Structural Challenges

2025

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Abbreviations

5G	fifth-generation cellular network technology
A8	The 'Accession Eight' countries, comprising the eight central and eastern European countries that joined the EU in 2004
AMECO	The annual macroeconomic database of the European Commission's Directorate General for Economic and Financial Affairs
AMI	acute myocardial infarction
AROPE	at risk of poverty or social exclusion
BMI	body mass index
CBR	Council for Budget Responsibility
CO_2	carbon dioxide
CT	computed tomography
DG ECFIN	The European Commission's Directorate-General for Economic and Financial Affairs
EBOPS	Extended Balance of Payments Classification
EC	European Commission
ECB	European Central Bank
EIS	European Innovation Scoreboard
ESA	European System of National and Regional Accounts
EU	European Union
EU27	The 27 Member States of the European Union
EU SILC	European Union statistics on income and living conditions
FIGARO	Full International and Global Accounts for Research in Input-Output Analysis
Gbps	gigabits per second
GDP	gross domestic product
GVA	gross value added
ICT	information and communications technology
IFP	Institute for Financial Policy (at the Slovak Finance Ministry)
IMD	International Institute for Management Development
IMF	International Monetary Fund
ktoe	kilotonnes of oil equivalent
LULUCF	land use, land use change and forestry
Mbps	megabits per second
MRI	magnetic resonance imaging
NBS	Národná banka Slovenska
n.e.s.	not elsewhere specified
NGFS	Network for Greening the Financial System
NUTS 2	nomenclature of territorial units for statistics: basic regions (for regional policies)
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
pp	percentage point(s)
PPP	purchasing power parity
PM2.5	particulate matter with diameters of 2.5 microns or less
PPI	producer price index
R&D	research and development
ROE	return on equity
RRF	Recovery and Resilience Facility (of the European Union)
RRP	recovery and resilience plan (of the Slovak Republic)
S2	A long-term indicator of fiscal sustainability, measuring the structural primary balance adjustment that would be required to stabilise public debt over the long term
SO SR	Statistical Office of the Slovak Republic
UNCTAD	United Nations Conference on Trade and Development

UNDP	United Nations Development Programme
USD	US dollar
V4	Visegrad Four (a cultural and political alliance of four countries: Czechia, Hungary, Poland and Slovakia)
VAT	value added tax

1 Introduction: Without innovation and inclusion, Slovakia will decline

Slovakia's economy has been struggling in recent years, with slow productivity growth, public and private investment levels far below what is required, and an inability to retain and attract talent – all undermining its innovation potential. Public finances are facing high deficits and an ageing population, while the country's open economy remains vulnerable to global shocks, including trade wars and supply chain disruptions like those experienced during the COVID-19 pandemic.

Národná banka Slovenska (NBS) is tasked with maintaining price stability and a sound financial system. A well-functioning economy is essential if monetary policy (e.g. the level and adjustment of interest rates) is to have the most favourable possible impact. This is supported, for example, by measures that improve the labour market and education, promote new technologies, and reduce risks to the economy. When such measures are well-designed and properly implemented, monetary policy can respond smoothly and effectively to expected developments.

Key challenges include weak innovation, a shortage of skilled labour, deteriorating public health, and limited opportunities for people to improve their standard of living. These factors hinder economic growth and weaken the effectiveness of monetary policy. Failure of the economy to develop can lead to stagnation in living standards and a widening gap with more advanced economies. Moreover, an economy unprepared for unexpected crises may recover from them only slowly and painfully.

In this year's edition of Structural Challenges – published annually since 2021 – NBS identifies the main structural bottlenecks facing Slovakia. While many topics recur – such as improving the business environment, strengthening public institutions, and reforming the labour market – each edition provides an up-to-date assessment and recommendations.

In 2025 two challenges stand out: accelerating productivity growth and fostering social inclusion. The transition to a more diverse, innovation-driven economy is especially important, given Slovakia's strong dependence on global trade. Trade wars could lead to slower growth, job losses, and further budgetary pressure in the future. The social dimension is another cause of growing concern. Poverty has been rising in recent years, particularly in the east of the country, and the 'social elevator' between generations is stalling.

This year's report also emphasises the importance of improving education, supporting entrepreneurship, strengthening the functioning of public institutions, and ensuring better funding and organisation of research and development. It is also necessary to stem the brain drain and to attract experts from abroad. A more targeted social policy can not only help the most vulnerable population groups, but also become part of the necessary consolidation of public finances. Only in this way will Slovakia be able to withstand external shocks and create space for future prosperity.

2 Structural challenges summary

To accelerate productivity growth and revive convergence with more advanced economies are among the major challenges for the Slovak economy. This requires transitioning to an innovation-driven model supported by substantial investment in human capital and research. Fundamental reforms targeted at the education system, the business environment, the quality of public institutions, and the financing and organisation of R&D are crucial. Equally important will be stemming the outflow of talent and actively attracting skilled professionals from abroad. Today, however, investment activity is lagging in both the private and public sectors. Investment as a share of GDP has been declining over the long term, FDI inflows are weakening, and public investment is insufficient to cover both maintenance and development needs.

Owing to the state of public finances, the Slovak economy is highly vulnerable. Despite ongoing fiscal consolidation, debt sustainability remains among the weakest in the EU. The challenge lies not only in the current high deficits but also in the future costs associated with an ageing population. The anticipated rise in defence spending will likewise necessitate additional measures on either the revenue or expenditure side of the budget

Another vulnerability of the Slovak economy stems from its strong dependence on global trade, particularly in the context of rising geopolitical tensions and growing trade protectionism. The exposure of a small, open economy to global trade shocks not only poses a risk of slower economic growth and job losses, but may also exert additional pressure on public finances. This makes it all the more urgent to repair public finances, build a fiscal buffer, and accelerate reforms that enhance productivity and promote economic diversification.

