

**Interreg
Danube Region**



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COOPOWER

Country report Slovakia

by Slovak Business Agency

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List of abbreviations

DRP	Danube Region Programme
Jems	Joint electronic monitoring system
LP	Lead partner
MAJS	Managing authority and Joint secretariat
PP	Project partner
PR	Partner report
PPR	Project Progress Report

1. Introduction

This document aims to validate and refine the needs and challenges identified during the proposal stage, taking into account the local and national context regarding the labour market integration of vulnerable young people. Additionally, the country reports will establish common ground among partners to facilitate subsequent project activities and enhance partners' localised knowledge and understanding of the challenges and opportunities within employment services through intersectoral cooperation.

The primary research method employed is desk research, supplemented by additional interviews for validation.

This activity is essential for understanding local needs, informing evidence-based policymaking, and guiding strategic decision-making processes. Therefore, it serves as a cornerstone for the cooperative implementation of the project, contributing to O1.1 overall. The results will directly inform and be incorporated into the local strategies (O3.3) and the transnational strategy (O3.4).

2. Problem

The issue of educating young people in the Prešov Region has become increasingly important in recent years, as the region faces both social and economic challenges that directly influence the opportunities available to its youth. The Prešov Region is located in the eastern part of Slovakia, bordering Poland to the north and Ukraine to the east, and is one of the country's geographically largest and socio-economically most diverse regions. Prešov region, despite its cultural richness and strong community traditions, continues to struggle with disparities in access to quality education, especially between urban centers and smaller rural municipalities. Many young people still encounter obstacles such as limited school resources, outdated infrastructure, and insufficient extracurricular or professional development programs that would help them succeed in an increasingly competitive world.

One of the key challenges is the migration of young talent. Students who seek better academic opportunities often leave the region to pursue studies in Bratislava, Košice, or abroad, and many do not return. This not only affects the local labor market but also slows down the overall innovation and development of the region. Strengthening educational institutions in Prešov—both academically and technologically—could help retain more young people and motivate them to contribute to their local communities.

At the same time, there is a growing need to adapt the educational system to modern trends. Digital literacy, foreign languages, and practical skills connected to the job market are becoming essential. Cooperation between schools, local governments, and private companies could create new training programs, internships, and hands-on learning opportunities. Such initiatives would not only better prepare young people for future employment but also strengthen ties between education and the regional economy. Finally, it is important to support inclusive education, ensuring that students from socially disadvantaged backgrounds or remote villages receive equal opportunities. Investing in transportation, scholarships, mentoring, and community programs can significantly reduce the educational gap.

Overall, improving education in the Prešov Region requires coordinated efforts, long-term vision, and a commitment to giving young people the tools they need to thrive.

3. Analysis

3.1. Population and demographic statistics

3.1.1. Population and age structure

TABLE 1
Main demographic data

	Country level	NUTS2 level
Total population	5422069	1587883
Proportion of 15-29-year-olds in the total population	15,3	17,6
Proportion of females in total population	51,1	48,7
Median age of population	44,1	40
Median age of population – females	42,6	-

Source: Eurostat. 2024 data or the latest available.

National statistics show an overall trend of slow population decline in Slovakia since 2021. This trend is also evident in more detailed structures - the average age of the population is getting older, as is the number of people dependent on the state due to the increase in the number of older people.

The NUTS2 region shows slight changes compared to the total population in Slovakia. In 2022, there was a significant decrease in population, primarily due to the COVID-19 pandemic, the following years show a stabilization of the population in the region. The numbers changed only in the hundreds, while the changes are not significantly important

The situation in the NUTS3 region is the opposite of the situation in Slovakia. The population is gradually increasing, primarily due to high birth rates in numerous marginalized communities. The exception is the period between 2021 and 2022, when the number of inhabitants decreased significantly (from 827 028 people in 2021 to 807 657 in 2022).

3.1.2. Marriage and fertility

TABLE 2
Main socio-demographic data

	Country level	NUTS2 level
Mean age at first marriage – females	29,3	-
Mean age at first marriage – males	31,9	-
Mean age of women at childbirth	28,8	27,5
Proportion of live births outside marriage	41,6	-
Proportion of live births from 15 to 29 years in the total live births	45,7	60,7

Source: Eurostat. 2024 data or the latest available.

The population at the national level is gradually decreasing, while demographic inequality is emerging, as the percentage of young people aged 15 to 29 years is decreasing in relation to the total population. The overall ratio of men to women is balanced, and does not represent a significant factor in the decreasing population.

Overall, the number of newborns is decreasing, while the average age of mothers is holding steady in percentage terms.

Education and employment, which affect the birth rate, could not be proven according to Eurostat, due to incomplete data. The ratio of newborns born outside marriage to young people aged 15 to 29 was more than 50%, and this ratio is increasing every year.

The fertility rate in the NUTS2 region is the highest in the entire country and differs significantly from the national average. Moreover, the fertility rate has been constantly increasing over the years, which affects not only the higher birth rate in the region, but also the proportional increase in the death rate of newborns. At the same time, the higher average age of the population is reflected here, which directly creates demographic problems for the future.

The NUTS 3 region is directly affected by negative migration, but with a growing population. The statistics do not include migrants from Ukraine who have received a special status of "temporary refuge", while they are not included in official statistics and their location may not always reflect reality. Proportionally, the population is consistent with the rest of the country, which reflects the decreasing ratio of young people under 29 to other population groups.

3.1.3. Life expectancy and infant mortality

TABLE 3

Main life expectancy data

	Country level	NUTS2 level
Life expectancy at less than 1 year_Total	78,2	77,8
Life expectancy at less than 1 year_Males	74,9	74,3
Life expectancy at less than 1 year_Females	81,5	81,3
Infant mortality rate	-	9,3

Source: Eurostat. 2024 data or the latest available.

Life expectancy has been increasing slightly every year across the country, with the exception of the years during which the COVID-19 pandemic was in Slovakia. Education also has a significant impact on life expectancy. Despite incomplete data, it appears that people with primary or lower secondary education have the lowest life expectancy, compared to people with tertiary education, who have a life expectancy that is 10 years higher on average.

Life expectancy in the NUTS2 region is comparable to the Slovak average and differs only by one tenth of the average number. Infant mortality rate is on average almost twice as high as the Slovak average, also steadily increasing.

In the NUTS3 region, the fertility rate is regularly increasing, while the number of newborns is decreasing. Fertility rate was 1,57 in 2015 compared with the fertility rate in 2023, which was 1,77. This paradoxical phenomenon is possible because the number of fertile women who can have children at a certain time is probably also decreasing. The largest number of births is born to women aged 24 to 29, while the high birth rate is also among women aged around 15 to 19, which accounts for around 40% of all births to women of this age group in Slovakia.

3.2. General economic accounts

3.2.1. National economic accounts

TABLE 4
Main national economic accounts data

	Country level	NUTS2 level
Gross domestic product (GDP) at current market prices (Euro per capita)	130985,1	16500
Euro per inhabitant in percentage of the EU27 (from 2020) average	~75,4 %	43%
Current prices, purchasing power standard (PPS, EU27 from 2020) per capita	29923,5	20700

Source: Eurostat. 2024 data or the latest available.

Between 2015 and 2024 Eastern Slovakia (NUTS-2, SK04) registered overall nominal GDP growth, according to Eurostat’s regional GDP series. Despite that growth, GDP per inhabitant (PPS) and other per-capita indicators show Eastern Slovakia stayed persistently below the Slovak national average throughout the period.

At the NUTS-3 level, the Prešov region recorded modest increases in nominal GDP between 2015 and 2024 (from 7264,3 to 11430,64) but consistently underperformed compared with the country’s more prosperous regions. Gross value added (GVA) in basic prices for Prešov rose in absolute terms over the decade, yet its GVA growth trailed the national growth rate, signalling a persistent regional output gap.

Gross fixed capital formation (GFCF) in Eastern Slovakia has been lower than in Western and Central Slovak regions, which has constrained capital accumulation and long-term productivity improvements. Compensation of employees grew across Slovak regions in 2015–2024, but average pay levels in Eastern Slovakia and Prešov region remained noticeably below the national mean, reflecting a regional wage gap.

Taken together, lower investment and lower wages have slowed the region’s convergence toward the national average despite positive GDP growth. Structural factors — such as a smaller share of high-value industries, demographic out-migration of younger cohorts and weaker urbanization — help explain why Prešov and Eastern Slovakia lag behind the rest of Slovakia. The COVID shock in 2020 produced a temporary dip in output for all regions, but the subsequent recovery (from 2021 onward) has been uneven and has not closed the structural gap for Eastern Slovakia.

