, crossings, tourism products, disaster management or institutional partnerships.

3. Similarities and Differences

Principal Similarities

First, all documents combine competitiveness with cohesion. None assumes that growth in the main city will automatically solve peripheral problems. Each strategy includes some form of territorially targeted support for weak districts, rural areas, border communities or declining settlements. This is particularly visible in Lubelskie's strategic intervention areas, Podkarpackie's territorial dimension, Szabolcs-Szatmár-Bereg's external peripheries, Prešov's integrated packages and the internal disparity analysis of Košice.

Second, the strategies share a broad understanding of development. Economic growth is combined with education, health, social inclusion, culture, housing, public services, environmental quality and administrative capacity. Quality of life is both an objective and an instrument: regions must be attractive enough to retain workers, families, students, entrepreneurs and visitors.

Third, border location is interpreted ambivalently but consistently. It produces peripherality, slower accessibility, administrative barriers and weaker investment conditions, especially where the border is also the European Union's external border. At the same time, it creates opportunities for logistics, tourism, trade, labour-market cooperation, shared public services and international visibility. The strategies differ in emphasis, but all seek to transform the border from an edge into a gateway.

Fourth, the green and digital transitions are universal themes. Renewable energy, energy efficiency, circular economy, climate adaptation, nature protection, digital public services and business innovation appear across the documents. Their relative weight varies, but all strategies align regional development with the European Green Deal, cohesion policy and the 2030 sustainable-development framework.

Fifth, implementation is conceived as a partnership. Regional or county authorities are coordinators rather than sole delivery bodies. Local governments, ministries, universities, companies, civil-society organisations and cross-border partners are expected to participate. The documents also share a high dependence on European and national financing, making project preparation and administrative capacity strategic assets in their own right.

Table 44: Main similarities of the Regional level Development Strategies

Aspect	Common Characteristics
Development model	Competitiveness is balanced with territorial cohesion; targeted support for peripheral, rural and border areas.
Development concept	Economic growth is integrated with education, healthcare, social inclusion, housing, culture, public services, environmental quality and institutional capacity.
Border location	Borders are viewed both as constraints (peripherality, accessibility, external EU

	border) and opportunities (trade, tourism, logistics, labour markets, cooperation).
Green & digital transition	All strategies promote renewable energy, energy efficiency, climate adaptation, circular economy, digitalisation and innovation.
Governance	Implementation is partnership-based and strongly dependent on EU and national funding.

Source: Own edition

Principal Differences

The first difference concerns economic specialisation. Podkarpackie and Košice have the strongest advanced-industry and research profiles. Lubelskie and Szabolcs-Szatmár-Bereg give agriculture and the food economy a central strategic role. Prešov combines small and medium-sized business development, tourism and public investment. Satu Mare and Maramures use a broader resilience model in which tourism, services, natural assets, entrepreneurship and connectivity are more prominent than a narrowly defined industrial cluster strategy.

The second difference is the degree of territorial detail. Szabolcs-Szatmár-Bereg is the most explicit in reconstructing cross-border functional axes and assigning roles to named centres. Lubelskie is also highly territorial through intervention areas and border zones. Podkarpackie integrates territorial logic into a thematic strategy. Prešov relies on project packages, while Satu Mare and Maramures organise development through county-wide priorities, local projects and municipal systems. Košice offers detailed spatial diagnosis but, in the uploaded scope, not the complete final territorial intervention model.

The third difference is the level of operationalisation. Podkarpackie includes an indicative thematic financing distribution, Lubelskie has an extensive implementation framework, Prešov presents integrated project packages, and Maramures has a separate project portfolio. Satu Mare is concise but action-oriented. The Szabolcs-Szatmár-Bereg concept is strong on vision, hierarchy and coherence. Košice is analytically detailed but cannot be evaluated fully on final delivery mechanisms from the uploaded portion alone.

The fourth difference is the explicitness of cross-border policy. Podkarpackie, Lubelskie, Szabolcs-Szatmár-Bereg and Maramures embed neighbouring territories in specific development actions. Košice recognises Ukraine mainly through transport, logistics, market access and external-border constraints. Satu Mare includes concrete corridors and multinational Carpathian mobility cooperation but gives its Hungarian connection greater flagship prominence. Prešov includes cross-border cooperation as a horizontal implementation activity but offers little Ukraine-specific content in the shortened version.

The fifth difference is chronological. Most documents reflect the pre-2022 environment, in which Ukraine was viewed primarily as a market, transit partner, neighbouring region or participant in environmental and institutional cooperation. The Maramures revision is the exception: it records refugee flows after 24 February 2022, reception by volunteers, accommodation, donations and humanitarian convoys. This makes it the only reviewed strategy package that directly connects regional development capacity with the immediate social and humanitarian consequences of war.

Table 45: Main differences of the Regional level Development Strategies

Aspect	Key Differences
Economic specialisation	Podkarpackie and Košice emphasise advanced industry and R&D; Lubelskie and Szabolcs-Szatmár-Bereg prioritise agriculture; Prešov focuses on SMEs and tourism; Satu Mare and Maramureş adopt broader resilience models.
Territorial approach	Strategies vary from highly detailed territorial models (Szabolcs-Szatmár-Bereg, Lubelskie) to broader county-wide or thematic approaches.
Operationalisation	Different implementation mechanisms: financing allocations, implementation frameworks, project packages or project portfolios.
Cross-border policy	The scope and intensity of cross-border cooperation differ, particularly regarding Ukraine and neighbouring countries.
Chronological context	Most strategies reflect the pre-2022 environment, whereas Maramureş explicitly incorporates the impacts of the war in Ukraine and the refugee response.

Source: Own edition

4. Neighbouring Countries and the Ukraine Dimension

Podkarpackie: Ukraine and Slovakia as Strategic Neighbours

Podkarpackie borders Ukraine and Slovakia and gives both relationships a visible place in its development model. Ukraine receives the greater infrastructure and logistics emphasis because the border is part of the European Union's external frontier. The strategy lists multiple road and rail crossings and stresses the need to improve border infrastructure, supporting services and accessibility in crossing areas.

The Ukrainian relationship is expressed through concrete transport and economic measures: modernisation of rail links, possible restoration of passenger services toward Ukraine, stronger logistics around Medyka, Zurawica and Przemysl, improved phytosanitary and freight capacity, and the use of local border traffic and trade.

Przemysl is positioned as a major logistics and commercial gateway, while eastern subregions are expected to develop business links and services connected with cross-border movement.

The regional strategy also places cooperation in a wider Carpathian framework. It refers to the Carpathian Euroregion, the Carpathian Convention, Via Carpatia, the Three Seas perspective and a potential Carpathian macroregional strategy. Slovakia appears mainly through transport, tourism, natural heritage and mountain cooperation, while Ukraine combines these themes with the special administrative and economic implications of an external EU border.

Lubelskie: A Dedicated Cross-Border Development Objective

Lubelskie borders Ukraine and Belarus. Its strategy contains one of the clearest dedicated cross-border intervention frameworks in the comparison. It recognises that adjacency to less-developed non-EU regions and the relatively closed nature of the external border can deepen peripherality. The response is to improve border crossings, roads, railways, terminals, parking and services while simultaneously expanding social, cultural, environmental and institutional cooperation.

Ukraine is central to the region's eastward transport function. The strategy records the large share of Polish-Ukrainian road and rail traffic handled in Lubelskie and highlights major crossings such as Dorohusk, Hrebenne, Hrubieszow and Dolhobyczow. It proposes cooperation in public safety, water and environmental management, education, labour-market development, tourism and shared cultural heritage, with Via Carpatia and other corridors strengthening the wider international role of the region.

The strategy supports the Euroregion Bug, the development of a Roztocze cross-border structure, Interreg cooperation and preparation of a cross-border cooperation strategy with neighbouring regions in Ukraine and Belarus. This is more comprehensive than a simple infrastructure agenda: it treats neighbouring territories as partners in a shared functional region, even while acknowledging the asymmetry created by the EU external border.

Szabolcs-Szatmár-Bereg: Reconnecting Historical Functional Areas

Szabolcs-Szatmár-Bereg directly borders Ukraine, Romania and Slovakia. Its strategy contains the most spatially detailed neighbour analysis. It identifies cross-border growth axes from Kisvarda and Zahony toward Uzhhorod, from Vasarosnameny toward Berehove, and from the county toward Satu Mare and Carei in Romania. The strategy explicitly argues that border accessibility determines whether the three-border location becomes a development advantage.

Ukraine is linked to the Záhony transshipment and logistics system, Helsinki Corridor V, tourism, labour markets, environmental cooperation and the functional reintegration of former catchment centres. The document calls for coordinated logistics development so that neighbouring facilities do not engage only in duplicative competition. It also proposes joint disaster and flood protection, monitoring and environmental management with Zakarpattia.

Romania is treated through cross-border public transport, labour-market coordination, joint tourism products and cooperation with Satu Mare County. Slovakia is present in the three-border geography and potential regional connections, though the most detailed bilateral messages are addressed to the Romanian and Ukrainian neighbouring regions. The strategy's distinctive feature is its understanding of borders as interrupted historical service, market and settlement relationships that can be reconstructed through modern cooperation.

Košice: External-Border Constraints and Eurasian Logistics

Košice Region borders Hungary and Ukraine. The analytical document identifies the Ukrainian border as an external border of the European Union and notes the specific restrictions that Schengen rules impose on cross-border relationships. At the same time, proximity to the markets of Hungary, Ukraine and Poland is listed as a strength, and the eastern development axis from Košice through Michalovce and Sobrance to Ukraine is part of the regional spatial structure.

Ukraine's strongest role is logistical. Road corridors lead toward Vysne Nemecke, the conventional railway connects Košice and Cierna nad Tisou with Chop, and the broad-gauge system links eastern Slovakia with Ukrainian and wider eastern freight networks. These assets support transshipment, industry and international trade, but the document also records incomplete higher-level road infrastructure and other bottlenecks that reduce their effective value.

Hungary is connected through the southward motorway and rail system and is a major nearby market and tourism source. Compared with Podkarpackie, Lubelskie and Szabolcs-Szatmár-Bereg, the Košice document offers less detailed bilateral programming. Ukraine is treated mainly as a transport direction, market and external-border condition rather than through a full set of joint institutions, services or projects.

Prešov: Poland More Explicit than Ukraine

Prešov borders both Poland and Ukraine. The strategy's geographic profile acknowledges these relationships, but the shortened document gives more explicit transport attention to Poland, including the north-south corridor and planned R4 connection. Poland is also a significant tourism market and natural partner in Carpathian development.

Ukraine is named as the eastern neighbour, yet the programme does not develop a dedicated Ukrainian policy section. Cross-border cooperation appears as a horizontal activity within smart-region development, community partnerships and integrated territorial implementation. This means the strategy provides an institutional opening for Ukrainian cooperation without defining a detailed bilateral agenda.

The limited explicitness should not be interpreted as absence of cross-border potential. Prešov's eastern districts, transport links, Rusyn cultural heritage, tourism and service systems create practical fields for cooperation. Nevertheless, among the reviewed regions, the uploaded Prešov document has one of the least developed Ukraine-specific narratives.

Satu Mare: Ukraine as a Corridor, Hungary as the Flagship Connection

Satu Mare borders Hungary and Ukraine. The strategy shows the county as part of a Carpathian transport space in which European road E58 and national road DN1C connect through Halmeu toward Ukraine. The northern section of railway line 402 links Carei, Satu Mare and Halmeu with the Ukrainian border. These links position the county as a potential transit and logistics territory between Central Europe, Ukraine and Moldova.

The strategy also refers to a small-aviation cooperation project for mobility of people and goods in the Carpathian region involving Romania, Ukraine, Hungary and Slovakia. This is a concrete example of multinational functional cooperation beyond conventional road and rail infrastructure. Ukraine is therefore present through border connectivity and regional mobility rather than through an extensive bilateral policy framework.

Hungary receives the more visible flagship intervention: the Satu Mare-Oar express-road connection to Hungary's M49, together with established road and rail crossings. The contrast is analytically important. Satu Mare recognises Ukraine as a strategic direction, but the project hierarchy reflects stronger immediate integration with the EU internal market through Hungary.

Maramures: Infrastructure, Shared Risks and the Humanitarian Border

Maramures has a long border with Ukraine, partly terrestrial and partly formed by the Tisa River. The diagnosis lists road and rail crossing points, while noting that only the Sighetu Marmatiei-Solotvino road crossing was operational at the time and that rail services had been suspended. It identifies weak connectivity with Ukraine and the undersized bridge at Sighetu Marmatiei as major constraints, while also referring to efforts to open additional crossings.

The development response is broad. The strategy supports cross-border agreements and projects, joint risk management, emergency services, environmental monitoring and territorial cooperation. The portfolio includes road and rail cross-border connections at Campulung la Tisa and a cross-border mountain-rescue service network involving Maramures, Satu Mare and partner territories. Previous projects with Solotvino and the Transcarpathian region demonstrate an established institutional base.

Maramures is unique in this comparison because the revised material records the effects of the war after 24 February 2022. It describes the large flow of Ukrainian refugees through Sighetu Marmatiei, assistance by volunteers, reception and accommodation arrangements, donations and humanitarian convoys into Ukraine. Thus, the border is not only an economic and environmental interface but also a humanitarian and public-service responsibility requiring local administrative capacity and social mobilisation.

Comparative Interpretation of the Ukraine Dimension

The strategies can be grouped into four models. Podkarpackie and Lubelskie represent the external-gateway model, where crossings, customs, logistics and international corridors dominate. Szabolcs-Szatmár-Bereg represents a functional-reintegration model, reconnecting historical markets, centres and public-service catchments across the border. Košice and Satu Mare represent a corridor-and-market model, with Ukraine visible mainly through transport and logistics. Prešov provides a generic cooperation model with limited country-specific detail. Maramures combines all these elements with a post-2022 humanitarian and resilience dimension.

Table 46: Comparative Interpretation of the Ukraine Dimension

Model	Regions	Main Characteristics
External-Gateway Model	Podkarpackie, Lubelskie	Ukraine is primarily viewed through border crossings, customs infrastructure, logistics, freight transport, and international transport corridors. The external EU border is interpreted as both a strategic challenge and an economic gateway.
Functional-Reintegration Model	Szabolcs-Szatmár-Bereg	Development focuses on reconnecting historical cross-border functional areas, including markets, urban centres, public services and labour-market relations that existed before the establishment of the current state border.
Corridor-and-Market Model	Košice, Satu Mare	Ukraine is considered mainly in terms of transport corridors, logistics, market accessibility and international connectivity. Cross-border cooperation is predominantly economically and infrastructurally oriented.
Generic Cooperation / Resilience Model	Prešov; Maramureş	**Prešov:** generic cross-border cooperation with limited Ukraine-specific content. **Maramureş:** combines gateway, functional reintegration and corridor elements while uniquely incorporating the humanitarian, refugee and regional resilience impacts of

		the post-2022 war.

Source: Own edition

Publication date strongly shapes the content. The pre-2022 strategies do not address refugee reception, wartime supply chains, reconstruction or Ukraine's accelerated European integration. Maramures begins to bridge this gap, but even there the long-term reconstruction agenda is not yet fully developed. Future revisions should therefore add resilient border infrastructure, energy and digital interconnection, emergency and health cooperation, educational integration, labour-market pathways, business participation in reconstruction, environmental recovery and institutional preparation for Ukraine's deeper integration into European structures.

5. Overall Assessment and Conclusions

The seven regional strategies share a coherent Central European development agenda: reduce internal disparities, raise productivity, retain population, modernise public services, improve accessibility and protect natural and cultural assets. Their border location intensifies these tasks. Distance from national cores and administrative barriers create structural disadvantage, yet the same geography offers logistics, tourism, trade and cooperation opportunities that inland regions do not possess.

The Polish strategies provide the most complete integration of Ukraine into regional transport and cross-border policy. Podkarpackie is especially strong on logistics, Carpathian networks and industry, while Lubelskie has the clearest dedicated cross-border operational objective. Szabolcs-Szatmár-Bereg offers the most detailed functional-spatial reading of neighbouring regions and the strongest effort to reconnect historical catchments. Košice has exceptional Eurasian logistics assets, but the uploaded analytical document does not yet translate them into an equally detailed final bilateral programme.

Prešov's approach is integrated and implementation-oriented but comparatively generic toward Ukraine. Satu Mare identifies Ukrainian corridors and multinational Carpathian mobility, while prioritising stronger immediate connection to Hungary. Maramures combines infrastructure, environmental and institutional cooperation with the only explicit account of the post-2022 refugee and humanitarian situation.

The most transferable lessons are also complementary. From Poland comes strong border infrastructure and territorial programming; from Hungary, functional cross-border spatial planning; from Slovakia, integrated territorial packages and metropolitan-regional coordination; and from Romania, project portfolios, shared risk management and humanitarian adaptation. A future common border-region agenda should combine these strengths rather than treat each national frontier separately.

In practical terms, the Ukraine-facing regions would benefit from a coordinated macroregional investment pipeline covering border crossings, rail gauge and transshipment systems, road corridors, digital and energy connections, emergency services, flood and river-basin management, tourism routes, education and labour mobility.

Such cooperation would convert the current patchwork of regional initiatives into a more resilient development system capable of supporting both local cohesion and Ukraine's recovery and European integration.

While cross-border cooperation has been present along the EU–Ukraine frontier for several decades, its overall intensity has remained relatively limited. Regional partnerships have largely developed on a project-by-project basis, with cooperation primarily driven by the funding opportunities offered through successive Interreg and other European Territorial Cooperation programmes rather than by a common long-term strategic vision. Consequently, collaboration has often been fragmented, temporary and confined to specific sectors or individual projects, without generating a coherent macroregional development framework.

In light of the profound geopolitical changes brought about by Russia's aggression against Ukraine and the country's European integration process, this fragmented approach is no longer sufficient. The EU regions bordering Ukraine should increasingly be recognised as a single strategic economic area representing the European Union's eastern gateway. Their shared geographical position, transport functions, economic structures and common development challenges justify treating them as one functional development region within EU cohesion policy. Accordingly, dedicated support programmes should be designed to promote stronger interregional cooperation, joint strategic planning and integrated investment across these border regions. Such programmes should also facilitate the strengthening of economic ties with Western Ukraine by supporting cross-border business networks, logistics and transport infrastructure, innovation partnerships, labour mobility, research and education cooperation, and investment initiatives. A coordinated macroregional approach would enhance the competitiveness and resilience of the EU's eastern border regions while simultaneously contributing to Ukraine's economic recovery, gradual integration into the European Single Market and long-term regional stability.

5.3 Comparative Analysis of Urban Development and Spatial Strategies in the EU–Ukraine Border City Network to 2030 (Settlement level)

Introduction

This report compares six municipal development and spatial-planning documents from the wider Central European urban network adjoining the European Union's eastern border: **Rzeszów and Lublin** in Poland, **Košice** in Slovakia, **Nyíregyháza** in Hungary, and **Satu Mare and Baia Mare** in Romania. The cities differ in size, legal and administrative position, distance from the Ukrainian border and economic structure, yet all operate within a shared Carpathian and East-Central European space shaped by European integration, cross-border mobility and uneven territorial development.

The documents are not directly equivalent. The Rzeszów and Košice files are statutory or quasi-statutory spatial planning instruments that regulate long-term land use, infrastructure corridors and the functional structure of the city. Lublin 2030 is a broad, participatory city-development strategy. Nyíregyháza, Satu Mare and Baia Mare use the integrated sustainable urban development format associated with the 2021–2027 European programming period and combine diagnosis, strategic objectives, project pipelines, implementation arrangements and monitoring.

The comparison therefore distinguishes between strategic intent and planning authority. A regulatory land-use plan can be more precise about corridors, protected areas and development zones, but less detailed about social programmes or institutional partnerships. Conversely, an integrated development strategy may provide a rich portfolio of projects and measurable targets while relying on separate planning instruments to secure land and infrastructure. These differences are treated as part of the analysis rather than as weaknesses.

The chronology is also important. Lublin's strategy was prepared in 2021 and Nyíregyháza's in early 2022, largely before the consequences of Russia's full-scale invasion of Ukraine could be incorporated. Rzeszów's 2023 study explicitly records the city's new role as a humanitarian, military-support and logistics hub. Košice's 2025 plan reflects the most recent planning framework, although its references to Ukraine remain primarily infrastructural. The Romanian strategies focus on cross-border accessibility and European transport integration rather than on post-war reconstruction.

CENTRAL FINDING: The six cities share a strong commitment to liveability, green transition, functional urban areas and improved connectivity, but they assign very different meanings to eastern border proximity. Rzeszów treats Ukraine as an immediate humanitarian and geopolitical reality; Košice as a major multimodal corridor; Lublin as an academic and institutional gateway; Nyíregyháza as part of a Carpathian city network; and Satu Mare and Baia Mare mainly as transport, freight and regional-development opportunities constrained by incomplete infrastructure.

1. Scope and Strategic Architecture

Rzeszów

The Rzeszów study establishes a spatial framework for a rapidly growing regional capital and metropolitan core. Its central ambition is a well-organised, multifunctional and environmentally resilient city that offers high-quality living conditions while strengthening its role as the principal social, economic and cultural centre of Podkarpackie. The document gives particular attention to the relationship between the compact city, newly incorporated former rural areas, the Rzeszów Functional Area and the wider European transport system.

Its planning logic prioritises the reuse and intensification of already urbanised land, the limitation of uncontrolled suburbanisation, the creation of a coherent hierarchy of service centres and the protection of river valleys and open landscapes. Public-space quality, blue-green infrastructure, climate resilience and a stronger relationship between the city and its river system are treated as structural elements rather than decorative additions. Transport and technical infrastructure are integrated with the functional-spatial model.

Rzeszów also has the most explicit post-2022 geopolitical dimension in the sample. Its location near both Ukraine and Slovakia, the Rzeszów–Jasionka airport, the A4 corridor and Via Carpatia support a logistics economy whose importance expanded dramatically after the invasion. The study recognises that the city became the principal logistics centre for humanitarian and military assistance to Ukraine and may acquire a significant role in future reconstruction.

Lublin

Lublin 2030 is the most explicitly civic and participatory document. Its vision presents Lublin as a medium-sized Polish and European metropolis distinguished by higher education, culture and a modern economy, while remaining green, welcoming, inclusive and suitable for every stage of life. Its mission is to create the best possible place to live, learn, work and rest, guided by hospitality, openness to diversity, readiness for change, local identity and respect for nature.

The strategy is organised around five complementary development areas: a creative, academic and entrepreneurial city; a green and spatially balanced city; an open, multigenerational and socially engaged city; a creative, active and hospitable city; and a metropolitan city. Twelve more detailed strategic areas translate these themes into education, international academic functions, innovation, entrepreneurship, neighbourhood quality, social participation, culture, tourism and metropolitan cooperation.

The document's distinctiveness lies in its emphasis on knowledge, identity and social legitimacy. Its vision and mission were informed by a long consultation process involving approximately 13,000 residents. Ukraine appears through Lublin's academic and local-government relations, foreign-student market, eastern transport

connections and established position as a Polish centre of cooperation with Ukrainian institutions, rather than through a border-security or reconstruction lens.

Košice

The Košice land-use plan is the most technically regulatory document in the comparison. It defines the future functional structure of the city, the use and protection of land, transport and utility corridors, environmental systems and the relationship between Košice and the Košice–Prešov agglomeration. Its central planning principles are spatial order, continuity, efficient use of existing infrastructure and protection of open landscape.

