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CENTRALIZED REPORT

Comparative Report on Workforce and Employment Situation in

Romania - Hungary - Ukraine Cross Border Region



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1. Executive Summary

1.1. Aim of the report

The aim of this centralized report is to provide a comparative, evidence-based assessment of labour market conditions in Romania, Hungary, and Ukraine, based exclusively on the three national secondary data analyses prepared within the CONCORD project framework. The report aims to synthesize national findings into a coherent regional perspective, identify common challenges and country-specific dynamics, and support the formulation of coordinated labour market and workforce development interventions. The report also intends to support the design of informed and coordinated labour market and workforce development interventions at national, regional, and cross-border levels, contributing to more effective policy responses and long-term labour market resilience.

1.2. Methodological specifications

This report is based on a harmonized secondary data analysis carried out by the project partners in Romania, Hungary, and Ukraine. Existing statistical data, administrative records, and institutional reports were reviewed and synthesized in order to provide an analytical comparison. The comparative framework covers demographic trends, employment characteristics, labour market vulnerabilities, skills and training systems, and emerging labour market trends. Indicators and qualitative assessments were aligned as far as possible, and where direct statistical comparison was not feasible, descriptive analysis was used to identify patterns and differences. This approach allows for meaningful comparison, given the variations in data availability.

For the purpose of ensuring internal coherence and consistency, the template used for secondary analysis was used as a structural reference in the organization of the centralized report, offering a clear and comprehensive presentation of methodological steps and links between demographic trends, labour market dynamics, and policy considerations. The analyses for Romania, Hungary and Ukraine are aligned with this common thematic logic and have been integrated accordingly, with appropriate adjustments reflecting differences in statistical coverage, territorial focus, and, in the case of Ukraine, the specific constraints resulting from the war context.

1.3. Key comparative findings across Romania, Hungary, and Ukraine

The comparative analysis reveals that the labour markets of Romania, Hungary, and Ukraine are influenced by a common set of factors, while also reflecting distinct national and contextual conditions.

Demographic aging emerges as a central challenge in all three countries, progressively reducing the size of the working-age population and increasing dependency ratios. This trend is particularly pronounced in rural and peripheral regions, where the number of young people is declining and there are fewer workers to replace those who retire.

In Romania and Hungary, labour market pressures are largely the result of long-term structural processes. Workforce aging is further intensified by ongoing outward migration, particularly of young and skilled workers, which reduces the available labour force and increases regional inequalities. Employment opportunities and higher-value jobs remain concentrated in urban and economically dynamic areas, while peripheral regions continue to experience lower participation rates, weaker job quality, and limited access to training and reskilling opportunities. These imbalances contribute to persistent labour shortages even in contexts where unemployment has not been fully eliminated.

Ukraine's labour market displays a different dynamic, shaped primarily by the consequences of the ongoing war. Large-scale displacement, both internal and external, has resulted in significant labour force losses and shifts in regional labour supply. Institutions are under significant pressure, and employment has become unstable. Some sectors face serious labour shortages, while others are shrinking quickly. In this situation, normal labour market adjustment processes no longer function effectively.

Despite these differences, a key common finding is the coexistence of labour shortages and unused labour potential across all three countries. Critical sectors such as manufacturing, construction, healthcare, logistics, and digital services continue to report unfilled vacancies, while education and training systems struggle to respond quickly and effectively to evolving skill requirements. This situation places growing pressure on vocational education, adult learning, and lifelong training frameworks, highlighting the need for more flexible, demand-driven approaches to skills development across the region.

Thus, the comparative analysis shows that all three countries share several important labour market similarities. Demographic decline is reducing the available workforce, while employers continue to report labour shortages in technical, industrial, healthcare, and service occupations. At the same time, demand for digital and transferable skills is increasing across all sectors, reflecting broader technological change and new forms of work. These common trends affect Romania, Hungary, and Ukraine alike and place growing pressure on education, training, and workforce development systems.

At the same time, clear differences emerge due to national and contextual factors. Romania and Hungary operate within relatively stable institutional and economic environments, which allows labour markets to adjust gradually through policy reforms, migration, and sectoral shifts. Ukraine's labour market, by contrast, is strongly shaped by war-related disruptions, including displacement, labour force losses, and institutional strain. As a result, while Romania and Hungary are experiencing steady but slow structural change, Ukraine is undergoing a much faster and less predictable transformation, with uneven effects across regions and sectors.

1.4. Significance for joint regional labour market measures

The findings highlight the importance of coordinated regional approaches that go beyond national policies. Greater emphasis is needed on skills development, improved workforce mobility, and the inclusion of vulnerable groups such as low-skilled workers, older employees, and displaced persons. These priorities are common across the three countries and cannot be addressed effectively separate.

Cross-border cooperation is especially important for responding to labour shortages, aligning education and training systems, and supporting the labour market integration of displaced populations. Joint initiatives can help make better use of available skills and reduce mismatches between labour supply and demand. A shared strategic focus on lifelong learning, digital skills development, and reducing regional inequalities is essential to strengthen labour market resilience and promote balanced territorial development.

2. Introduction

2.1. Background and rationale of the centralized report

The centralized analysis addresses the increasing need to better understand how labour markets are evolving in Romania, Hungary, and Ukraine, especially in border regions facing population decline, economic change, and geopolitical uncertainty. These areas share similar challenges but are often analysed separately, which limits the effectiveness of policy responses.

The CONCORD project offers an appropriate framework for bringing together national analyses and examining them from a common regional perspective. By integrating country-level findings, the project makes it possible to identify shared trends, key differences, and opportunities for coordinated action across borders.

2.2. Territorial coverage

The report covers selected regions in Romania, Hungary, and Ukraine, with particular attention to cross border areas. In Romania, the analysis concentrates on Satu Mare County, in Hungary, on Szabolcs-Szatmár-Bereg County, and in Ukraine, on the Transcarpathian region. These territories form a nearby cross-border area characterized by close geographic proximity and long-standing interactions.

The targeted areas share common historical, economic, and labour mobility linkages, including cross-border commuting, migration, and interconnected economic activities. At the same time, they face similar structural challenges related to demographic change, peripheral location, and uneven development. This combination of shared characteristics and distinct national contexts makes them particularly suitable for comparative analysis and for exploring opportunities for coordinated regional and cross-border labour market

2.3. Objectives of the centralized report

The main objectives of this report are to bring together the national secondary data analyses into a single, coherent comparative framework and to clearly identify both the common labour market

challenges and the issues that are specific to each country. By doing so, the report aims to provide a structured overview of similarities and differences across Romania, Hungary, and Ukraine.

In addition, the analysis is intended to support evidence-based policy planning at national, regional, and cross-border levels. By grounding conclusions in comparable data and shared analysis, the report seeks to inform more effective and coordinated labour market and workforce development interventions.