3.2.2. Business statistics

TABLE 5
Main business statistics

	Country level	NUTS2 level
Number of enterprises	660792	149355
Business churn - birth and death rate - percentage	23,32	25

Source: Eurostat. 2022 data

According to Eurostat's Structural Business Statistics, Slovakia's enterprise sector is dominated by micro and small enterprises, which represent more than 95% of all active firms. The national business demography shows stable growth in employer enterprises since 2015, with high-growth companies concentrated in services, ICT, and professional activities. Large enterprises are relatively few but remain crucial in industry, especially in automotive and manufacturing clusters located mainly in Western Slovakia.

Eastern Slovakia accounts for a smaller share of total enterprises compared to Western Slovakia, reflecting lower levels of industrial concentration and investment. The majority of firms in SK04 are micro-enterprises in trade and local services, with fewer medium and large firms than the national average. Business demography indicators reveal that high-growth enterprises are underrepresented in SK04, though some progress has been made in information technology and tourism-related services.

The Prešov region displays the most fragmented enterprise structure in the country, with micro firms dominating and employer enterprises concentrated in traditional sectors such as retail, construction, and transport. Compared to the national pattern, the Prešov region lacks a critical mass of large firms, which limits its potential for innovation spillovers and economies of scale. Survival rates of new firms in Prešov are lower than the national average, which can be linked to weaker access to capital, lower purchasing power, and outmigration of skilled workers. These differences highlight structural disadvantages in Prešov, where dependence on small-scale entrepreneurship and limited industrial diversification explain its divergence from Slovakia's more advanced regions.

3.3. Labour market situation

3.3.1. Employment

TABLE 6
Main employment data

	Country level	NUTS2 level
Employed persons (total, 15 - 29 years old)	352000	Low reliability
Employed persons (females, 15 - 29 years old)	152000	-
Employed persons (total, 15 - 74 years old)	2554000	-
Employed persons (females, 15 - 74 years old)	1144500	-

Source: Eurostat. 2024 data or the latest available.

Slovakia’s overall employment rate has improved since 2015, but remains slightly below the EU average, with the rate for young people aged 20–29 persistently lower than that of older age groups. Youth female employment, according to Eurostat (yth_empl_030), is still lower than male youth employment, although the gap has narrowed in recent years. Part-time work (yth_empl_060) is not widespread in Slovakia compared to Western Europe, but when it occurs it is more common among young women than men. Temporary contracts (lfsa_etgar) are used in a minority of jobs, but they are significantly more common among young workers than in the workforce overall. Exact employment figures cannot be determined, as there are many jobs in the region that are not definable. In addition, there is illegal work in the region due to the influence of marginalized communities, for which there are no precise statistical data.

Slovakia reports relatively low levels of atypical employment, yet Eurostat and OECD note that fixed-term and seasonal contracts remain concentrated in hospitality, agriculture, and retail. Estimates of undeclared work (tesem190) suggest that Slovakia’s grey economy is around 13–15% of GDP, driven mainly by construction, services, and small-scale trade. Self-employment (yth_empl_040) accounts for about 12–14% of total employment nationally, with higher prevalence among older workers than the youngest cohorts. Slovakia has a statutory minimum wage, which is adjusted annually; in 2024 it was set at €750 gross per month, representing roughly 57% of the average wage.

Eastern Slovakia, youth employment is structurally lower than in the national average, with higher reliance on temporary and seasonal work, especially in agriculture, retail, and tourism. The Prešov region differs markedly from the national profile: high outmigration of young people, dependence on low-wage services, and concentration of atypical employment contribute to weaker labour-market stability compared with other Slovak regions. In Prešov Region, employment challenges are evident in significantly higher unemployment figures compared to the national average: the registered unemployment rate stood at around 9.9 % in 2025, against a national rate of 5.9 %. Nearly 40 000 people were registered as unemployed, with a large share being long-term unemployed. Additionally, youth employment rates in Eastern Slovakia – which includes Prešov – were notably below most national averages (about 21.6 % for young people in 2023). Combined

with structural economic imbalances, such as GDP per capita at roughly 46 % of the EU average, these labour-market weaknesses contribute to higher outmigration pressures and lower opportunities for young residents compared to more prosperous Slovak regions.

3.3.2. Trainees

Slovakia has a long tradition of apprenticeship and vocational training, embedded in its dual education system, where companies cooperate with secondary vocational schools. According to Eurostat's labour cost statistics (lc_ncostot_r2), apprentices are formally included in enterprise wage and cost structures, though their salaries are much lower than regular employees.

National legislation defines apprenticeships as fixed-term contracts linked to education, giving apprentices a trainee status with reduced wages and partial social contributions. Since 2015, the government has reformed the dual education law to strengthen cooperation between employers and schools, providing financial incentives to firms that host apprentices. Overall, the Slovak apprenticeship system remains less developed than in countries like Germany or Austria, with limited uptake among employers outside manufacturing and construction.

In Eastern Slovakia, apprenticeship programmes are concentrated in traditional sectors such as machinery, construction, hospitality, and services. Labour cost data show that apprentices' wages are relatively low compared to the national average, reflecting both lower regional wage levels and the prevalence of small employers. Participation of enterprises in dual education is weaker in SK04 than in Western Slovakia, partly due to fewer large companies able to host structured training programmes.

In the Prešov region, apprenticeships are mainly linked to tourism, retail, and construction, with fewer opportunities in high-tech or export-oriented industries. Compared to the national picture, Prešov region offers more limited apprenticeship opportunities, mainly because of its fragmented business structure, lower industrial base, and outward migration of young people.

3.3.3. Unemployment

TABLE 7

Main unemployment data

	Country level	NUTS2 level
Unemployed persons (total, 15 - 74 years old, less than primary, primary and lower secondary education)	≈ 36.7 %	Significantly above 38 %
Unemployed persons (total, 15 - 74 years old, all ISCED 2011 level)	≈ 148 000	~43 000
Unemployed persons (females, 15 - 74 years old, all ISCED 2011 level)	≈ 78 400	~20 000

Source: Eurostat. 2024 data or the latest available.

According to Eurostat (yth_empl_100, yth_empl_110), Slovakia's youth unemployment rate fell steadily from over 20% in 2015 to below 12% by 2023, but it remains higher than the general unemployment rate. Long-term unemployment (yth_empl_120, yth_empl_130) has been a persistent issue, with young people disproportionately affected compared to older workers. National labour market policy provides unemployment benefits tied to previous employment history and social benefits for those without sufficient contribution records. Despite these measures, Slovakia continues to face challenges in integrating young jobseekers into stable employment, especially in less industrialized regions.

In Eastern Slovakia, youth unemployment rates are consistently above the national average, reflecting lower job creation and weaker demand for skilled labour. Long-term youth unemployment is particularly problematic in Prešov region, where limited investment and structural economic weaknesses reduce opportunities for sustained work. Social benefits play an important role in cushioning young people from poverty in the region, but they do not always lead to reintegration into the labour market.

The Prešov region shows some of the highest youth unemployment figures in Slovakia, with many young people registered at labour offices for extended periods. According to recent data, the overall unemployment rate in Prešovský kraj was around 10.4 % in 2025, notably higher than the national average of approximately 5.3–5.8 % for the same period. In the broader Eastern Slovakia NUTS 2 region, the youth unemployment rate (ages 15–24) was reported at about 29.2 % in 2024, which is substantially above national youth unemployment levels, indicating that many young people are either unemployed or economically inactive. According to Eurostat (Ifsa_igar), the main reasons for youth inactivity include continued education, caregiving responsibilities, and discouragement due to a lack of suitable jobs. Compared to the national situation, Prešov's structural disadvantages — including limited industry, lower wages, and significant outmigration — explain its persistently higher youth unemployment and inactivity levels.

3.4. Education system

3.4.1. Participation in education and training

TABLE 8
Main enrolment data

	Country level	NUTS2 level
Pupils enrolled in upper secondary education, total	184981	30 988
Pupils enrolled in upper secondary education by programme orientation - general	59709	7 144
Pupils enrolled in upper secondary education by programme orientation - vocational	125272	20 968

Source: Eurostat. 2024 data or the latest available.

In Slovakia, enrolment in lower-secondary education is almost universal, with attendance rates above 95% for both sexes. Compulsory schooling in Slovakia lasts 10 years and begins with entry into primary school, which lasts a maximum of 9 years. Therefore, students are required to complete at least one year of secondary school later. There are exceptions - if a student repeats at least one grade in primary school due to poor grades, they will fulfill their compulsory schooling in primary school. However, such cases are rare and occur mainly in marginalized communities. Most pupils at this level are in general programmes, although vocational orientation appears later. Boys and girls participate equally, but girls are slightly more likely to continue in general streams. In upper-secondary education, Slovakia shows a strong tradition of vocational training, accounting for more than 60% of students.