Social inclusion is weakening and regional disparities are growing. Since 2020 the share of people at risk of poverty has been rising – particularly in the east of the country – widening the gap between economically stronger and weaker regions. Single-parent households, large families, and young women are among the most vulnerable. Income poverty remains the most pressing issue, though material deprivation has also increased in recent years.

Intergenerational mobility is slowing. Although Millennials have higher absolute incomes than members of Generation X, their relative position within the income distribution is worse. At the same time, gender inequalities persist in both education and the labour market. The weakening of the 'social elevator' is limiting the use of human capital and may pose a further significant challenge to ensuring the country's long-term growth.

Socio-economic inequalities are increasingly reflected in health outcomes. Slovakia is falling further behind the EU average in key health indicators. Infant mortality, preventable mortality, and disparities in life expectancy highlight the need for targeted prevention programmes, stronger primary care, and a more stable healthcare workforce. Among members of Generation Y, low income is already linked to unmet medical care needs, perpetuating intergenerational inequalities and driving up future costs associated with chronic diseases. Integrated policies aimed at improving access to education, employment, and preventive healthcare – particularly in the most disadvantaged regions – are therefore a necessary condition for sustainable and inclusive growth.

In terms of environmental indicators, Slovakia compares relatively favourably with other EU countries. Both greenhouse gas emissions and the generation of waste per capita are among the lowest in the EU. However, this outcome reflects more the structure of the economy than a deliberate environmental policy. Air pollution from fine particulate matter remains a persistent issue, and the pace of decarbonisation has slowed significantly. In the long term, a timely

and orderly green transition would be less costly than delaying it – particularly given the substantial EU funds available from the Recovery and Resilience Facility (through Slovakia's recovery and resilience plan) and the Modernisation Fund. A key factor will be whether the state and businesses can translate these funds into high-quality investments. Equally important will be addressing the social impacts of the transition – which may ultimately determine its public acceptance.

3 Economic convergence and structural challenges

The key challenges facing Slovakia's economy remain largely the same as outlined in previous editions of Structural Challenges.

Productivity is increasing, but more slowly than in the past. To maintain Slovakia's convergence with more advanced economies – and thereby raise living standards through higher wages and pensions – productivity growth must be sustained. This requires fundamental reforms in education, the business environment, public institutions, and innovation capacity

Owing to the state of public finances and its openness, the Slovak economy is less resilient in a world marked by political tensions. Its considerable vulnerability stems mainly from high fiscal deficits and the expected increase in public spending due to population ageing. The need to further consolidate public finances is compounded by external risks that include a deteriorating economic outlook, rising uncertainty, and trade fragmentation.

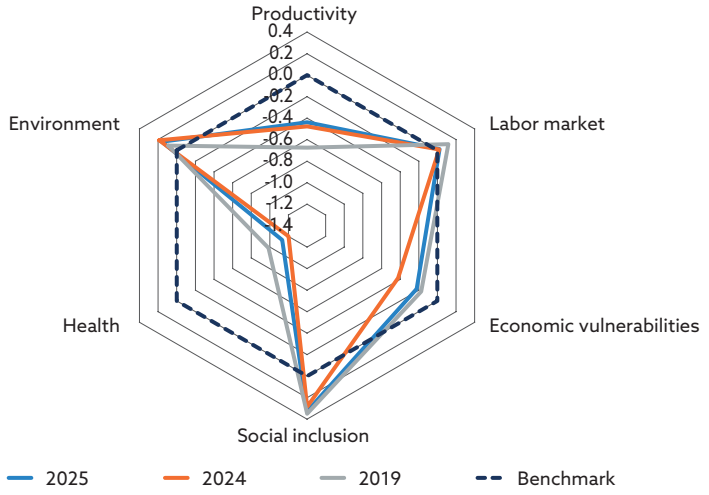
Public health remains a serious concern. Slovakia has consistently poor health outcomes, highlighting the urgent need for deep reforms in the health system. Improving the health of the population is crucial not only for raising the overall quality of life, but also for economic performance and the long-term sustainability of public finances.

Social inequality remains relatively low in Slovakia compared with other countries, and the environmental situation also fares relatively well. But while its social inclusion and environmental scores are quite strong, Slovakia still faces challenges – particularly in integrating marginalised groups and aligning climate goals with the need for economic convergence.

The challenges facing Slovakia have changed only slightly over time. Compared with the pre-pandemic year of 2019, Slovakia's strongest progress has been in productivity, which has grown faster than the EU average. By contrast, despite generally favourable developments in the labour market, employment growth has remained below the EU average. The underperformance in health outcomes has increased since 2019. This has been driven by the adverse impact of the COVID-19 pandemic on several health indicators, as well as the continued unfavourable trend in infant mortality. Social inclusion has deteriorated slightly, although improvements in some income inequality indicators have partly masked increases in income poverty and material deprivation. Conversely, there has been modest progress on the environmental front, both in reducing greenhouse gas emissions and in waste recycling. Overall, the changes in area scores compared with last year's report are small. The exception is the area of economic vulnerability, where progress has been achieved mainly as a result of fiscal consolidation.

To improve across all areas simultaneously is particularly challenging, as several policy goals may conflict with one another. For instance, countries with higher living standards generally also exhibit higher greenhouse gas emissions, highlighting the complexity of achieving environmental targets without undermining economic growth (however, as shown in Section 3.5, economic growth can go hand in hand with emissions reduction). Similarly, fiscal consolidation – a prerequisite for ensuring the long-term sustainability of public finances – may or may not run counter to efforts to foster social inclusion. The ultimate impact depends on how policies are specifically designed, targeted and implemented.