A major objective is to curb outward expansion and redirect growth toward underused urban land, brownfields and transformation areas, especially along the Hornád corridor. The plan strengthens public transport, walking and cycling, expands accessible parks and green infrastructure, protects agricultural and forest land and incorporates flood-risk and climate-adaptation requirements. These choices reflect both environmental objectives and the high cost of dispersed urban form.

Košice's cross-border role is expressed primarily through transport geography. The plan protects and develops east–west and north–south European corridors linking Poland, Hungary, Romania and Ukraine. It explicitly identifies road and rail routes toward Vyšné Nemecké, Čierna nad Tisou and the Ukrainian border, international combined-transport terminals and the broad-gauge rail connection. Ukraine is therefore embedded in the physical structure of the plan.

Nyíregyháza

Nyíregyháza's Sustainable Urban Development Strategy defines the city's 2030 ambition as a modern, liveable, sustainable and vibrant regional centre. Its strategic system combines three overarching objectives—higher incomes and a value-creating economy, a healthy and cohesive society, and a sustainable and attractive environment—with horizontal commitments to digitalisation, smart-city development and the green transition.

Seven strategic objectives cover local economic stability, science and skills, higher education and innovation, human services, sustainable mobility, culture and tourism, the natural and built environment, and the retention of young people. The strategy is comparatively implementation-oriented: it links the goals to interventions, action areas, functional-urban-area cooperation, monitoring, financing and green and digital transition roadmaps.

Its geopolitical narrative is unusually clear. Szabolcs-Szatmár-Bereg borders Slovakia, Ukraine and Romania and is described as the eastern gateway of the European Union. Nyíregyháza is positioned within a ring of regional cities—Košice, Uzhhorod, Oradea, Debrecen and Miskolc—and seeks to intensify economic, environmental and institutional cooperation across borders. Nevertheless, its operational projects are still more strongly city-regional and Hungarian–Romanian than directly Ukrainian.

Satu Mare

Satu Mare's Integrated Urban Development Strategy is structured around a concise 2030 vision: a multicultural, green regional urban centre that is attractive to residents, investors and tourists and is well connected to European transport infrastructure. The document translates this into three strategic objectives: a resilient city supported by modern environmental and utility infrastructure; a territorially connected city served by safe, inclusive and low-impact transport; and a creative, innovative city supporting a skills-based economy.

The strategy combines urban regeneration, green and public-space improvements, education and social infrastructure, sustainable mobility, digital administration and energy neutrality. Its project portfolio and prioritisation mechanism make it more operational than a conventional vision document. Multicultural identity is treated as an economic and social resource, not only as a heritage issue.

Satu Mare's neighbouring-country dimension is strongly transport-led. The city is close to both Hungary and Ukraine, with Petea and Halmeu serving as important cross-border nodes. The strategy highlights express-road links toward Hungary and the Nyíregyháza–Satu Mare–Baia Mare axis, while the Ukrainian direction is associated particularly with rail freight, the Halmeu crossing and the E58 corridor. In investment terms, the Hungarian connection is more mature and prominent.

Baia Mare

The Baia Mare strategy is framed at the scale of the functional urban area rather than the municipality alone. Its vision is a collaborative, economically efficient and inclusive urban region that uses local resources more effectively, reduces environmental pressure and completes a green transition from the legacy of mining and metallurgy toward tourism, innovation, culture and cleaner forms of production.

The strategic system combines tourism and urban attractiveness, metropolitan and interurban transport, economic competitiveness, quality of life, environmental remediation and social inclusion. Brownfield transformation, decontamination, energy-efficient buildings, green-blue systems, public transport and cultural heritage are central. The plan is supported by a detailed action portfolio, which makes the relationship between vision and implementation particularly visible.

Baia Mare is situated approximately 67 kilometres from the Sighetu Marmaţiei border crossing and is presented as a potential transit and logistics hub between the Romanian interior, Hungary and Ukraine. However, the document also demonstrates that this potential is underused because the region remains peripheral to the core TEN-T network and lacks high-quality continuity toward the Ukrainian border. Its principal transport projects concentrate on the Baia Mare–Satu Mare–Hungary corridor and regional connections, with the Ukraine-facing route remaining a longer-term opportunity.

Table 47: Summary of city documents.

City and document	Dominant strategic profile	Neighbouring-country and Ukraine profile
Rzeszów spatial study, 2023	Metropolitan spatial order, compact growth, logistics, blue-green infrastructure and long-term land-use coordination.	Very high and current: Slovakia and Ukraine shape the city's European position; Ukraine is also a humanitarian, military-support and reconstruction issue.
Lublin 2030 strategy, 2021	Participatory, academic, cultural, entrepreneurial and inclusive metropolitan development.	High institutional and educational relevance; Ukraine appears through universities, municipal cooperation and the Dorohusk transport corridor.
Košice land-use plan, 2025	Regulatory spatial restructuring, brownfield reuse, landscape protection and multimodal corridor planning.	Very high infrastructural relevance: road, standard-gauge and broad-gauge rail links to Ukraine; Hungary and Poland form the other principal axes.
Nyíregyháza FVS, 2022	Integrated green, digital, economic and social transition with a functional-urban-area delivery model.	Strategic gateway role toward Ukraine and Romania; cross-border city-network and environmental cooperation are emphasised.
Satu Mare SIDU, 2023–2030	Multicultural, green, resilient and well-connected urban centre with a prioritised project portfolio.	Dual Hungarian–Ukrainian border position; Hungary dominates express-road investment, while Ukraine is important for Halmeu rail freight and E58 accessibility.
Baia Mare FUA strategy, 2030	Post-industrial green transition, metropolitan cooperation, heritage, tourism, remediation and inclusive	Ukraine is a nearby but weakly connected northern direction; Hungary and Satu Mare are more immediate in

	services.	the investment pipeline.

Source: Own edition

2. Cross-Cutting Thematic Comparison

2.1 Urban Form, Spatial Structure and Functional Areas

All six documents reject uncoordinated urban expansion, although they use different instruments. Rzeszów and Košice address the issue most directly through spatial regulations: both seek to concentrate development within existing urban structures, reuse underdeveloped land, coordinate infrastructure and protect landscape systems. Their concern is not only environmental. Compact form is presented as a condition for affordable services, efficient mobility and a legible hierarchy of urban centres.

Lublin expresses the same direction through the language of neighbourhood quality, green urbanism and metropolitan balance. Nyíregyháza combines action areas and functional-urban-area coordination with a strong service-centre role. Satu Mare and Baia Mare use integrated urban-development concepts that connect municipal projects to wider urban zones, but their project portfolios remain more visible than the underlying land-use controls.

The functional urban area is a shared planning unit. Each city recognises that commuting, housing markets, utilities, transport and environmental systems extend beyond administrative boundaries. Rzeszów seeks coordinated development across its functional area; Košice links the city to the Košice–Prešov agglomeration; Nyíregyháza emphasises city-region work-sharing; Satu Mare and Baia Mare plan through urban functional areas; and Lublin treats metropolitan cooperation as one of five principal development fields.

The difference lies in the maturity of metropolitan governance. Baia Mare's document is explicitly prepared for a multi-municipal functional area, while Nyíregyháza and Lublin provide cooperation frameworks but retain a city-centred strategy. Rzeszów and Košice have the strongest spatial justification for intermunicipal coordination, yet implementation still depends on institutions outside the city plan itself.

2.2 Economy, Innovation, Higher Education and Skills

Knowledge-intensive development is universal, but the economic narratives differ. Lublin relies most clearly on universities, international students, culture and entrepreneurial ecosystems. It seeks to deepen the synergy between the city and higher-education institutions and to convert academic scale into research, innovation and high-quality employment.

Rzeszów combines advanced manufacturing, aviation, information technology and logistics. The city's spatial plan protects locations for productive and logistics functions, while the post-2022 context magnifies the value of the airport and warehouse economy. Košice builds on a large industrial base, university and service

functions, but its land-use plan focuses on the spatial prerequisites of economic restructuring—brownfields, transport terminals and development areas—rather than on sector-specific business programmes.

Nyíregyháza aims to stabilise the local economy, improve vocational and higher education, strengthen innovation and retain young professionals. Satu Mare places skills and innovation inside a broader attractiveness agenda for investors and residents. Baia Mare has the clearest transition narrative: it must move from the environmental and spatial legacy of mining and metallurgy toward tourism, creative functions, innovation, clean industry and the circular economy.

Across the sample, innovation is not presented as technology alone. It is connected to human capital, public administration, spatial quality and the ability to retain or attract residents. The major difference is the strength of the local economic anchor: Rzeszów and Košice have large metropolitan and industrial platforms; Lublin has academic scale; Nyíregyháza and Satu Mare depend more on diversified medium-sized-city functions; Baia Mare must simultaneously remediate and reinvent its productive base.

2.3 Demography, Social Inclusion and Quality of Life

Quality of life is the common political language of the six documents. Each links economic competitiveness to housing, services, public space, culture, health, education and environmental quality. None treats population growth as a sufficient measure of success. The preferred outcome is a city able to support children, working-age residents, students, older people and vulnerable groups.

Lublin is the most explicit about a multigenerational and diverse community and the social meaning of hospitality. Satu Mare and Baia Mare foreground multicultural identity and inclusion, including the need to improve access to services for disadvantaged communities. Nyíregyháza places youth retention, identity and social cohesion among its strategic goals. Rzeszów must manage rapid growth, migration and the uneven integration of former peripheral settlements.

Košice's spatial plan addresses social issues indirectly through accessibility, public-space provision, green infrastructure, transport and distribution of functions. This reflects the legal character of the document rather than an absence of social concerns. The contrast with Lublin is especially strong: Lublin's strategy begins from residents' aspirations, while Košice begins from land, networks and the long-term physical structure.

Migration is interpreted differently by location and date. Lublin and Nyíregyháza seek to attract and retain students and skilled young people. Satu Mare and Baia Mare connect attractiveness to reversing demographic decline and outmigration. Rzeszów additionally confronts the arrival of Ukrainian residents and refugees and the possibility that geopolitical change will alter long-term population and housing demand.

2.4 Transport, Accessibility and Logistics

Transport is the most consistent cross-border theme. All six cities seek better integration with European networks, stronger public transport and more sustainable local mobility. The common local agenda includes intermodal nodes, walking and cycling, reduced car dependence, safer streets and improved connections between the central city and its functional area.

The external-network agenda is more differentiated. Rzeszów is located on the A4 east–west axis and Via Carpatia and is supported by an international airport and cargo facilities. Košice sits at the intersection of east–west and north–south road and rail corridors and contains or connects to major international freight infrastructure. Lublin's principal eastern rail route runs through Chełm to the Dorohusk border crossing and forms part of the comprehensive TEN-T network.

Nyíregyháza's advantage is its central position within a ring of regional cities and access to several international airports, although some strategic road links remain incomplete. Satu Mare benefits from proximity to Petea and Halmeu but remains marginal to core TEN-T corridors; its flagship express-road projects are aimed westward toward Hungary. Baia Mare's connectivity deficit is even more visible: the strategy identifies substantial potential but also the absence of continuous high-standard links toward Ukraine and the Romanian core network.

This produces three transport profiles. Rzeszów and Košice are already strategic international nodes; Lublin and Nyíregyháza are strong regional gateways seeking deeper cross-border integration; Satu Mare and Baia Mare are peripheral nodes whose strategies are heavily dependent on future express-road, rail and intermodal investments.

2.5 Green Transition, Climate Resilience and Environmental Repair

Green transition is a universal objective and one of the strongest similarities. The six documents address climate adaptation, energy efficiency, renewable energy, air quality, sustainable mobility, biodiversity and green infrastructure. They also increasingly connect environmental action to urban attractiveness and public health.

Rzeszów and Košice provide the most spatially integrated ecological frameworks. River valleys, flood-prone areas, landscape continuity, parks and blue-green infrastructure shape the permitted urban structure. Lublin combines a green metropolitan vision with neighbourhood quality, water management and ecosystem protection. Nyíregyháza integrates green-transition actions with smart-city and service-modernisation goals.

The Romanian strategies are distinguished by the legacy of industrial and infrastructural deficits. Satu Mare stresses modern utilities, energy neutrality, public-space renewal and sustainable mobility. Baia Mare places decontamination, brownfield reuse and the ecological transformation of a former mining and metallurgical centre at the heart of its development model. Environmental repair is therefore both a public-health obligation and a precondition for new investment.

Cross-border environmental cooperation is most visible in Nyíregyháza's partnership with Satu Mare on air-quality measurement and pollution reduction. More generally, the documents show that water, air, biodiversity and climate risk cannot be managed effectively within administrative boundaries, but only a limited number of strategies convert this recognition into named international projects.

2.6 Governance, Participation, Financing and Monitoring

All six documents endorse integrated governance, but their implementation systems vary. Lublin has the most extensive participatory foundation and treats public dialogue as part of the city's development capacity. Nyíregyháza, Satu Mare and Baia Mare provide formal project pipelines, indicators, financing assumptions and monitoring arrangements consistent with European integrated urban-development practice.

Rzeszów and Košice derive strength from their statutory spatial-planning role. Their decisions can safeguard corridors, protect land and guide subsequent local plans and investments. However, many economic, social and cross-border objectives still require separate programmes, budgets and intergovernmental cooperation. Their implementation power is therefore strong in spatial matters but more indirect elsewhere.

The Romanian documents are particularly project-oriented. Satu Mare uses a prioritisation mechanism, while Baia Mare maps a large portfolio of investments and soft measures across the functional urban area. This increases transparency but also creates dependence on external funding, project preparation capacity and coordination among municipalities.

The shared governance challenge is horizontal coordination. Transport, housing, labour markets, environmental systems and cross-border relations cut across municipal departments and jurisdictions. The more successful strategies are those that connect a clear spatial model, a limited set of priorities, responsible institutions and a realistic pipeline rather than presenting separate sectoral wish lists.

3. Similarities and Differences

3.1 Principal Similarities

The first major similarity is the integration of competitiveness and liveability. Every city seeks investment, innovation and employment, but none defines success solely through economic growth. Public services, housing, culture, green space, mobility, safety and inclusion are treated as components of the same urban-development proposition.

Second, all documents use a territorial rather than purely sectoral approach. They recognise functional urban areas, metropolitan relations, commuting zones and the need to coordinate infrastructure beyond municipal boundaries. This is particularly important in medium-sized cities, where labour and service catchments are much larger than the administrative city.

Third, the green and digital transitions are mainstreamed. Climate resilience, energy efficiency, sustainable transport and green infrastructure appear across all six documents. Digitalisation is strongest in the integrated strategies, but even the spatial plans rely on data, smart management and more efficient infrastructure.

Fourth, connectivity is seen as a development resource. The cities are not peripheral in their own narratives; they are gateways, corridor nodes, metropolitan centres or cross-border intermediaries. This repositioning is central to the way eastern Poland, eastern Slovakia, north-eastern Hungary and north-western Romania seek to overcome distance from national economic cores.

Fifth, implementation is increasingly framed through partnership. Municipal governments are expected to work with surrounding communes, regional and national authorities, universities, businesses, civil society and European programmes. Even where named cross-border projects are limited, the documents assume that development cannot be delivered by the municipality alone.

3.2 Principal Differences

The most fundamental difference is legal and functional. Rzeszów and Košice are primarily spatial-planning documents: they define where and under what conditions development can occur. Lublin is a civic strategy centred on vision and priorities. Nyíregyháza, Satu Mare and Baia Mare are integrated development strategies that connect objectives to projects, finance and monitoring. Direct comparison must therefore distinguish planning precision from programme detail.

A second difference is the scale of ambition. Rzeszów, Lublin and Košice present themselves as metropolitan or transnational centres with broad higher-order functions. Nyíregyháza seeks to strengthen its role within a ring of regional cities. Satu Mare and Baia Mare concentrate more on regional accessibility, urban attractiveness and correction of structural deficits.

Third, economic transformation has different starting points. Rzeszów builds on advanced industry, aviation and logistics; Lublin on academic and cultural capital; Košice on industrial scale, services and brownfield restructuring; Nyíregyháza on diversified manufacturing and regional services; Satu Mare on cross-border accessibility, multicultural identity and a skills-based economy; and Baia Mare on post-industrial remediation and reinvention.

Fourth, the balance between internal and external connectivity varies. Rzeszów and Košice are already integrated into major international corridors. Lublin has a strong eastern rail gateway and metropolitan road network. Nyíregyháza has good regional positioning but several incomplete links. Satu Mare and Baia Mare depend most heavily on future infrastructure to convert geographic proximity into practical accessibility.

Fifth, Ukraine's role differs sharply. It is a lived geopolitical and humanitarian reality for Rzeszów, a long-standing institutional and academic partner for Lublin, a major transport destination for Košice, a strategic neighbouring market and city-network

node for Nyíregyháza, a freight and border-crossing direction for Satu Mare, and a nearby but weakly connected opportunity for Baia Mare.

Finally, the documents differ in temporal sensitivity. Strategies prepared before February 2022 discuss Ukraine through cooperation, education, markets and transport. Rzeszów's later study captures the abrupt transformation created by war. Košice's 2025 plan is recent, but because it is a land-use document, it still frames Ukraine mainly through long-lived corridors and infrastructure reservations.

Table 48: Main differences.

Dimension	Shared direction	Main source of differentiation
Strategic purpose	Improve quality of life and competitiveness through integrated urban development.	Regulatory land-use plan versus participatory strategy versus project-based integrated development programme.
Territorial model	Compact growth, stronger centres, functional urban areas and intermunicipal coordination.	Different maturity of metropolitan governance and differing control over land-use decisions.
Economy	Innovation, skills, entrepreneurship and attraction or retention of talent.	Advanced industry and logistics, academic economy, post-industrial transition or medium-city diversification.
Mobility	Sustainable urban mobility plus stronger European and cross-border connectivity.	Existing international node versus aspirational gateway dependent on future infrastructure.
Environment	Climate resilience, green infrastructure, energy efficiency and lower pollution.	Landscape protection in spatial plans versus remediation and utility modernisation in post-industrial cities.
Ukraine	Border proximity is recognised as a development factor.	Humanitarian hub, academic partner, rail corridor, regional market or underused border-access opportunity.

Source: Own edition

Taken together, the similarities show the convergence of European urban-policy language, while the differences reveal how strongly local geography and institutional capacity still shape implementation. The cities share the same broad destination, but

they start from different spatial structures, economic bases and levels of cross-border accessibility.

4. Neighbouring Countries and the Ukraine Dimension

4.1 Rzeszów: Ukraine as Immediate Geopolitical and Functional Reality

Rzeszów is approximately 90 kilometres from both the Ukrainian and Slovak borders. Podkarpackie directly adjoins the Lviv and Zakarpattia regions of Ukraine and the Prešov Region of Slovakia. The city's European accessibility is structured by the A4 motorway, rail line 91, Via Carpatia and Rzeszów–Jasionka Airport. It also participates in a dense network of partnerships with Ukrainian cities, including Chernihiv, Ivano-Frankivsk, Lviv, Lutsk, Truskavets and Uzhhorod, as well as Košice, Nyíregyháza and Satu Mare.

The invasion transformed these pre-existing relations. The study states that Rzeszów became the main logistics centre for humanitarian and military assistance and other forms of support to Ukraine. This role affects warehousing, cargo, airport functions, security, migration, public services and housing. The city is the only case in the sample where Ukraine is simultaneously a neighbouring country, a partner-city network, a logistics system, a humanitarian responsibility and a possible future reconstruction market.

4.2 Lublin: Academic, Institutional and Eastern-Gateway Cooperation

Lublin does not lie directly on the border, but its transport and institutional geography is strongly east-facing. Rail line 7 links the city through Chełm to the Dorohusk crossing and the Ukrainian network, and the broader corridor connects Poland toward Kovel and Lviv. The strategy identifies Lublin as a major Polish centre of local-government and university relations with Ukraine and as an important location for international education and the Lithuanian–Polish–Ukrainian military structure.

Ukraine is therefore associated with academic internationalisation, cultural exchange, municipal cooperation and metropolitan reach. Because the strategy predates the full-scale invasion, it does not address refugees, wartime logistics or reconstruction. Its importance lies in the institutional infrastructure that could support such roles: universities, international students, civic networks, cultural competence and established east–west transport links.

4.3 Košice: Ukraine as a Multimodal Transport and Logistics Direction

Košice occupies the most technically defined position in relation to Ukraine. The plan protects the Rhine–Danube and related east–west corridors toward Záhor, Čierna nad Tisou and Ukraine, as well as the E50 and E58 road routes through Vyšné Nemecké. Rail infrastructure includes the E40 axis, combined-transport terminals, the border freight station at Čierna nad Tisou and the broad-gauge line from Maťovce toward Košice.

Neighbouring-country relations are balanced by a north–south axis toward Poland and Hungary, including the future Via Carpatia connection toward Romania and Ukraine. The document does not develop a detailed social or cultural cooperation agenda with Ukrainian cities; its contribution is to reserve and coordinate the physical network through which future trade, passenger flows and reconstruction logistics could operate.

4.4 Nyíregyháza: Carpathian Gateway and Cross-Border City Network

Nyíregyháza's county borders Slovakia, Ukraine and Romania, and the strategy explicitly describes the area as the eastern gateway of the European Union. The city is situated within a regional ring formed by Košice, Uzhhorod, Oradea, Debrecen and Miskolc. This gives it a central position between internal EU borders, Schengen and non-Schengen relations and the EU's external border.

The strategy sees opportunities in cross-border labour markets, economic value chains, tourism, education and environmental cooperation. Its most concrete international example is the air-quality project with Satu Mare through the European Border Cities EGTC under the Hungary–Slovakia–Romania–Ukraine cooperation framework. Ukraine is strategically prominent, but the city's named projects demonstrate stronger institutional continuity with Romania and the wider Carpathian network than with a single Ukrainian partner.

4.5 Satu Mare: Dual Orientation toward Hungary and Ukraine

Satu Mare's geography is defined by proximity to Hungary and Ukraine. Petea provides a major western road crossing, while Halmeu is an important northern road and rail gateway whose freight function is especially significant. The city is linked to European routes including E81, E671 and E58, and the strategy identifies the Nyíregyháza–Satu Mare–Baia Mare connection as a strategic cross-border axis.

The investment hierarchy nevertheless favours Hungary. The Satu Mare–Oar express road and connection to the Hungarian motorway system are advanced flagship projects, whereas the Ukrainian direction depends on rail rehabilitation, border capacity and better links toward Halmeu. Ukraine is economically important, but it is framed mainly as a freight and accessibility issue rather than as a broad urban partnership agenda.

4.6 Baia Mare: Proximity without Full Connectivity

Baia Mare and Maramureș lie close to Ukraine, and the city is around 67 kilometres from the Sighetu Marmației crossing. The strategy refers to multiple crossings along the northern border and recognises that proximity to both Ukraine and Hungary creates the potential for a transit and logistics role. The DN1C/E58 system, the Sighetu direction and the planned high-speed links toward Satu Mare and Suceava form the basic external network.

Yet Baia Mare is the clearest example of geographic proximity not automatically producing functional integration. The strategy identifies peripheral TEN-T status,

incomplete road continuity and weak rail quality as obstacles. Its near-term project portfolio is concentrated on the metropolitan bypass, Baia Mare–Satu Mare links, rail modernisation and internal functional-area mobility. The Ukraine-facing express connection toward Sighetu is treated as a longer-term, post-2030 project.