General programmes are chosen by those intending to continue to tertiary education. The distribution by sex shows that boys dominate in technical and industrial fields, while girls are overrepresented in services and social sciences.

Participation intensity is high, with full-time study being the norm and part-time options limited. Post-secondary non-tertiary education remains a small but stable segment of the system. These programmes are often vocationally oriented and linked to teacher training, health services, and technical specialisations. Tertiary education participation has increased steadily since 2015, especially at the bachelor's level. Women now make up the majority of tertiary students, particularly in social sciences, education, and health-related studies. STEM enrolment among Slovak students is lower than the EU average, reflecting structural challenges in promoting these fields. Eurostat data show that Slovakia's tertiary enrolment rate among 20–24-year-olds remains slightly below the EU mean. The ratio of tertiary students to the population is highest in the Bratislava region, confirming a strong concentration of universities there. Out-of-school rates at compulsory ages are very low, proving that the system ensures near-universal basic schooling.

At the upper-secondary age, dropout risks are more visible, especially among vocational students. Adult education remains underdeveloped, with few enrolments in non-tertiary formal

programmes. PISA results show that Slovak 15-year-olds perform below the EU average in reading and science, and at about average in mathematics. Gender gaps in reading are large, with young males underperforming young females. These education outcomes contribute to later difficulties in labour market integration, especially for students from vocational streams.

In SK04 (Prešov region), participation in lower-secondary education is similar to the national average, but regional socioeconomic disparities affect outcomes. Boys in Eastern Slovakia are more likely to be directed into vocational streams earlier. At the upper-secondary level, vocational education is dominant, with technical, trade, and service programmes enrolling the majority. General upper-secondary schools are fewer in number, limiting access to academic tracks. Post-secondary non-tertiary education is underdeveloped in SK04, with only a few institutions providing such programmes. Participation in tertiary education is lower compared to national figures, as many young people move away for studies. The ratio of tertiary students over the population in SK04 is among the lowest in the country. Gender patterns show young women leaving the region more often to pursue tertiary studies elsewhere. Dropout and early school leaving are more common in Eastern Slovakia than in Bratislava or Western regions. Out-of-school rates in upper-secondary ages are higher, particularly among disadvantaged boys. PISA performance data suggest weaker results in Eastern Slovakia, especially in mathematics and science. Schools in rural parts of Prešov region face shortages of qualified teachers, which contributes to learning gaps. Participation in STEM programmes is limited, as few local universities provide specialised training in engineering or IT. Socioeconomic inequalities mean that many students face barriers to continuing education beyond the compulsory stage. Access to adult education and lifelong learning is weaker in Prešov region compared to the rest of Slovakia.

The Prešov region mirrors many of the challenges of Slovakia but in a more concentrated form. Almost all children complete lower-secondary education, yet the transition to general upper-secondary schools is less common. Vocational pathways dominate in Prešov, particularly in technical, construction, and service-oriented programmes. Tertiary enrolment is significantly below the national average, with many students migrating to Košice, Bratislava, or abroad for higher education. Compared with national characteristics, Prešov region faces higher risks of dropout, lower tertiary participation, and weaker performance in PISA indicators, largely explained by economic disadvantage, migration, and limited availability of higher education institutions.

3.4.2. Out-of-school rate and early leavers from education and training

Slovakia's share of early leavers from education and training remains among the lowest in the EU. The national rate was about 6 % in 2015 and has stayed close to 5–6 % through 2023, well below the EU target of 9 %. Gender differences are modest, with boys showing slightly higher early-leaving rates than girls. Most young people who exit education prematurely are either unemployed or only marginally employed. Among those who are economically active, temporary and seasonal jobs dominate. Urban areas record a lower rate—around 4 %—while rural territories are closer to 7 %. The gradual expansion of dual education and career-guidance services has helped reduce national drop-out figures. Young people with severe activity limitations or disabilities are over-represented

among early leavers. The 18–24 age group accounts for the vast majority of these early exits. A temporary spike occurred during the COVID-19 pandemic in 2020, but the overall downward trend quickly resumed.

Eastern Slovakia consistently records higher early-leaver rates than the Slovak average. Between 2015 and 2023 the share fluctuated between roughly 8 % and 9 %, above both the national and EU targets. Boys in this region leave school early more often than girls, reflecting stronger pull factors toward low-skilled jobs. Rural districts within Prešov region drive the higher figures, with some municipalities exceeding 10 %. Many early leavers in Eastern Slovakia are unemployed, while those employed typically work in seasonal agriculture or low-wage services.

Students with activity limitations face particular barriers to continuing education, pushing their early-leaving rate well above the regional means. Socio-economic disadvantage, limited transport links and fewer secondary-school options contribute to the persistent gap. Programs to expand dual education and apprenticeships are growing but have not yet closed the disparity.

Migration of qualified teachers to other regions further weakens the education network. Local labour offices report that early leavers frequently cycle between short contracts and inactivity.

The Prešov region shows the highest early-leaver rate within Eastern Slovakia. Recent Eurostat data place it consistently a few percentage points above the already-high SK04 average. Boys are especially affected, with rates often double those of girls in some rural districts. Economic pull factors include seasonal work in construction, agriculture, and cross-border jobs in Poland and the Czech Republic. Urban centres such as Prešov city display lower rates, but surrounding rural municipalities face persistent challenges. Young people with disabilities or chronic health problems in Prešov have a markedly higher probability of leaving school early. Limited availability of specialised secondary programmes forces some students to travel long distances, increasing drop-out risk. Family income constraints and early entry into the labour market remain common explanations for premature school leaving. Local authorities have introduced mentoring and scholarship schemes, but participation is still uneven. Overall, Prešov's early-leaving profile diverges significantly from the national pattern, reflecting a mix of economic disadvantage, rural isolation, and constrained education infrastructure.

3.4.3. Access to information and obstacles to participation in education and training

In Slovakia, interest in searching for information on learning possibilities has grown steadily since 2015. Around half of adults report having looked for details on formal, non-formal, or informal learning opportunities in the past year. Women slightly outnumber men in these searches, particularly for non-formal and informal education. Men are more likely to investigate technical or vocational training linked to their current occupations. Younger adults aged 25–34 are the most active seekers of learning opportunities. Participation declines sharply among people over 55, reflecting lower perceived need for new skills. Individuals with higher educational attainment are far more likely to search for courses than those with only basic schooling. University graduates

most frequently look for professional upskilling or language training. People with only primary education rarely seek information, citing lack of time, confidence, or financial means. Online channels are the dominant source of information, including official portals, social media, and private training websites. Public employment services provide an important secondary source, especially for job-seekers. Employers themselves are a key source when the training is job-related. The effect of searching is strong: most who actively seek information eventually participate in at least one learning activity. Many adults say that simply knowing where to find reliable course information increases their motivation to learn. National lifelong-learning campaigns have helped raise awareness and direct adults to centralised information portals.

In Eastern Slovakia, the share of adults searching for learning opportunities is lower than the national average. Gender gaps are similar to the rest of the country, with women slightly more active than men. Younger adults in Košice and other urban centres lead the regional searches. Rural districts show markedly less engagement, limited by both broadband access and lower perceived returns from additional education. People with secondary or higher education dominate the searching population, while those with only primary education rarely participate. Local labour offices and community centres play a larger role here than in western regions because private training providers are fewer. The effect of searching is positive but weaker than nationally, as financial barriers often prevent course enrolment even after information is found. EU-funded projects have introduced regional information portals, but awareness remains uneven. Word-of-mouth and municipal bulletins are still significant sources in smaller towns. Migration of younger residents to other regions reduces overall demand for adult learning information.

The Prešov region shows the lowest rate of adults actively looking for learning possibilities within Eastern Slovakia. Remote rural municipalities have the weakest participation, linked to scarce internet connectivity and fewer training centres. Urban Prešov city performs better, approaching the national average thanks to university outreach and local job-centre initiatives. Public employment services and local NGOs are the primary information sources for those who do search. Overall, Prešov's pattern differs significantly from the national profile, reflecting rural isolation, lower household incomes, and limited availability of advanced education providers.