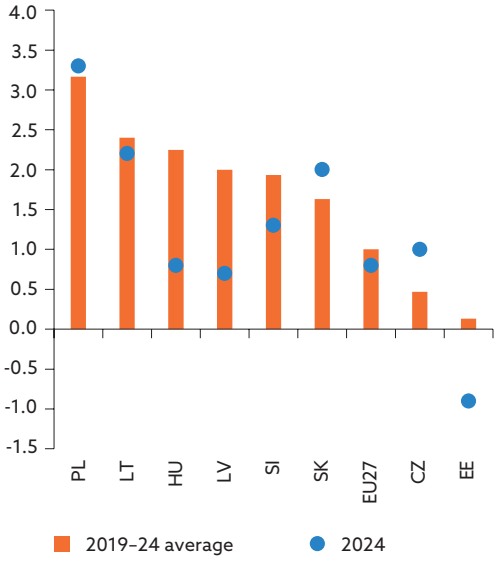
Chart 1
Outcome indicator scores vis-à-vis the benchmark



Sources: Eurostat, OECD, ECB, and NBS calculations.
Notes: The scores denote the difference between the indicator value for Slovakia and the average of the reference countries normalised by the standard deviation. Positive values denote above-average outcomes. For productivity, the outcome indicator is GDP per hour worked at purchasing power parity; for the labour market, the employment rate. On other dimensions, composites of outcome indicators were used. The scores for 2024 and 2025 represent the most recent values available when producing the given year's edition of Structural Challenges; the score for 2019 refers to the indicator values for that year. A more detailed description of the methodology can be found in *Structural Challenges 2021*.

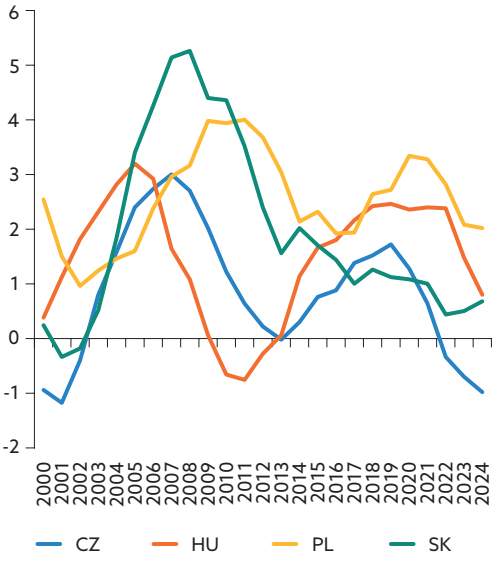
The long-term trend of a narrowing economic growth gap between Slovakia and the EU27 average, which began after the global financial crisis, has not yet come to a halt (Chart 3). For the past several years, the gap has remained positive but small. Slovakia's GDP per capita at constant prices grew by 2% last year, faster than the EU average of 0.8% (Chart 2). Among the A8[1] countries, Slovakia ranked third on this metric, behind Poland and Lithuania. In terms of economic growth over the last five years, Slovakia has still been slightly above the EU average, but is mid-ranking among the A8 – behind Poland, Lithuania, Slovenia, Hungary and Latvia, but ahead of Czechia and Estonia.

Chart 2
Growth in GDP per capita at constant prices (percentages)



Sources: Eurostat, and NBS calculations.

Chart 3
Growth in GDP per capita at constant prices vis-à-vis the EU27 (difference in five-year moving averages)

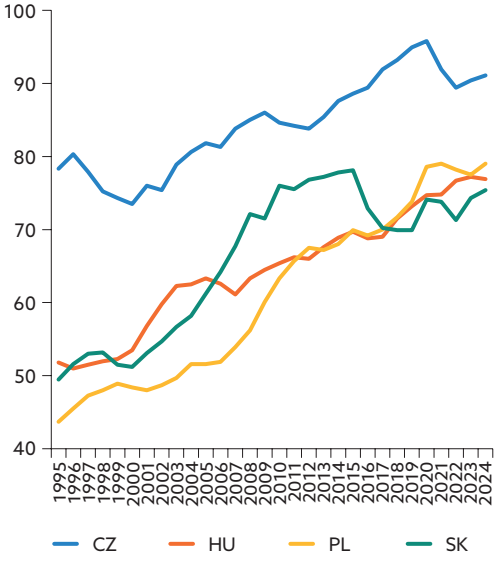


Sources: Eurostat, and NBS calculations.

[1] A group comprising the eight central and eastern European countries that joined the EU in 2004.

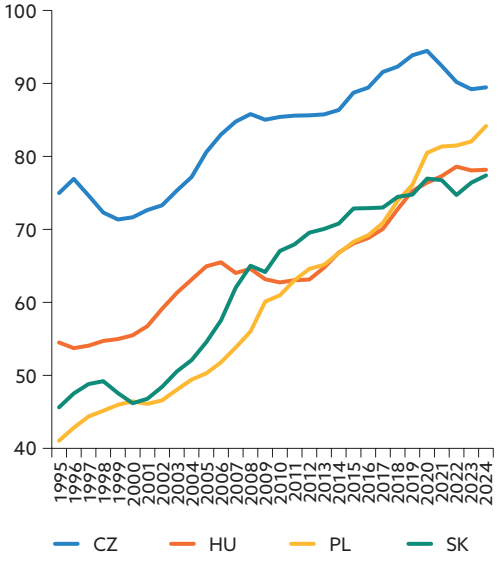
The overall picture of slowing – and even stagnating – convergence in recent years remains unchanged. Frequently cited statistics on nominal GDP per capita at purchasing power parity (PPP), expressed as a percentage of the EU27 average, indicate convergence stagnation over the past decade and Slovakia's position at the bottom of the V4 group (Chart 4). However, this comparison is complicated by methodological issues and breaks in official PPP data.[2] Even alternative estimates, based on real GDP growth from a baseline year using PPP-adjusted positions[3] (Chart 5), confirm a stalling of convergence related to the pandemic and the war in Ukraine. Nevertheless, the slowdown in convergence with Western countries – caused by Slovakia's growth model hitting its limits – was already apparent in the period following the global financial crisis.