4.7 Comparative Interpretation

The documents reveal a gradient of Ukraine-related engagement. Rzeszów represents immediate geopolitical integration; Lublin institutional and academic integration; Košice infrastructural integration; Nyíregyháza network-based strategic integration; Satu Mare freight-border integration; and Baia Mare potential integration constrained by missing links.

This gradient is partly geographical but also institutional. Distance matters, yet existing airports, rail terminals, universities, municipal partnerships and project-development capacity determine whether a border is experienced as an opportunity, a corridor or a barrier. Rzeszów's rapid transformation after 2022 demonstrates how previously planned infrastructure can acquire an entirely new strategic function.

For future coordination, the six cities could form a complementary network rather than competing gateways. Rzeszów and Lublin offer logistics, institutional and academic capacity; Košice provides rail and industrial connectivity; Nyíregyháza links the Hungarian, Slovak, Romanian and Ukrainian urban systems; and Satu Mare and Baia Mare can strengthen southern freight, tourism and reconstruction routes. The documents, however, do not yet present this six-city network as a shared strategic project.

5. Overall Assessment and Conclusions

The six documents demonstrate a broad convergence around integrated, sustainable and people-centred urban development. Their common priorities—compact urban form, stronger functional areas, green and digital transition, higher-quality services, innovation and sustainable mobility—provide a coherent basis for cross-border cooperation.

The strongest strategies are those that connect spatial structure to delivery. Rzeszów and Košice provide long-term clarity about land and networks; Lublin provides strong social legitimacy and a compelling knowledge-city narrative; Nyíregyháza, Satu Mare and Baia Mare offer structured intervention systems and project portfolios. Each model has a different strength, and the most effective future planning would combine all three: regulatory certainty, public legitimacy and implementation discipline.

The principal shared risk is that major external infrastructure projects remain outside municipal control. Express roads, international rail modernisation, border crossings and TEN-T inclusion depend on national governments, neighbouring states and European institutions. Municipal strategies can reserve land and prepare projects, but cannot independently deliver the cross-border accessibility on which many economic ambitions rely.

Ukraine's future will reshape the network. Reconstruction, trade reorientation, migration, energy security and security-related investment may increase the importance of all six cities, but not equally. Rzeszów is already performing a strategic role. Lublin and Košice possess institutional and transport assets that can scale rapidly. Nyíregyháza, Satu Mare and Baia Mare need more continuous infrastructure and stronger bilateral project pipelines to realise their geographic potential.

A common policy agenda would therefore prioritise interoperable rail and logistics systems, efficient border crossings, coordinated corridor investment, university and vocational partnerships, joint climate and river-basin projects, and a permanent city network for Ukraine-related recovery. Such cooperation would turn the eastern border from a collection of national peripheries into a connected Central European development zone.

5.4 Synergies for Innovation in Migration, Labour Markets and Cross-Border Economic Initiatives

The analyses indicate that there is little synergy between these fields and that they largely fail to address one another. Nevertheless, the existing linkages are described below. This conclusion is also supported by the graphical analysis presented in Chapter 5.1.

The development strategies of the EU–Ukraine border regions reveal strong interconnections between demographic change, migration, labour-market development, innovation and cross-border economic cooperation. Although these themes are often addressed separately in strategic documents, they form a closely interconnected development system. Population decline, ageing, outward migration and the loss of young and highly skilled residents reduce the economic potential of peripheral regions and contribute to labour shortages and growing territorial inequalities. Consequently, improving regional competitiveness depends not only on attracting investment, but also on retaining human capital, adapting education and training systems to changing labour-market needs and creating higher-quality employment opportunities.

Innovation plays a central role in addressing these challenges. Across the analysed regions and cities, innovation is understood more broadly than technological development alone. It includes cooperation between universities, vocational education institutions, businesses and public authorities, as well as digitalisation, entrepreneurial development and the creation of higher-value economic activities. Lublin seeks to transform its strong academic and international educational base into innovation and high-quality employment, while Nyíregyháza emphasises closer links between education, skills development, the local economy and the retention of young professionals. Similarly, Satu Mare and Maramureş connect economic resilience with

innovation, workforce adaptability, improved business-support structures and greater access to external markets.

Migration has different implications across the border regions. In many areas, the primary challenge remains long-term outmigration and the resulting loss of skilled and working-age residents. At the same time, international students, cross-border workers and, since 2022, Ukrainian refugees have created new forms of mobility that may influence regional labour markets and demand for housing, education and public services. The strategic responses therefore increasingly connect demographic resilience with regional attractiveness, social integration, employment opportunities and access to essential services. Rzeszów represents the clearest example of this transformation, as its role as a major humanitarian and logistics hub has increased migration-related pressures while simultaneously strengthening its international economic and institutional importance.

Cross-border cooperation can provide practical mechanisms for linking labour-market needs with innovation and economic development. Border regions may benefit from jointly identifying skill shortages, coordinating vocational and higher-education programmes, supporting labour mobility and improving cooperation among employers, educational institutions and public authorities. Such initiatives could broaden regional labour markets beyond national administrative boundaries and reduce the disadvantages associated with peripheral location. The development strategies also identify opportunities in shared business networks, logistics, tourism, research cooperation and cross-border value chains. Slovakia's national strategy, for example, promotes the joint use of resources, services and institutional capacities on both sides of borders, while the Hungarian approach emphasises the reconstruction of functional economic relationships and stronger cooperation among neighbouring regions.

Transport connectivity and border infrastructure remain essential foundations for these synergies. Improved road and railway connections, greater border-crossing capacity and more efficient logistics systems can facilitate labour mobility, trade and institutional cooperation. However, physical infrastructure alone is insufficient. Its economic impact depends on complementary investments in skills, innovation capacity, digital connectivity and cross-border governance. The most promising development model therefore combines improved accessibility with cooperation between regional authorities, universities, businesses, labour-market institutions and civil-society organisations.

Overall, migration, labour-market adaptation and cross-border economic initiatives should not be treated as separate policy fields. Their interaction may support more innovative, resilient and territorially integrated border regions. Future cooperation with Ukraine could further strengthen these synergies through joint training programmes, recognition of skills and qualifications, support for entrepreneurship, research and educational partnerships, and the integration of Ukrainian workers and businesses into cross-border economic networks. In the longer term, such cooperation could contribute both to the competitiveness of the EU border regions and to Ukraine's reconstruction and deeper integration into European economic structures.

6. Evaluating border regions' resilience and capacity[5]

METHODOLOGICAL NOTE: The assessment is based exclusively on the five partner governance papers supplied for Hungary, Poland, the Prešov and Košice self-governing regions of Slovakia, and Satu Mare County in Romania. The territorial planning presentations were deliberately excluded from this version. Budget figures refer mainly to 2024-2025, with a small number of 2026 references contained in the governance papers. Because the countries assign different responsibilities to municipalities, counties, regions and state institutions, absolute budget totals are not directly comparable.

The analysis therefore focuses on the relationship between competences, discretionary resources, development finance, planning instruments and the ability to act under changing conditions.

For the regions along the European Union's border with Ukraine, resilience is not limited to emergency management. It also refers to the ability of territorial institutions to maintain essential public services during a shock, mobilise financial and organisational resources, coordinate multiple levels of government, adjust plans and investment priorities, and convert short-term crisis responses into longer-term development capacity. Since February 2022, these functions have been tested by refugee movements, humanitarian and logistical demands, rising energy and service costs, changes in transport flows, security concerns and the growing strategic importance of Ukraine's future reconstruction and European integration.

Governance resilience is consequently shaped by several interacting factors. The first is fiscal capacity: the size and predictability of own-source revenues, the degree of discretion over expenditure, access to reserves and borrowing, and the capacity to

[5] Comparative assessment of governance capacity, financial autonomy and planning tools in the Hungarian, Polish, Slovak and Romanian regions adjacent to Ukraine

provide co-financing. The second is institutional capacity: whether the territorial level responsible for development also controls relevant public services and investment instruments. The third is planning capacity: the existence of legally embedded, operational and mutually consistent spatial and development plans. The fourth is multilevel and cross-border capacity: the ability to coordinate with central government, municipalities, civil society, neighbouring regions and Ukrainian partners. No single indicator is sufficient. A large budget may be largely earmarked, while a relatively small administration may still be effective if it has clear competences, strong partnerships and access to flexible external finance.

The four national systems display different combinations of these attributes. Poland has a broad three-tier self-government structure and a diversified set of financial instruments. Slovakia gives its NUTS 3 self-governing regions substantial service-delivery and development responsibilities. Romania combines meaningful county-level functions with strong central oversight and a high dependence on national redistribution and European funding. Hungary has a strong municipal level but a comparatively narrow and fiscally weak county self-government tier, with territorial development implemented through a mixture of county planning, central programmes, municipal action and project-based cooperation. These differences do not produce a simple ranking; rather, they create distinct resilience models, each with specific strengths and vulnerabilities.

6.1 Development Planning Framework

The Bridge2EastCE partner countries apply multi-level territorial development planning systems, combining national strategic frameworks with regional and local development and spatial planning documents. Although institutional arrangements differ, all systems aim to ensure coordinated territorial development, sustainable land use, and alignment with EU Cohesion Policy objectives. The following table provides an overview of the main planning documents and governance levels in each participating country.

Table 49: Development Planning Framework of Hungary, Poland, Slovakia,Romania and Ukraine

Country	National level	Regional level	Local level	Main characteristics
Hungary	National Development 2030 – National Development and Territorial Development Concept (OFTK) provides the overall strategic framework for territorial development. The National Spatial Plan regulates land use, infrastructure and spatial organisation.	Counties prepare Territorial Development Concepts, Programmes and Operational Programmes. Designated regions of national importance follow a similar planning framework. Additional EU-related documents include Integrated Territorial Programmes (ITP), Sustainable Urban Development Strategies (SUDS), climate strategies and SUMPs.	Municipalities prepare Development Plans (strategic) and Settlement Plans (spatial planning), complemented by sectoral plans (economic programmes, environmental plans, equal opportunity programmes).	Strong hierarchical planning system separating strategic development planning from statutory spatial planning while integrating EU-funded territorial development instruments.
Poland	National planning has recently shifted towards integrated development strategies. The former National Spatial Development Concept (KPZK 2030) is being replaced by the National Development	Voivodeships prepare Regional Development Strategies, including a Functional-Spatial Structure Model, alongside regional spatial plans. Functional areas and Integrated Territorial Investments	Municipalities prepare a legally binding General Plan, Local Spatial Development Plans (MPZP) and, where applicable, Integrated Investment Plans (ZPI).	Recent reforms focus on integrating development and spatial planning, strengthening coordination between governance levels and reducing fragmented land-use decisions.

	Concept 2050 (NDC 2050) and the National Development Strategy 2035 (NDS 2035), integrating spatial and development objectives.	(ITI/ZIT) strengthen inter-municipal cooperation.		
Slovakia	The strategic framework is provided by Slovakia 2030 (Vision and Development Strategy). National spatial planning is based on the Concept of Spatial Development of Slovakia (KURS), while a new national spatial plan (NKURS) is under preparation following the 2022 Spatial Planning Act.	Self-governing regions prepare Programmes of Economic and Social Development (PHSR), defining socio-economic priorities, investment planning and the use of EU funds in line with spatial planning documents.	Municipalities prepare PHSR strategies and local spatial plans consistent with regional and national planning documents.	Spatial planning and socio-economic development planning are closely linked. The recent reform introduced digital planning (URBION), greater legal certainty and stronger integration with EU priorities.
Romania	The National Territorial Planning Plan (PATN) establishes the national framework for territorial development. Regional development is further supported through the Regional Spatial Development Plan	Counties prepare County Territorial Planning Plans (PATJ) and regional development plans coordinate investments across development regions. Regional Development Plans (PDR) support	Local authorities prepare the General Urban Plan (PUG), Zonal Urban Plan (PUZ) and Detailed Urban Plan (PUD) regulating land use, urban development and infrastructure.	Romania applies a hierarchical territorial planning system combining statutory spatial planning with regional development planning and EU-funded investment programming.

	(PATR) and the national regional development framework under Law 315/2004.	implementation of Cohesion Policy.		
Ukraine	The strategic framework is provided by the National Economic Strategy (NES) and the State Strategy for Regional Development (SSRD). The NES sets the long-term directions of national development, while the SSRD is the central territorial development planning document implemented through two consecutive action plans.	Oblast Development Strategies are prepared by oblast state administrations and approved by regional councils. They cover a seven-year period, are consistent with the SSRD, and are implemented through regional action plans defining development measures and projects.	Local governments prepare Local Development Strategies. Since the 2022 amendments, these strategies are mandatory and must be consistent with the SSRD and other national strategic documents, strengthening coordination between planning levels.	Multi-level hierarchical planning system integrating national, regional and local development planning. The decentralisation reform strengthened vertical coordination, while the 2022 amendments made local development strategies mandatory, expanded the role of Regional Development Agencies (RDAs), and promoted a more cooperative planning process.

Source: Own edition.

Key observations:

- **All four countries apply multi-level territorial development systems linking national, regional and local planning.**
- **National-level documents establish the long-term strategic vision and territorial priorities.**
- **Regional authorities play a central role in coordinating development programmes and implementing EU Cohesion Policy.**
- **Local governments are responsible for detailed spatial planning and project implementation.**
- **Recent reforms, particularly in Poland and Slovakia, focus on integrating spatial planning with development policy, improving coordination and increasing digitalisation, while Hungary and Romania maintain comprehensive hierarchical planning systems supported by dedicated territorial development legislation.**

6.2 Governance Capacity: Financial Autonomy and Planning Tools

Financial autonomy should be understood as more than the formal right to adopt a budget. For border-region resilience, the decisive question is how rapidly territorial authorities can mobilise resources for new tasks without waiting for ad hoc central decisions. This depends on the proportion of own-source revenues, the breadth of the local tax base, the existence of multiannual financial planning, borrowing capacity, contingency reserves, the flexibility to reallocate expenditure and the ability to prepare and co-finance projects. At the same time, autonomy is meaningful only when it is aligned with competences. A region that manages roads, schools, healthcare and social services needs a much larger budget than a region whose primary functions are planning and coordination.

Planning tools are equally important because resilience requires anticipatory capacity. Territorial institutions need mechanisms that connect spatial regulation, socio-economic strategy, sectoral investment, EU funding and implementation. The existence of a plan is not sufficient in itself: plans must be up to date, legally or politically authoritative, linked to budgets and funding programmes, supported by reliable territorial data, and usable for cross-border coordination. In this respect, the partner regions differ both in the maturity of their planning hierarchies and in the degree to which planning is connected to financial decision-making.

Hungary: municipality-centred capacity with a fiscally limited county tier

Hungary's governance model places the local municipality at the centre of self-government. Every settlement has an elected local government, while county self-governments mainly perform territorial development, planning, coordination and project-related functions. The NUTS 2 regions are statistical and development-policy units rather than elected governments. This structure creates strong local representation but leaves the county level with limited direct fiscal leverage compared with the regional tiers in Slovakia, Poland and Romania.

In Szabolcs-Szatmár-Bereg County, the indicative annual budget of a non-urban municipality is approximately EUR 2.0-2.5 million, with a recommended central estimate of about EUR 2.3 million. The amended 2025 consolidated budget of the county self-government and its office was approximately EUR 3.06 million. The small size of the county budget is not a sign of administrative failure; it reflects the narrow scope of county competences, since the county does not operate extensive education, healthcare or municipal service systems. Nevertheless, it means that the institution responsible for county-level territorial coordination has little independent financial capacity for major investments or rapid large-scale interventions.

Own-source revenue also varies markedly by municipal type. Preliminary estimates indicate approximately 15-25% for non-urban municipalities, 20-35% for towns below 30,000 inhabitants and roughly 20-30% for the largest cities. The directly generated own operating revenue of the county self-government itself was below 1% of its budget. Smaller border villages are therefore highly dependent on central transfers and project funding, while larger cities such as Nyiregyhaza and Debrecen benefit from stronger local business tax bases and can maintain much larger investment portfolios. This produces a pronounced capacity gradient within the same regional system: the strongest cities can use local revenues to plan and co-finance development, whereas small border municipalities may lack both fiscal room and specialised administrative staff.

EU and national development funding partially compensates for weak local tax bases. In the examined categories, EU resources may account for approximately 40-70% of development expenditure over a multiannual period, although the proportion can be zero in a particular budget year and can rise sharply when a major project enters implementation. This makes development capacity highly project-dependent. It also means that the ability to prepare applications, manage procurement and provide co-financing is a central component of resilience. The headline size of a municipal budget can fluctuate substantially because it may include advance project payments, carried-forward balances or multiannual investment financing.

The Hungarian planning system is based on a shared responsibility across the municipal and county levels. Municipalities are responsible for settlement development and spatial planning, while county self-governments prepare territorial development concepts and programmes, support integrated territorial programmes, participate in national and EU development planning, coordinate municipal initiatives and contribute to cross-border development programmes. Functional urban areas and agglomerations are used as statistical, planning and development-policy units rather than as separate elected governments; implementation therefore depends on municipal associations, joint projects and county-level coordination.

The main strength of the Hungarian system is the presence of planning and development responsibilities at both county and settlement levels, together with established mechanisms for municipal cooperation and cross-border project development. The main weakness is the imperfect alignment between planning

authority and financial capacity. Counties can coordinate and programme development but have very limited own revenues and operational budgets. In a crisis, adaptation consequently relies on a combination of municipal action, central-government decisions, project funding and networked cooperation. The response to the war illustrated this pattern: statutory competences were not fundamentally restructured, but municipalities assumed additional humanitarian, social, educational and logistical tasks, supported by central reimbursement mechanisms, charities, volunteers and cross-border institutions such as the Tisza EGTC and the Interreg NEXT Hungary-Slovakia-Romania-Ukraine programme.

Slovakia: empowered self-governing regions linked to integrated territorial investment

Slovakia provides a comparatively strong NUTS 3 self-government tier. The Prešov and Košice Self-Governing Regions (PSK and KSK) have elected regional institutions and broad responsibilities in regional development, territorial planning, second- and third-class roads, secondary education, healthcare, social services, culture, tourism and investment. Their budgets are therefore much larger than the Hungarian county budget: approximately EUR 310 million for PSK and EUR 330 million for KSK in 2025. Small rural municipalities generally operate with annual budgets of about EUR 0.8-2.5 million, with the weakest fiscal positions concentrated in peripheral eastern and north-eastern districts.

Municipalities derive approximately 35-50% of total revenues from own sources, while the self-governing regions derive roughly 20-35%. Municipal and regional governments allocate an estimated 15-30% of their budgets to development and investment, and EU resources frequently represent more than half of development expenditure in eastern Slovakia. PSK's Integrated Territorial Strategy allocates more than EUR 250 million in EU funding through eight integrated project packages. This creates a stronger match between regional responsibilities, regional planning and regional investment management than in Hungary, but it also creates dependence on EU programming cycles and on the administrative capacity to prepare and implement complex projects.

The Slovak case shows that planning competences are closely connected to the elected NUTS 3 regions. PSK and KSK are responsible for regional planning, territorial strategy, regional development and their own investment activities, while municipalities carry out local planning and participate in regional planning. In PSK, three Urban Sustainable Development Areas - Prešov, Humenné and the Poprad-Svit-Kežmarok conurbation - have Integrated Territorial Strategies co-financed through the ITI mechanism. These tools provide a functional-area framework for coordinating investment beyond individual municipal boundaries.

PSK also operates the Geo Prešov Region geoportal, an open regional spatial-data and planning platform used to monitor integrated investment packages under the regional Integrated Territorial Strategy (Geo Presov Region, 2026). Together with the ITI-supported urban areas, this strengthens the connection between territorial

information, strategic priorities and project implementation. The regional strategy allocates more than EUR 250 million in EU funding across eight integrated project packages (PSK (2023). These mechanisms are particularly valuable in a territory with a highly fragmented municipal structure and many small local governments (University of Prešov, 2026).

The war demonstrated the practical value of a territorially empowered regional tier. PSK rapidly expanded emergency accommodation, reinforced transport from the Ubla border crossing, coordinated educational and healthcare support, and worked with municipalities, NGOs and national authorities. KSK developed integration and humanitarian logistics functions around Košice. The regions also strengthened direct cross-border institutions, including the planned Vihorlat EGTC with the Transcarpathian Regional Council, the PSK-Zakarpattia partnership and EU-funded cross-border projects. Slovakia's main resilience advantage is thus the combination of substantial regional service responsibilities, integrated planning and access to EU investment. Its main constraints are the fiscal weakness of peripheral municipalities, dependence on transfers and EU funds, and the coordination burden created by municipal fragmentation.

Poland: diversified self-government finance and multi-level planning capacity

Poland has the most differentiated self-government structure among the four countries. Municipalities (gminas), counties (powiats) and voivodeships all have elected self-government institutions and distinct responsibilities, while the central government is represented at regional level by the voivode. The voivodeships are responsible for regional development, EU fund management, regional transport, strategic planning and major regional services; counties provide supra-municipal education, health, social, transport and administrative functions; and municipalities manage local services and land-use planning. This creates multiple territorial scales at which resources can be mobilised and problems can be addressed.

An estimation shows own-source revenues at approximately 45% for voivodeships, 26% for counties and 40% for municipalities. Average investment and development expenditure is estimated at 45%, 27% and 20% respectively. The average annual budget of rural municipalities in the Podkarpackie and Lubelskie voivodeships was approximately EUR 12 million in 2024, although municipalities in the immediate eastern border and mountain areas were substantially poorer than those around Rzeszow and Lublin. The 2024 budgets of the Podkarpackie and Lubelskie voivodeships were approximately EUR 435 million and EUR 397 million, while the combined budgets of all counties in the two regions were considerably larger. These figures reflect both the larger average size of Polish local-government units and the broader responsibilities of the county and regional tiers.

Poland also has the widest range of financial instruments explicitly identified in the partner material. Own tax revenues and shares of PIT and CIT provide a base for independent action. Long-term financial forecasts and multiannual budgets support

infrastructure planning over periods of several years or more. Local authorities can use loans, municipal bonds and preferential finance, while public-private partnerships can supplement public investment capacity. Earmarked funds and contingency reserves provide a mechanism for rapid response, and the voivodeships' role in managing EU programmes strengthens their ability to align regional strategies with project pipelines. The capacity to absorb EU funds is therefore not merely a source of money but an institutional capability that differentiates stronger and weaker territories.

The war led to particularly explicit changes in budgetary flexibility. Although the constitutional division of competences did not change, emergency legislation allowed decision-making bodies to authorise executive bodies to make crisis-related budget changes more rapidly, transfer expenditure between budget classifications and introduce new investments or purchases connected with assistance to Ukraine. Certain fiscal and debt constraints could be relaxed for relevant expenditure, and earmarked reserves could be released more quickly. These measures improved short-term responsiveness without permanently redesigning the self-government system. They also increased the role of voivodes in crisis coordination, illustrating the importance - and potential complexity - of the parallel presence of regional self-government and central-government administration.

The Polish planning capacity has a multi-level function. Voivodeships prepare and implement regional development strategies and carry out regional spatial planning; municipalities are responsible for local spatial policy, local plans, development conditions and municipal property management. The document also highlights functional areas as tools for coordinating spatial policy and investments across administrative boundaries. Urban, rural and special or macro-regional functional areas can support the joint management of transport, environmental protection and other development issues, including the specific needs of border territories

This combination of regional strategies, municipal spatial planning, functional-area coordination and multiannual financial tools provides a strong basis for resilience because it links land use, infrastructure, development finance and cooperation across local boundaries. Poland's overall advantage is the combination of diversified revenues, multi-tier institutions and flexible financial instruments. Its key challenges are persistent territorial disparities and the need to coordinate several self-government levels with the central-government crisis hierarchy.