In Slovakia, surveys show a steady but moderate willingness among adults to participate in education and training since 2015. Around one third of the population expresses a desire to join some form of learning activity each year. Women are slightly more willing than men to participate in both formal and non-formal training. Younger adults aged 25–34 display the strongest motivation for further education. Interest drops sharply among people aged 55 and over, who often feel additional training is unnecessary. Higher-educated individuals are far more likely to want further training than those with only primary schooling. Despite this willingness, many adults do not actually enrol in courses. The most frequently cited barrier is lack of time due to work or family responsibilities. Financial cost is the second major obstacle, especially for low-income groups. Other reasons include inconvenient scheduling and lack of suitable local courses. Men often point to work commitments, while women more frequently cite family obligations. Adults with tertiary education occasionally report that appropriate advanced courses are unavailable.

Among those not participating at all, a large group simply reports no interest in further education. Lack of perceived need is the dominant reason for non-participation among older adults. Younger non-participants often mention financial or time constraints rather than lack of interest.

Although Slovakia as a whole reported relatively high participation rates in adult education in 2022 (about 54.8 % of adults aged 25–64 engaged in some form of education or training over the past year), regional data show persistent disparities. In many Eastern Slovak regions, participation in recent formal and non-formal learning (e.g., measured over the last four weeks) remains below the EU average of approximately 11.9 %, suggesting that adults in this part of the country are slightly less likely to take part in continuing education compared to the national profile and many Western regions. Women again show marginally higher willingness than men. Young adults in Košice and other urban centres express relatively strong interest in training. Rural residents are less motivated, frequently citing long travel distances to training facilities. Cost barriers are more pronounced in this region due to lower household incomes. Lack of time remains a key reason for non-participation, especially among working-age men. Women often mention childcare duties as an obstacle. Awareness of available courses is lower than in western Slovakia, further reducing participation. People with secondary education show the highest willingness, seeking to improve job prospects. Adults with only primary schooling mostly report no perceived need for further education. The proportion of people not wanting to participate is higher in rural districts than in cities. Many older adults in the region feel that additional training would not improve their employment situation. EU-funded information campaigns have increased awareness but have not fully overcome financial and logistical barriers. Community centres and labour offices play a crucial role in promoting opportunities, but coverage is uneven. Some younger residents move to western regions to access broader training options, lowering local participation rates.

The overall participation of adults in lifelong learning in Slovakia remains relatively low compared with many EU regions: only about 12.8 % of adults participated in learning activities in late 2024, and annual survey data indicate that around 54.8 % of adults aged 25–64 participated in some form of education or training over the last year. Adults with lower than upper-secondary education are particularly unlikely to engage in training, with participation rates around 18.6 %. In Eastern Slovakia — which includes the Prešov region — lower employment and education levels for adults with minimal qualifications reflect weaker incentives and opportunities for further training. In this context, Prešov records some of the lowest adult learning engagement within Eastern Slovakia.

3.4.4. Education and training outcomes

In Slovakia, the share of adults with at least upper-secondary education has risen steadily over the last decade. Women now slightly outperform men in both secondary and tertiary attainment. Young people aged 15–19 show very high participation in formal education compared with the EU average. Among those aged 20–24, participation remains strong but gradually declines as some enter the labour market. Many young adults combine part-time employment with continued studies. The national NEET rate has fallen since 2015 but still affects vulnerable groups. Men are marginally more likely than women to be classified as NEET. Youth with only lower-secondary schooling face the highest risk of becoming NEET. Urban areas show lower NEET rates than rural

and semi-urban zones. Tertiary graduates typically secure employment within months of finishing their studies. Early school leavers experience long job-search periods and higher unemployment. Formal education participation among 25–29-year-olds is driven mainly by postgraduate or vocational training. Labour-market outcomes strongly depend on educational attainment, with clear wage advantages for tertiary graduates. Young people with disabilities or health limitations report significantly higher NEET levels.

Eastern Slovakia records lower tertiary attainment than the national average. Early school leaving is slightly more common than in western regions. Participation in formal education is robust in Košice city but weaker in remote districts. NEET rates remain above the Slovak mean, especially among young men. Rural municipalities face persistent challenges in retaining students beyond upper-secondary level. Limited local job opportunities discourage continued training for some youth. Outmigration of qualified graduates to Bratislava and abroad is widespread. Employment rates for recent graduates are lower than the national figure. Time to obtain a first stable job is longer for both secondary and tertiary graduates. Vocational schools have improved placement rates but still struggle with modern equipment. Urban centres partially offset regional gaps by hosting universities and applied-science colleges. Gender differences in attainment are smaller here than nationally but still favour women. Youth from minority backgrounds, including Roma communities, encounter higher NEET risks. Those with disabilities face compounded barriers to education and work. Regional labour offices promote apprenticeship schemes, yet uptake remains modest. Transport limitations make commuting to education centres costly and time-consuming.

The Prešov region shows the lowest tertiary attainment within Eastern Slovakia. A large share of young adults holds only upper-secondary qualifications. Participation in ongoing training is moderate in the city of Prešov but limited in rural villages. NEET rates exceed both regional and national averages, particularly among men aged 20–24. Local job opportunities are concentrated in lower-wage manufacturing and seasonal work. Economic factors reduce incentives to continue formal education after secondary school. Employment rates of recent graduates trail national benchmarks. Many school leavers seek work abroad, particularly in neighbouring EU states. Young people with disabilities face pronounced barriers to both education and employment. Overall, Prešov illustrates how educational attainment and labour-market integration lag behind national patterns despite gradual improvement.

3.4.5. Adult learning

In Slovakia, participation in education and training over the last four weeks varies significantly by type, age, and sex. Women participate slightly more than men, especially in adult learning and vocational training. Young adults aged 15–24 show the highest engagement in formal education programmes. Participation gradually declines with age, though middle-aged adults often engage in work-related training. Older adults over 55 participate less frequently, reflecting retirement or limited training opportunities. Educational attainment influences participation: tertiary-educated individuals engage more in lifelong learning than those with only primary or secondary education. Labour status affects training participation, with employed individuals more likely to attend work-related courses. Unemployed youth often seek training for employability, while inactive adults

participate less. Formal education dominates among young students, while adult learning and informal courses increase among older age groups. Overall, Slovakia shows growing lifelong learning trends but with clear disparities by age, sex, education, and employment.

Eastern Slovakia reports slightly lower participation rates than the national average. Urban centres like Košice and Prešov city show higher engagement in both formal and non-formal training. Rural municipalities experience lower participation due to limited access to training facilities and courses. Women in SK04 engage more frequently in adult education than men. Young adults in formal education dominate participation statistics, while older adults participate primarily in vocational or skills development programmes. Educational attainment remains an important determinant: tertiary-educated adults are more likely to engage in lifelong learning. Employment status continues to affect participation, with employed individuals attending work-related training more often than unemployed or inactive persons. Formal education participation remains concentrated among youth, while informal learning is more common among adults. Regional disparities reflect differences in access to education and training infrastructure. Public and EU-funded programmes aim to increase engagement, particularly in rural districts, but coverage is uneven.

The Prešov region shows lower participation in education and training than the Eastern Slovakia average. Young adults participate actively in formal education, especially secondary and post-secondary programmes. Urban Prešov city offers more adult learning opportunities than surrounding rural municipalities. Women participate more frequently than men in adult and vocational training. Older adults engage less, particularly in rural villages with limited course availability. Employment status strongly affects training: employed residents attend work-related courses more than unemployed or inactive adults. Educational attainment is linked to participation, with tertiary-educated adults most likely to engage in lifelong learning. Vocational and informal training opportunities are limited in rural areas. Young people in formal education dominate regional statistics, while adult learning is concentrated in urban centres. Access, transport, and infrastructure limitations contribute to lower participation in rural Prešov. Regional programmes target skill development and employability but do not fully offset structural disparities.

3.5. Health, poverty and social exclusion

3.5.1. Health issues

In Slovakia, self-perceived health varies significantly by age, sex, and labour status. Women generally report lower perceived health than men across all age groups. Young adults aged 18–34 perceive their health as very good or good more frequently than older adults. Middle-aged adults, particularly those aged 45–54, report moderate health concerns. Seniors over 65 indicate the highest prevalence of poor or very poor health. Employment status strongly influences self-perceived health: employed persons report better health than unemployed or inactive individuals. Educational attainment also plays a key role, with tertiary-educated individuals reporting higher perceived health than those with only primary or secondary schooling. Functional limitations increase with age and are more common among low-educated individuals. Urban residents report slightly fewer functional limitations than rural populations. Absence from work due to personal health problems is higher among older employees and those with lower education. Women are more likely than men to report absence for health reasons. Activity limitations strongly increase absenteeism. Overall, health inequalities reflect the combined effects of age, sex, education, and employment status.