The main specific objectives are:

- To synthesize national secondary data analyses into a coherent comparative framework;
- To identify shared and country-specific labour market challenges;
- To support policy planning at regional, and cross-border levels.

3. Methodology and Data Sources

The analysis draws on secondary data covering the period 2022-2025, depending on national data availability. Census data, labour force surveys, administrative records, and institutional reports form the core evidence base. The figures are rounded and indicative, designed to demonstrate trends and contrasts, not to introduce new factual claims beyond the original analyses.

3.1. Main data sources by country

- *Romania*

Romania's analysis relies on national statistical data, labour force surveys, regional employment records, and policy reports. The data allow longitudinal analysis and regional differentiation, within existing limitations.

- *Hungary*

Hungary's secondary analysis uses data from the Central Statistical Office, regional development systems, labour market portals, and administrative sources, with coverage at county level, academic references.

- *Ukraine*

Ukraine's analysis draws on national statistical services, regional employment centers, international organizations, and humanitarian agencies. Data continuity is affected by the war, requiring cautious interpretation.

3.2. Limitations of secondary data analysis

The use of secondary data involves certain limitations that need to be acknowledged. Although comparability between the three country analyses was strengthened by aligning key indicators, thematic sections, and overall analytical logic, differences in data availability, timing, and level of detail remain.

In cases where direct statistical comparison was not possible, qualitative assessment and interpretation were used to identify trends and patterns. While this approach allows for a more comprehensive understanding of labour market dynamics, it also means that some findings should be interpreted as indicative rather than strictly comparable across all three countries. Key limitations include uneven data availability, especially in Ukraine, limited detail in regional and group-level data, and delays in statistical reporting. These constraints affect precision, but do not undermine overall trends.

4. Demographic Characteristics of the Workforce

4.1. Employed population

Across the three countries, the size and structure of the employed population reflect both long-term demographic trends and recent shocks. In Romania, the analysis focuses on Satu Mare County, where labour market dynamics are captured primarily through unemployment levels and structural indicators rather than total employment figures. Despite moderate unemployment rates, the region faces persistent labour shortages and strong rural labour market pressures. Hungary's employment in the examined county is smaller in absolute terms, at around 240-260 thousand employed persons, showing gradual growth over the past decade. In Ukraine's Transcarpathian region, the employed population is estimated at approximately 480-500

thousand persons, but this figure remains highly volatile due to displacement and migration following the outbreak of the war.

4.2. Economic activity and employment rates

Economic activity and employment indicators vary across the three countries, reflecting both structural conditions and data availability. In Hungary, the economic activity rate in the analysed county reached approximately 76.5%, while the employment rate stood at around 59-60%, remaining below the national average and lower in peripheral and rural areas. In Romania, labour market conditions are reflected through registered unemployment levels and rates, which indicate moderate unemployment alongside persistent labour shortages, particularly in rural areas. In Ukraine, employment rates are significantly lower and more volatile, illustrated at approximately 50-53%, reflecting the combined impact of war-related disruptions, displacement, and long-standing structural weaknesses in the labour market.

4.3. Age structure and aging trends

All three labour markets are characterized by an aging workforce. In Romania and Hungary, workers aged 50+ already represent roughly 30-35% of the employed population, while the share of young workers aged 15-29 has declined to around 15-18%. Ukraine shows a dual pattern: aging trends similar to its neighbors, combined with a sharp reduction in prime-age workers due to migration and mobilization. As a result, the working-age population is decreasing faster than replacement rates would normally suggest.

4.4. Gender structure

In Romania, the secondary analysis highlights gender differences mainly through sectoral and occupational patterns. Female employment is more strongly represented in services, education, healthcare, and administrative activities, while male employment is more prevalent in industry, construction, transport, and manual occupations. These patterns are particularly visible in rural and peripheral areas, where traditional sectoral roles remain influential.

In Hungary, a similar division can be observed. Occupational data indicate a concentration of women in service-related, administrative, and human service occupations, while men dominate industrial, construction, logistics, and machine-operation roles. Although overall gender participation appears relatively balanced, employment opportunities and job quality differ significantly by sector and location.

In Ukraine, gender imbalances have become more pronounced since 2022. War-related factors, including military mobilization and outward migration of men, have led to a higher proportion of women remaining active in the civilian labor market. As a result, women play an increasingly central role in services, public administration, healthcare, education, and humanitarian-related activities, while overall gender participation patterns have shifted more visibly than in Romania and Hungary.

4.5. Regional demographic disparities

Regional disparities are pronounced. Peripheral rural areas in Romania and Hungary experience stronger population decline, higher dependency ratios, and lower labour market participation. Urban centers and regional capitals concentrate younger and more highly educated workers. In Ukraine, demographic disparities are intensified by uneven displacement patterns, with host regions facing temporary population pressure and labour supply mismatches.

5. Employment Structure and Sectoral Distribution

5.1. Employment by main economic sectors

- ***Agriculture***

Agriculture remains an important component of the labour market in Ukraine and parts of rural Romania, though its role varies significantly across countries. In Romania, the secondary analysis highlights the strong rural character of the labour market and the prevalence of low-skilled employment, suggesting a continued relevance of agricultural and agriculture-related activities, particularly in rural areas. In Ukraine's Transcarpathian region, agriculture accounts for a substantial share of employment, estimated at 25-35%, often in small-scale, family-based, or

semi-formal forms. In Hungary, agricultural employment is considerably lower, at around 3%, reflecting higher mechanization, structural transformation, and the declining role of agriculture as a source of registered employment.

- ***Industry and manufacturing***

Industry and manufacturing play an important role in Hungary and remain present in parts of Romania. In Hungary's Szabolcs-Szatmár-Bereg County, industry-related occupations—including manufacturing, construction, and machine operation—account for approximately 26-27% of total employment, underlining the continued importance of industrial activity in the regional labour market. In Romania, the secondary analysis highlights the presence of industrial employment and labour shortages in technical occupations, indicating a mixed and territorially uneven industrial structure. In Ukraine's Transcarpathian region, industrial employment accounts for an estimated 15-25% of total employment and is strongly affected by supply chain disruptions, reduced production capacity, and broader war-related economic constraints.

- ***Services***

The service sector plays an important role in the labour markets of all three countries, though its relative weight varies by national and regional context. In Romania, the secondary analysis highlights the significant role of services—particularly trade, public administration, education, and healthcare—without providing a quantified share of total employment. In Hungary's Szabolcs-Szatmár-Bereg County, service-related occupations account for approximately 35-36% of total employment, indicating a substantial but not dominant service sector alongside industry and low-skilled occupations. In Ukraine's Transcarpathian region, services represent an estimated 35-45% of total employment, with recent growth in logistics, humanitarian services, and public administration linked to war-related needs.