Chart 4
Nominal GDP per capita in Slovakia (percentages of EU27 average)



Source: Eurostat.

Chart 5
Real GDP per capita at 2016 PPP (percentages of EU27 average)



Sources: Eurostat, and NBS calculations.

Prices in Slovakia are approaching European levels faster than the purchasing power of incomes. As shown in Table 1, while GDP, disposable income, employee compensation, and household consumption at PPP remain between 70% and 78% of the EU average, the price levels of both GDP and consumption have already exceeded 80%. Reviving real convergence still hinges on labour productivity. Despite some improvement in recent years, productivity remains low compared with the rest of Europe, directly affecting employee compensation and household incomes.

[2] Post-2015 data are not fully comparable due to methodological changes. More recent data may overestimate housing prices in Slovakia, leading to a higher price level and thus lower real GDP. For details, see Hlaváč, M., "Dobieha slovenské HDP na obyvateľa v parite kúpnej sily bohatšie krajiny EÚ?" (Is Slovakia catching up with richer EU countries in terms of GDP per capita at PPP?), Institute for Social Policy at the Ministry of Labour Social Affairs and Family of the Slovak Republic, October 2023 (in Slovak only).

[3] There are conceptual differences between GDP at constant prices and GDP at PPP. GDP at constant prices expresses the economy's productive capacity, while GDP at PPP attempts to capture people's purchasing power. In the case of a change in the terms of trade – i.e. prices of imports relative to prices of exports – the two indicators may evolve differently. The issue is discussed further in Dujava, D., "O dvoch hrubých domácich produktoch. (On two gross domestic products), Institute for Fiscal Policy at the Ministry of Finance of the Slovak Republic, October 2023 (in Slovak only).

Table 1
Economic convergence indicators (percentage of EU27 average; PPP)

Indicator	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gross domestic product per capita	72.9	70.2	69.9	69.9	74.1	73.8	71.3	74.3	75.4
Labour productivity per hour worked	72.9	70.5	70.0	70.6	76.1	78.6	76.5	78.7	
Gross adjusted disposable income per capita	67	65	66	67	71	72	72	72	
Actual individual compensation per capita	68.4	67.9	67.5	68.8	75.4	75.2	77.5	76.9	78.4
Compensation per employee	63.7	63.1	63.3	65.2	69.5	70.5	69.1	70.7	
Compensation per hour worked	60.1	60.3	60.8	63.0	68.3	71.3	69.2	70.6	
Comparative price level of GDP	72.4	75.2	77.6	78.4	76.6	76.5	78.7	80.0	80.2
Comparative price level of actual individual consumption	72.2	75.6	78.5	78.9	76.6	76.2	79.5	80.3	81.1
Comparative price level of household final consumption	77.9	82.4	84.5	86.0	83.2	82.4	85.2	83.8	84.7

Sources: Eurostat, and NBS calculations.
Note: Purchasing power parity (PPP) represents an artificially constructed common currency that eliminates price level differences across countries and therefore allows volume indicators of different countries to be compared.

In international competitiveness rankings, Slovakia remains near the bottom. The World Competitiveness Ranking, compiled by the International Institute for Management Development (IMD), evaluates 69 countries across a broad range of indicators. In the latest edition, published in June 2025, Slovakia ranks 63rd – the lowest among all assessed European countries. It has dropped for the third year in a row, falling four places compared with the previous year. The latest decline was driven primarily by weaker scores for economic performance and business efficiency.

Table 2
V4 countries in rankings of competitiveness and innovation

IMD – World Competitiveness Ranking										
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Slovakia	–	–	55	53	57	50	49	53	59	63
Czechia	–	–	29	33	33	34	26	18	29	25
Hungary	–	–	47	47	47	42	39	46	54	48
Poland	–	–	34	38	39	47	50	43	41	52
European Innovation Scoreboard										
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Slovakia	21	20	22	22	22	23	23	23	24	–
Czechia	16	16	17	18	18	17	17	14	15	–
Hungary	20	21	20	21	21	21	22	21	21	–
Poland	24	24	23	24	24	24	24	24	23	–

Sources: IMD, and EC – EIS.

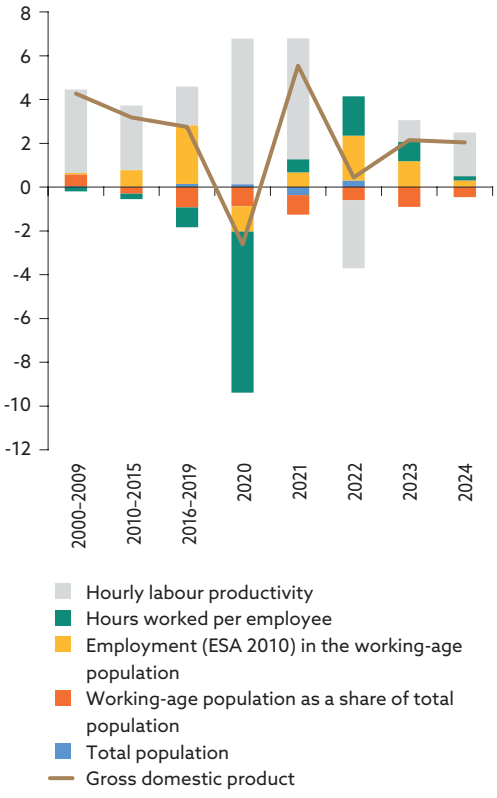
Slovakia is also continuing to underperform in innovation. In the 2024 edition of the EIS European Innovation Scoreboard, Slovakia fell from 23rd to 24th place among the 27 EU countries, after being overtaken by Poland. Compared with the previous year, there was a noticeable decline in

the dimensions of human resources (in the indicators of *new doctorate graduates* and *population involved in lifelong learning activities*) and environmental sustainability (especially in *development of environment-related technologies*). By contrast, there were improvements in employment, sales and trade in knowledge-intensive and innovative activities.