Eastern Slovakia exhibits slightly lower self-perceived health than the national average. Women in SK04 report poorer health more often than men, particularly in rural districts. Older adults face higher rates of functional limitations. Educational attainment influences health perceptions and functional capacity, with lower-educated adults more affected. Employment status continues to affect health, as unemployed and inactive persons report lower perceived health and higher functional limitations. Urban centres such as Košice show better overall health indicators than surrounding rural areas. Absence from work due to health problems is more frequent in rural districts. Long-term health issues are more prevalent among middle-aged and older adults. Functional limitations increase with age and are amplified by lower educational attainment. Regional disparities persist due to economic conditions, limited healthcare access, and rural isolation. Public health initiatives aim to improve awareness and preventive care. Chronic conditions contribute significantly to absenteeism and reduced workforce participation.

The Prešov region reports lower self-perceived health than the Eastern Slovakia average. Older adults and women are the most affected groups. Rural municipalities exhibit higher prevalence of functional limitations and poorer health outcomes. Educational attainment is strongly correlated with health, with lower-educated residents reporting worse functional capacity. Employment status continues to influence perceived health, absenteeism, and functional limitations. Workers with activity limitations have significantly higher absence rates due to personal health problems. Urban Prešov city provides better healthcare access and preventive programs, improving outcomes for some residents. Chronic illnesses and functional impairments are common in rural areas. Older adults report higher absenteeism due to health. Overall, Prešov illustrates regional disparities in health, functional capacity, and work absenteeism linked to demographic, educational, and employment factors.

3.5.2. Disability - Access to education and training

In Slovakia, educational attainment among persons with disabilities varies significantly by severity of activity limitation. Individuals with mild limitations achieve secondary and tertiary education at rates close to the general population. Those with severe limitations have much lower attainment, especially in higher education. Women with disabilities tend to achieve slightly higher educational levels than men. Participation in education and training during the last four weeks is lower among persons with disabilities than the general population. Young adults with mild limitations participate actively in vocational or formal training. Severe activity limitations strongly reduce participation, especially among older adults. Early leaving from education and training is more common among persons with disabilities. Young people with disabilities are at higher risk of being neither in employment nor in education or training (NEET). Activity limitations affect transitions from education to the labour market and overall employability.

In Eastern Slovakia, persons with disabilities show lower educational attainment than the national average. Severe limitations correlate with lower secondary and tertiary completion. Urban centres like Košice provide better access to training opportunities. Rural districts have limited educational services for persons with disabilities. Participation rates in education and training are higher in urban areas than in villages. Young adults with disabilities face increased risk of NEET status, particularly in rural municipalities. Early leaving from education is more prevalent among individuals with severe limitations. Gender differences persist, with women slightly more likely to continue education. Regional programs aim to support inclusive education but coverage is uneven. Barriers include accessibility, transport, and limited specialised resources.

In the Prešov region, educational attainment among persons with disabilities is among the lowest in Eastern Slovakia. Data from labour-force and disability surveys indicate that more than 60 % of adults with severe activity limitations have not completed upper-secondary education, compared with roughly 35–40 % among the general population. Completion of tertiary education among persons with disabilities remains very low, at below 10 %, and drops to under 5 % for those reporting severe limitations. Severe activity limitations substantially restrict educational opportunities, particularly beyond compulsory schooling. Participation in recent education or training (measured over the last four weeks) among persons with disabilities is estimated at below 6 % in Eastern Slovakia, compared with around 12–13 % nationally, with the lowest rates observed in rural municipalities of the Prešov region.

Urban Prešov city shows relatively better outcomes: access to specialised institutions and adapted programmes contributes to moderate participation levels for persons with mild limitations, though these remain below the national urban average. In contrast, rural areas face pronounced barriers linked to distance, transport availability, and limited institutional capacity. Young people with disabilities in the region face a particularly high risk of labour-market exclusion. Estimates suggest that 30–40 % of young persons with disabilities fall into the NEET category, with even higher shares in small towns and villages. Early leaving from education is common, especially among individuals with moderate to severe limitations, where dropout rates are nearly twice as high as among peers

without disabilities. Gender patterns broadly mirror national trends, with women with disabilities attaining slightly higher education levels than men, particularly at upper-secondary level. However, structural constraints — including insufficient inclusive infrastructure, lack of specialised educational support, and weak public transport — continue to limit access to education and training. Overall, the Prešov region demonstrates significant and persistent barriers to educational attainment and lifelong learning for persons with disabilities.

3.5.3. Disability - Access to the labour market

In Slovakia, the employment gap between persons with and without disabilities remains significant, with women slightly more affected than men. Activity limitation strongly reduces employment opportunities across all age groups. Persons with severe disabilities face the lowest employment rates, while those with mild limitations achieve higher integration. Occupational distribution shows that people with disabilities are often concentrated in lower-skilled positions. Professional status is similarly affected, with fewer holding managerial or professional roles. Unemployment rates among persons with disabilities exceed national averages, especially for those with only primary or secondary education. Long-term unemployment constitutes a larger share among individuals with disabilities than among the general population. Supplementary indicators, such as underemployment and temporary work, show heightened vulnerability. Educational attainment plays a key role: higher education increases employment prospects even for persons with disabilities. Inactivity is much higher among those with severe limitations, reflecting barriers to participation in the labour market. Access to training and workplace accommodations is limited but improving slowly. Government programs and EU initiatives support employment integration but coverage remains partial. Women with disabilities are more likely to be inactive due to combined care responsibilities and labour market barriers. Young adults with mild limitations often enter employment more quickly than older adults with similar limitations. Policy measures emphasize vocational rehabilitation and supported employment.

Eastern Slovakia reports higher disability employment gaps than the national average. Rural areas face additional barriers, including fewer accessible workplaces and limited public transport. Women with disabilities in Prešov region have the lowest participation rates. Employment for persons with mild disabilities is concentrated in elementary and service occupations, while severe disabilities result in low workforce integration. Professional and managerial roles are rare among individuals with activity limitations. Unemployment is higher among lower-educated persons with disabilities in this region. Long-term unemployment is particularly prevalent, representing a significant portion of total unemployment among persons with disabilities. Supplementary unemployment indicators highlight vulnerability for temporary and part-time work. Inactivity rates are high, especially among persons with severe limitations and low educational attainment. Urban centres like Košice provide more opportunities, but disparities remain significant. Regional vocational training programmes target integration but often lack sufficient capacity. Employment support schemes are unevenly implemented across municipalities. Social and economic factors compound difficulties in workforce participation. Regional policies emphasize inclusive employment but structural gaps persist. Access to education and retraining affects labour market outcomes for persons with disabilities.

The Prešov region exhibits the highest disability employment gaps within Eastern Slovakia. Severe activity limitations result in very low employment rates. Women are more affected than men, particularly in rural municipalities. Persons with mild limitations find employment in elementary and service occupations, though opportunities remain limited. Professional and managerial positions are rare among residents with disabilities. Unemployment rates are elevated, especially for lower-educated adults. Long-term unemployment accounts for a significant share of total unemployment among persons with disabilities. Inactivity is highest among adults with severe limitations and low education. Access to vocational rehabilitation and supported employment is limited in rural areas. Young adults with mild disabilities benefit from urban opportunities but face relocation or commuting challenges. Municipal support and EU-funded programmes provide partial relief. Economic and social barriers reinforce persistent inequality in the local labour market. Policy efforts aim to increase inclusion but structural obstacles remain. Overall, Prešov illustrates entrenched disparities in employment outcomes for persons with disabilities, reflecting a combination of severity, gender, education, and geography.

3.5.4. Risk of poverty

In Slovakia, a significant share of the population remains at risk of poverty or social exclusion, with rates highest among children, young adults, and seniors. Women slightly experience higher risk than men across age groups. Employment status is strongly linked to risk: unemployed and inactive persons face the greatest vulnerability, while employed individuals have lower but still notable risk levels. Household composition also matters, with single-parent and large families more affected. Income quintiles reveal that the lowest earners are most at risk, while middle- and high-income households are less affected. Educational attainment is protective: tertiary graduates are less likely to face poverty or social exclusion than those with only primary education. Home ownership reduces risk, though mortgage holders still experience some vulnerability. Urban households generally face higher exposure than rural households, particularly in large cities with high living costs. Children's risk correlates strongly with parental education, with higher exposure in families where parents have low educational attainment. Work intensity is another determinant, as households with very low employment levels show elevated poverty risk.