5.2. Occupational structure and skill levels

Low- and medium-skilled occupations continue to dominate employment structures, particularly in peripheral and rural regions across the three countries. This reflects limited diversification, and restricted access to higher-skilled job opportunities outside major urban centers.

In Romania, the secondary analysis clearly indicates a high concentration of unemployed persons with low or basic levels of education, alongside strong rural labour market characteristics. These factors suggest that low- and medium-skilled occupations remain prevalent, particularly in rural areas, while higher-skilled employment opportunities are limited and geographically concentrated in urban centers (such as Satu Mare or Carei). As a result, many workers face restricted opportunities for upward mobility, limited access to stable and well-paid jobs, and a higher risk of long-term unemployment or labour market inactivity, especially in peripheral regions.

In Hungary, the analysis shows that a substantial share of employment, around 35-40%, is concentrated in occupations requiring low or basic qualifications, including elementary occupations, machine operators, and manual workers. High-skilled occupations, such as professionals and technicians, account for a smaller share, estimated at around 20-25%, and are largely concentrated in urban centers and economically stronger areas, such as Nyiregyhaza, Mateszalka, Nyirbator and Kisvarda. Other areas, such as Csengeri or Ibranyi, have a low number of enterprises and a low economic weight. The lack of formal employment opportunities in these regions increases the role of informal employment. This contributes to clear spatial differences in job quality and income levels.

In Ukraine, skill polarization is more pronounced. While the workforce includes a significant number of highly educated and skilled individuals, many are employed below their qualification level or outside their field of expertise. War-related displacement, labour market disruption, and limited availability of suitable jobs have increased underemployment among skilled workers. At the same time, demand remains high for low- and medium-skilled labour in agriculture, basic services, and reconstruction-related activities, reinforcing mismatches between skills supply and labour market demand.

The prevalence of low- and medium-skilled occupations, combined with the concentration of high-skilled jobs in urban areas, contributes to persistent regional inequalities. Addressing these imbalances will require targeted skills development, improved access to training in peripheral regions, and stronger links between education systems and local labour market needs.

5.3. Regional specialization patterns

Regional specialization in Romania, Hungary, and Ukraine is shaped by long-term economic development paths and local conditions. These patterns influence the types of jobs available in each region and help explain ongoing differences in employment quality and income between areas.

In Romania, the analysed border region has a strong rural character. Employment is closely linked to agriculture and agriculture-related activities, especially in villages and smaller settlements. Although exact figures are not available, the high share of rural population and the concentration of unemployment in rural areas indicate that many jobs are low-skilled and offer limited income and stability. Industrial activity exists, but it is unevenly distributed and does not provide sufficient employment opportunities across the region.

In Hungary, regional specialization is more balanced. The analysed county combines industrial activities, such as manufacturing, construction, and logistics, with a sizeable service sector. These industrial clusters provide more stable and better-paid jobs, particularly in areas connected to transport routes and cross-border supply chains. However, not all parts of the county benefit equally, and some peripheral areas still rely on low-skilled work and public employment.

In Ukraine's Transcarpathian region, agriculture remains a key source of employment, especially in rural areas where small-scale farming is common. Industrial activities are present but limited and uneven, making them vulnerable to economic shocks. Since the start of the war, service activities linked to logistics, humanitarian assistance, and public administration have grown, mainly in urban centers.

Across all three countries, services are concentrated in larger towns, where public institutions, education, healthcare, and trade are located. This concentration strengthens the gap between urban and rural areas. Urban regions offer more diverse and higher-quality jobs, while rural and peripheral areas face fewer opportunities, lower wages, and higher risks of unemployment or out-migration.

6. Unemployment and Labour Market Vulnerabilities

6.1. Unemployment rates and trends

Unemployment levels in Romania and Hungary can be described as moderate, though they vary significantly across regions and population groups. In Romania, the secondary analysis reports an unemployment rate of around 5% Satu Mare County (for example, 5.14% in December 2024). While this rate does not indicate severe unemployment at aggregate level, it masks important structural problems, including a high concentration of unemployment in rural areas, long-term unemployment among low-skilled workers, and persistent labour shortages in certain sectors. This highlights the coexistence of unemployment and unmet labour demand.

In Hungary, unemployment rates remain relatively low, generally within the 4-6% range. However, similar to Romania, disadvantaged and peripheral areas experience higher unemployment and weaker labour market attachment. Long-term unemployment and limited access to quality jobs remain challenges, particularly for low-skilled workers and older age groups, despite overall favourable headline indicators. Although official unemployment figures in Szabolcs-Szatmár-Bereg County show a declining trend, this improvement must be interpreted with caution. A significant factor behind the decrease has been the expansion of public employment schemes rather than sustained job creation in the open labour market.

In Ukraine, unemployment is both higher and more volatile. The secondary analysis indicates unemployment rates in the range of 10-11%, reflecting the combined effects of reduced labour demand, business disruption, displacement, and institutional strain caused by the war. These figures fluctuate significantly across regions and over time, making unemployment a more unstable and acute challenge than in neighbouring countries. As a result, unemployment in Ukraine is closely linked not only to structural labour market weaknesses but also to ongoing crisis conditions.

Hence, while Romania and Hungary display relatively moderate unemployment rates, these figures should be interpreted with caution due to hidden unemployment, inactivity, and regional disparities. In Ukraine, unemployment remains a central and highly volatile labour market issue, closely tied to broader economic and geopolitical developments.

6.2. Long-term unemployment

Long-term unemployment remains a critical issue in Romania and Hungary. In disadvantaged regions, up to 40-50% of registered unemployed may be unemployed for more than 12 months. This reflects low skill levels, limited mobility, and weak local labour demand. In Ukraine, long-term unemployment is increasing but difficult to measure accurately due to data gaps.

6.3. Youth unemployment

Youth unemployment remains consistently higher than overall unemployment across the three countries, reflecting structural difficulties in labour market entry for young people. Limited work experience, skills mismatches, and weak links between education systems and employers continue to affect young jobseekers, particularly in peripheral regions.

In Romania, the secondary analysis highlights the vulnerability of young people in the labour market, especially those with low levels of education and those living in rural areas. Difficulties in accessing stable employment and limited availability of entry-level jobs suggest that youth unemployment is significantly higher than the general unemployment rate, even if precise figures are not reported.

In Hungary, youth unemployment remains above the overall unemployment level. While rates have improved over time, young people (particularly recent graduates and those in disadvantaged regions) continue to face higher risks of unemployment and unstable employment. This reflects ongoing challenges related to school-to-work transition and regional disparities in job opportunities.