3.1 Economic performance

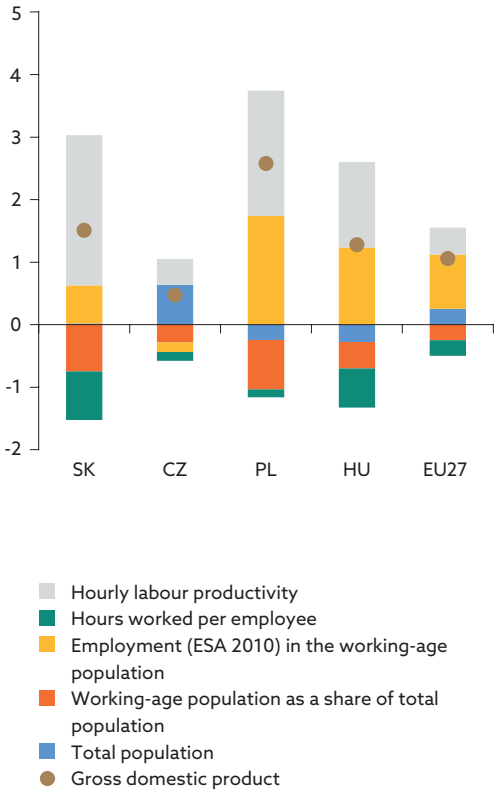
Labour productivity contributed significantly to last year's GDP growth but its pace still falls well short of historical norms. After declining in 2022 and rising only slightly in 2023, hourly productivity growth accelerated last year and made a notable contribution to overall GDP growth (Chart 6). Moreover, this increase exceeded the EU27 average, leading to a slight narrowing of Slovakia's productivity gap. Nevertheless, productivity growth remains slower than during the 2000–2015 period. Overall, the Slovak economy grew slightly faster than the EU27 between 2020 and 2024 (Chart 7), driven largely by growth in hourly labour productivity. On the other hand, the number of hours worked per employee declined more sharply than in both the EU27 and the other V4 countries. Economic growth has also been supported by an increase in the employment rate among the working-age population, though to a much lesser extent than in the EU27. Population ageing is acting as a drag, as the share of people in the working-age population continues to fall.

Chart 6
Contributions to real GDP growth in Slovakia (percentage point contributions; percentages)



Sources: Eurostat, and NBS calculations.

Chart 7
Contributions to real GDP growth in the V4 and EU27 (average growth for 2020–24; percentage point contributions; percentages)

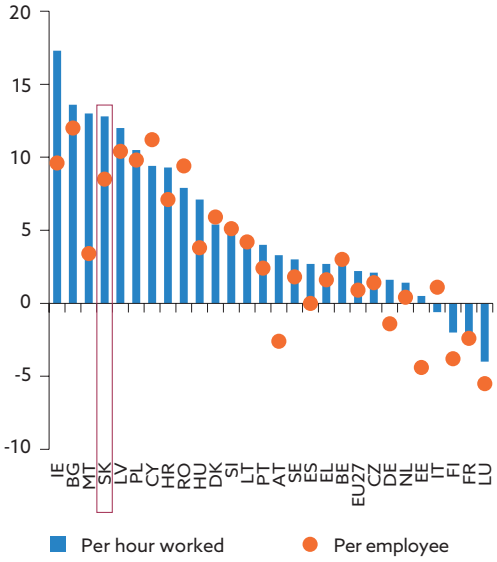


Sources: Eurostat, and NBS calculations.

The increase in hourly productivity during the COVID-19 pandemic may prove to be lasting. It was partly driven by a shift in labour activity towards more productive firms,[4] and in the first year of the pandemic it was accompanied by a sharp drop in hours worked. In 2022 hours worked had already begun to recover, while labour productivity declined. In the past two years, growth in hourly labour productivity picked up slightly. Overall, between 2019 and 2024, hourly labour productivity rose by almost 13% – the fourth highest growth among EU countries (Chart 8). Given the decline in hours worked per employee, productivity growth per employee was more moderate – but still ten times faster than in the EU27.

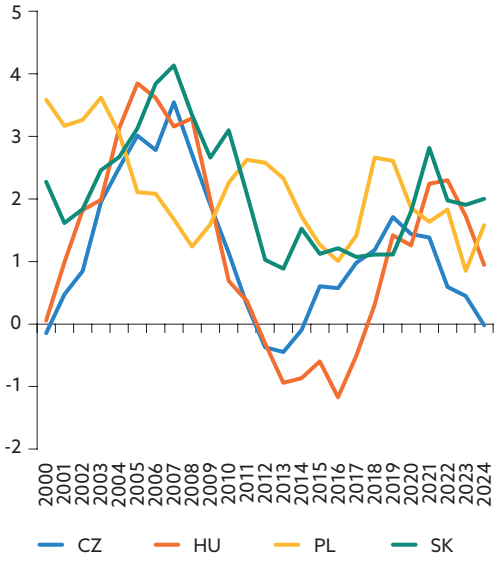
The continuing challenge for the future is to accelerate productivity growth. From a longer-term perspective (Chart 9), however, recent developments remain insufficient to make up for the 'lost decade' of 2010–19, when productivity growth declined significantly compared with the 2000s. Particularly in the context of an ageing population, it is essential to sustainably reverse the pre-pandemic trend of slowing labour productivity growth and to ensure lasting, robust productivity gains over the longer term.