Eastern Slovakia exhibits higher risk of poverty and social exclusion than the national average. Rural areas show particularly elevated rates due to limited employment opportunities and lower wages. Urban centres such as Košice and Prešov city mitigate some risk through better labour-market access, yet costs of living remain high. Unemployed and inactive residents in SK04 experience the greatest vulnerability, while employed individuals, especially in part-time or low-paid work, face moderate risk. Household composition significantly affects exposure, with single-parent families at higher risk. Educational attainment remains strongly protective, but lower attainment is widespread in the region. Income disparities contribute to regional differences, with the bottom income quintile bearing the highest burden. Children in low-educated households are particularly vulnerable. Very low work intensity households are concentrated in rural districts, intensifying economic hardship. Regional social policies attempt to reduce disparities but coverage is uneven. Urban-rural differences persist, affecting access to social services and employment opportunities. Migration of working-age adults to other regions exacerbates the vulnerability of

those remaining. Structural economic challenges sustain high poverty and exclusion rates despite national improvements.

The Prešov region records the highest rates of poverty and social exclusion within Eastern Slovakia, as measured by the AROPE indicator. Approximately 23–25 % of the population in the region is at risk of poverty or social exclusion, compared with around 17–18 % at the national level. Children are disproportionately affected: nearly 30 % of children in the Prešov region live in households at risk of poverty, with the share rising to over one third in households where parents have only primary or lower secondary education. Rural municipalities face the greatest vulnerability, reflecting limited employment opportunities and persistently low incomes. In contrast, urban Prešov city shows a slightly lower poverty risk (around 18–20 %), benefiting from better access to jobs, education, and social services. Unemployed and economically inactive adults experience the highest exposure, with poverty risk rates exceeding 40 %, while part-time workers face a moderate but still elevated risk (around 20–25 %) due to low and unstable earnings.

Household structure strongly shapes outcomes. Single-parent households are among the most exposed, with poverty risks approaching 45–50 %, and large families (three or more children) face significantly higher risks than smaller households. Low educational attainment among adults substantially increases vulnerability: individuals with less than upper-secondary education experience poverty rates more than twice as high as those with tertiary education. Housing status also contributes to financial strain. While outright homeowners face relatively lower risks, mortgage holders and private renters increasingly report difficulties covering housing and energy costs, contributing to material deprivation. Very low work-intensity households are widespread in the region, particularly in rural areas, where they account for around one quarter of households with children. Ongoing outmigration of younger adults to western Slovakia further weakens local labour markets and reduces household earning potential. Income inequality is clearly visible across the region, with households in the lowest income quintile bearing the greatest burden of poverty and material deprivation. Although social policies and local support programmes mitigate extreme hardship, they do not fully compensate for the region's structural disadvantages. Overall, the Prešov region exemplifies deep-rooted regional disparities in poverty and social exclusion, driven by intersecting economic, educational, and household-level vulnerabilities.

3.5.5. Housing cost overburden rate

In Slovakia, housing cost overburden affects a significant share of households, especially low-income families and young adults. Women slightly experience higher overburden than men. Single-parent and large households face the greatest financial pressure. Urban households, particularly in Bratislava, report higher housing cost burdens. Owners with mortgages are more affected than outright owners, while renters face variable pressures depending on location. Across income quintiles, the lowest earners experience the highest overburden. Middle-income households are moderately affected, and high-income households are rarely overburdened. Housing cost pressures influence decisions on household formation, employment, and mobility. The national

trend shows gradual improvement due to housing support policies and subsidies. Public programs aim to reduce financial strain for vulnerable households.

Eastern Slovakia reports slightly higher housing cost overburden rates than the national average. Urban areas, especially Košice and Prešov city, experience greater financial pressure compared with rural districts. Low-income households in SK04 are particularly affected, while higher-income families face moderate overburden. Rental costs are a significant factor in urban centres. Single-parent and multi-generational households report the highest burden. Ownership with mortgage also contributes to financial strain in the region. Housing subsidies partially offset costs but reach only part of the population. The degree of urbanisation influences overburden, with villages showing lower rates than cities. Regional disparities reflect economic structure, wages, and housing availability. Households struggling with costs often limit consumption in other essential areas.

In the Prešov region, housing cost overburden is consistently higher than the Slovak average. According to recent household survey data, around 15–18 % of households in the region spend more than 40 % of their disposable income on housing-related costs, compared with approximately 12–13 % at the national level. The pressure is particularly pronounced in small towns and suburban municipalities, where housing costs combined with lower average incomes contribute to elevated overburden rates.

In urban Prešov city, housing cost pressures are most acute among renters and mortgage holders. Nearly 25 % of renter households and 20 % of households with outstanding mortgages report housing cost overburden, reflecting both rising rental prices and the growing financial commitments associated with homeownership. In contrast, many rural municipalities in the region report lower housing cost overburden (around 10–12 %), largely because housing tends to be less expensive and less competitive, although lower incomes limit absolute purchasing power. Low-income households face the greatest risk: among households in the bottom income quintile, over 30 % experience housing cost overburden, and this share rises above 40 % for single-parent families, who often combine low earnings with high per-capita costs. Middle-income households also experience moderate overburden, with roughly 15–18 % reporting strain, while high-income households are rarely affected (typically below 5 %). Housing affordability strongly influences key life decisions, including migration, household formation, and employment choices. Many young adults delay leaving the parental home due to high housing costs, and some households relocate to regions with lower housing burden or more favourable labour markets. Although regional subsidies, social housing initiatives, and targeted support programmes help mitigate some of the financial pressure, they do not fully eliminate overburden for the most vulnerable groups. Overall, the Prešov region illustrates distinct regional disparities in housing cost burdens, with clear urban-rural differences and pronounced socio-economic gradients that shape access to affordable housing and influence household economic stability.

3.5.6. Material and social deprivation

In Slovakia, material and social deprivation affects a significant share of the population, though rates have gradually declined over the last decade. Young adults aged 18–24 and seniors over 65 show the highest risk of deprivation. Women experience slightly higher deprivation than men overall, particularly among the elderly. Educational attainment strongly influences deprivation: individuals with only primary education face the highest rates, while tertiary graduates are largely protected. Employment status is another key factor, with unemployed and inactive persons reporting far higher deprivation than employed individuals. Urban households experience lower deprivation than rural ones, though pockets of poverty persist in small towns. Severe deprivation is concentrated among the same groups, with multiple indicators showing overlapping disadvantages. Children from families with low parental education are particularly vulnerable to severe deprivation. Households lacking basic material items—such as heating, sufficient nutrition, or durable goods—remain a key concern. The mean number of deprivation items among the deprived has slowly decreased but remains above EU averages. Regional disparities exist, with western Slovakia performing better than central and eastern regions. Rural households without adequate infrastructure experience both higher material and social deprivation. National policies have targeted income support, social services, and family benefits to reduce disparities. Social transfers play a crucial role in mitigating deprivation among the unemployed and elderly. Overall, deprivation remains closely linked to education, age, employment, and household composition.

Eastern Slovakia reports higher material and social deprivation than the national average. Rural municipalities face the greatest challenges, particularly among unemployed and low-educated populations. Women in Eastern Slovakia are more affected than men, especially in older age groups. Young adults in rural areas are also at higher risk of material hardship. Severe deprivation indicators—such as lack of access to essential goods and social participation—are disproportionately concentrated in small towns and villages. Educational attainment remains a strong protective factor: tertiary-educated individuals are much less likely to experience deprivation. Employment status is critical, with long-term unemployed and inactive persons facing the highest risk. Children from low-educated families experience higher severe deprivation rates than peers in urban areas. Urban centres like Košice mitigate deprivation slightly due to better employment opportunities and social infrastructure. Household composition and income inequality further amplify deprivation in rural Eastern Slovakia. Access to essential services, transport, and healthcare remains uneven. Local social policies attempt to address these disparities, but implementation varies. Migration of working-age adults to other regions can leave behind households with higher deprivation risk. Regional statistics highlight persistent inequality compared with western Slovakia. Overall, Eastern Slovakia faces structural challenges that maintain elevated material and social deprivation.

The Prešov region shows the highest deprivation rates within Eastern Slovakia. Rural municipalities, especially small villages, report severe material and social deprivation affecting multiple items per household. Older adults and unemployed individuals are the most affected demographic groups. Women in the region experience slightly higher deprivation than men. Children from families with low parental education face a heightened risk of deprivation and

limited social participation. Young adults are vulnerable when unemployed or not in education or training. Tertiary education strongly protects against deprivation, but few young people attain this level locally. Urban Prešov city exhibits lower rates due to better services, employment, and infrastructure. Households lacking basic necessities are more common in rural areas. Social and material deprivation often overlap, compounding challenges for families. The mean number of deprivation items among affected households is higher than regional and national averages. Local initiatives aim to provide social support and improve access to education. Public services and community programmes help mitigate hardship but cannot fully overcome structural limitations. Employment opportunities are limited, reinforcing economic vulnerability. Overall, Prešov reflects a regional pattern of entrenched deprivation despite gradual national improvements.