Romania: county-level implementation within a centrally supervised, EU-dependent model

Romania combines autonomous local governments and elected county councils with a strong central administrative presence at county level. Satu Mare County is part of the North-West Development Region, but the NUTS 2 development region is not an administrative self-government tier. The County Council manages county roads and transport, county healthcare infrastructure, social protection institutions, county-level spatial planning, cultural institutions, development strategies and EU-funded

projects. The Prefecture represents the central government, exercises legality control and coordinates deconcentrated state services. This arrangement gives the county a meaningful implementation role while preserving a strong central administrative presence and prefectural legality oversigh

The financial model is partially decentralised. Small communes in Satu Mare County typically have annual budgets of approximately EUR 1-5 million, while the county budget is estimated at EUR 120-200 million depending on the EU investment cycle. Own-source revenues account for roughly 25-45% of local-government income, shared national taxes for 30-50% and state transfers for 20-40%. EU resources often finance 30-60% of development investment, especially in infrastructure and public-service modernisation. The partner material appropriately characterises this as 'investment-driven decentralisation': subnational authorities have discretion over many expenditure decisions, but their capacity to transform infrastructure and services depends heavily on national redistribution and the absorption of cohesion-policy and recovery funds.

The Romanian case assigns spatial planning and urban development to municipalities, while the County Council is responsible for county-level spatial planning, economic development strategies, investment promotion and the implementation of EU-funded regional development projects. These competences give Satu Mare County a potentially important coordinating role between local land-use decisions, county infrastructure and development investment. The North-West Development Region adds an EU-funding coordination layer, although it is not an elected administrative authority.

Compared with the Polish and Slovak inputs, the Romanian governance paper provides less detail on the specific statutory planning documents and implementation tools used in Satu Mare. The available evidence therefore supports an assessment of institutional competences rather than a complete evaluation of the county's planning hierarchy. This is itself an analytical limitation: the effectiveness of county-level spatial planning and economic strategies depends on how clearly they are linked to municipal decisions, EU-funded project pipelines and the coordinating functions of the development region.

The war-related response has relied on multilevel coordination among county and local authorities, the Prefecture, central ministries, NGOs and EU mechanisms. Satu Mare was not the principal Romanian refugee transit hub, but institutions faced additional accommodation, social, educational and administrative tasks and higher operating costs. National compensation schemes, simplified access to services and prefecture-led crisis management reduced some of the burden. Romania's resilience strength lies in the county's substantial service and project-delivery role and in access to large-scale EU investment. Its main vulnerabilities are dependence on external funding, strong central steering and the need to coordinate county planning, local development decisions and the non-administrative development-region level.

Table 49: Indicative financial capacity in the partner regions

Country / partner area	Indicative budget scale	Own-source revenue profile	Development finance and resilience implication
Hungary - Szabolcs-Szatmár-Bereg	Non-urban municipality: about EUR 2.3m; county self-government: about EUR 3.06m (2025 amended).	Non-urban municipalities: about 15-25%; small towns: 20-35%; major cities: 20-30%; county directly generated own revenue: below 1%.	EU funding may provide about 40-70% of development expenditure over a multiannual period. Strong city capacity contrasts with highly transfer- and project-dependent border villages and a fiscally weak county tier.
Slovakia - PSK and KSK	Small rural municipalities: EUR 0.8-2.5m; PSK: about EUR 310m; KSK: about EUR 330m.	Municipalities: about 35-50%; self-governing regions: about 20-35%.	Development expenditure is about 15-30%; EU resources frequently exceed 50% of development spending. Strong regional institutions and ITI capacity are offset by EU dependence and municipal fragmentation.
Poland - Podkarpackie and Lubelskie	Average rural municipality: about EUR 12m; voivodeships: about EUR 435m and EUR 397m; county budgets collectively exceed regional budgets.	Voivodeships: about 45%; counties: 26%; municipalities: 40%.	Multiannual forecasts, borrowing, bonds, PPPs, reserves and regional EU-fund management diversify response options. Border and mountain municipalities remain weaker than urban hinterlands.
Romania - Satu Mare	Small communes: EUR 1-5m; County Council: about EUR 120-200m, varying with investment cycles.	Own-source revenue: 25-45%; shared national taxes: 30-50%; state transfers: 20-40%.	EU resources often fund 30-60% of development investment. The county has substantial implementation capacity, but development is highly dependent on national redistribution and EU absorption.

Source: Partner governance inputs for Hungary, Poland, Slovakia and Romania. Percentages are indicative and use different accounting denominators; they should be interpreted as capacity signals rather than directly comparable fiscal ratios.

Comparative assessment of planning capacity

Across the four systems, planning capacity is strongest where three conditions coincide: spatial and development planning are integrated; the responsible territorial institution has access to investment resources; and planning tools are supported by functional-area cooperation and reliable data. The comparison shows that the number of documents is less important than their operational connection to budgets, regulatory decisions and project pipelines.

The analysis reveals different types of planning capacity. Poland combines voivodeship development strategies and spatial planning with municipal land-use tools, functional-area coordination and multiannual financial planning. Slovakia links regional planning and territorial strategy to substantial regional service responsibilities, EU-financed integrated project packages, ITI-supported urban areas and, in PSK, an open geoportal for territorial information and investment monitoring.

Hungary combines municipal settlement planning with county territorial development concepts, programmes, integrated territorial programming and coordination of municipal initiatives. The principal issue is not the absence of planning responsibilities, but the limited fiscal and service-delivery role of the county tier responsible for territorial coordination. Romania assigns local spatial planning to municipalities and county-level spatial planning and development strategy to the County Council, but the governance paper contains fewer details on concrete planning instruments. In both Hungary and Romania, stronger and more transparent links between plans, implementation responsibilities and investment finance would increase adaptability.

The war also changes the content required from planning.

<u>Border regions increasingly need scenarios for:</u>

- **refugee and return migration,**
- **logistics and border-crossing capacity,**
- **energy security,**
- **critical infrastructure,**
- **civil protection,**
- **healthcare and education demand,**
- **and Ukraine's reconstruction.**

These themes cut across administrative boundaries and cannot be managed through conventional land-use planning alone. Resilient planning therefore requires cross-border data, multiannual investment programming, flexible project pipelines and institutions capable of revising priorities without abandoning long-term territorial objectives.

6.3 Governance Differences[6]

The partner regions are governed through four distinct institutional architectures. These differences determine where decisions are taken, which level can mobilise resources, how public services are coordinated and how quickly a territorial response can be scaled. The most important contrasts concern the locus of territorial authority, the relationship between self-government and deconcentrated state administration, the alignment of competences with budgets, the management of fragmented settlement systems, and the institutionalisation of cross-border cooperation.

Governance differences affect adaptability in two directions. Decentralisation can improve responsiveness because local and regional institutions possess territorial knowledge, direct relationships with service providers and the ability to tailor interventions. At the same time, decentralised systems may produce unequal capacities, coordination costs and fragmented investment. Centralisation can provide uniform standards, national financing and rapid mobilisation of state resources, but it can also delay adaptation, narrow local discretion and weaken the link between territorial strategies and implementation. The practical resilience of each system depends on how it combines these advantages and mitigates their disadvantages.

Different territorial centres of gravity

Poland distributes self-government across three substantive territorial levels. Gminas, powiats and voivodeships each possess elected institutions, budgets and distinct functions. This creates redundancy and multiple channels of action: a local service problem can be addressed by the municipality, a supra-local problem by the county, and a strategic development or transport issue by the voivodeship. In resilience terms, this is a relatively polycentric system. Its complexity is increased by the parallel office of the voivode, who represents central government and becomes especially important in crisis management and security.

Slovakia concentrates substantial territorial authority in the self-governing regions. PSK and KSK combine planning and development functions with direct responsibility for major service networks. This gives the regional level an operational role that is absent from Hungarian counties and more integrated than the Romanian development-region level. Because the regional institution manages roads, schools, healthcare and social services, it can connect emergency needs with investment and service-delivery decisions. The trade-off is that regional performance depends heavily on transfers, EU funding and the ability to coordinate hundreds of municipalities.

Romania's county councils also have broad responsibilities, but their autonomy is embedded in a more vertically supervised system. The Prefecture and deconcentrated state services ensure central policy implementation and legality control. The NUTS 2 development regions coordinate strategy and EU funds without constituting elected governments. This creates a separation between the scale used for regional

[6] Centralised Structures and Their Constraints on Regional Responsiveness and Development Potential

programming and the administrative levels responsible for public services and land-use decisions. It can support national coherence, but it also requires continuous coordination between county councils, development agencies, ministries and local authorities.

Hungary's centre of gravity lies at the municipal and central-government levels. County self-governments are important for territorial development and cross-border coordination, but they have narrow service responsibilities and very small own budgets. County government offices and districts belong to the state administration rather than territorial self-government. The result is a system in which local adaptation can be strong where municipalities have resources and leadership, but county-wide implementation often depends on centrally allocated programmes, EU funding and voluntary coordination.

Alignment between competences and financial resources

The strongest institutional advantage in Poland and Slovakia is the closer alignment between territorial competences and territorial budgets. Polish voivodeships and counties, and Slovak self-governing regions, control significant service and infrastructure functions and have budgets proportionate to those responsibilities. This allows them to respond through existing institutions rather than creating entirely new delivery structures. Romania's counties also have substantial operational responsibilities and budgets, although a larger share of their development capacity is externally financed and centrally conditioned.

Hungary represents a different model. The county is expected to coordinate development and participate in cross-border programmes, yet it does not control the major public-service systems or a large discretionary budget. Its resilience contribution is therefore strategic and connective rather than directly operational. This can be effective when the county acts as a platform linking municipalities, state institutions and external programmes, but it limits the ability to launch major interventions from county resources alone. The gap is most visible in peripheral areas where small municipalities also have weak tax bases and limited administrative capacity.

The comparison also shows that high own-source revenue is not the same as complete autonomy. In all four countries, transfers and EU resources are essential to development. External finance can increase resilience by allowing poorer regions to invest beyond the limits of their tax bases. However, it can also reduce flexibility when funds are earmarked, governed by lengthy procedures or tied to programming cycles. The most resilient configuration is therefore a balanced mix: predictable own revenues for routine action and co-financing; multiannual external programmes for structural investment; and flexible reserves or emergency mechanisms for shocks.

Municipal fragmentation and functional-area governance

Settlement structure is a major but often overlooked governance variable. Hungary and Slovakia have very large numbers of municipalities relative to their population.

PSK alone contains 665 municipalities, while Hungary has more than 3,100 settlements with local governments. Small municipalities preserve local representation and detailed territorial knowledge, but many cannot maintain specialised planning, procurement, financial-management or crisis-response staff. Joint municipal offices, associations, urban sustainable development areas and county or regional coordination are therefore essential capacity-sharing mechanisms.

Poland's municipalities are generally larger and are supported by the intermediate powiat tier. The use of functional areas strengthens coordination across municipal boundaries. This is important for transport, labour markets, logistics, environmental systems and public services whose real geography exceeds municipal boundaries. Romania relies more heavily on county coordination, municipal spatial planning and development-region funding coordination. Because the governance paper gives only a broad description of planning tools, effective inter-institutional coordination is especially important for connecting local decisions with county infrastructure and EU-funded development.

Functional-area mechanisms are especially relevant to border resilience. Refugee reception, freight traffic, commuting, hospital catchment areas and emergency logistics are not confined to administrative boundaries. The ability to organise investments around functional territories can therefore be more important than the formal number of government levels. Poland's functional areas, Slovakia's UMR and ITI structures, Hungary's municipal associations and county coordination, and Romania's county and development-region coordination mechanisms represent different solutions to the same scale mismatch.

Differences in crisis governance since 2022

In none of the four countries did the war produce a fundamental constitutional redesign of territorial governance. The main change was operational: existing competences were applied to new and much more intensive tasks. Depending on the national allocation of competences, municipalities, regional or county authorities, deconcentrated state institutions and central-government bodies assumed additional responsibilities related to accommodation, transport, food assistance, education, healthcare, social support, registration, information services and humanitarian logistics.'

The shock therefore tested whether ordinary governance structures could expand rapidly, coordinate with non-governmental actors and obtain reimbursement for extraordinary expenditure.

Poland introduced the most explicit temporary changes to fiscal procedure. Crisis-related budget reallocations could be made more rapidly, executive bodies received additional flexibility, certain debt and balance rules were relaxed for relevant expenditure, and reserves could be mobilised faster. This strengthened responsiveness while retaining the existing system of self-government. The

simultaneous increase in the coordinating role of voivodes also reinforced the state's capacity to organise a nationwide response.

Slovakia's response highlighted the operational role of the self-governing regions. PSK and KSK could use their existing education, transport, social and healthcare responsibilities to organise services at regional scale. Their cooperation with municipalities, NGOs and international organisations developed into more permanent integration structures and cross-border partnerships. Hungary relied more strongly on local municipalities, state defence and administrative bodies, charities, churches and volunteers. The model demonstrated substantial social and network resilience, but the financial burden and administrative capacity were unevenly distributed among settlements.

Romania's response was more strongly embedded in prefecture-led and ministry-led coordination, with county and local authorities implementing accommodation, social and service tasks. National compensation schemes and EU mechanisms provided support. The model benefited from central coordination, but local adaptability remained dependent on the speed and adequacy of external financing. Across all four systems, civil society and humanitarian organisations were indispensable, indicating that resilience is a property of governance networks rather than public administration alone.

Cross-border institutional capacity

The ability to cooperate directly with Ukrainian partners is an increasingly important dimension of resilience. Cross-border institutions can maintain communication during crises, identify needs, prepare joint projects and translate humanitarian cooperation into longer-term development and reconstruction partnerships. Their value depends on continuity: ad hoc aid is necessary in an emergency, but durable adaptation requires organisations with legal status, staff, financing and an agreed territorial agenda.

Hungary has the Tisza EGTC, municipal twinning relations and the Interreg VI-A NEXT Hungary-Slovakia-Romania-Ukraine framework. Slovakia is developing the Vihorlat EGTC with the Transcarpathian Regional Council and has strong PSK-Zakarpattia cooperation, EU-funded sectoral projects and Carpathian regional initiatives. Poland's Podkarpackie and Lubelskie voivodeships have become key humanitarian and logistics territories and possess strong regional development institutions capable of linking border infrastructure with national and EU priorities. Romania's Satu Mare County participates in cross-border and EU programmes, but the partner material indicates a less institutionalised direct Ukraine-facing role than in the Hungarian, Slovak and Polish cases.

These differences will become more consequential as the policy agenda shifts from emergency assistance to reconstruction, accession-related integration and long-term economic restructuring. Regions with established cross-border bodies, project pipelines and joint planning practices will be better positioned to shape transport,

labour-market, health, environmental and business-development initiatives. Regions that rely mainly on central diplomatic or programme decisions may have less influence over the territorial design of future cooperation.

Table 50: Comparative governance and planning models

Country	Main governance and planning model	Relative resilience strength	Main constraint / adaptability risk
Hungary	Strong municipal self-government; county development and coordination tier with limited service functions; municipal spatial planning, county development concepts and programmes, integrated territorial programming and functional-area cooperation.	Local knowledge, strong major cities, dense municipal and civil-society networks, established EGTC and Interreg cooperation.	Weak county fiscal autonomy; highly unequal municipal capacity; dependence on central transfers and project cycles; planning authority not always matched by implementation resources.
Slovakia	Strong NUTS 3 self-governing regions; regional planning and territorial strategies linked to major service responsibilities; ITI-supported urban areas, integrated project packages and the Geo Prešov Region portal.	Good alignment of regional competences, budgets, service networks and investment tools; strong direct cross-border institutional capacity.	Peripheral municipal weakness, fragmentation and heavy reliance on state transfers and EU funds.
Poland	Three-tier self-government with parallel central-government representation; voivodeship development and spatial planning, municipal land-use planning, functional-area coordination and multiannual financial	Diversified revenue and financing instruments; multi-tier problem-solving; explicit crisis-budget flexibility; strong regional EU-fund management.	Complex coordination between tiers and state administration; persistent territorial disparities; uneven capacity between metropolitan hinterlands and the eastern border and mountain areas.

Country	Main governance and planning model	Relative resilience strength	Main constraint / adaptability risk
	planning.		
Romania	Local and county self-government under strong prefectural oversight; non-administrative development regions; municipal and county spatial-planning responsibilities combined with county development strategies and EU-project implementation.	Substantial county service and project-delivery capacity; strong access to cohesion and recovery investment.	High dependence on national redistribution and EU absorption; coordination demands between development regions, counties, prefectural structures and municipalities; limited detail in the source on concrete planning tools.

Source: Own edition.

Overall comparative conclusions and implications for adaptability

The comparison identifies four ideal-type resilience models. Poland can be described as a multi-tier, financially diversified and functionally coordinated model. Slovakia represents a regionally empowered, service-integrated and EU-investment-linked model. Romania is a county-implemented but centrally supervised model whose development capacity is strongly driven by external investment. Hungary is a municipality-centred and centrally framed model in which county-level resilience depends largely on coordination, networks and project mobilisation. These categories are analytical rather than normative: each model can perform effectively under favourable conditions and each contains structural vulnerabilities.

The most important general finding is that adaptability depends on the alignment of authority, resources and planning. Territorial institutions are more resilient when the level expected to coordinate development also possesses operational competences, predictable financing and the ability to implement or commission projects. Slovakia performs strongly on this alignment at NUTS 3 level, while Poland distributes it across several self-government tiers. Romania has substantial county capacity but stronger vertical dependence. Hungary's counties have clear strategic functions but limited fiscal and service-delivery resources, so resilience must be assembled through partnerships with municipalities, central institutions and external programmes.

A second finding is that EU funding is simultaneously a resilience asset and a dependency. It enables peripheral regions to modernise infrastructure, expand public

services and finance projects that would be impossible from local tax revenues alone. However, high dependence on competitive or earmarked programmes can make investment volatile, slow down emergency adjustment and privilege authorities with stronger administrative capacity. Stable own revenues, realistic multiannual budgets and accessible contingency reserves remain necessary even in highly EU-supported regions.

A third finding is that planning capacity depends less on the number of documents than on the connection between planning competences, territorial data, implementation authority and finance. Poland's functional-area approach and multiannual financial tools, Slovakia's integrated territorial strategies and regional geoportal, Hungary's county development programmes and municipal cooperation, and Romania's county and local planning competences provide different foundations for adaptation. Across all countries, resilience planning should incorporate geopolitical scenarios, demographic change, logistics, critical infrastructure, energy security, public-service continuity and Ukraine's reconstruction.

Finally, the war has shown that border-region resilience is multilevel and relational. Municipalities, regional and county institutions, central authorities, civil society, charities, universities, businesses and cross-border organisations all contributed to the response.

The challenge for the next phase is to institutionalise this cooperation without losing the flexibility that made emergency action possible. Standing cross-border platforms, shared territorial data, pre-agreed crisis protocols, multiannual project pipelines and joint capacity-building for small municipalities would help convert emergency governance into durable regional adaptability.

6.4 Key implications for the Bridge2EastCE territorial planning framework

- **Assess governance capacity** through the fit between competences, discretionary finance and implementation tools, not through budget size alone.
- **Support multiannual financial planning**, contingency reserves and flexible project pipelines so that border regions can respond to shocks without abandoning long-term investment priorities.
- **Provide shared technical capacity** for small municipalities, including joint planning, procurement, data analysis and project-management services.
- **Link spatial planning** more directly to development programmes, EU funding and functional-area governance, particularly for transport, logistics, energy and public services.
- **Institutionalise cross-border cooperation** with Ukrainian authorities through durable bodies, regular data exchange, joint scenarios and reconstruction-oriented project preparation.
- **Develop interoperable digital territorial information systems** and common indicators that allow partner regions to monitor risks, service pressures and investment needs across borders.

7. Further Information from the Project Partners and Regional Best Practices for War-Related Challenges and Opportunities

7.1 Specific challenges of the border regions

SPECIFIC CHALLENGES: Specific social, economic, and environmental challenges in the border regions caused by the Russo-Ukrainian war (e.g. migration crisis, arrival of new employers, establishment of new businesses, relocation of businesses from UA, increased transportation or personnel traffic, increased demand for logistic or public services, rising real estate prices, revitalization of settlements by newcomers, increased security risks, delayed investments due to increased security risks, increased environmental risks caused by the war [destruction of facilities], increased environmental risks caused by neglected or overloaded environmental or water management infrastructure, overloaded environmental infrastructure either in UA [with cross-border effects] or in the EU's border regions in relation to the war, etc.)

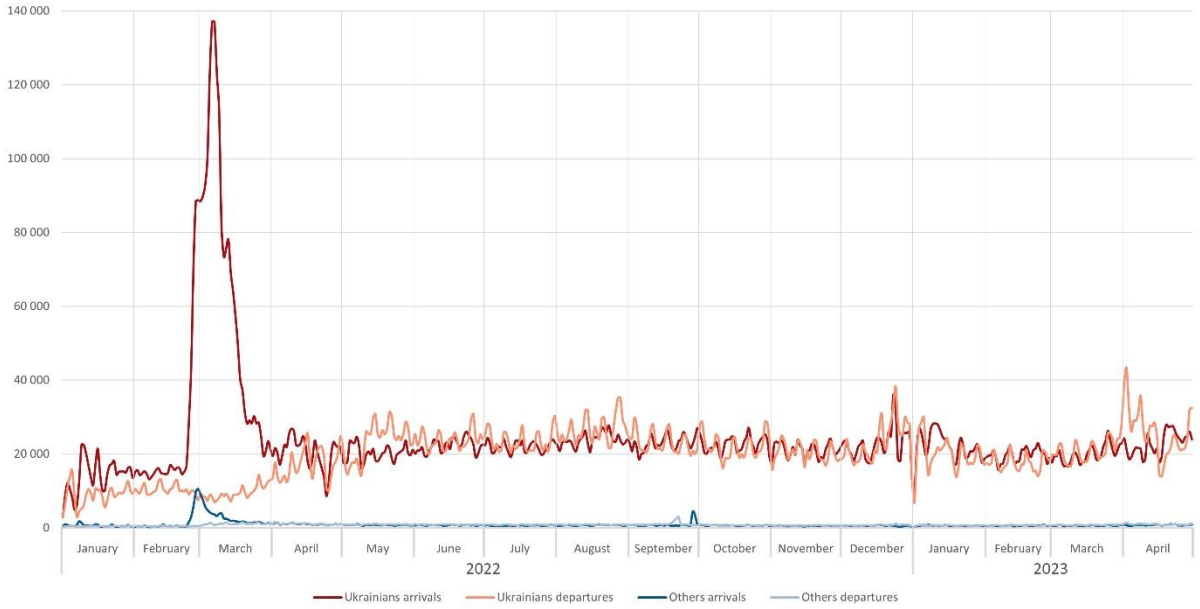
7.1.1 Lubelskie and Podkarpackie (Poland)

Russia's full-scale invasion of Ukraine in February 2022 generated a multidimensional shock for EU–Ukraine border regions through a combination of immediate humanitarian pressures, medium-term socio-economic adjustments and longer-term security and environmental risks. In the Polish case, the most directly exposed regions are Lubelskie and Podkarpackie, both of which already faced structural challenges before 2022: depopulation, ageing, out-migration of young people, relatively low wages, weaker economic diversification and strong internal disparities between regional centres and peripheral border areas.