Chart 8
Productivity growth from 2019 to 2024 in EU countries (percentages)



Sources: Eurostat, and NBS calculations.

Chart 9
Five-year average labour productivity growth per hour worked, difference vis-à-vis the EU27 average (percentages)

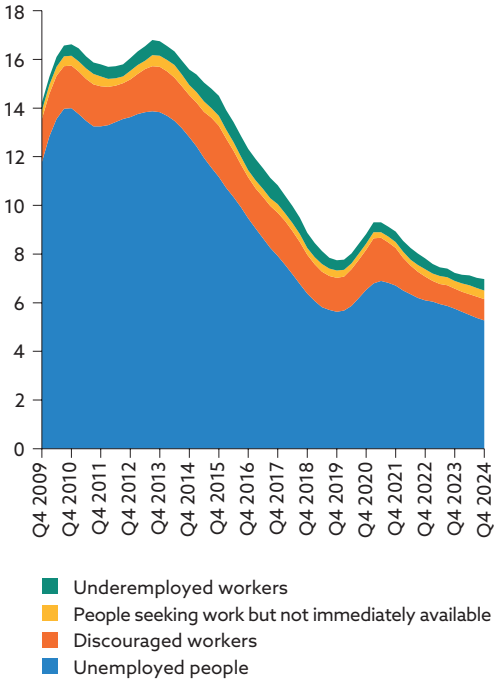


Sources: Eurostat, and NBS calculations.

There is limited scope for directly increasing the labour force. As a recent IFP analysis[5] notes, the potential for people to transition from outside the labour force into employment or unemployment is low in the Slovak economy and has been declining over time (Chart 10). Although a similar downward trend is observed in most EU countries, Slovakia currently ranks lowest in comparison (Chart 11). This potential group consists of non-workers who meet only one of the following two conditions for classification as unemployed: being available for work and actively seeking work. The small size of this group narrows the future scope for mitigating the negative demographic impacts on the labour force. It is therefore essential to increase labour force participation in other population groups – particularly women on maternity leave and older people – as well as to attract skilled labour from abroad.[6]

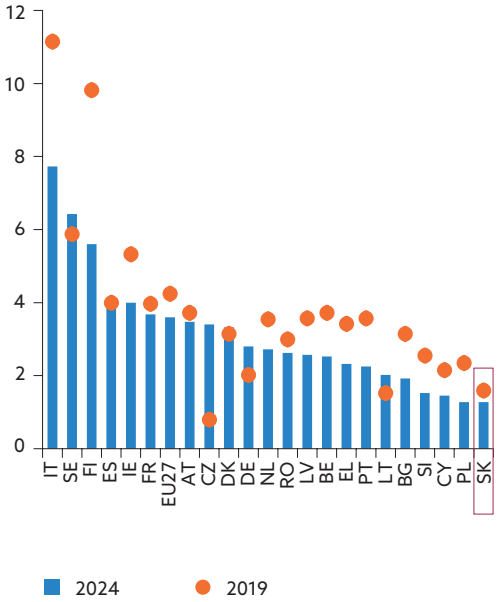
4 The pandemic's impact on the Slovak economy is examined in more detail in *Structural Challenges 2022*.
5 See Pécsyová, M., "Mzdy držia tempo, pracovná sila sa stenčuje" (Wage growth holds up amid shrinking workforce), *Flash info z trhu práce* (Flash news from the labour market), Institute for Fiscal Policy, 3 June 2025 (in Slovak only).
6 The issue of population ageing is addressed in more detail in *Structural Challenges 2024*.

Chart 10
Slack in the Slovak labour market (percentages of the extended labour force; four-quarter moving average)



Sources: Eurostat, and IFP calculations.
Note: The extended labour force is the sum of the categories in the chart and the number of people employed.

Chart 11
Potential labour force (percentages of the extended labour force; Q4 2024 and Q4 2019; four-quarter moving average)



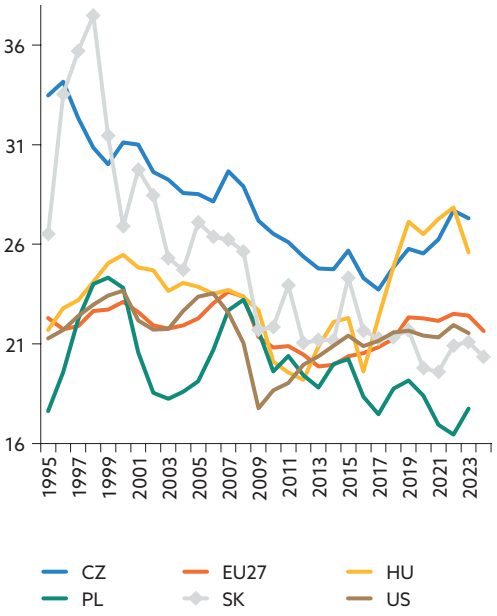
Sources: Eurostat, IFP calculations, and NBS.
Notes: The potential labour force includes the categories of discouraged workers and people seeking work but not immediately available. Due to a lack of data, some EU countries are missing.

Given a tight labour market and the growing effects of population ageing, it is essential to accelerate productivity growth by strengthening investment and innovation activity. In Slovakia, investment as a share of GDP has been declining for an extended period. Before the global financial crisis, it was well above the EU27 average and comparable to levels in Czechia and Hungary, but in recent years it has lagged far behind those countries (Chart 12). There is room for improvement across all sectors – households, corporates, and general government (Chart 13).