3.6. Digital economy and society

3.6.1. Personal and household access

In Slovakia, household internet access has increased steadily over the past decade, with more than 90 % of households reporting some form of connection by 2023. Broadband coverage accounts for the majority of connections, reflecting widespread adoption of high-speed internet. Urban households typically report higher access rates than rural areas. Access is nearly universal among younger families and households with higher educational attainment. Older adults living alone are slightly less likely to have broadband connections. Internet access is commonly used for education, work, banking, and entertainment. The growth of e-government services has encouraged households to maintain reliable broadband. Internet infrastructure investments in cities have supported high-speed coverage. Rural households sometimes experience lower speeds due to technical limitations. The overall quality of service is improving, with increased adoption of fibre-optic networks. Households with children report the highest frequency of internet use. Monthly broadband subscriptions have become increasingly affordable. The proportion of households without any internet connection has fallen below 5 %. Government initiatives have targeted digital inclusion for low-income and rural households. Household internet access remains a key factor in participation in education, e-commerce, and remote work.

Eastern Slovakia shows slightly lower household internet access than the national average, with rural districts reporting limited broadband penetration. Urban centres such as Košice and Prešov city achieve near-national coverage levels. Broadband availability in smaller towns and villages is gradually improving through regional infrastructure programmes. Households with higher incomes adopt broadband more readily than low-income families. Children and young adults in urban areas benefit from reliable high-speed connections for study and leisure. Older adults and seniors in rural areas remain less connected. E-government and online learning uptake in Eastern Slovakia is strongly linked to broadband access. Work-from-home opportunities are more limited where high-speed connections are unavailable. Internet subscriptions in rural Eastern Slovakia often rely on slower DSL or mobile broadband solutions. Regional disparities reflect both technical and economic barriers. Households without broadband frequently cite cost as a key obstacle. Public programmes aim to provide subsidies or community access points in rural municipalities. Connectivity improvements have begun to narrow the urban-rural gap. Broadband expansion is critical for supporting regional education, employment, and business development.

The Prešov region has lower household broadband penetration than the Slovak average, particularly in remote rural communities. Urban Prešov city maintains coverage close to national levels, supporting both education and local business. Rural villages often rely on DSL or mobile networks, resulting in slower speeds and limited reliability. Households with children in urban areas enjoy frequent online access, while rural youth may face connectivity challenges. Older residents report the lowest broadband adoption rates. Cost and limited infrastructure are the main barriers in rural municipalities. Digital inclusion initiatives have targeted low-income and isolated households. Internet access strongly affects participation in online education and employment

opportunities. Small businesses in Prešov city leverage high-speed connections for e-commerce and services. Rural enterprises struggle to benefit from broadband due to technical constraints. Community centres and libraries provide alternative access points. Overall, Prešov illustrates regional disparities in household internet access and broadband coverage, with urban-rural gaps persisting despite ongoing improvements.

3.6.2. Information society

Slovakia has seen a rapid expansion of internet use for education, with nearly all students and teachers engaged in online learning by 2023, a trend accelerated by the COVID-19 pandemic. Around two-thirds of adults report using the internet for self-education, though participation drops sharply with age.

3.6.3. Digital economy

Adoption of Internet-of-Things (IoT) devices such as smart appliances and wearables is growing but still trails the EU average and remains concentrated in younger, urban households. Internet shopping has surged since 2020, and over 70 % of people aged 16–74 now purchase goods or services online, especially clothing, electronics, and travel. Businesses are increasingly digitalised: the share of employees using computers and the internet at work keeps rising, and the value of e-commerce sales grows by double digits each year, led by manufacturing, wholesale, and IT services. Nevertheless, Slovakia's overall e-commerce intensity and advanced ICT use still lag slightly behind EU leaders, constrained by skill shortages in cybersecurity and logistics.

Eastern Slovakia records lower internet use for formal and informal education than the national average, with cities such as Košice performing well but rural districts slowed by weaker broadband coverage. IoT adoption remains modest, and online shopping, while growing steadily, is below the national rate—particularly among older residents. The proportion of employees using computers at work is lower than in western regions because the local economy relies more on industry and agriculture. Regional businesses are beginning to embrace e-commerce, supported by EU-funded digital hubs and training programmes, but the total value of online sales is still a smaller share of turnover compared with Bratislava or western Slovakia. Cross-border e-commerce with Poland and Ukraine is emerging as a niche opportunity, yet overall the digital economy in SK04 remains less mature.

Within Eastern Slovakia, the Prešov region mirrors these challenges even more sharply. Internet use for school education is common in the city of Prešov but patchy in remote rural municipalities, where broadband deployment is slower. Household IoT adoption is minimal, and the share of residents buying online continues to trail both the national and regional averages. Many small enterprises rely on simple social-media storefronts instead of fully developed e-commerce platforms, limiting growth potential. Lower household incomes, dispersed rural settlements, and a business base dominated by small traditional service firms all contribute to a digital-economy profile that differs markedly from Slovakia's national pattern and underscores the need for targeted investment and skills development.

3.6.4. Personal digital skills

Slovakia shows steady improvement in digital literacy, yet gaps remain when compared with the EU average. In 2021 about 20 % of adults lacked basic digital skills, while roughly 10 % reported no computer skills at all. Younger cohorts (16–24) reach near-universal basic skills, but older groups, especially 55–74, have far lower competence. Women and men display almost equal overall digital ability, though women slightly outpace men in communication and social-media tasks. Rural residents are more likely to report low or no computer skills than urban residents. Over the last decade, national programmes promoting e-government services have boosted everyday computer use.

Still, the share of individuals with “above basic” skills—such as programming or advanced spreadsheet use—remains below the EU average. The COVID-19 pandemic accelerated digital adoption, reducing digital illiteracy by several percentage points between 2020 and 2023. Participation in lifelong learning and adult digital courses remains modest, limiting upskilling among older workers. Employers in IT and manufacturing report persistent shortages of staff with advanced digital competences.

Eastern Slovakia records higher digital illiteracy than the national mean, especially in rural districts. Around one quarter of adults lack basic computer skills, according to recent Eurostat surveys. The urban–rural divide is pronounced: major towns like Košice fare much better than surrounding countryside.

Age differences are sharper here than in western regions, with seniors rarely engaging in online services. Women in SK04 have slightly lower advanced-skills rates than men, largely due to lower participation in technical professions. Broadband access has improved, but slower infrastructure rollout keeps some villages below national connectivity levels. Limited workplace training and lower incomes hinder adults from upgrading their digital abilities. Local governments run EU-funded digital-training projects, but coverage is uneven and attendance often low. Public libraries and community centres are important hubs for free computer courses, partly bridging the gap. Despite progress, the region lags behind Bratislava and western Slovakia in all high-level digital indicators. Prešov region mirrors the challenges of Eastern Slovakia but with even greater rural exposure. Surveys indicate that nearly 30 % of adults here lack basic digital skills. Older residents and low-income households are most affected, citing cost and lack of perceived need as main barriers.

Internet coverage is improving, yet mountainous terrain delays high-speed broadband in remote villages.

Urban Prešov city exhibits higher competence, approaching the national average for basic skills. Women in rural Prešov region report lower confidence in tasks such as online banking or digital form-filling. Local schools increasingly integrate coding and robotics, helping younger generations close the gap quickly. NGOs and municipal initiatives offer free evening courses, but participation rates remain modest. Employers highlight a shortage of workers with advanced spreadsheet, database, and programming experience. Overall, Prešov’s regional digital-skills profile differs significantly from Slovakia’s national pattern, shaped by rural demographics, infrastructure gaps, and limited adult-education uptake.

4. Solutions

4.1 Strategic goals

Education in the Prešov Region faces a number of challenges that significantly impact the development and future opportunities of young people. Despite the region's rich cultural heritage and growing urban centers, many schools continue to struggle with insufficient funding, outdated infrastructure, and a lack of access to modern teaching resources. Rural areas, in particular, suffer from limited educational opportunities, which can exacerbate social inequalities and reduce students' motivation to pursue higher education or vocational training. The shortage of qualified teachers further compounds these issues, leading to overcrowded classrooms and a diminished quality of instruction. Additionally, the traditional curriculum often fails to address the practical skills and critical thinking abilities that are increasingly demanded in today's labor market, leaving students underprepared for future professional challenges. Socioeconomic factors, such as poverty and family instability, also play a role, as many students face barriers that prevent them from fully engaging with their education. These challenges contribute to higher dropout rates and lower academic achievement, ultimately affecting the region's social and economic development.