In Ukraine, youth unemployment is both higher and more volatile. The secondary analysis indicates that unemployment among young people may exceed 20%, particularly among recent graduates and displaced youth. War-related disruption, displacement, and reduced availability of suitable entry-level positions have significantly weakened labour market prospects for younger cohorts.

High youth unemployment across the three countries points to structural barriers in labour market entry. Addressing these challenges will require targeted measures such as improved

vocational training, stronger employer engagement, apprenticeships, and tailored support for young people in rural, disadvantaged, and crisis-affected areas.

6.4. Vulnerable groups in the labour market

Vulnerable groups in the labour market across Romania, Hungary, and Ukraine include low-skilled workers, older workers aged 55 and over, rural populations, ethnic minorities, and displaced persons. These groups are consistently exposed to higher risks of unemployment, inactivity, informal employment, and long-term exclusion from the labour market, although the intensity and drivers of vulnerability differ by country and region.

In Romania, the secondary analysis highlights the strong overrepresentation of low-skilled and low-educated individuals among the unemployed, particularly in rural areas. Older workers face increasing difficulties in re-entering employment once unemployed, due to limited access to retraining and employer preferences for younger labour. Rural populations are especially affected by limited job availability, weak transport links, and reliance on seasonal or informal work. Ethnic minorities are also more exposed to labour market exclusion, often overlapping with low education levels and rural residence.

In Hungary, similar vulnerability patterns are observed. Low-skilled workers and older employees are more likely to experience long-term unemployment or to exit the labour market altogether. Peripheral and rural areas show higher concentrations of disadvantaged groups, while ethnic minorities face persistent barriers related to education, skills, and discrimination. Although overall employment levels are relatively high, these groups benefit less from positive labour market trends and remain weakly integrated.

In Ukraine, vulnerability is intensified by war-related factors. Displaced persons, including internally displaced persons and returnees, face significant challenges in accessing stable employment due to documentation issues, skills mismatch, and limited local job opportunities. Older workers and low-skilled individuals are particularly affected by labour market disruption, while informal employment has increased as a coping mechanism. Ethnic and regional inequalities further deepen labour market exclusion in certain areas.

The analyses confirm that vulnerability in the labour market is closely linked to low skills, age, location, and displacement status. Without targeted policy interventions, such as tailored training, active labour market measures, improved mobility, and inclusive regional development, these groups are likely to remain at the margins of employment growth, even in periods of overall labour market improvement.

6.5. Hidden unemployment and labour market inactivity

Hidden unemployment remains a significant feature of labour markets in Romania, Hungary, and Ukraine, although it manifests in different ways across the three contexts. Official unemployment figures often understate the true extent of labour market exclusion, as a considerable number of individuals are either engaged in forms of employment that do not reflect real labour market integration or have withdrawn from active job search altogether.

In Romania and Hungary, public employment schemes also play a role in shaping hidden unemployment. While these programs provide temporary income support and maintain labour market attachment, they also mask structural weaknesses in local labour markets. A substantial share of participants remains in public employment for extended periods, particularly in disadvantaged and rural areas. In addition, informal or semi-formal work—especially in agriculture, construction, and personal services—absorbs part of the labour force that would otherwise appear as unemployed. Discouraged workers, who stop actively seeking employment due to repeated unsuccessful attempts or limited local opportunities, further reduce visible unemployment figures.

In Ukraine, hidden unemployment and inactivity have increased sharply since 2022 as a result of war-related disruption. Large-scale displacement, business closures, and insecurity have pushed many individuals out of formal employment without necessarily registering as unemployed. Informal work has expanded as a coping strategy, particularly in agriculture, small services, and short-term or irregular activities. At the same time, labour market inactivity has grown among older workers, displaced persons, and those facing care responsibilities or mobility constraints, making it difficult to capture the full scale of labour market exclusion through official statistics.

The presence of hidden unemployment and rising inactivity complicates labour market assessment and policy design. While headline unemployment rates may appear moderate, they

often conceal deeper structural problems related to job quality, skills mismatch, and limited access to stable employment.

7. Main Challenges of the Labour Market

7.1. Skills shortages and skills mismatch

Despite the presence of unemployment, employers across all three countries consistently report labour shortages in key sectors. These shortages are particularly visible in technical occupations, healthcare, logistics, construction, and increasingly in digital and Information and Communications Technology (ICT) related roles. This situation points to an imbalance between the skills available in the workforce and those demanded by employers.

In Romania, the secondary analysis highlights the coexistence of registered unemployment with persistent difficulties in filling vacancies, especially in skilled trades and technical occupations. Although precise vacancy rates are not provided, employers report ongoing recruitment challenges, indicating that available jobseekers often do not possess the required qualifications or practical skills. This mismatch is further reinforced by the high share of unemployed persons with low levels of education and limited access to retraining opportunities.

In Hungary, labour shortages are also well documented, particularly in manufacturing, logistics, healthcare, and ICT-related fields. Even in regions where unemployment remains relatively low, employers struggle to recruit adequately skilled workers, suggesting that labour market tightness is driven more by qualitative skill gaps than by overall labour supply constraints.

A major structural challenge in the region is the shortage of vocational training opportunities and appropriately skilled labour, combined with the growing exclusion of older workers from the labour market and the lack of practical work experience among jobseekers. Together, these factors contribute to the continued reliance on public employment schemes as an entry point into the labour market, rather than as a temporary transition toward primary labour market employment.

As a result, labour supply is increasingly unable to adapt to changing economic demands. Large segments of the workforce struggle to meet new expectations in terms of skill levels, mobility,

and wage requirements. Economic restructuring, automation, and the growing presence of external labour have not only reshaped occupational structures but have also widened gaps between social groups.

Workers with strong digital skills, vocational qualifications, and adaptability are better positioned to access new employment opportunities and improve their living conditions. In contrast, previously disadvantaged groups—including low-skilled workers, older people, Roma communities, and residents of small rural settlements—are becoming increasingly distant from the primary labour market, and in some cases from formal employment altogether. This process reinforces social and labour market polarization and poses a long-term challenge to inclusive economic development.

In Ukraine, labour shortages are intensified by war-related factors, including workforce displacement, mobilization, and migration. Skilled workers in technical and professional fields are often unavailable locally, while demand remains high in sectors linked to infrastructure maintenance, healthcare, logistics, and reconstruction. At the same time, many unemployed or inactive individuals lack the skills required to fill these roles.

The persistence of unfilled vacancies alongside unemployment across the three countries highlights a structural skills mismatch rather than a cyclical labour market problem. Addressing this issue will require targeted reskilling and upskilling measures, stronger links between education systems and labour market needs, and more flexible adult learning pathways, particularly in disadvantaged and peripheral regions.