The consequences of the war have been highly uneven across Polish regions. Border voivodeships, traditionally benefiting from cross-border economic linkages and transit functions, have faced both new development opportunities and substantial structural challenges (Komornicki et al., 2025). Increased logistical activity, military-related investments and the expansion of humanitarian and transport networks have strengthened selected metropolitan centres and strategic infrastructure nodes. At the same time, disruptions in trade patterns, pressure on public services, agricultural market instability, demographic tensions and environmental burdens have exposed the vulnerability of peripheral border areas. In this sense, the war in Ukraine should be understood not only as a military and geopolitical crisis, but also as a catalyst for the reconfiguration of regional development trajectories in Poland.

The first major challenge was the refugee and migration shock. In the first months of the war, Polish eastern border regions played a crucial reception and transit role. As a result of Russia's invasion of Ukraine, the inflow of Ukrainian refugees peaked on 3 March, when more than 139,000 Ukrainian citizens crossed the Polish-Ukrainian border (Fig. 78.). Large inflows of people from Ukraine generated pressure on local administrations, temporary accommodation, schools, healthcare, social assistance and transport services. Over time, however, many refugees moved towards larger metropolitan labour markets, which means that border regions became less long-term settlement areas and more transit or first-contact territories (Wiśniewski et al., 2024). This is visible in PESEL-based refugee distribution data, which can be analysed at LAU 1 and LAU 2 levels for the period 2022–2025. The project materials already identify PESEL data as a key source for mapping where refugees were registered and how their spatial distribution changed over time.

Figure 91: Day-by-day traffic on the Polish–Ukrainian border, 1 January 2022 to 30 April 2023.

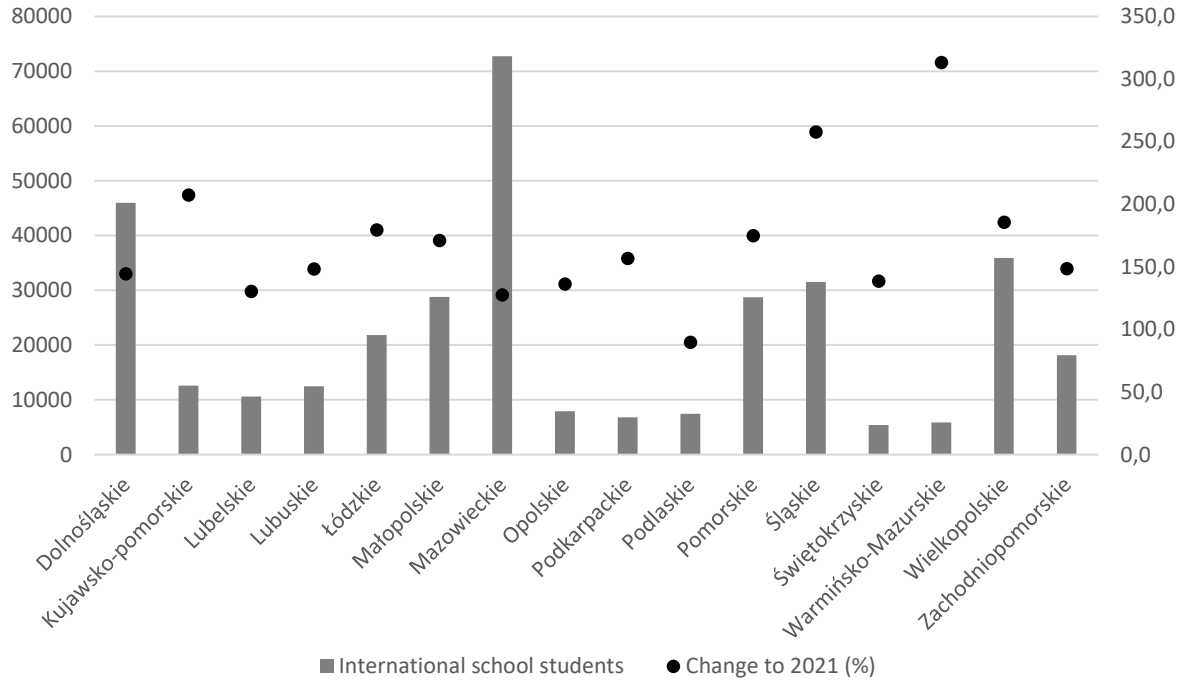


Source: Wiśniewski et al. (2024), p. 10.

Under the Temporary Protection Directive (TPD, Council Directive 2001/55/EC), refugees were provided with broad residence rights, access to employment, healthcare and social support, together with the right to move freely across the territory of the European Union (Herbst & Sitek, 2023; Davitian et al., 2024; Postepska & Voloshyna, 2025). Therefore, the inflow of refugees, particularly on such a massive scale, has had a multidimensional impact on host countries and societies, including on the labour market (Kosyakova et al., 2024; Zyzik et al., 2024), demographic structures (Wiśniewski et al., 2024), perceptions of refugees (Moise et al., 2023; Długosz & Izdebska-Długosz, 2024), and the housing market (Trojanek & Gluszak, 2022; Gluszak & Trojanek, 2025).

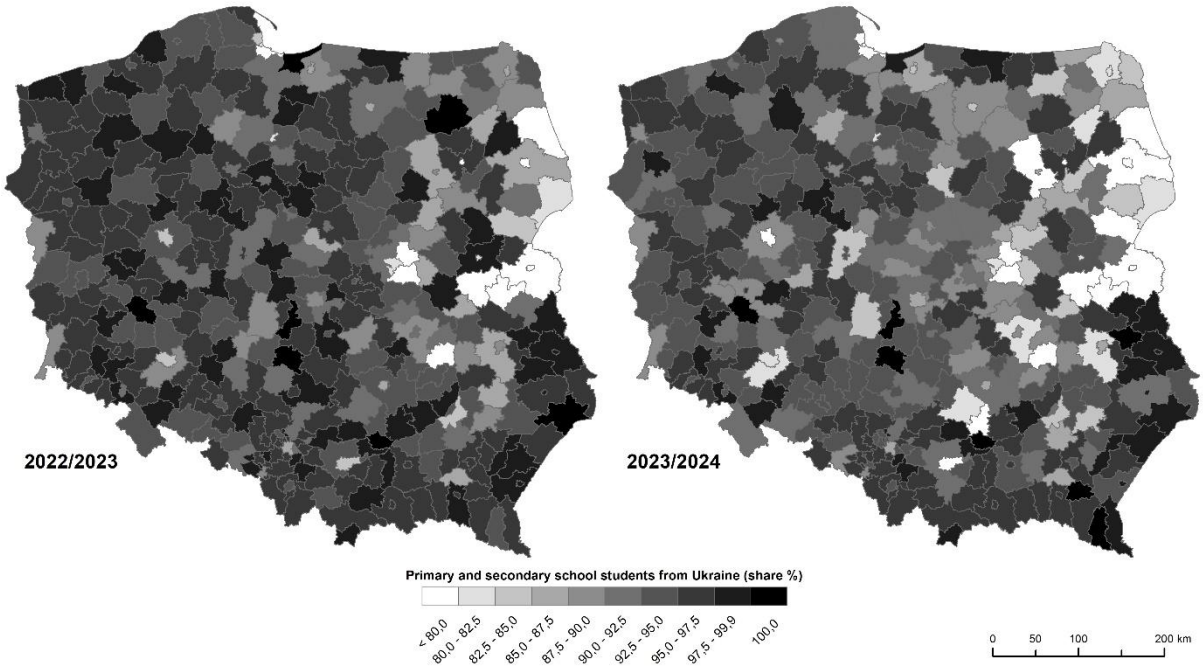
The education system is one of the clearest examples of territorially differentiated service pressure. By 30 September 2022, the number of foreign students attending schools in Poland had risen to 352,900, compared with 135,800 a year earlier, while the share of non-Polish pupils in primary and secondary education increased from 2.7% to 6.9%. In some local districts, the proportion exceeded 20%. Despite their proximity to Ukraine, Lubelskie and Podkarpackie recorded relatively lower numbers of international pupils than major metropolitan regions, which confirms that the strongest educational pressure was concentrated mainly in larger urban and economically dynamic areas rather than in immediate border territories (Komornicki et al., 2025; Szejgiec-Kolenda et al., 2025). This spatial differentiation is illustrated in Fig. 79 and Fig. 80.

Figure 92: International school pupils in Poland in the 2022/2023 school year



Source: Komornicki et al. (2025, p. 238).

Figure 93: International school pupils in Poland in the 2022/2023 school year. Pupils from Ukraine in Poland's primary and secondary schools as of the 2022/2023 (A) and 2023/2024 (B) school years.



Source: Komornicki et al. (2025, p. 240).

The inflow of refugees from Ukraine has been, and remains, unique. The literature indicates that the inflows were characterised by a relatively large share of the so-called middle class, namely individuals with stable socio-occupational standing, comparatively high educational attainment, proficiency in foreign languages, and, overall, a strong level of formal education (Długosz et al., 2022; Gromadzki & Lewandowski, 2022; Brücker et al., 2023). As a result, the consumer market expanded, leading to a certain form of competition across various markets, including the housing market. This contributed to an increase in both rental prices and housing purchase prices.

The housing dimension is particularly important because Poland absorbed a very large number of refugees without relying on large-scale tent or container camps. This was possible mainly due to the spontaneous mobilisation of Polish society and the willingness of private households to provide accommodation. However, the mass arrival of refugees increased demand for rental housing and local services. Evidence from five major Polish cities suggests that a one percentage point increase in city population due to refugee arrivals translated into an estimated 0.72–0.74% increase in apartment rents, although the effect on purchase prices is less conclusive. This indicates that refugee inflows created both a social solidarity response and measurable pressure on urban housing markets (Bloch and Szmyt, 2025; Gluszak and Trojanek, 2025).

Following the spontaneous wave of solidarity within Polish society at the beginning of the war in Ukraine, subsequent years have seen a gradual "fatigue" associated with long-term involvement in supporting refugees become increasingly visible (Długosz & Izdebska-Długosz, 2024). Polish society has become progressively less willing to provide assistance to people fleeing the war, while attitudes of empathy, understanding, and kindness towards them have weakened. Refugees are increasingly perceived as people who believe they are "entitled to everything", "want to have greater rights than Poles", do not show "gratitude for the assistance received", and display demanding or entitled attitudes (Staniszewski, 2025; Centrum Dialogu im. Juliusza Mieroszewskiego, 2024).

The refugee inflow also had a strong gender and family dimension. Women and children were disproportionately represented among refugees from Ukraine, which increased demand for childcare, education, social protection and flexible labour-market integration. At the same time, the spatial concentration of refugee women and children in larger urban and metropolitan areas may reinforce existing demographic differences between cities and peripheral areas. In rural and peripheral parts of eastern Poland, where long-term outmigration of young women has already contributed to gender imbalances, the limited long-term settlement of refugees is unlikely to significantly improve local demographic structures (Wiśniewski et al., 2024; Duszczyk et al., 2023).

It appears to be a broader social issue concerning the presence of migrants in Poland and the way they are perceived. Over the past decade or so, Poland has transformed from a country of emigration into a country receiving migrants (Duszczyk, 2022; Kaczmarczyk & Strzelecki, 2025). Initially, this mainly involved the inflow of economic migrants from Ukraine and Belarus. Later, migrants from geographically and culturally more distant countries, such as India, Bangladesh, the Philippines, and Colombia, also began arriving in Poland. Finally, as a result of the Russian aggression against Ukraine, massive waves of refugee displacement occurred. Consequently, Poland has not only become a receiving country for migrants, but has also begun to lose its nationally homogeneous structure. Poland, hitherto perceived as a relatively homogeneous country in terms of ethnicity and culture, has become a space of increasing socio-ethnic diversity.

The second challenge concerns labour markets and local economies. In recent years, Poland has been characterised by a relatively stable and dynamic socio-economic situation, supported by domestic demand, export competitiveness and gradual upgrading of the production structure towards higher value-added activities. However, this positive trajectory has been affected by successive shocks, first the COVID-19 pandemic and then the Russo-Ukrainian war, which contributed to slower economic growth, higher uncertainty and rising costs. At the same time, the Polish labour market has undergone a major transformation: the earlier problem of high unemployment has been replaced by labour shortages, increasingly mitigated by inflows of foreign workers, especially from Ukraine and Belarus, and more recently

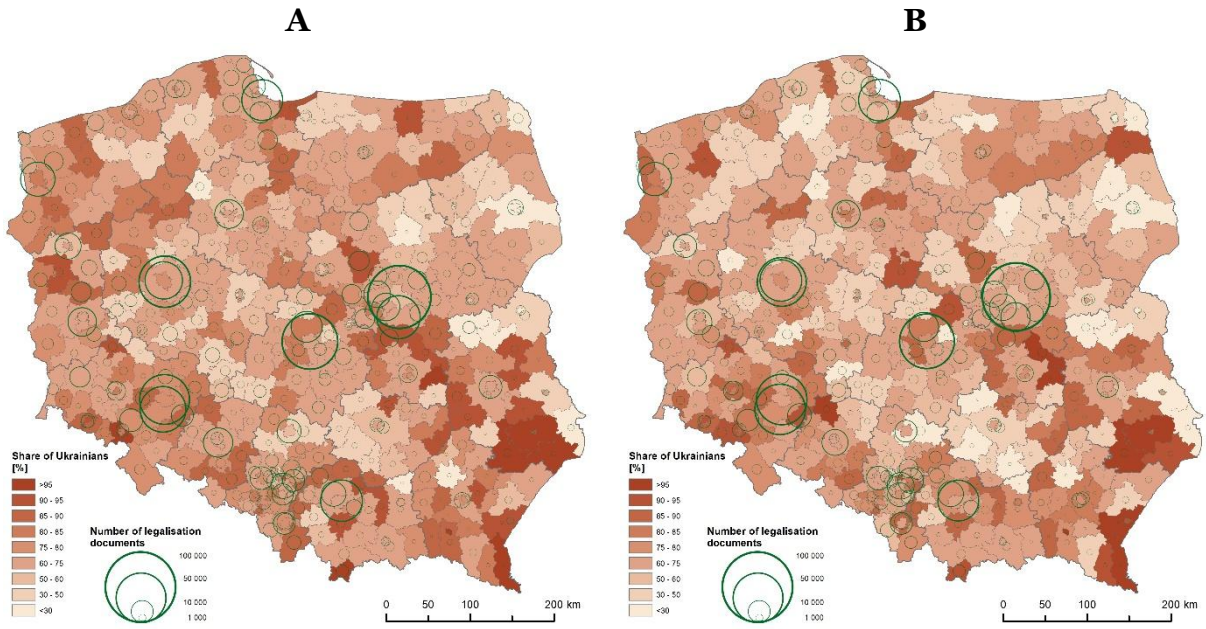
also from more distant countries such as the Philippines, India, Bangladesh and Colombia (OECD, 2023; Kaczmarczyk and Strzelecki, 2025).

The impact of the war on the employment of Ukrainian migrants and refugees in Poland has been complex. On the one hand, the war contributed to the outflow of some Ukrainian workers, especially men of conscription age, many of whom had already been employed in Poland before February 2022. On the other hand, Poland experienced a large inflow of refugees, predominantly women with children and elderly people, which significantly changed the demographic and social structure of Ukrainian migration to Poland. This created a specific labour-market situation: Ukrainian migration continued to mitigate labour shortages, but its composition, settlement patterns and availability for work changed substantially after the outbreak of the war (Komornicki et al., 2025; Chmielewska-Kalińska et al., 2023; Dudek et al., 2023).

In this context, the war has had a dual impact on labour markets in the eastern border regions. On the one hand, the inflow of Ukrainian refugees and migrants has partly increased the labour supply, consumer demand and potential for small-scale entrepreneurship. On the other hand, in Lubelskie and Podkarpackie this inflow has not fully compensated for longer-term demographic weaknesses, including ageing, out-migration of young people and shortages of qualified workers. Peripheral municipalities therefore face a double pressure: some sectors may benefit from additional labour and new business activity, while many local labour markets still suffer from weak demographic renewal, limited demand and difficulties in attracting employees.

Ukrainian workers and refugees are distributed across Poland, but their territorial distribution is uneven. Border voivodeships such as Lubelskie and Podkarpackie remain important, yet significant concentrations are also visible in western and metropolitan regions, where labour markets are larger and more absorptive. Research commissioned by the National Bank of Poland indicates that refugees settled in Lubelskie show a relatively lower willingness to remain in Poland, which suggests that proximity to the Ukrainian border may reinforce the temporary character of labour-market engagement. This confirms that, in the eastern border regions, Ukrainian migration should be interpreted both as a partial response to labour shortages and as a fluid, spatially selective process rather than a stable demographic compensation mechanism. The spatial distribution of Ukrainians present on the Polish labour market in 2022 and 2023 is shown in Fig. 81.

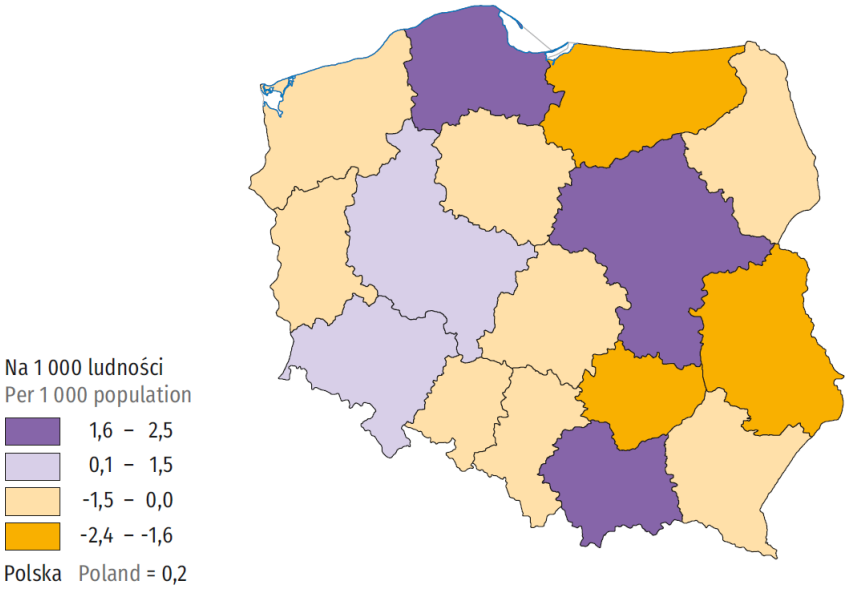
Figure 94: Ukrainians present on Poland's labour market by virtue of documents legalising their employment: A – 2022, B – 2023



Source: Komornicki et al. (2025, p. 230)

This challenge is therefore visible in internal migration patterns. In 2024, net migration for permanent residence remained weak or negative in several eastern and south-eastern regions, including parts of the Polish-Ukrainian border area. The map in Fig. 82. shows that positive migration balances were concentrated mainly in selected metropolitan or more economically attractive regions, while peripheral eastern regions continued to record weaker migration performance. This confirms that the war-related inflow from Ukraine should not be interpreted as a simple demographic compensation mechanism for border regions, but rather as an additional, spatially selective factor interacting with pre-existing depopulation and labour-market constraints.

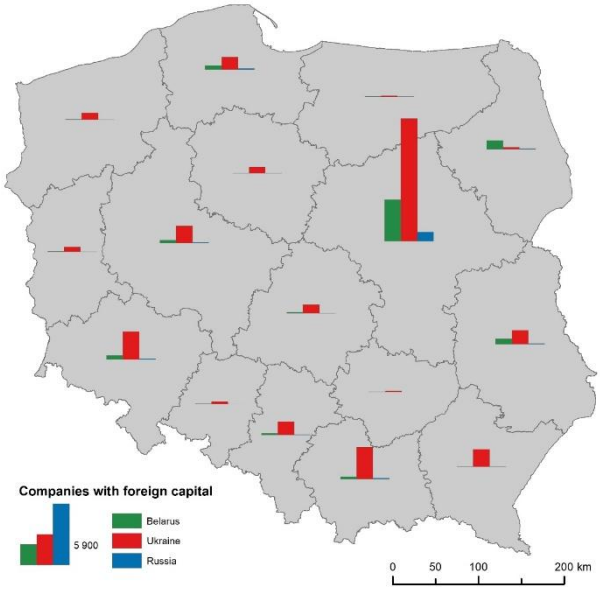
Figure 95: Net migration for permanent residence (2024)



Source: Urząd Statystyczny w Rzeszowie (2025), p. 32.

The war has also affected local economies through the expansion of Ukrainian-linked business activity in Poland. As of 2024, approximately 28,000 enterprises with Ukrainian capital were operating in Poland. These firms are distributed across the country, although Mazowieckie accounts for more than 40% of all such businesses. The relatively lower number of firms per 10,000 Ukrainian nationals registered in the social insurance system suggests that Ukrainian migrants in Poland are still more frequently integrated through wage employment than through entrepreneurship. Nevertheless, the growth of Ukrainian-linked business activity confirms that the war has generated not only labour-market effects, but also new forms of business presence and economic embeddedness (Komornicki et al., 2025). This pattern is shown in Fig. 83.

Figure 96: Firms with foreign capital originating from Ukraine, Belarus or Russia as of 2024



Source: Komornicki et al. (2025, p. 234).

Trade and value-chain disruptions constitute another economic challenge for the eastern border regions. Before the full-scale invasion, Lubelskie and Podkarpackie derived part of their comparative advantage from relatively strong trade relations with Ukraine and other eastern markets. However, the war, the reconfiguration of European supply chains and the emergence of new transport and logistics corridors have altered these spatial relations. Although Poland's overall exports to Ukraine increased strongly, the relative role of Lubelskie and Podkarpackie in Polish exports to Ukraine declined: the share of exports to Ukraine in total exports fell from 6.7% to 4.8% in Lubelskie and from 7.5% to 4.5% in Podkarpackie between 2021 and 2025. This suggests a spatial diffusion of trade relations towards Mazowieckie and western Poland, while eastern regions remain relatively more dependent on Ukrainian trade links than many other parts of the country (Komornicki et al., 2015; Szejgiec-Kolenda, 2027).

Figure 97: Spatial distribution of export linkages with Ukraine at LAU 1 in Poland: 2015, 2021, 2025 (note – data for 2025 are preliminary)

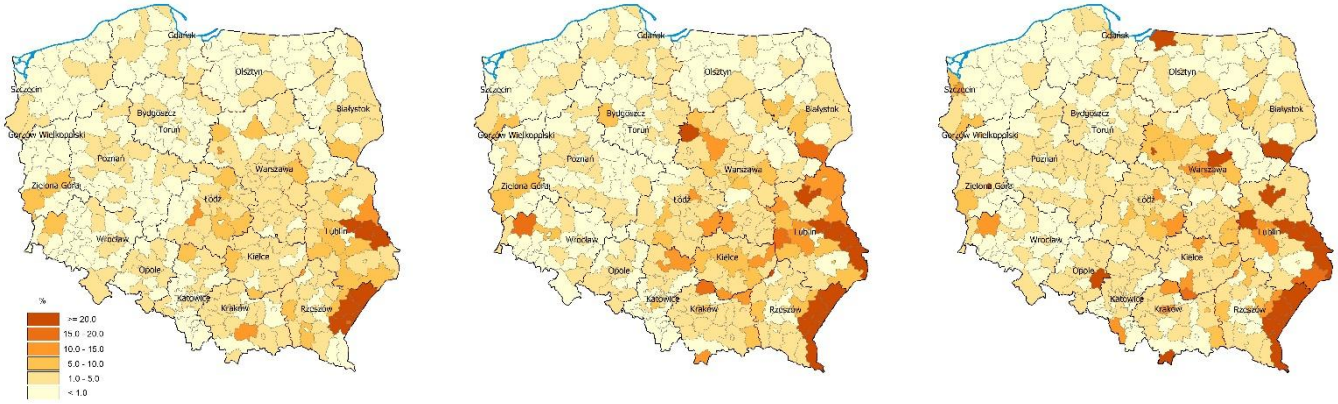
2015 **2021** **2025**



Source: Szejgiec-Kolenda (2027).