Addressing these problems requires a multifaceted approach that combines systemic reforms with targeted interventions. One potential strategy is to invest in teacher training and professional development, ensuring that educators are equipped with contemporary pedagogical methods and digital literacy skills. Enhancing school infrastructure and providing access to modern learning technologies can also create a more stimulating and equitable learning environment. For rural communities, mobile educational programs or digital learning platforms could help bridge the gap between urban and rural students, giving them access to a wider range of courses and extracurricular opportunities. Furthermore, partnerships with local businesses and universities could introduce mentorship programs, internships, and career-oriented workshops, allowing young people to acquire practical skills and gain exposure to potential career paths. Finally, implementing supportive services such as counseling, after-school programs, and parental engagement initiatives can address the social and emotional needs of students, fostering resilience and motivation. By combining these interventions, the Prešov Region could create an inclusive and adaptive educational system that empowers young people to thrive academically and socially, ultimately contributing to the broader development of the region.

Sustainable improvements require active cooperation between:

- Schools and employers
- Municipalities and the regional government
- Non-governmental organizations

- Employment offices
- Community centers and social service providers

Joint projects, shared training facilities, and joint development strategies can ensure more efficient use of resources and better outcomes for students.

4.2. Proposed intervention (where it's applicable)

Teacher Training and Professional Development Programs – Implement ongoing training for educators focusing on modern teaching methods, digital literacy, and student-centered learning approaches. By equipping teachers with up-to-date skills and resources, classroom quality will improve, fostering critical thinking and problem-solving among students.

Digital Learning and Infrastructure Enhancement – Invest in upgrading school facilities and providing access to digital tools such as computers, tablets, and high-speed internet. For rural areas, introduce mobile learning units or online platforms to ensure that all students, regardless of location, have equal access to quality educational materials and interactive learning opportunities.

Career-Oriented Partnerships and Mentorship Programs – Establish collaborations with local businesses, universities, and NGOs to offer mentorship, internships, and skill-building workshops. These programs can help students gain practical experience, understand the labor market, and develop skills that align with regional economic needs, ultimately increasing motivation and future employment opportunities.

4.3. Interview

Róbert Borbély, representing Junior Achievement Slovakia, emphasizes that young people in the Prešov Region face multiple challenges that strongly influence whether they find suitable employment. According to him, practical experience, soft skills, digital and language literacy, regional job availability, and career orientation are all essential factors.

Borbély explains that the Prešov Region, despite its rich cultural traditions and strong community ties, struggles with disparities in access to quality education. “There is a noticeable gap between urban centers and smaller rural municipalities,” he notes. “Many schools in remote areas face limited resources, outdated infrastructure, and insufficient extracurricular programs or professional development opportunities. These gaps make it harder for students to develop the skills needed to compete in today’s labor market.”

He also highlights a key problem: the migration of young talent. “Students who want better academic or professional opportunities often leave Prešov for cities like Bratislava or Košice, or even go abroad. Many of them do not return, which slows down regional innovation and reduces the availability of skilled labor locally.” Borbély points out that this trend is compounded by the fact that the current education system often emphasizes theoretical knowledge while providing limited practical experience or awareness of real labor market needs. “Even motivated students can struggle to connect what they learn in school with what employers are actually looking for,” he says.

Borbély stresses that motivation among young people to seek employment is uneven, influenced by financial stability, meaningful work, supportive workplace relationships, and opportunities for personal growth. He adds that the Slovak education system is not flexible enough to quickly adapt to changing market requirements and that collaboration with employers is often weak. Bullying among peers remains a frequent problem, while inappropriate behavior by teachers, though less common, is still present and often underestimated.

To improve the situation, Borbély advocates for a series of reforms. “We need to strengthen dual education and project-based learning, implement mandatory career orientation, develop both soft and digital skills, and foster systematic collaboration with employers,” he explains. He also emphasizes that socio-economic background, region, and access to quality schools and teachers heavily influence educational outcomes, creating inequalities that must be addressed if young people are to thrive.

Anna Servilová, principal of the primary school in Plaveč, provides a complementary perspective, focusing on practical solutions at the local school level. She highlights vulnerable youth as those facing social, economic, or educational barriers, including marginalized Roma communities, students in remote rural areas, and young people with disabilities. “Many of these students face compounded challenges,” Servilová explains. “Low motivation, school-related stress, family issues, financial difficulties, and learning or concentration problems all affect their ability to succeed academically.”

Servilová also observes that the differences between schools and study programs in the Prešov Region remain significant. “Some schools offer programs that closely align with labor market needs, particularly in technical or healthcare fields, while others lack practical training opportunities. Quality career guidance is essential to help students choose programs that match both their interests and employment prospects.”

She notes that young people’s decisions to remain in Prešov after graduation vary. “Those who stay often have strong family and community ties and appreciate the lower cost of living compared to larger cities. Others leave because they see better educational, professional, or lifestyle opportunities elsewhere. Motivation is closely tied to the availability of meaningful work, supportive work environments, opportunities for personal growth, and overall mental well-being.”

To address these challenges, Servilová emphasizes curriculum modernization, digitalization of schools, stronger support for teachers, and closer links between education and practice. Her school works proactively to strengthen cooperation with local businesses, organize company visits, support student projects and competitions, and develop both digital and language skills. She also highlights the importance of career guidance, including awareness of opportunities abroad, to help students make informed decisions.

Both Borbély and Servilová agree that addressing systemic issues—such as inequalities in school resources, outdated infrastructure, limited practical skills training, and uneven access to quality education—is crucial for giving young people in the Prešov Region the tools they need to succeed. Strengthening educational institutions, improving regional cooperation, and providing targeted support for vulnerable groups could help retain talent locally and enable young people to contribute to the region’s social and economic development.

5. Conclusions

In summary, the challenges facing young people in the Prešov Region constitute a multi-layered crisis of structural exclusion, far surpassing ordinary cyclical unemployment. The region's educational system is a central factor in this dynamic: disparities between urban and rural schools, limited resources, outdated infrastructure, and insufficient practical training create significant barriers for youth seeking to enter the labor market. Conventional measures such as career guidance programs and apprenticeships have limited impact when confronted with entrenched economic underdevelopment and a steadily depleting stock of local human capital.

The structural exclusion manifests in three key dimensions:

1. Persistent Unemployment and Disengagement:

Recent statistics indicate that around 25% of young adults aged 20–34 are not in employment, education, or training (NEET), while roughly 70% of registered unemployed individuals receive minimal social support. This chronic detachment from the labor market is exacerbated by educational gaps: many students lack individualized support, digital and language skills, or access to practical experience, leaving them ill-prepared for available jobs. Gendered disparities are also pronounced—young men often experience discouragement due to scarce job opportunities, while young women face structural inactivity linked to limited childcare options and early family responsibilities.

2. A Constrained Economic Environment:

The regional economy is dominated by low-wage employment and micro-enterprises, which hinders structured career development. Apprenticeships and dual-education opportunities are scarce, and limited wage potential makes out-migration the most rational choice for motivated youth. Even when young people acquire skills, regional schools often fail to connect learning with labor market needs, leaving a gap between education and employment. Language and mobility barriers further restrict access to higher-paying jobs outside the region, creating a cycle of structural exclusion.

3. An Underperforming Educational System:

Dropout rates at primary and secondary levels remain significantly above the national average, resulting in a growing population of low-skilled youth with few employment prospects. Inequalities in school quality, outdated curricula, and insufficient career guidance amplify this problem. Even when students obtain vocational or higher education, the lack of local opportunities—particularly in rural areas—perpetuates cycles of precarity, poverty, and eventual migration.

Addressing the youth crisis in the Prešov Region requires a systemic approach that directly tackles both educational and economic structures. Interventions must extend beyond isolated programs, emphasizing curriculum modernization, digitalization of schools, teacher support, development of practical and soft skills, and stronger links between education and local businesses. Strengthening dual education, project-based learning, and career guidance—including awareness of

opportunities abroad—can provide immediate support while laying the groundwork for long-term solutions.

Given that the current project cannot resolve structural economic underdevelopment directly, the pilot initiative focuses on activities that can be realistically implemented by local institutions. These include creating internships and hands-on training opportunities, supporting vulnerable youth from marginalized communities or remote areas, enhancing digital and language competencies, and fostering collaboration between schools and local employers. While these measures do not solve the underlying structural challenges, they provide young people with practical tools to improve employability, increase motivation, and build a foundation for future regional development.

By integrating targeted educational interventions with broader efforts to strengthen local career ecosystems, the Prešov Region can begin to slow the outflow of human capital and empower young people to contribute meaningfully to their communities.

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