7.2. Aging workforce and labour supply constraints

The increasing share of older workers represents a major constraint on labour supply across all three countries and is expected to intensify labour shortages in the coming years. Demographic aging reduces the number of people entering the labour market while increasing the number of retirements, creating growing replacement needs that are difficult to meet, particularly in regions already affected by outmigration and limited workforce reserves.

In Romania, the secondary analysis highlights a clear aging trend within the labour force, reflected in the growing proportion of unemployed and inactive persons aged 50 and over, as well as a

shrinking pool of young jobseekers. Although the analysis does not provide explicit projections comparing retirements and labour market entry, the demographic structure and persistent outmigration of younger cohorts indicate that labour market exits increasingly exceed entries. This dynamic contributes to ongoing labour shortages, especially in technical, industrial, and service occupations, despite the continued presence of unemployment.

In Hungary, demographic aging is similarly advanced and better documented. The secondary analysis points to a declining working-age population and a steadily increasing share of older workers in employment. As younger cohorts entering the labour market are smaller, employers face growing difficulties in replacing retiring workers, particularly in manufacturing, healthcare, and skilled trades. These trends suggest that labour supply constraints are structural and likely to intensify over time, even in the absence of economic expansion.

Ukraine faces even more severe labour supply losses. In addition to long-term demographic decline and aging, the labour market has been heavily affected by large-scale outward migration, internal displacement, and military mobilization. These factors have removed significant numbers of working-age individuals from local labour markets, especially men in prime working ages and skilled professionals. As a result, labour shortages in Ukraine are sharper, more uneven across regions, and less predictable than in neighbouring countries.

Aging-related labour supply constraints, combined with migration and crisis-related shocks, represent a critical long-term challenge. Without effective measures to extend working lives, attract and retain younger workers, and improve productivity through skills upgrading and technology, labour shortages are likely to deepen across all three countries.

7.3. Migration and mobility patterns

Outward labour migration continues to play a significant role in shaping labour market dynamics in both Romania and Hungary. In Romania, the secondary analysis points to sustained migration flows, particularly among young and skilled workers, which reduce the available labour force in peripheral and border regions. This trend weakens local labour markets, limits the pool of qualified workers, and increases pressure on employers, especially in sectors already affected by skills shortages. Migration also contributes to demographic aging, as younger cohorts leave while older workers remain in the local workforce.

Hungary experiences similar, though somewhat more moderate, migration patterns. Young and skilled workers continue to seek employment opportunities abroad or in more developed domestic regions, contributing to labour shortages in less developed counties. While overall employment levels remain relatively stable, outward migration reduces the long-term capacity of regional labour markets to renew their workforce and respond to changing skill demands.

In Ukraine, migration dynamics are far more complex and intense. In addition to long-standing outward labour migration, the war has triggered large-scale displacement, including both international migration and internal movements within the country. These processes have reshaped regional labour supply in an uneven and unpredictable manner. Some regions face severe labour shortages due to workforce losses, while others experience temporary labour surpluses linked to the arrival of displaced persons. As a result, migration has become a central factor influencing labour market stability, regional disparities, and the feasibility of recovery and reconstruction efforts.

Migration patterns across the three countries significantly affect labour supply, skills availability, and regional balance. Addressing these challenges will require coordinated policies aimed at retaining talent, facilitating return migration where possible, and supporting the labour market integration of displaced populations.

7.4. Regional inequalities and accessibility barriers

Limited transport infrastructure, economic limitations, and housing constraints continue to restrict labour mobility and access to employment across the three countries, with particularly effects in rural areas. In Romania, the secondary analysis points to poor connectivity between rural settlements and urban employment centers, which reduces the ability of jobseekers to access available jobs even when vacancies exist. Insufficient public transport and long commuting times further discourage labour market participation, especially among low-income and older workers.

In Hungary, although transport infrastructure is generally more developed, significant gaps remain in peripheral and border areas. These areas often have limited access to major transport corridors and employment hubs, which constrains daily commuting and reduces job

opportunities for residents. Housing availability and affordability also limit mobility, as workers face difficulties relocating closer to employment centers or industrial zones.

In Ukraine, infrastructure constraints are compounded by war-related damage and disorder. Transport networks in some regions have been degraded, and housing shortages have emerged due to displacement and internal migration. These factors significantly reduce geographic mobility and create mismatches between where workers are located and where jobs are available. As a result, even when labour demand exists, access to employment remains uneven and highly dependent on location.

Mobility constraints reinforce regional labour market inequalities and limit the effectiveness of labour market adjustment mechanisms. Improving transport connectivity, supporting local economic development, and addressing housing constraints are therefore essential to enhance access to employment and reduce territorial disparities.

7.5. Wage levels and job quality

Wage disparities represent a significant factor shaping labour market across the three countries. In peripheral regions, wages are consistently lower than in national capitals and economically dynamic urban areas. This fact reduces the attractiveness of local jobs and limits the ability of employers to retain workers. These wage gaps are closely linked to differences in productivity, sectoral structure, and the concentration of higher-value activities in urban centers.

In Romania, although the secondary analysis does not provide detailed wage data, it highlights weak job quality and limited employment opportunities in rural and peripheral areas. These characteristics strongly suggest lower wage levels compared to national and urban averages, which encourages outward migration and reduces incentives for young and skilled individuals to remain in or return to the region. As a result, employers face persistent recruitment difficulties despite the presence of unemployed or inactive persons.

In Hungary, wage differences between regions are more clearly visible. Peripheral counties typically offer significantly lower wages than central and western regions, reflecting a concentration of low- and medium-skilled jobs and fewer high-productivity sectors. These

disparities contribute to internal and external labour mobility, as workers seek better paid jobs elsewhere, further weakening local labour markets.

In Ukraine, wage disparities are amplified by war-related economic disruption. Regions affected by displacement and reduced economic activity often offer limited and low-paid employment, while demand for labour in certain sectors does not translate into competitive wages. This situation reinforces migration pressures and deepens labour shortages in key occupations.

Thus, persistent wage disparities reduce job attractiveness in peripheral regions and contribute to continued migration and labour shortages. Addressing these imbalances requires not only labour market measures, but also broader regional development policies aimed at improving job quality, productivity, and income levels in disadvantaged areas.

8. Workforce Changes Due to the War in Ukraine

8.1. Refugee and displacement dynamics

The war in Ukraine has triggered one of the largest population displacement processes in Europe in recent decades, with direct and indirect effects on all three labour markets. Illustratively, Ukraine has experienced the displacement of 5-6 million people abroad and several million internally. In the Transcarpathian region alone, temporary population increases of 10-15% were recorded at peak moments, creating abrupt demographic and labour market shifts. Romania and Hungary have primarily acted as transit and partial host countries, with border regions experiencing short-term inflows equivalent to 1-3% of local population, often concentrated in urban centers and logistics hubs.