Figure 98: Share of exports to Ukraine in total exports at LAU 1 in Poland: 2015, 2021, 2025 (note – data for 2025 are preliminary)

2015 2021 2025

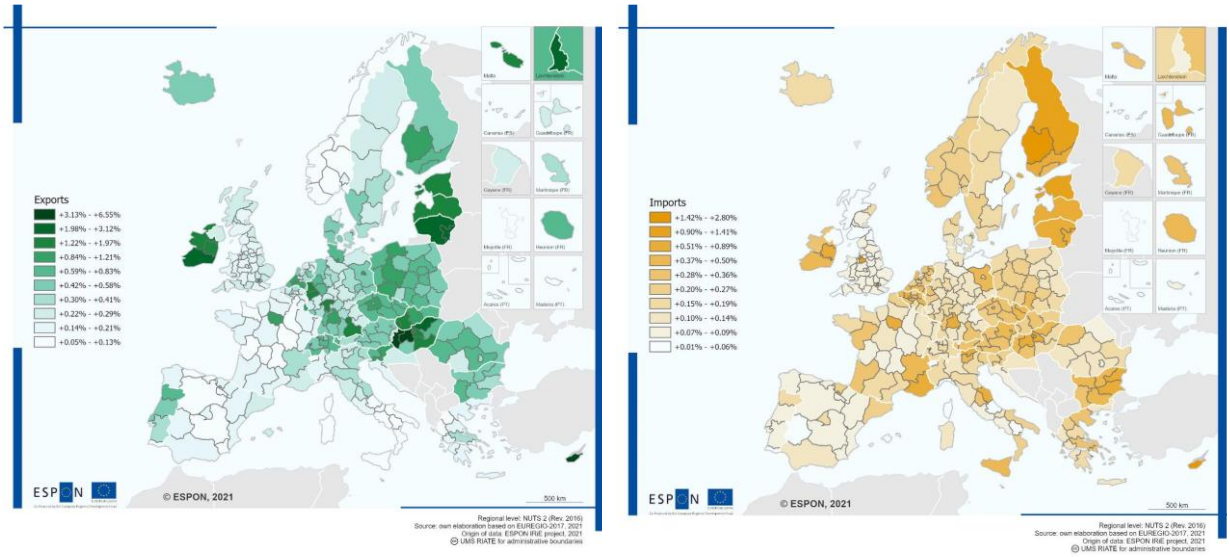


Source: Szejgiec-Kolenda (2027)

A broader European perspective confirms that the economic effects of the war are not limited to direct bilateral trade losses. According to the ESPON scenario analysis, although the direct exposure of most EU regional economies to Russia and Ukraine is relatively low, the importance of the affected sectors – especially energy and food – as well as inter-sectoral linkages magnify the indirect consequences across the whole European economy (Almazán et al., 2022). In the Polish case, the scenario results suggest that Lubelskie and Podkarpackie were relatively less exposed than some other regions in terms of trade-related shares in regional GDP, probably because of the lower overall volumes of international trade in these regional economies. Nevertheless, this lower relative exposure should not be interpreted as an absence of vulnerability: in border regions, even smaller trade volumes may be associated with strong dependence on selected sectors, cross-border exchange and transit-related

functions. This confirms that the war affected eastern Poland not only through direct trade shocks, but also through broader indirect and sector-specific economic transmission channels. This pattern is illustrated in Fig. 86.

Figure 99: Exposure to the Russian economy in the context of war through exports (left) and imports (right) with Russia in 2017, as % of regional GDP.



Source: Almazán et al. (2022, pp. 27–28).

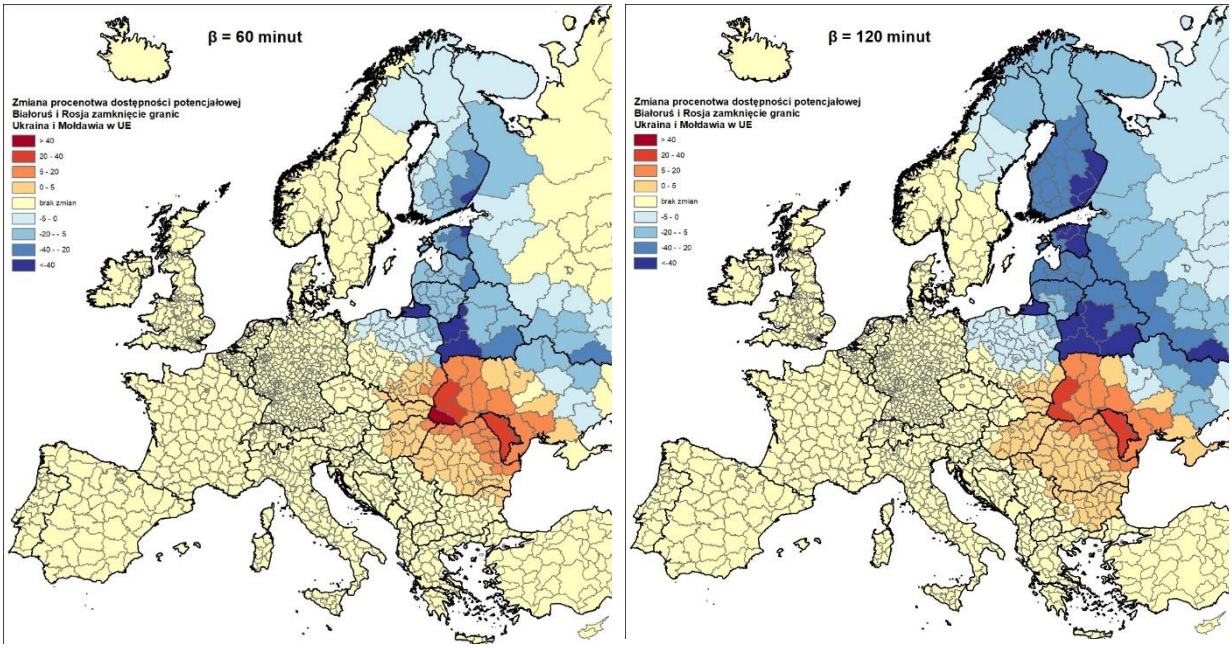
Agricultural markets represent a specific challenge, particularly in Lubelskie. The suspension of customs duties on Ukrainian agricultural products and the increased inflow of grain through border crossings such as Dorohusk and Hrubieszów contributed to market tensions in eastern Poland. Local producers perceived this as unfair competition and market destabilisation, especially where imported grain saturated storage capacity and contributed to lower profitability of domestic production. This challenge is important because it links cross-border trade, logistics, local livelihoods and social tensions in rural areas (REN, 2023; Zacharuk, 2026).

The third group of challenges relates to transport, logistics and cross-border flows. Border crossings, humanitarian transport, military-related logistics, freight rerouting and increased passenger traffic have placed additional pressure on road corridors, border terminals and local transport infrastructure. In Podkarpackie and Lubelskie this overlaps with ongoing infrastructure improvements, including the A4, S17, S19, S12 and airport development, which may increase investment attractiveness but also intensify traffic and spatial pressures. Data can be obtained from the Polish Border Guard and customs/border-crossing systems, including current and historical information on crossings and waiting times at road border points with Ukraine (see Fig. 1).

The changing geopolitical situation also has implications for the spatial pattern of transport accessibility. Scenario-based research on road accessibility suggests that the isolation of Russia and Belarus and a potential opening or strengthening of

transport relations with Ukraine and Moldova would affect the geography of accessibility across Central and Eastern Europe (Komornicki and Goliszek, 2024). Within the European Union, accessibility losses are expected to be strongest in Lithuania, Latvia, Estonia and Finland, and to a lesser extent in north-eastern Poland. In contrast, the benefits of stronger transport linkages with Ukraine and Moldova would be particularly visible in south-eastern Poland. In the case of Poland, the negative and positive effects of the analysed scenarios partly offset each other, which reduces the overall scale of change at national level, but the advantages for the south-eastern part of the country remain clear. This suggests that the transport investments undertaken in recent decades, especially near the EU's eastern border, now shape the extent to which regions may benefit from geopolitical reorientation. This scenario is illustrated in Fig. 87.

Figure 100: Scenario of potential accessibility change due to the isolation of Russia and Belarus and the opening of borders with Ukraine and Moldova.

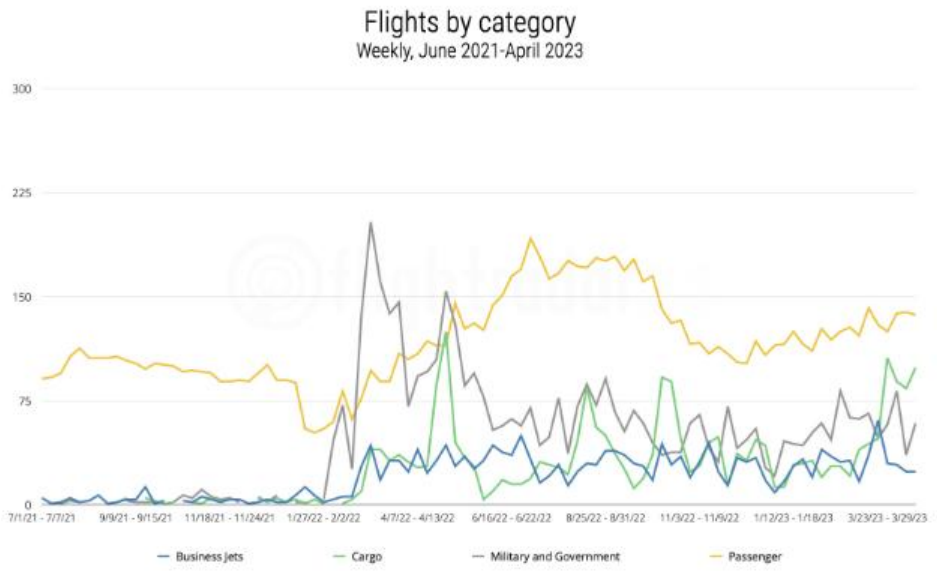


Source: Komornicki and Goliszek (2024).

The military-logistics role of Rzeszów-Jasionka Airport illustrates this pressure particularly well. Although detailed statistics on military landings are not publicly available for security reasons, open-source flight-tracking data show that Rzeszów became an essential gateway for the movement of weapons, medical supplies and people in and out of Ukraine after February 2022. According to Flightradar24, average weekly aircraft movements at Rzeszów increased by approximately 167% after the start of the war, with a particularly sharp initial rise in military traffic, followed by sustained increases in cargo, business and medical evacuation flights.

The airport's long runway and cargo-handling facilities made it suitable for large military and civilian cargo aircraft. This confirms that the war increased pressure not only on border crossings and road corridors, but also on airport capacity, security procedures, cargo handling and regional access infrastructure. Fig. 11 illustrates the sharp increase in military/government, cargo and business jet traffic at Rzeszów-Jasionka Airport after February 2022, while passenger traffic increased later in 2022. This confirms the airport's transformation into a key logistics and transit gateway for Ukraine, with the immediate post-invasion shock most visible in military-related and cargo operations.

Figure 101: Flights by category at Rzeszów-Jasionka Airport, June 2021–April 2023.



Source: Flightradar24, 2024, based on open-source flight-tracking data.

The fourth challenge concerns security and investment uncertainty. The proximity to the war zone may increase perceived security risks, affect investor confidence, delay private or public investments and require additional civil protection, emergency management and border-control capacities. These effects are partly measurable through investment statistics, public expenditure, business surveys and local development strategies, but they also require qualitative evidence from municipalities, regional authorities, chambers of commerce and infrastructure operators.

Defence-related security risks have also become more visible through repeated missile or military-projectile incidents affecting Polish territory or airspace. Such events increase the perception of vulnerability among local communities and highlight the importance of air defence, early-warning systems, crisis-response procedures and border security. Beyond their direct military implications, they may

also have broader socio-economic consequences, including additional public expenditure on defence and civil-protection infrastructure and a possible increase in perceived investment and insurance risks in areas located close to the Polish–Ukrainian border (Jureńczyk, 2023; Psujek, 2025; Belton, 2025).

At the same time, the security-related investment uncertainty should not be interpreted only as a negative factor. Since 2022, Poland has developed a broader institutional framework aimed at reducing business risk and increasing investment certainty in relation to Ukraine. This includes export and investment insurance, guarantees, financial instruments, business matchmaking, market-entry support and reconstruction-oriented initiatives promoted by institutions such as PAIH, BGK, KUKE, the Polish-Ukrainian Chamber of Commerce and Enterprise Europe Network. In this sense, Poland's border location should be interpreted in two ways: as a source of additional security, infrastructure and logistics pressure, but also as a potential logistical, service and reconstruction-related advantage.

Finally, environmental risks should be treated as both direct and indirect. Direct risks include potential cross-border consequences of the destruction of industrial, energy, water or waste-management facilities in Ukraine. Indirect risks concern overloaded municipal infrastructure in reception areas, higher transport emissions, pressure on water and waste systems, and emergency-management capacity. These effects are less systematically captured in statistical databases, so the best approach is to combine environmental indicators from GUS/BDL and regional environmental inspectorates with qualitative information from local authorities, water-management institutions and cross-border cooperation bodies.

The war has also highlighted the importance of long-term environmental risk management in the Polish–Ukrainian borderland. Border areas may be exposed to transboundary environmental threats associated with military activities, including air, soil and water pollution, hazardous-material leaks, forest fires and disruptions to river ecosystems. Particular challenges concern cross-border water management, biodiversity protection, contamination risks linked to military logistics and industrial infrastructure, and the resilience of protected natural areas located near the external border. At the same time, the war has changed the nature of environmental cooperation, shifting attention towards ecological security, disaster response, pollution leaks, fire protection and support for Ukrainian protected areas (Leal Filho et al., 2024; Maruniak et al., 2024; EC, 2026; Polska w Ukrainie, 2026).

A specific emerging issue is the perception of landscapes as elements of territorial resilience and defence. Natural landforms such as wetlands, rivers and river valleys are increasingly interpreted not only as ecological assets, but also as features that may contribute to defensive depth and crisis resilience. In the Polish–Ukrainian borderland, the Bug River valley illustrates this dual role: it is both an environmentally sensitive cross-border area and a landscape whose physical

characteristics may have strategic relevance (National Committee of The Netherlands, 2025).

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7.1.2 Prešov Self-Governing Region (Slovakia)

The following overview documents specific social, economic, and environmental challenges in the Prešov Self-Governing Region (Prešovský samosprávny kraj – **PSK**) caused or significantly intensified by the Russo-Ukrainian war since February 2022. PSK borders Ukraine via the Ubľa–Malyi Bereznyi crossing, the sole international road crossing in the region, which placed the region directly in the path of one of the largest refugee movements in post-war Europe.

Migration pressure and refugee influx

The Ubľa–Malyi Bereznyi crossing became a primary humanitarian corridor following the outbreak of war. In the first year of the conflict alone, more than 1,094,000 entries from Ukraine into Slovakia were recorded through Slovak border crossings, with approximately 879,000 crossings in the return direction. As of 24 May 2026, 144,999 valid temporary protection permits are registered in Slovakia, of which 11,630 (8.0%) are held by persons registered in PSK.

The region was exposed to this pressure disproportionately early. PSK activated its emergency response capacity immediately: by 27 February 2022, it was already

providing accommodation and meals for approximately 300 persons, scaling up to 1,000 persons across 14 facilities. The region also reinforced bus transport connections from Ubľa towards Snina and Humenné to manage the incoming flows.

The refugee population is predominantly composed of women with children, creating sustained pressure on housing, healthcare, social services, and educational infrastructure – particularly in Prešov city. Key integration challenges include language barriers, recognition of Ukrainian qualifications, access to affordable housing, and labour market entry.

Housing market pressure and rising real estate prices

The arrival of refugees and displaced persons from Ukraine has contributed to increased demand for rental housing across PSK, reducing availability and accelerating price trends already driven by broader macroeconomic factors. In Prešov city, average rental prices in May 2026 stand at approximately €654 per month, with a median of €700. Prešov is among the few Slovak regional cities recording continuous rent increases across all apartment categories.

In the sales market, apartment prices in Prešov have risen sharply: older two-bedroom apartments increased by 17.3% year-on-year (to €2,976/m²) and three-bedroom apartments by 15.6% (to €2,623/m²) between Q1 2025 and Q1 2026. These are among the highest rates of increase recorded in Slovak regional cities in this period. The Prešov Region as a whole recorded quarter-on-quarter price growth exceeding 5% in Q1 2026, tied with Bratislava for the highest regional rate in Slovakia.

Immediately after the outbreak of the war in 2022, rental availability tightened significantly. A proportion of property owners voluntarily offered short-term accommodation to refugees, temporarily removing units from the rental market. Real estate professionals reported that prospective tenants were required to make decisions within hours rather than days, reflecting a sudden and extreme imbalance between supply and demand.

Pressure on educational institutions

The arrival of Ukrainian pupils and students has placed measurable pressure on the educational infrastructure of PSK. According to Ministry of Education data, PSK schools enrolled between 900 and 1,000 Ukrainian pupils in 2023 — the most recent year for which a regional breakdown is available. Of these, an estimated 680 to 700 were in primary schools, while 178 were enrolled in secondary schools directly managed by PSK, distributed across more than 20 institutions. At national level, approximately 10,400 Ukrainian pupils attended Slovak schools as of early 2023, a figure that is expected to have grown following the introduction of mandatory school attendance for children under temporary protection from September 2025.

At higher education level, the number of Ukrainian students in Slovakia rose to 10,197 in academic year 2023/2024 — up from 5,555 in 2021/2022, representing a near-doubling driven by the war. The University of Prešov alone enrolled 904

Ukrainian students in the current academic year, making it one of the most significant higher education destinations for Ukrainians in Slovakia.

A particularly significant centre of integration is the Spojená škola Tarasa Ševčenka in Prešov — the only school in Slovakia offering instruction in the Ukrainian language. Approximately 136 to 140 Ukrainian pupils attend this school, including around 118 at primary level and 18 to 20 at gymnasium level. The school serves as a key institutional anchor for Ukrainian families settling in the region.

Key challenges reported by schools include language barriers, the need for Slovak language support programmes, and the integration of pupils with interrupted schooling histories. A 2024 report by the Supreme Audit Office noted that only 22% of Slovak primary schools offered language courses for Ukrainian pupils, highlighting a systemic gap. From September 2025, mandatory school attendance applies to all refugee children aged 5–16 under temporary protection, further formalising integration into the regional school system.

Pressure on healthcare and social services

The sustained presence of Ukrainian refugees has increased demand for healthcare and social services across PSK. According to IOM survey data collected in Slovakia between May and July 2025 – in which Prešov accounted for 10% of respondents – the most commonly reported barriers to accessing healthcare were long waiting queues (cited by 69% of respondents), language barriers (42%), and cost (28%). Many GPs in larger cities including Prešov report operating at or beyond patient capacity, making registration of new patients difficult.

The 2023 IOM Annual Report on healthcare access found that 53% of surveyed refugee households in Slovakia included persons with specific needs or serious health conditions, including large proportions of children and elderly individuals. Service costs were cited as a barrier by 50% of respondents and unavailability of services by 22%. These pressures are particularly acute in PSK, which already faced significant healthcare deficits prior to the war: no maternity department exists in Svidník district, average GP age is above 56 years, and healthcare access in peripheral districts is structurally limited.

Since July 2024, healthcare providers in Slovakia are legally prohibited from refusing to treat refugees due to capacity limitations, which has further concentrated demand on already strained facilities.

Labour market challenges and structural mismatches

PSK has persistently recorded the highest unemployment rate among all Slovak regions, with 10 of its 13 districts classified as Least Developed Districts. The average gross monthly wage in PSK stood at €1,299 in Q2 2025 — the lowest of all Slovak regions, well below the national average and less than two-thirds of the Bratislava Region figure of €1,960. This structural weakness is compounded by significant

brain-drain: young, educated workers consistently migrate towards western Slovakia and other EU countries.

The war-related arrival of Ukrainian workers has introduced a dual dynamic. On the one hand, approximately 3,000 to 3,500 Ukrainian citizens are currently employed in PSK, working primarily in manufacturing (assembly and machine operators), services and trades (gastronomy, retail), construction, and seasonal agricultural work. Their presence has helped stabilise sectors experiencing domestic labour shortages.

On the other hand, a significant structural challenge persists: Ukrainian workers are predominantly employed in positions below their qualification level. The Association of Employers' Unions and Associations (AZZZ SR) explicitly acknowledged in February 2026 that while Ukrainian workers have been a stabilising force – particularly in automotive, construction, logistics, and hospitality – their full economic potential remains underutilised. If better matched to positions corresponding to their qualifications, their integration could generate higher added value for the regional and national economy.

These dynamics are consistent with longer-term structural patterns documented for Prešovský kraj, where geographic mismatch between job seekers and vacancies has been a persistent feature. Research using Slovak Labour Force Survey data (Lichner, 2022) shows that the Prešov Region belongs to the group of economically weakest Slovak regions characterised by high unemployment, low vacancy rates, and significant distances between available workers and job opportunities, with low-skilled workers in PSK required to travel the greatest distances to access vacancies concentrated in western Slovakia.

Infrastructure pressure at the Ubľa border crossing

The Ubľa–Malyi Bereznyi crossing is the sole international road crossing in PSK. Prior to the war, it recorded approximately 1,440 daily passenger car crossings. Since February 2022, it has functioned as a major humanitarian corridor, experiencing a dramatic increase in pedestrian crossings and a sustained elevation in overall traffic volumes.

The crossing has historically experienced severe congestion during Orthodox Christmas and Easter periods, when multi-kilometre queues formed. The wartime period added a new and sustained dimension to these pressures. In response, a modernisation project is currently underway: the Ubľa crossing is being upgraded as part of the EU-wide Entry/Exit System (EES) implementation, which replaces manual passport stamping with biometric facial and fingerprint scanning for third-country nationals. The project includes expansion of covered customs areas, reorganisation of vehicle and pedestrian flow, and construction of new facilities. The total budget is estimated at €844,000.

Security concerns and hybrid threats

The proximity of armed conflict in Ukraine has heightened security awareness in PSK. The region has experienced increased monitoring of strategic infrastructure, reinforced border controls, and greater public expenditure on crisis management and humanitarian coordination. The region is also more exposed to hybrid threats associated with the broader geopolitical conflict, including disinformation campaigns and cybersecurity risks.

At the institutional level, PSK convened an emergency meeting of directors of 67 secondary schools in February 2025, following a crisis incident at a gymnasium in Spišská Stará Ves. The meeting – attended by approximately 200 participants including police, psychologists, and child protection authorities – focused on school safety protocols and prevention of crisis situations. State School Inspection data presented at the meeting indicated that 15.3% of pupils do not feel safe at school, 41.5% confirmed witnessing inappropriate behaviour, and 16.2% reported experiencing bullying. While not exclusively caused by the war, the meeting reflected a broader heightening of security sensitivity in the regional institutional context.