Of particular concern is the low level of public investment, which remains only at the EU27 average despite Slovakia being a net recipient of EU funds. Domestic public investment has long been confined to renewing public capital stock, resulting in a low level of development investment and also restricting infrastructure renewal itself. Moreover, current fiscal performance does not create sufficient space for a sustainable investment policy. Compared with other EU countries in the CEE region, Slovakia allocates a higher share of spending to social protection, healthcare, and public order and safety, while the share devoted to education – representing an investment in human capital – remains relatively low.[7]

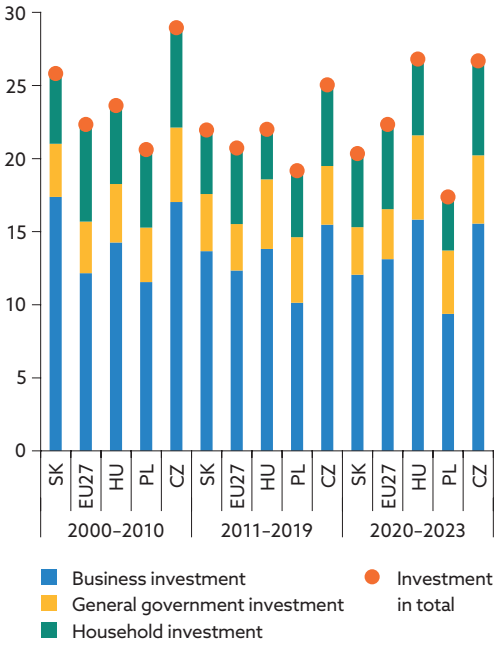
[7] See Labaj, M. and Horváth. M., "Slovensko si chronicky prejedá verejné zdroje na investície" (Slovakia is chronically consuming public funds intended for investment), *NBS Blog*, Národná banka Slovenska, 7 July 2025 (in Slovak only).

Chart 12
Gross fixed capital formation (percentages of GDP)



Sources: Eurostat, and World Bank.

Chart 13
Gross fixed capital formation by sector (percentages of GDP)

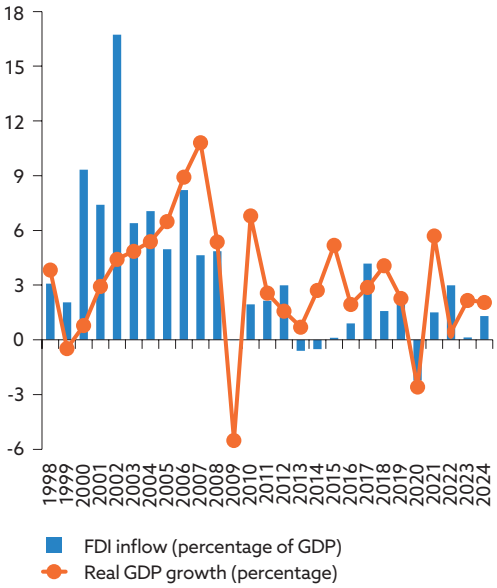


Sources: Eurostat, and NBS calculations.

Besides the declining share of business investment in GDP, other concerns include the faltering inflow of foreign direct investment (FDI) and persistently low spending on research and development. Before the global financial crisis, Slovakia's economy recorded its highest ever growth, driven by massive inflows of foreign direct investment (Chart 14) attracted by an available and relatively skilled workforce. These investments were heavily concentrated in the automotive industry and other manufacturing assembly lines. However, this growth model has largely run its course, with FDI inflows slowing markedly in the post-crisis period. Despite having a similar economic structure, the other V4 countries have been more successful in attracting investors in recent years (Chart 15). The transition to an innovation-driven growth model is hindered by the low willingness of Slovak firms to invest in R&D and by an innovation environment that remains weak, even by regional standards.[8] This problem cannot be solved with superficial measures, such as increasing subsidies. Restoring Slovakia's attractiveness to investors – especially in higher value-added sectors – will require structural reforms focused on improving the quality and predictability of the business environment, as well as on ensuring the availability of high-quality human capital.[9]

[8] See *Structural Challenges 2023*.
[9] See Horváth. M., "Slovenské zelené lúky už investorov nelákajú" (Slovak greenfields no longer attract investors), *NBS Blog*, Národná banka Slovenska, 12 June 2025.

Chart 14
FDI inflows and real GDP growth in Slovakia



Sources: NBS, OECD, and NBS calculations.

Chart 15
FDI inflows in the V4 countries (percentages of GDP)

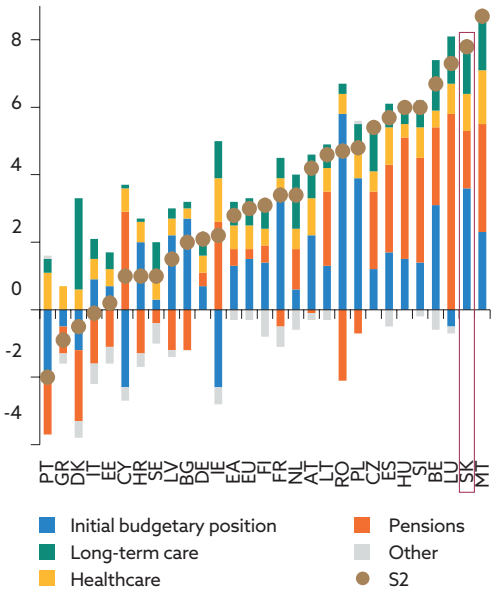
Sources: OECD, and NBS calculations.