8.2. Impact on labour supply and demand

In Ukraine, labour supply has declined sharply in several sectors due to migration, mobilization, and insecurity. Illustratively, the available workforce in certain industries (construction, manufacturing, healthcare) may have decreased by 15-25% compared to pre-war levels. At the same time, labour demand has increased in logistics, humanitarian services, public administration, and social support. In Romania and Hungary, refugee inflows have had a limited

aggregate impact on labour supply but created localized effects, especially in low-skilled services, seasonal work, and care-related occupations.

8.3. Integration challenges for refugees

The integration of refugees into labour markets faces multiple barriers. Language constraints affect an estimated 40-50% of displaced persons, while skills recognition and documentation issues further limit employability. Even where labour demand exists, many refugees are employed below their qualification level, contributing to underemployment rather than effective skills utilization. From a policy perspective, this highlights the need for rapid skills assessment, recognition mechanisms, and targeted language training to prevent long-term exclusion and skills erosion.

8.4. Spillover effects on neighbouring labour markets

For Romania and Hungary, spillover effects are primarily indirect. While refugee labour has partially alleviated shortages in specific niches, it has not fundamentally altered national labour market balances. However, border regions face increased pressure on housing, services, and local employment systems. Strategically, coordinated cross-border approaches are needed to manage temporary mobility, prevent informal employment, and support fair labour market integration.

9. Labour Market Trends and Structural Transformation

9.1. Digitalization and automation trends

Digitalization is progressing across Romania, Hungary, and Ukraine, but at markedly different speeds depending on sector, firm size, and location. The secondary analyses consistently show that large firms and public institutions are more advanced in adopting digital tools and processes, while small and medium-sized enterprises, particularly in rural and peripheral regions, lag behind. This uneven pace of digital transformation reflects differences in financial capacity, access to skills, and availability of digital infrastructure.

In Romania and Hungary, digital adoption is most visible in larger companies, public administration, and service sectors such as finance, logistics, and ICT-related activities. By contrast, many SMEs—especially those operating in traditional sectors or rural areas—make limited use of digital technologies. Barriers include high investment costs, lack of digital skills among workers and managers, and uncertainty about the returns on digital investments. As a result, productivity gaps between firms and regions risk widening over time.

In Ukraine, while parts of the economy, particularly digital services and remote work-enabled activities, have adapted quickly, other sectors face significant constraints due to war-related disruption, damaged infrastructure, and limited investment capacity. Automation remains concentrated in manufacturing, logistics, and selected agricultural processes, where it is often driven by labour shortages and efficiency needs rather than long-term innovation strategies. However, the analysis sustains that digitalization will penetrate all areas of the economy, leading to a steady increase in demand for IT professionals, data analytics, cybersecurity, artificial intelligence, digital marketing, and e-commerce.

The analyses underline the relevance of supporting inclusive digital transformation so as to ensure that technological progress contributes to balanced employment growth. Without targeted measures, such as financial incentives, advisory support, and digital skills training, uneven digitalization may deepen productivity differences and reinforce labour market inequalities.

9.2. Artificial intelligence and changing skill demand

The use of artificial intelligence is still limited, but it is already starting to change the types of skills that employers need. Tasks that are routine and repetitive, especially in administrative and clerical work, are increasingly being automated. At the same time, demand is growing for skills such as basic data understanding, digital problem-solving, and technical skills that combine digital knowledge with practical experience.

Assessments suggest that a noticeable share of current work tasks could be automated in the coming years. This creates risks for workers whose jobs rely heavily on routine activities, but it also offers opportunities to improve productivity and create new types of work. These developments highlight the need for timely reskilling and upskilling policies, so that workers can

adapt to changing job requirements and benefit from technological progress rather than being displaced by it.

The diffusion of artificial intelligence is still at an early stage but already reshaping skill demand. Routine administrative tasks are increasingly automated, while demand grows for data literacy, digital problem-solving, and hybrid technical skills. This creates both risks of job displacement and opportunities for higher productivity, stressing the urgency of reskilling policies.

9.3. Remote and hybrid work models

Remote and hybrid work expanded quickly after 2020 and have since remained at higher levels than before. In Romania and Hungary, remote work is mainly used in service sectors and ICT, where a significant share of employees works from home at least part of the time. This form of work is far less common in traditional industries and in smaller firms, especially in rural areas.

In Ukraine, remote work has taken on a different role. It has become an important way to maintain economic activity under difficult security conditions, allowing businesses and workers to continue operating despite disruptions. This has been particularly relevant for digital services, administration, and knowledge-based activities.

From a strategic perspective, remote work has the potential to improve access to employment for people living in peripheral and rural regions by reducing the need for daily commuting. However, this potential can only be realized if adequate digital infrastructure, reliable connectivity, and appropriate digital skills are in place.

9.4. Emerging and declining sectors

The secondary analyses indicate structural shifts in the composition of employment across Romania, Hungary, and Ukraine, driven by technological change, demographic trends, and, in Ukraine's case, war-related disruption. Across all three countries, emerging sectors include digital and ICT-related services, logistics and transport, healthcare, social and care services, and activities linked to the green and circular economy. These sectors benefit from growing demand, demographic pressures, and, in some cases, public investment and external funding.

In Romania and Hungary, digital services and logistics are expanding mainly in urban and economically stronger regions, supported by infrastructure development and integration into regional and international supply chains. Healthcare and social services are growing steadily as a result of population aging, increasing demand for care, and workforce replacement needs. Although the secondary analyses do not provide precise employment growth projections, they consistently highlight rising demand for workers in these fields and increasing recruitment difficulties.

In Ukraine, emerging sectors reflect both long-term trends and crisis-related needs. Alongside digital services and healthcare, logistics, public administration, and humanitarian-related services have expanded since 2022, particularly in regions hosting displaced populations. These sectors play a stabilizing role in local labour markets but often face shortages of adequately skilled personnel.

By contrast, declining sectors across the three countries are typically those characterized by routine manual labour, low technological intensity, and limited productivity growth. Traditional low-value manufacturing and certain forms of manual agricultural and industrial work face increasing pressure from automation, restructuring, and changing market conditions. While exact employment decline rates are not quantified in the attached analyses, they point to a gradual reduction in demand for low-skilled routine jobs and a growing risk of job displacement for workers without adaptable skills.

Overall, the analyses underline the importance of anticipating sectoral shifts in employment. Without timely policy intervention, declining sectors may generate structural unemployment, particularly among low-skilled and older workers. Proactive measures—such as reskilling, upskilling, and targeted support for transitions into growing sectors—are therefore essential to ensure that workforce adjustment keeps pace with economic transformation and to prevent widening labour market inequalities.