At the EU level, new cybersecurity measures adopted in January 2026 aim to strengthen resilience against hybrid threats, including risks from third-country ICT suppliers and ransomware attacks – a concern with particular relevance for border regions such as PSK that are operationally linked to Ukrainian counterparts through cross-border cooperation programmes.

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7.1.3 Košice Self-Governing Region (Slovakia)

Košice Self-Governing Region has become one of the principal entry points for refugees arriving in the European Union. The border crossing at Vyšné Nemecké and the city of Košice have played a crucial role as humanitarian, transportation, and logistical hubs.

The large inflow of refugees, primarily women, children, and elderly individuals, created considerable pressure on regional social systems, including healthcare, education, housing, and public services. Local governments and municipalities were required to rapidly expand emergency accommodation capacities, provide integration services, and ensure access to basic social and administrative support. At the same time, the increased demand for housing contributed to rising rental prices and higher real estate costs, particularly in urban areas such as Košice.

The war has also produced substantial economic impacts within the region. Due to its proximity to Ukraine, the Košice Region experienced intensified road and railway transportation associated with humanitarian aid, commercial goods, and strategic supplies directed toward Ukraine. This development increased the importance of the region as a logistical gateway between the European Union and Ukraine. Demand for warehousing facilities, transportation services, and labor force capacities consequently increased. In addition, several Ukrainian entrepreneurs and companies relocated parts of their business activities to eastern Slovakia, contributing to the establishment of new enterprises and employment opportunities. However, despite these positive economic impulses, the close proximity of the armed conflict also generated uncertainty among investors and businesses. Some planned investments and development projects were postponed because of perceived security risks and regional instability. Furthermore, local enterprises were negatively affected by disrupted supply chains, rising energy prices, inflationary pressures, and broader economic uncertainty caused by the war.

The conflict has additionally generated environmental and security-related challenges in the border region. Concerns emerged regarding potential cross-border environmental risks resulting from damage to industrial infrastructure, energy facilities, and water management systems within Ukrainian territory. Since several watercourses originating in Ukraine flow into eastern Slovakia, the possibility of water and soil contamination represents a significant environmental concern for the Košice Region. Increased transportation and logistical activity in border areas also contributed to higher levels of emissions, noise pollution, and pressure on transport infrastructure. Simultaneously, the war heightened security concerns in the region, leading to reinforced border protection, increased monitoring of strategic infrastructure, and greater public expenditure on crisis management and humanitarian assistance. The region also became more vulnerable to hybrid threats, disinformation campaigns, and cybersecurity risks associated with the broader geopolitical conflict.

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7.1.4 Szabolcs-Szatmár-Bereg County (Hungary)

Szabolcs-Szatmár-Bereg County is located in the northeasternmost part of Hungary and occupies a strategically important position, as Hungary borders three countries in this area. As an EU Member State, Hungary's border with Ukraine, a non-EU

neighbouring country, represents a particularly significant geopolitical and economic relationship.

Since the outbreak of the Russia–Ukraine war, the importance and role of Szabolcs-Szatmár-Bereg County within this cross-border relationship have increased significantly. The Russo-Ukrainian war has reorganized dramatically civil, human and economic goods mobility in the whole region.

As a direct border region between Ukraine and Hungary, one of the main challenges has been ensuring effective border management and maintaining public security. Furthermore, facilitating the onward movement of refugees crossing the border has represented a significant operational task, resulting in exceptionally high passenger volumes. Law enforcement agencies have played a central role in border control, public security management, and supporting public authorities and administrative bodies involved in asylum and refugee procedures. In parallel, social and healthcare institutions have faced increased pressure due to the additional needs arising from the refugee influx.

The statistics published by the Hungarian Police concerning Ukrainian refugees demonstrate changing trends in migration-related offences and reflect the management of challenges connected to humanitarian response and refugee-related procedures. The number of offences related to the regulation of foreign nationals at the Ukrainian border section increased from 1,341 cases in 2022 to 2,067 cases in 2025, representing an increase of approximately 54%. The number of offences related to illegal border crossing and attempted illegal border crossing decreased from 9 persons in 2022 to 3 persons in 2025, representing a reduction of approximately 67%. The number of document forgery offences related to illegal migration decreased from 91 cases in 2022 to 39 cases in 2025, representing a reduction of approximately 57%. The number of unlawful acts related to illegal migration increased from 1,443 cases in 2022 to 2,111 cases in 2025, representing an increase of approximately 46%. (Országos Rendőr-főkapitányság, 2025)

According to Eurostat data, the number of Ukrainian citizens under temporary protection in Hungary increased from approximately 14,000 in May 2022 to 44,590 in May 2026. This represents an increase of more than 30,000 people, meaning that the number of beneficiaries more than tripled during this four-year period. Due to its direct border position, the impact of the refugee movement was particularly visible in Szabolcs-Szatmár-Bereg County; however, the county mainly functioned as a transit area rather than a long-term settlement destination. Most arrivals continued their journey towards Budapest, Western Hungary or other EU countries. (Eurostat, 2026)

In 2022, the Hungarian State Railways (MÁV) introduced the free Solidarity Ticket for Ukrainian refugees. During the first period, from 27th February 2022 to 1st September 2022, this service was used 791,148 times by Ukrainian refugees. This type of ticket remains available today and provides free travel from the first point of entry into Hungary (primarily from Záhony railway station) to major cities in the western part of the country, including routes towards Budapest or Hegyeshalom, the

Hungarian–Austrian railway border crossing. This has supported the onward movement of refugees towards western Hungary and further to Western Europe as a final destination. (MÁV, 2022)

In 2024, 31 organizations, including refugee-led groups, NGOs, and UN Agencies, supported around 33,000 refugees in Hungary. More than 10,000 refugees received assistance in Budapest, and nearly the same number — also over 10,000 — were supported in Szabolcs-Szatmár-Bereg County, the region closest to the Ukrainian border. As 71% of refugees had been displaced for over two years, support programmes increasingly shifted from addressing basic needs towards promoting socio-economic inclusion. The share of activities targeting basic needs decreased from 36% in 2022 to 10% in 2024, while socio-economic inclusion activities increased from 9% to 17% during the same period. (UNHCR Hungary, 2024)

In the field of social and healthcare support, according to UNHCR statistics, significant assistance was provided to refugees from Ukraine in Hungary in 2024: 5,905 individuals participated in community-based psychosocial support activities, 644 people benefited from mental health and psychosocial support services, 7,852 individuals received protection services, 653 people received legal assistance, and 662 people were supported through shelter and housing assistance programmes. These figures demonstrate that, although the emergency phase of the refugee response had decreased, social, legal and psychosocial support services remained essential for refugees' long-term integration and protection. (UNHCR Hungary, 2025)

Beyond immediate humanitarian assistance, refugee socio-economic inclusion also showed positive developments, with the employment rate among working-age refugees expected to increase from 59% in 2024 to 64% in 2025, while labour force participation is projected to rise from 69% to 73%. The increasing presence of Ukrainian nationals under temporary protection also had a notable impact on regional labour markets, particularly in Szabolcs-Szatmár-Bereg County and neighbouring regions. The arrival of a significant number of Ukrainian workers contributed to an expansion of the available labour force, and several employment and temporary work agencies increasingly specialised in the recruitment, placement and administrative support of Ukrainian workers. This reflected the growing importance of labour market integration mechanisms and employer support services in response to the changing composition of the workforce. Access to national services continued to be a key priority. The proportion of refugee children aged 3–16 attending formal education in host countries increased from 84% in 2024 to 91% in 2025. Access to healthcare services when needed remained high, although it is projected to decrease from 82% to 78%. The share of refugees receiving formal mental health and psychosocial support (MHPSS) services increased from 58% to 64%, while 84% of those accessing MHPSS reported improved well-being in 2024, compared to a projected 84% in 2025. Social cohesion indicators remained stable, with the share of households reporting good relationships with host communities slightly decreasing from 78% in 2024 to 77% in 2025. (UNHCR Hungary, 2025)

According to the 2026 information published by the National Directorate-General for Aliens Policing (NDGAP), beneficiaries of temporary protection from Ukraine are entitled to legal residence in Hungary, a biometric residence permit, regular subsistence support subject to eligibility, state-provided accommodation where needed, access to healthcare services, education for children, and access to the labour market without the need for a work permit. They are also eligible for certain forms of state-funded assistance, including the reimbursement of approved document translation costs and, where applicable, the costs of public burial. (OIF, 2026)

As a county bordering Ukraine, Szabolcs-Szatmár-Bereg has remained a strategically important area in terms of security and defence since the outbreak of the Russo–Ukrainian war in 2022. Hungarian government and defence authorities introduced measures to strengthen border protection and defence readiness, including enhanced surveillance and crisis response capabilities. Between 2024 and 2026, authorities continued to emphasise the maintenance and development of eastern defence capabilities, including airspace monitoring and drone-related defence measures. However, specific information regarding the deployment of military units, counter-drone systems or operational readiness levels in the county has not been publicly disclosed. (Honvédelmi Minisztérium, 2025).

Szabolcs-Szatmár-Bereg county directly borders Ukraine (Zakarpathia oblast). Due to this fact the county has face with:

- The towns and settlements near the border have become transit refugee zones (Záhony, Beresurány, Tiszabecs etc.). These are less developed sttlements located on the periphery of the county.
- Language challenges
- Railway and road situation (evacuation corridor Záhony Railway, border crossing point protocols)
- Healthcare challenges
- Out – and in migration: many refugee used the county as a transit corridor, behind those ethnic Hungarians who settled in the county (temporarily or permanently).
- No specific, independent monthly dataset regarding district- or county-level employment statistics for refugees (beneficiaries of temporary protection) in Szabolcs-Szatmár-Bereg County is publicly available from the Hungarian Central Statistical Office (KSH) or the National Employment Service (NFSZ), as official statistics categorize foreign workers and jobseekers within broader groupings or national aggregates.

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UNHCR Hungary (2025) KEY ACHIEVEMENTS IN 2024 & PROGRAMME SUMMARY FOR 2025
Eurostat, 2026 Beneficiaries of temporary protection at the end of the month by citizenship, age and sex - monthly data, last update: 21/07/2026 23:00, Online data code:migr_asytpsm

7.1.5 Satu Mare (Romania)

Since the outbreak of Russia's full-scale invasion of Ukraine in February 2022, Satu Mare County has experienced significant social, economic, logistical, and security-related impacts resulting from broader regional changes in mobility patterns, humanitarian responses, and cross-border economic relations at the external border of the European Union. Although Satu Mare County is not directly located on the main Ukrainian border crossing axis or the primary conflict-adjacent corridors, it has been indirectly affected through neighbouring border counties—particularly Maramureş—and through its role in regional transport and logistics networks in north-western Romania.

One of the most visible challenges has been the increased pressure on border management and migration-related services in northern Romania. While Satu Mare County is not a principal entry point for Ukrainian refugees, it has been affected by secondary mobility flows and regional redistribution of migrants and humanitarian needs. The Halmeu–Diakove border crossing, located within the county, has gained increased relevance mainly in relation to freight transport and regional mobility flows rather than large-scale humanitarian entry. In parallel, neighbouring border counties such as Maramureş and Suceava have functioned as the primary entry points for Ukrainian citizens seeking temporary protection within the European Union.

According to the Inspectorate of the Territorial Border Police of Sighetu Marmaţiei (*Inspectoratul Teritorial al Poliţiei de Frontieră Sighetu Marmaţiei*), approximately

13,000 Ukrainian citizens were detected as having illegally crossed the Romanian border in 2024. Of these, around 7,000 were recorded in Maramureș County, 4,500 in Suceava County, and approximately 1,500 at the Satu Mare border section. These figures reflect sustained pressure along Romania's northern border caused by the ongoing war in Ukraine (ITPF Sighetu Marmației, 2025; Digi24, 2025).

The refugee situation has generated additional demands for public services, including temporary accommodation, social assistance, healthcare, and administrative support. Although most refugees continue their journey toward larger Romanian urban centres or other EU member states, local authorities and humanitarian organizations have maintained emergency response capacities and basic integration services. Similar to other regions indirectly affected by the crisis, this mobility has contributed to increased pressure on housing markets and rental availability in urban centres such as Satu Mare Municipality (UNHCR Romania, 2025; IOM, 2024).

The war has also influenced regional labour market dynamics. Satu Mare County already faced structural challenges prior to 2022, including demographic decline, labour shortages, and outward migration of young workers. The presence of Ukrainian refugees in Romania has had a limited but visible impact on local labour supply, particularly in manufacturing, services, logistics, and low-skilled production sectors. However, integration into the labour market remains uneven due to language barriers, temporary protection status, and differences in qualification recognition. At the same time, employers continue to experience difficulties in recruiting qualified personnel in technical and industrial occupations (MDPI, 2025; AJOFM Satu Mare, 2022–2026).

A second major challenge concerns transport, logistics, and cross-border trade flows. Since the outbreak of the war, regional freight transport routes have been reconfigured, increasing the importance of land-based corridors across Central and Eastern Europe. Within this context, the Halmeu border crossing has experienced growing freight traffic and occasional congestion, particularly during peak transport periods in 2024. This has placed additional pressure on customs infrastructure, road networks, and border management capacities in northern Romania (Inspectoratul General al Poliției de Frontieră, 2022–2026; Consiliul Județean Satu Mare, 2022–2026).

The changing geopolitical context has simultaneously created both opportunities and uncertainties for the regional economy. Economic relations between Romania and Ukraine have intensified since the outbreak of the war, contributing to stronger commercial and logistical linkages across regional markets. Official statistics from the Romanian National Trade Register Office (ONRC) indicate a substantial increase in the number of companies with Ukrainian participation operating in Romania. The number of such companies increased from 1,094 at the beginning of 2022 to 3,325 by 30 April 2026, representing an increase of more than 200% during the war period (ONRC, 2022; ONRC, 2026). This trend suggests that Romania has become an increasingly important destination for Ukrainian entrepreneurs seeking access to EU

markets, regulatory stability, and business continuity. Although county-level disaggregation is not available for Satu Mare, the county's strategic position within north-western Romania and its integration into regional logistics corridors allow it to benefit indirectly from these broader trends. However, proximity to the conflict zone continues to generate uncertainty for long-term industrial investment and infrastructure development.

Security-related challenges have also increased in importance. Although Satu Mare County is geographically distant from active military operations, the region has experienced strengthened border surveillance, enhanced migration control procedures, and increased institutional coordination in response to regional mobility pressures. The detection of irregular border crossings from Ukraine has required additional operational resources for border control and humanitarian coordination (Inspectoratul General al Poliţiei de Frontieră, 2022–2026; ITPF Sighetu Marmaţiei, 2024–2026).

Environmental concerns represent an emerging but secondary challenge. Increased freight transport contributes to higher emissions and additional pressure on transport infrastructure. In addition, regional authorities must consider potential cross-border environmental risks associated with damage to infrastructure in Ukraine, particularly in energy, industrial, or water management systems. While no major environmental incidents have directly affected Satu Mare County, such risks remain part of broader regional contingency planning frameworks (INS, 2022–2026; Consiliul Judeţean Satu Mare, 2022–2026).

Overall, the Russo-Ukrainian war has not transformed Satu Mare County into a direct border conflict zone, but it has significantly reshaped its functional role within regional mobility, logistics, and economic systems. The county is best understood as an indirectly affected border-adjacent region, whose importance has increased within broader EU–Ukraine economic and humanitarian networks, while simultaneously facing structural challenges related to migration management, labour shortages, infrastructure capacity, and long-term investment uncertainty.

7.2 Cross-border economic initiatives

CBC ECONOMIC INITIATIVES: Economic cooperation between actors in the EU's border regions and actors in UA's border regions that emerged or changed after the outbreak of the war; investments in UA by actors from the EU's border regions or by actors from the given EU member states in general that emerged or changed after the outbreak of the war; trade and market-entry activities across the border by actors from the other side of the border that emerged or changed after the outbreak of the war.

7.2.1 Lubelskie and Podkarpackie (Poland)

Regional Context

The post-war transformation of Polish–Ukrainian economic relations has been particularly visible in Podkarpackie Voivodeship, which has become one of the main logistical and institutional gateways between the European Union and Ukraine. Beyond transport and transit functions, the region has increasingly developed business-support and reconstruction-oriented cooperation mechanisms aimed at strengthening cross-border economic links.

One of the most visible examples is the ALL4UA initiative launched in Rzeszów, which brings together more than 60 companies from construction, manufacturing, logistics and business-service sectors interested in participating in Ukraine's future reconstruction. According to project materials, participating firms declared combined production and service capacities of approximately EUR 50 million per month. The initiative illustrates the emergence of reconstruction-oriented business networks linking regional companies with Ukrainian and international partners. (УкрПравда)

Another important development has been the creation of institutional mechanisms supporting Ukrainian entrepreneurs entering the Polish market. In 2023, the Podkarpackie Regional Development Agency (RARR), together with regional authorities, universities and business-support institutions, launched the Podkarpackie_Incubator4UA initiative and participated in establishing the Distributed Incubator for Ukrainian SMEs in Jasionka. These initiatives provide advisory support, networking opportunities and institutional infrastructure for Ukrainian entrepreneurs and companies relocating or expanding their activities to Poland. (rarr.rzeszow.pl)

The regional dimension of these processes should also be interpreted within a broader growth of Ukrainian entrepreneurship in Poland. According to GUS data foreign capital from Ukraine by voivodeship brought into border regions was: podkarpackie: 2021 –9,1 mln PLN, 2022 – 17,0 mln PLN, 2023 – 17,6 mln PLN, 2024 – 14,5 mln PLN wherease in lubelskie: 2021 – 9,3 mln PLN, 2022 – 11,3 mln PLN, 2023 – 14,9 mln PLN, 2024 – 16,7 mln PLN. We can also observe that the majority of foreigners workers in Poland are of Ukrainian origine. Share of Ukrainian citizens in

the total number of foreigners performing work in Poland by place of residence are as follows: podkarpackie - 2022 – 78,9%, 2023 – 78,4%, 2024 – 76,4%, lubelskie – 2022 – 62,7%, 2023 – 60,2%, 2024 – 57,1%. The other indicator is the share of Ukrainian citizens in the total number of persons performing work by place of residence: podkarpackie 2023 and 2024 – 1,5%, lubelskie 2023 and 2024 – 1,8%

At the same time, institutions operating in Podkarpackie increasingly position the region within the emerging reconstruction ecosystem. The EURO-PARK MIELEC Special Economic Zone, regional development agencies and business organisations have participated in reconstruction-oriented forums, Ukraine Recovery Conference-related events and cooperation initiatives focused on future investment, logistics and business partnerships with Ukrainian counterparts. These activities suggest an ongoing shift from traditional border trade towards more institutionalised forms of cross-border economic cooperation linked to reconstruction, market entry and business-network development. (europark.arp.pl)

Nevertheless, the Podkarpackie case also highlights a structural challenge faced by many EU border regions. While cross-border flows, logistics activities and business networking have intensified after 2022, the long-term regional benefits will depend on whether these processes translate into durable local value-added functions, including logistics management, advisory services, subcontracting networks, innovation activities and reconstruction-related business services rather than predominantly transit-based economic roles.

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7.2.2 Prešov Self-Governing Region (Slovakia)

The following overview documents cross-border economic cooperation between actors in the Prešov Self-Governing Region (PSK) and actors in Ukraine's border regions that emerged or significantly changed after the outbreak of the Russo-Ukrainian war in February 2022. It also covers investments, business relocations, and trade activities with a direct cross-border dimension involving PSK.

One of the most significant and concrete examples of war-driven business relocation to PSK is the case of a Ukrainian drone manufacturer whose founder, Oleksandr Stepura, relocated part of the company's production to the vicinity of Prešov following the outbreak of war. The decision was driven by the need to circumvent martial law restrictions on cross-border business operations and to protect production capacity from Russian missile strikes targeting Ukrainian industrial infrastructure.

The company produces drones with capabilities that position it among a small number of global manufacturers of comparable systems, making it a strategically important supplier for Ukrainian armed forces. Relocating part of production to Slovakia allowed the company to continue operations outside the direct conflict zone while maintaining supply to Ukraine. The business results of the Slovak operation have been striking: the company moved from a loss of approximately €500,000 to a profit of €7 million within a single year, representing one of the most financially successful cases of Ukrainian business relocation to Slovakia documented in the media.

This case illustrates the potential of PSK's border location to attract high-value Ukrainian manufacturing activities, particularly in sectors where proximity to Ukraine and operational continuity are strategically critical.

The war has dramatically accelerated Ukrainian entrepreneurial activity in Slovakia. By 2024, the number of Ukrainian entrepreneurs operating in Slovakia reached over 23,000 — more than double the pre-war figure — making 2024 the year with the historically highest influx of new Ukrainian business registrations in Slovakia. These entrepreneurs contribute millions of euros annually to the Slovak state through taxes and social contributions.

A notable example is the Ukrainian restaurant chain Chernomorka, originally founded in Ukraine in 2013 and currently operating more than 50 locations across Europe, including Poland, Moldova, Austria, and Slovakia. The chain entered the Slovak market in September 2022, following the outbreak of the war, and recorded revenues of €300,000 in its first full year of Slovak operations (2023). Further expansion to the Czech Republic and Hungary is under preparation.

While much of this entrepreneurial activity is concentrated in Bratislava and other western Slovak cities, the trend reflects a broader structural change in Ukrainian

business presence in Slovakia that also affects PSK as a primary point of entry and settlement. The Prešov office of the Slovak Chamber of Commerce and Industry (SOPK) has historically specialised in Slovak-Ukrainian cross-border economic cooperation, including a formal partnership with the Ukrainian trade and economic mission in Prešov, positioning it as an institutional anchor for this growing economic relationship.

The war has substantially elevated the strategic importance of the transport and logistics corridor running through eastern Slovakia towards Ukraine. Several major investment initiatives are underway in the vicinity of the PSK–KSK border area, directly responding to increased trade flows, humanitarian logistics, and anticipated post-war reconstruction demand.

Dobrá Combined Transport Terminal (Čierna nad Tisou)

Located at the PSK–KSK border area in Čierna nad Tisou (Trebišov district), the Dobrá terminal is being extensively reconstructed and expanded as a state-designated strategic investment. The terminal serves as a critical transhipment point between the broad-gauge Ukrainian railway system (1,520 mm) and the standard European gauge (1,435 mm), enabling the transfer of goods — including grain, containers, and industrial materials — between Ukraine and EU markets. Following the closure of Ukrainian Black Sea port routes, this land corridor became essential for Ukrainian exports.

The Slovak and Ukrainian governments jointly identified both Dobrá and Čierna nad Tisou terminals as key infrastructure priorities at their intergovernmental meeting in Michalovce. The Slovak Ministry of Transport has applied for Connecting Europe Facility (CEF) funding exceeding €86 million for modernisation works, including new rail track infrastructure for standard, broad, and hybrid gauge, expanded cargo handling areas, new grain transhipment facilities, upgraded energy systems, and a new terminal operating system. Representatives of the European Commission's DG MOVE visited the site in April 2024 to assess the investment case. If completed, the terminal cluster could become the largest inland port between east and west Europe, handling new commodity flows linked to Ukrainian reconstruction and trade integration.

Michalovce Industrial Park

Located on the main road artery connecting PSK to the Ubľa and Vyšné Nemecké border crossings, the city of Michalovce is developing a third industrial park specifically responding to demand from international investors and companies engaged in Ukrainian reconstruction logistics and nearshoring activities. This initiative positions Michalovce as a key road transport and light industrial hub serving the cross-border economic corridor.