9.5. Medium- and long-term labour market prospects

The secondary analyses suggest that labour markets in Romania, Hungary, and Ukraine are likely to face increasing pressure in the medium and long term. Demographic aging, outward migration, and declining entry of young workers are expected to continue reducing labour supply,

particularly in peripheral and rural regions. At the same time, economic restructuring and technological change will raise skill requirements across most sectors, intensifying competition for qualified workers.

Without targeted policy intervention, labour shortages are likely to deepen, even in contexts where unemployment remains present. This situation is especially relevant for low-skilled and vulnerable groups, who may face persistent unemployment or inactivity if their skills do not match evolving labour market needs. The coexistence of labour shortages and unused labour potential is therefore expected to remain a defining feature of regional labour markets.

In Ukraine, medium- and long-term labour market prospects are further shaped by war-related uncertainty, displacement, and the scale of future reconstruction. Labour demand is expected to grow unevenly across sectors and regions, creating both opportunities and risks of exclusion. In Romania and Hungary, gradual adjustment is more likely, but structural constraints related to aging and migration will continue to limit labour market flexibility.

Consequently, there the need for strategic planning that combines productivity-enhancing technologies with inclusive workforce development policies. Investment in skills upgrading, lifelong learning, and support for labour market transitions will be essential to ensure that technological progress and economic change translate into sustainable employment growth rather than deeper labour market polarization.

10. Adult Education and Lifelong Learning

10.1. Institutional and legal frameworks

Romania and Hungary operate relatively structured systems for adult education and vocational training, supported by national legislation and, in particular, by European Union funding instruments. These frameworks provide a formal basis for vocational education, continuing training, and active labour market measures, and they allow for the implementation of nationally coordinated programs targeting skills development and workforce adaptation. However, the secondary analyses indicate that, despite this formal structure, the effectiveness of these systems varies across regions and population groups.

In both Romania and Hungary, responsibilities for adult education and training are distributed across multiple institutions, including ministries, public employment services, education providers, and local authorities. This institutional complexity can lead to overlaps, gaps in provision, and uneven implementation at regional level. As a result, training opportunities are not always aligned with local labour market needs, particularly in peripheral and rural areas.

In Ukraine, the institutional and legal framework for adult education and training is more fragmented and strongly influenced by the ongoing war. The focus has shifted toward emergency retraining, short-cycle programs, and rapid skills acquisition aimed at supporting displaced persons and maintaining basic economic activity. While these measures play an important stabilizing role, they often operate on a temporary basis and lack long-term coordination.

Across all three countries, the analyses point to governance challenges and institutional fragmentation as key factors reducing system efficiency. Strengthening coordination mechanisms, clarifying institutional roles, and improving links between training systems and labour market demand emerge as important priorities for enhancing the responsiveness and impact of adult education and vocational training policies.

10.2. Participation in adult education and training

Participation in adult education and training remains limited across the three countries and below levels considered necessary to support effective labour market adaptation. In Romania and Hungary, the secondary analyses indicate relatively low engagement of adults in formal and non-formal learning activities. While exact figures vary by source and region, participation rates are generally described as low and insufficient to meet long-term workforce development needs, remaining below commonly referenced EU benchmarks for adult learning participation.

Low participation is particularly evident among low-skilled workers, older employees, and individuals living in rural or peripheral areas. These groups face multiple barriers, including limited access to training providers, financial constraints, lack of information, and insufficient employer support. As a result, adult education systems struggle to reach those most in need of reskilling and upskilling, reinforcing existing labour market inequalities.

In Ukraine, participation in adult education and training is uneven and largely shaped by crisis-related needs. Training activities are often linked to emergency retraining, short-term programs, or support measures for displaced persons. While these initiatives play an important role in maintaining employability under difficult conditions, they are not yet embedded in a comprehensive, long-term lifelong learning framework.

Overall, low participation in adult learning limits workforce adaptability and slows structural adjustment across all three countries. Without broader and more inclusive engagement in training, workers are less able to respond to changing skill demands, and employers face continued difficulties in filling vacancies. Increasing participation in adult education therefore remains a key priority for strengthening labour market resilience and supporting sustainable economic development.

10.3. Alignment with labour market needs

Although education and training systems in Romania, Hungary, and Ukraine are formally designed to respond to labour market demand, the secondary analyses indicate that alignment between training provision and actual employer needs remains limited. In practice, many training programs continue to focus on general or traditional qualifications that do not fully reflect the changing structure of local economies or the specific skill requirements of employers.

Across all three countries, employers consistently report shortages in technical occupations, digital and ICT-related skills, healthcare and care services, as well as in certain skilled trades. These shortages persist despite the availability of unemployed or inactive workers, highlighting a mismatch between the skills being taught and those required in the labour market. In peripheral and rural regions, this mismatch is often reinforced by limited access to specialized training providers and outdated training infrastructure.

In Ukraine, the challenge is compounded by war-related disruption, which has accelerated changes in labour demand while constraining the capacity of training systems to adapt. Emergency retraining and short-cycle programs have helped address immediate needs, but longer-term alignment with reconstruction and recovery priorities remains a challenge. In Romania and Hungary, while institutional frameworks are more stable, training systems often lack the flexibility needed to respond quickly to emerging skill demands.

From a policy perspective, the analyses point to the importance of stronger employer involvement in the design and delivery of training programs. Strengthening links between employers, training providers, and public employment services is essential to ensure that skills development supports real labour market needs and facilitates sustainable employment transitions.

10.4. Barriers to access and participation

Barriers to access and participation in adult education and training remain significant across the three countries. Financial constraints are among the most important obstacles, particularly for low-skilled workers and individuals in low-income households. The cost of courses, loss of income during training, and limited financial support discourage many adults from participating in learning activities.

Other common barriers include lack of time due to work or family responsibilities, limited information about available training opportunities, and insufficient digital skills. These obstacles are especially relevant in rural areas, where access to training providers is more limited and digital connectivity is weaker. As a result, the groups that would benefit most from reskilling and upskilling are often the least likely to participate.

Overcoming these barriers requires targeted measures, such as financial support mechanisms or flexible learning formats, including online courses, so as to make participation easier for working adults. In addition, active guidance for disadvantaged groups is needed to ensure that adult education and training opportunities are accessible and inclusive.

11. Overview of similarities and differences

11.1. Key similarities across the three labour markets

Despite different national contexts, the labour markets of Romania, Hungary, and Ukraine share several structural characteristics. All three face demographic aging and declining working-age populations, with the share of workers aged 50+ illustrated at 30-35% of total employment. Labour shortages coexist with unemployment, indicating persistent skills mismatches, particularly

in technical trades, healthcare, logistics, and digital occupations. Peripheral and rural regions across the three countries experience lower employment rates, weaker job quality, and limited access to training opportunities. In addition, participation in adult education remains low in all cases. These similarities point to common structural pressures that transcend national borders and require coordinated responses.

11.2. Key differences between the countries

The main differences result from contextual and institutional factors. Romania and Hungary operate in relatively stable economic and governance environments, allowing gradual labour market adjustment. Romania's labour market is characterized by continued outward migration and a large rural workforce, while Hungary shows stronger industrial concentration and higher labour market participation rates. Ukraine, by contrast, faces acute labour market disruption caused by war, with workforce losses illustrated at 15-25% in certain sectors and regions. Displacement, mobilization, and institutional pressure produce instability that distinguishes Ukraine from its neighbors. These differences imply that while policy objectives may align, implementation timelines and instruments must remain differentiated.

11.3. Cross-border and regional interdependencies

Cross-border interdependencies play a significant role in shaping labour market outcomes. Romania and Hungary are linked through labour mobility, supply chains, and shared border regions, while both are connected to Ukraine through refugee flows, logistics corridors, and humanitarian activities. Illustratively, cross-border commuting and seasonal mobility can account for 5-10% of local labour supply in certain border areas. These interdependencies amplify both opportunities and risks: labour shortages can be mitigated through mobility, but uncoordinated policies may increase informal employment or social tensions. Regional labour markets thus function as interconnected systems rather than isolated national units.

11.4. Implications for coordinated interventions

The comparative analysis highlights the need for coordinated interventions that address shared challenges while respecting national differences. Priority areas include joint skills development initiatives, mutual recognition of qualifications, and coordinated adult learning strategies. Cross-

border labour mobility frameworks can help alleviate shortages while protecting workers' rights. In the Ukrainian context, integration measures for displaced workers and refugees require alignment with neighbouring labour market policies to avoid fragmentation. Overall, coordinated interventions should focus on inclusiveness, flexibility, and long-term resilience rather than short-term labour market fixes.

12. Conclusions and Future Considerations

12.1. Summary of key findings

The comparative analysis confirms that the labour markets of Romania, Hungary, and Ukraine are experiencing deep and interrelated transformations, shaped by both long-term structural processes and recent external shocks. Demographic decline and population aging are steadily reducing the available labour force in all three countries, placing increasing pressure on employers and public systems. These trends are particularly visible in peripheral and rural regions, where labour supply constraints and declining participation rates are most pronounced.

At the same time, technological change is reshaping employment structures and skill requirements. Digitalization, automation, and the gradual introduction of artificial intelligence are increasing demand for higher-level technical and digital skills, while reducing the relevance of routine and low-value tasks. As a result, labour shortages persist in key sectors even in contexts where unemployment remains significant. This coexistence of vacancies and joblessness highlights a structural skills mismatch that current education and training systems have not yet been able to resolve.

In Ukraine, these challenges are further intensified by the direct and indirect effects of the war, which has disrupted labour supply, displaced large segments of the workforce, and increased volatility in employment patterns. In contrast, Romania and Hungary face more gradual adjustment processes, but continue to struggle with outward migration, regional inequalities, and workforce aging. Across all three countries, adult education and lifelong learning systems remain insufficiently flexible and accessible, limiting the capacity of workers to adapt to changing labour market demands.

Finally, the analysis shows that cross-border dynamics play an increasingly important role in shaping labour market outcomes. Labour mobility, refugee flows, and shared economic spaces create both pressures and opportunities for neighbouring regions. While these dynamics complicate labour market governance, they also underline the potential benefits of coordinated, cross-border approaches to skills development, workforce integration, and long-term labour market resilience.

12.2. Conclusions relevant for future regional level policies

The findings of this report underline that effective labour market policies cannot be designed or implemented solely at national level. National frameworks remain essential, but they must be complemented by regional and cross-border cooperation, particularly in border areas where labour mobility, migration, and displacement have a direct and tangible impact on workforce dynamics. Coordinated approaches are especially important to manage mobility flows, ensure fair working conditions, and avoid the expansion of informal or instable employment.

Future policy efforts should place strong emphasis on investment in digital infrastructure and the digital transformation of small and medium-sized enterprises, which represent the pillar of regional economies. Without targeted support, digitalization risks deepening existing territorial and social inequalities, as more advanced regions and firms adapt faster than peripheral areas. Inclusive education and training systems, accessible to low-skilled workers, older employees, and vulnerable groups, are therefore essential to ensure that technological change translates into broader productivity gains rather than labour market exclusion.

In Ukraine, labour market policies will need to be closely linked to reconstruction and recovery efforts, with large-scale reskilling and reintegration programs designed to absorb displaced workers and returning migrants into productive employment. In Romania and Hungary, the strategic focus should be on retaining the existing workforce, improving job quality, and upgrading skills to reduce outward migration and respond to persistent labour shortages. Across all three countries, the long-term sustainability of labour market development will in the end depend on the capacity of institutions to anticipate structural change, align education and employment policies, and coordinate responses across administrative and national borders.

13. References

The references used for this centralized report are drawn exclusively from the three national secondary analyses prepared within the CONCORD project and reflect a combination of statistical, institutional, and analytical sources. These sources provide include:

- National statistical offices and labour force surveys of Romania, Hungary, and Ukraine

At national level, the report relies on data produced by the national statistical offices of Romania, Hungary, and Ukraine, including labour force surveys, population statistics, and employment and unemployment indicators. These sources helped understanding demographic trends, labour market structures, and employment dynamics at national and regional level.

- Regional employment and development reports

The analyses make use of regional employment and development reports, which provide more detailed insights into local labour market conditions, sectoral structures, and territorial disparities in the targeted regions. They present differences between urban and rural areas and for understanding the specific challenges of border and peripheral regions.

- Institutional and administrative data from labour market authorities

The report also draws on institutional and administrative data from labour market authorities, such as public employment services, vocational training institutions, and regional development agencies. These sources offer valuable information on registered unemployment, public employment schemes, participation in training programmes, and the characteristics of vulnerable groups.

- Reports from international organizations (e.g. ILO, UNHCR, Eurostat)

To place national and regional findings in a broader context, the secondary analyses refer to reports and data from international organizations, including the International Labour Organization (ILO), the United Nations High Commissioner for Refugees (UNHCR), and Eurostat. These sources support comparative interpretation, particularly in relation to labour mobility, displacement, demographic change, and international benchmarks.

- Academic and policy-oriented studies cited in the national secondary analyses

The report makes use of to some academic literature and policy-oriented studies cited in the national secondary analyses. These sources contribute to the interpretation of trends, help explain labour market challenges, and support the identification of policy-relevant conclusions.

For detailed bibliographic information, including full citations and publication details, please see the reference lists included in the individual country analysis.

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- Satu Mare
- Szabolcs-Szatmár-Bereg vármegye,
- Zakarpattia oblast

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