The Carpathian Initiative is a strategic trilateral cooperation framework launched at Slovakia's proposal, formally established at the founding meeting of the Ukrainian-Polish-Slovak Carpathian Initiative. It directly involves PSK and KSK (Slovakia), the

Subcarpathian Voivodeship (Poland), and the Zakarpattia and Lviv regions (Ukraine). Its creation was announced at the 6th meeting of the Ukrainian-Slovak Joint Commission on Economic, Industrial, Scientific and Technical Cooperation in November 2024.

The initiative is explicitly oriented towards economic development and reconstruction, with four main activity areas: transport infrastructure (development and modernisation of corridors connecting Slovakia, Poland, and Ukraine); economic development (creation of economic zones, investment forums, public-private partnerships); humanitarian and social projects (housing, healthcare, education in war-affected Ukrainian communities); and sustainable development aligned with EU standards and SDGs.

From PSK's perspective, the initiative positions the region not as a peripheral lagging area but as an active corridor for EU-Ukraine integration and investment. Ukrainian officials have explicitly stated their interest in attracting investments to the Zakarpattia and Lviv regions through this framework, drawing on Slovak and Polish experience in EU resource mobilisation. The initiative is intended to be financed through EU funds, other international financial mechanisms, and private sector investments.

PSK is the lead partner in the **DigiTech Healthcare** project, a cross-border cooperation initiative funded under the Interreg VI-A NEXT Hungary-Slovakia-Romania-Ukraine programme (HUSKROUA). The project has a total budget of €1,195,643 and is implemented in partnership with the Municipal Council of Velyky Bereznyi (Ukraine).

The project's general objective is to promote the use of telemedicine solutions and digital health technologies in the Slovak-Ukrainian border region, with the aim of improving access to healthcare services and building resilience of health systems on both sides of the border. Specific activities include the establishment and modernisation of medical facilities equipped with telemedicine and remote diagnostics infrastructure, cross-border workshops for healthcare management and skills exchange, and partner meetings in both Slovakia and Ukraine.

This project represents a concrete, funded example of post-war cross-border economic and institutional cooperation between PSK and Ukrainian border communities, directly addressing one of the key service deficits identified in the region. It also demonstrates PSK's capacity to act as lead partner in transnational programmes involving Ukrainian counterparts.

PSK and Zakarpattia Oblast (Ukraine) maintain a long-standing formal bilateral cooperation agreement. Since the outbreak of the war, this partnership has taken on increased strategic significance. In 2025, PSK co-organised with the European Committee of the Regions (CoR) a CIVEX External Seminar focused on Ukraine's path to EU integration and post-war recovery, in which the PSK–Zakarpattia bilateral

cooperation was highlighted as a model for EU border region partnerships with Ukraine.

This partnership provides the institutional foundation for economic cooperation across the Slovak-Ukrainian border, facilitating joint project development, knowledge transfer, and alignment of regional planning priorities. Together with the Carpathian Initiative and the HUSKROUA programme, it forms part of a layered architecture of cross-border economic and institutional cooperation that PSK has built with its Ukrainian neighbours.

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7.2.3 Košice self-governing region (Slovakia)

Košice region has experienced significant transformations in cross-border economic cooperation. One of the clearest examples of this transformation is the development of humanitarian and logistics infrastructure near Košice. In March 2022, an international humanitarian logistics hub was established in Haniska pri Košiciach at the Interport terminal. The facility became one of the main European transit points for humanitarian aid transported to Ukraine. According to official reports, thousands of tons of humanitarian supplies, including medical equipment, generators, food, and emergency materials, were redistributed through this hub toward Ukrainian regions affected by the war. The project was supported by European Union institutions, the Slovak government, and international organizations.

The growing importance of the logistics sector also led to the expansion of warehousing and transportation capacities in the region. The International Organization for Migration (IOM), together with the logistics company DACHSER, expanded warehouse facilities in Košice in order to manage the increasing flow of humanitarian goods directed toward Ukraine. DACHSER enlarged its storage capacity by an additional 3,500 square meters in both 2022 and 2023, while more than one hundred truckloads of humanitarian aid were transported through Košice to Ukraine. These developments demonstrate how wartime conditions intensified economic cooperation between international organizations, Slovak logistics providers, and Ukrainian recipients.

Another important example concerns railway transportation and intermodal logistics cooperation. The Interport terminal near Košice became strategically important because it is directly connected to the broad-gauge railway system linking Slovakia with Ukraine. This infrastructure enabled the transfer of cargo from the Ukrainian railway network to the European standard-gauge system. After the blockade of Ukrainian Black Sea ports, land transport corridors through Central Europe became essential for Ukrainian exports, particularly agricultural commodities, industrial materials, and humanitarian supplies. Consequently, the Košice region experienced increased freight transport volumes and stronger cooperation between Slovak and Ukrainian transport operators.

The war also stimulated new investment activities connected to logistics and regional infrastructure development. In 2025, the companies METRANS and INTERPORT launched a modernization project for the TIP Košice intermodal terminal. The project aims to transform the area into one of the most advanced logistics hubs in eastern Slovakia, equipped with automated systems and dual-gauge rail infrastructure capable of handling cargo arriving from Ukraine. The investment reflects the growing strategic importance of the Košice Region within European supply chains and demonstrates how the war accelerated infrastructure modernization in border regions.

Cross-border economic cooperation also evolved through the relocation and adaptation of Ukrainian businesses. Many Ukrainian companies operating in

manufacturing, transport, and trade shifted part of their economic activities toward western Ukraine and neighbouring EU countries in order to maintain access to European markets. Although only a limited number of companies fully relocated to Slovakia, Ukrainian entrepreneurs increasingly relied on Slovak customs services, warehouses, transportation companies, and commercial intermediaries located in the Košice Region. This process strengthened commercial ties between businesses on both sides of the border and increased demand for business-support services in eastern Slovakia.

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7.2.4 Szabolcs-Szatmár Bereg County (Hungary)

A cross-border regional economic initiative involves collaborative policies and projects designed to integrate markets between neighboring regions. These programmes focus on reducing barriers, harmonizing compliance and building joint infrastructure to boost mutual economic growth and regional prosperity.

In Szabolcs-Szatmár-Bereg county – due to its geopolitical location: neighbouring three counties: Transcarpathia (Ukraine), Satu-Mare (Romania), Kosice (Slovakia) - the transborder cooperation is significant.

The aim of cross-border economic initiatives is to foster economic, infrastructural, and labor market integration between the regions of neighboring countries; these initiatives are implemented within the framework of the European Union (for example, through Interreg programs).

European Interreg Programs: The EU's regional policy allocates billions of euros to cross-border cooperation.

The Interreg NEXT Hungary-Slovakia-Romania-Ukraine programme supports cross-border cooperation among Hungary, Slovakia, Romania, and Ukraine, aiming to enhance regional resilience, health, and sustainable cooperation. Key focus areas include climate change adaptation, biodiversity conservation, improved healthcare access, cultural heritage promotion, and fostering civic and community engagement.

The programme encourages collaboration across borders to address common challenges, drive sustainable development, and support long-term regional growth[7]. Three programme objectives are: *A resilient and green border region, A healthy and attractive border region, A cooperating border region*. Szabolcs-Szatmár-Bereg county – among Borsod-Abaúj-Zemplén county – is eligible county in the programme.

The Interreg VI-A Romania-Hungary Programme (ROHU Programme) is a territorial cooperation programme between two member states, Romania and Hungary, funded through the European Regional Development Fund (ERDF), with a total allocation of 175,940,025.00 EUR (out of which 80% ERDF, in amount of 140,752,020.00 EUR). The vision for the ROHU Programme is a greener, more resilient, and cohesive cross-border region between Romania and Hungary, with enhanced understanding of cooperation opportunities, increased trust and reduced barriers to cooperation, towards Agenda 2030 common targets with a more sustainable cooperation framework [8] . The programme contribute to 3 EU priorities: *Greener Europe, More Social Europe, Better cooperation governance*.

The Programme Area consists of 8 counties, 4 in Romania (Arad, Bihor, Satu Mare and Timiş) and 4 in Hungary (Békés, Csongrád-Csanád, Hajdú-Bihar and Szabolcs-Szatmár-Bereg). The HU-RO cross-border area is part of the EU Strategy for the Danube Region (Danube Strategy - EUSDR).

The Interreg HUSK Programme is a cross-border initiative between Hungary and Slovakia, funded by the European Union. The goal is to strengthen cross-border cooperation between Hungary and Slovakia, boost regional growth, and tackle shared challenges along the border. *Green, social and institutional cooperations* are planned. The programme area consists of 5 Slovakian region and 7 Hungarian counties[9].

Cross-border initiatives: are collaborative strategies and agreements between countries that aim to promote activities across national boundaries.

The European Grouping of Territorial Cooperation is opportunity for municipalities, regions and states to establish cross-border, transnational or interregional cooperation with similar players of another member state and to fulfil their common objectives this way.

Szabolcs-Szatmár-Bereg County, Transcarpathia County and Kisvárda set up Tisza EGTC in 2015. It was the first grouping in Europe that had been formed by the border areas of an EU Member State (Hungary) and a non-EU country (Ukraine). The grouping is an economically autonomous, non-profit organisation with legal personality. The general objective of Tisza EGTC is to foster cross-border cooperation between its members in order to strengthen economic, social and territorial cohesion.

[7] https://interreg.eu/programmes/next-hungary-slovakia-romania-ukraine/
[8] https://interreg-rohu.eu/en/discover-the-rohu-programme/
[9] https://interreghusk.eu/about-us/

The task of the grouping is to generate and implement projects and programmes launched in the cross-border cooperation area to achieve the above objectives.

The European Border Cities European Grouping of Territorial Cooperation was established in September 2014. The Grouping consists of two members: the Municipality of Nyíregyháza (a city with county rights) and the City Council of Satu Mare (Romania).

The Association envisaged—with European Union co-financing—the development of joint regional and tourism development programs, plans, and cross-border projects, as well as the associated project generation, implementation, and development.

The specified cross border economic initiative efforts help businesses grow internationally by reducing barriers and streamlining processes for trade, payments, and regulatory compliance. These programs focus on the following key areas:

- Infrastructure development: Construction of border crossings, roads, and utility networks to improve regional accessibility.
- Cross-border labor mobility: Reducing administrative barriers to commuting and organizing joint job fairs and economic forums.
- Joint enterprise development: Supporting small and medium-sized enterprises (SMEs) and building cross-border clusters and supply chains.
- Local development (CLLD): Community-led local development programs.

The Hungarian Chamber of Commerce and Industry (MKIK) considers supporting the foreign market activities of Hungarian enterprises to be one of its fundamental tasks. In line with this objective, the MKIK offers businesses that have completed chamber registration the opportunity to be included—free of charge—in the online Hungarian exporter database (Export Directory). The Export Directory provides foreign companies with information in English about Hungarian products and services intended for export.[10]

[10] https://szabkam.hu/magyar-exportor-adatbazis

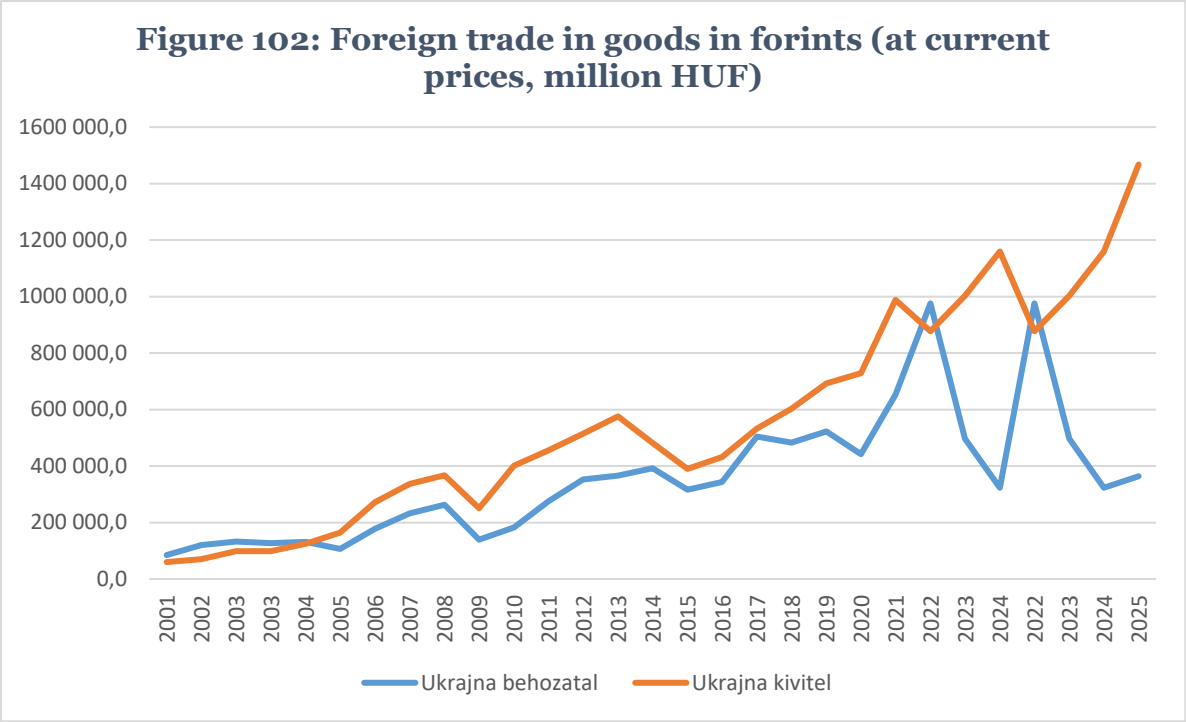

Table 51: Tourism (KSH-Central Statistical Office) data

Forign tourist arrivals by country (Q1-4, 2025)						
Country	Number of guests			Number of guest nights		
	commercial accommodation	private and other types of accommodation	total tourist accommodations	commercial accommodation	private and other types of accommodation	total tourist accommodations
Total Foreign Countries	**60 021**	**16 342**	**76 363**	**130 678**	**45 993**	**176 671**
Europe	**57 908**	**16 053**	**73 961**	**116 069**	**44 494**	**160 563**
Ebből:						
Austria	863	106	969	1 524	264	1 788
Belgium	130	27	157	274	73	347
Czech Republic	856	191	1 047	1 870	510	2 380
Denmark	753	20	773	2 199	93	2 292
UK	655	149	804	1 739	402	2 141
France	445	49	494	1 000	131	1 131
Netherlands	531	73	604	1 323	197	1 520
Poland	**8 002**	**4 157**	**12 159**	**18 770**	**14 711**	**33 481**
Germany	3 485	481	3 966	9 179	1 934	11 113

Italy	901	120	1 021	2 378	370	2 748
Russia	68	18	86	232	24	256
Romania	**17 498**	**3 709**	**21 207**	**34 139**	**7 910**	**42 049**
Spain	226	58	284	894	245	1 139
Switzerland	270	37	307	686	92	778
Sweeden	165	17	182	385	30	415
Slovakia	**10 927**	**3 457**	**14 384**	**20 443**	**8 546**	**28 989**
Ukraine	**8 713**	**2 851**	**11 564**	**11 600**	**6 909**	**18 509**
Asia	**1 309**	**107**	**1 416**	**12 235**	**720**	**12 955**
America	**696**	**151**	**847**	**2 095**	**635**	**2 730**

The key source markets for tourism Romania, Slovakia, Ukraine and Poland. Tourism cooperation with these regions is of key importance. Border permeability is a priority from a tourism perspective.

General challenges during the cross-border cooperation:

- border crossing (in and out)
- lack of will in the field of professional cooperation
- cumbersome communication
- financing problems
- transfer-related challenges
- pace of progress of infrastructure invetsments
- language barriers.

7.2.5 Satu Mare County (Romania)

Cross-border economic cooperation in Satu Mare County has been reshaped by the Russian invasion of Ukraine, mainly through changes in regional trade routes, logistics flows, labour mobility, and EU-funded cross-border programmes. Satu Mare County directly borders Ukraine and, as part of the North-West Development Region of Romania, is connected both to cross-border dynamics and to wider transport and economic networks in Eastern Europe.

One of the most important changes concerns the reconfiguration of regional logistics and trade corridors. Following the disruption of Black Sea transport routes, the importance of land-based freight transport in Central and Eastern Europe has increased. Romania – including its north-western counties – has become part of alternative supply chains linking Ukraine with EU markets. In this context, economic actors in Satu Mare County have adapted to evolving regional trade and logistics conditions.

A second important development is the activation of EU cross-border cooperation instruments, particularly the Interreg NEXT Romania–Ukraine Programme (2021–

2027). As a direct border county, Satu Mare County participates in broader regional partnerships with Ukrainian stakeholders from regions eligible under the programme and involved in Romania–Ukraine cross-border cooperation. These programmes support various development initiatives, including transport connectivity, entrepreneurship, innovation, institutional capacity building, and economic cooperation. As a result, stakeholders in Satu Mare County are increasingly integrated into project-based cooperation networks linked to Ukraine's reconstruction, development, and regional resilience.

The changing geopolitical context has simultaneously created both opportunities and uncertainties for the regional economy. Economic relations between Romania and Ukraine have strengthened since the outbreak of the war, leading to more intensive commercial and logistics linkages in border regions. Official data from the Romanian National Trade Register Office (ONRC) show a significant increase in the number of companies with Ukrainian participation operating in Romania. The number of such companies rose from 1,094 at the beginning of 2022 to 3,325 by 30 April 2026, representing an increase of over 200% during the war period (ONRC, 2022; ONRC, 2026). This trend suggests that Romania has become an increasingly important destination for Ukrainian entrepreneurs seeking access to EU markets, regulatory stability, and business continuity.

Although detailed county-level data are not available for Satu Mare, the county's strategic location near the Romanian–Ukrainian border, as well as its growing role in regional logistics and economic networks, strengthens its position within emerging transport and cross-border cooperation systems. The county thus benefits indirectly from the war-driven restructuring of regional markets and supply chains. At the same time, proximity to an active conflict zone may increase investment uncertainty, particularly regarding long-term industrial development and infrastructure investment.

Another relevant dimension is labour market interaction. The presence of Ukrainian refugees in Romania has had a limited but noticeable impact on local labour supply and demand for public services. In Satu Mare County, Ukrainian citizens have mainly been integrated through temporary protection schemes, primarily in low- and medium-skilled sectors. This has led to a moderate increase in demand for administrative services, housing, education, and healthcare, while also creating opportunities for local employers facing labour shortages.

Infrastructure and investment development in the context of cross-border cooperation have also been influenced by the geopolitical situation. Romania's national strategy to improve connectivity with Ukraine – including road infrastructure, customs efficiency, and transport corridors – indirectly benefits Satu Mare County. These developments strengthen the county's position within the EU logistics network.

Finally, the war has increased interest in Ukraine's development and reconstruction among Romanian companies and institutions. Satu Mare County can be seen in this

context as part of an emerging reconstruction- and development-oriented economic ecosystem.

Overall, CBC economic initiatives in Satu Mare County are characterized by both direct border-region dynamics and indirect integration into Romania–Ukraine economic relations, shaped by logistics, EU programmes, labour mobility, and networks related to reconstruction and development.

Sources:

- *European Commission. Interreg NEXT Romania–Ukraine Programme (2021–2027).*
- *OECD (2024). EU regional impacts of the war in Ukraine.*
- *Romanian National Trade Register Office (ONRC). Company statistics (2022–2026).*

7.3 Best practices of integrating Ukrainian refugees

The four border regions reviewed - Satu Mare, Podkarpackie/Rzeszów, Košice and Prešov - show how territorial authorities can convert an acute humanitarian shock into stronger regional capacity. Their most effective responses combine rapid emergency coordination, reuse of existing infrastructure, integrated refugee services, cross-border institutions and investment in long-term logistics, skills and reconstruction readiness.

Table 52: Regional responses.

Region	Selected practices	Strategic value
Satu Mare County (Romania)	Rapid coordination at border crossings such as Halmeu; temporary shelter, food, medical support and onward transport; flexible use of community buildings; strong mobilisation of NGOs, faith-based groups and volunteers; integration of refugees into existing schools, healthcare and social services.	A decentralised resilience model. Its strength lies less in large infrastructure than in quickly connecting emergency services, local authorities, civil society and international organisations while maintaining continuity of public services.
Podkarpackie / Rzeszów (Poland)	Transformation of Rzeszów-Jasionka Airport into a major civilian, military and humanitarian logistics hub; development of POLLOG HUB and dual-use infrastructure; the Podkarpackie Centre for the Integration of Foreigners; growth of defence, logistics, cybersecurity and UAV-related activities, including Drone Valley.	A strategic adaptation model linking crisis response with regional economic specialisation. The airport, integration services and emerging technology ecosystem position the region for sustained EU-Ukraine logistics and future reconstruction.

Region	Selected practices	Strategic value
Košice Region (Slovakia)	Conversion of the Haniska/Interport terminal into a humanitarian logistics hub using intermodal and broad-gauge rail capacity; cross-sectoral refugee support under Košice 2.0; a multifunctional regional Integration Centre; planned UN-Habitat cooperation focused on reconstruction of Ukrainian cities.	A platform-based model that repurposes existing infrastructure and innovation networks. Emergency mechanisms are being institutionalised into long-term logistics, integration and international reconstruction functions.
Prešov Region (Slovakia)	Creation of the EGTC Vihorlat as a permanent Slovak-Ukrainian cooperation structure; comprehensive university support for Ukrainian students; one-stop integration and employment services; applied research on migration and cross-border governance; emergency accommodation and transport coordination activated within days.	An institutional and knowledge-based model. Regional government, municipalities, universities, NGOs and labour services jointly bridge immediate protection, social inclusion, evidence-based policy and post-war cooperation.

Source: Own edition

Shared success factors and transferable lessons

- **1. Build on existing assets.** The fastest responses did not start from zero. Airports, rail terminals, schools, university services, municipal buildings and prior EU cooperation networks were rapidly adapted to new humanitarian and logistics needs.
- **2. Coordinate across sectors and levels.** Regional leadership was most effective where emergency services, municipalities, national agencies, NGOs, universities, employers and international organisations worked through a shared operational framework rather than parallel systems.
- **3. Move early from reception to integration.** The strongest models combine shelter and immediate assistance with language learning, psychological and legal support, employment services, qualification recognition, education, childcare and community participation.
- **4. Institutionalise cross-border cooperation.** Permanent or durable structures - such as the EGTC Vihorlat, regional integration centres and reconstruction hubs - turn temporary crisis partnerships into mechanisms for joint investment, policy learning and Ukraine's recovery.
- **5. Link resilience to economic transformation.** Dual-use transport infrastructure, logistics services, defence maintenance, UAV technologies, research and skills development show how crisis-driven investment can strengthen regional competitiveness when civilian safeguards and social inclusion remain central.

Taken together, the cases demonstrate a common transition from emergency improvisation to structured territorial resilience. Satu Mare highlights flexible local coordination; Podkarpackie demonstrates strategic logistics and economic adaptation; Košice shows how infrastructure and urban innovation platforms can be repurposed; and Prešov illustrates the value of permanent cross-border institutions, universities and one-stop services. The most transferable lesson is that border regions perform best when humanitarian protection, public-service continuity, labour-market inclusion, infrastructure investment and cross-border governance are designed as one connected system. Regional resilience is not only the capacity to absorb a crisis; it is the ability to convert emergency cooperation into durable institutions, inclusive services and development pathways.