3.2 Economic vulnerabilities

Public finances remain a significant vulnerability of the Slovak economy, despite improvement in sustainability over the past year. Reflecting the impact of the government's fiscal consolidation efforts, Slovakia's debt sustainability – measured by the European Commission's S2 indicator[10] – improved year-on-year by 2.1 percentage points in 2024 (Chart 17), representing the highest increase among EU countries. Nevertheless, according to this indicator, Slovakia still faces the second-highest long-term fiscal sustainability risk in the EU, after Malta (Chart 16). An annual improvement was also recorded under the methodology of the domestic Council for Budget Responsibility (CBR),[11] with its indicator falling from 6.2% to 4.1% of GDP. As a result, Slovakia's fiscal sustainability risk has moved from the high to medium category. However, compared with the pre-pandemic value of 4.9% in 2019, this represents only a modest improvement. The challenge in stabilising Slovak public finances lies not only in the current deficit and debt levels, but also in the growing costs of population ageing – particularly pension, health, and long-term care spending, which are expected to continue rising.[12] Increasing the defence spending target from 2% of GDP to 3.5% of GDP and allocating an additional 1.5% for related investments will require further consolidation measures on either the revenue or expenditure side of the budget.

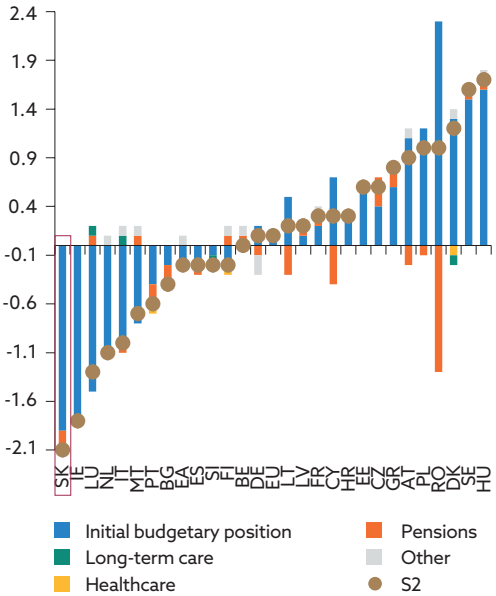
[10] The S2 indicator shows the adjustment to the current structural primary balance required to stabilise public debt.
[11] CBR: Long-term sustainability indicator – 30 April 2025 (in Slovak only).
[12] For a more detailed analysis of population ageing, see *Structural Challenges 2024*.

Chart 16
S2 fiscal sustainability gap indicator (2024)



Source: European Commission.

Chart 17
Change in the S2 indicator between 2023 and 2024



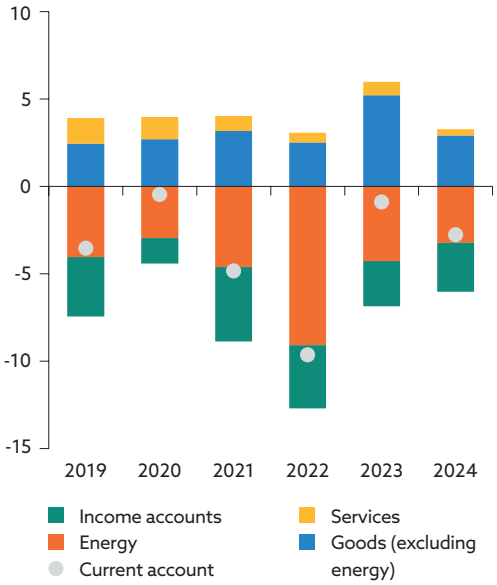
Sources: European Commission, and NBS calculations.

The Slovak economy has largely withstood the negative shocks associated with the energy crisis. With the surge in energy prices related to the war in Ukraine having partly subsided, the balance of payments deficit has narrowed – though it remains slightly negative (Chart 18). The economy's competitiveness has also been reduced by relatively fast growth in nominal unit labour costs, which between 2021 and 2024 outpaced the EU27 average (Chart 19), albeit remaining moderate compared with the countries that recorded the highest increases. Similarly, Slovakia's higher consumer price inflation relative to its trading partners has led to an appreciation of the real effective exchange rate (REER) based on the consumer price index, while the REER based on the producer price index has remained relatively favourable.[13] By contrast, terms of trade and export market share developments have been less positive in recent years (Table 11).

The risk of trade wars poses an additional challenge. The Slovak economy's vulnerability in the current environment of rising trade tensions is significantly amplified by its status as a small, open economy that is highly integrated into global value chains. In the event of trade talks failing and trade barriers increasing, Slovakia's GDP for the years 2025 to 2027 is estimated to be 1.7–2.5% lower than the baseline scenario in the NBS summer 2025 forecast – implying a loss of 17,000–21,000 jobs.[14] A global financial crisis and/or significant disruption of global supply chains could lead to even more pronounced adverse effects. The Slovak economy's integration into international trade and the associated vulnerabilities are discussed in more detail in Section 4.

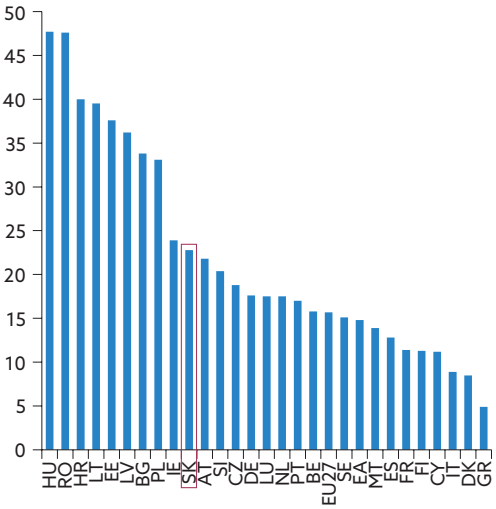
[13] See the Effective exchange rate page on the NBS website.
[14] See *Economic and Monetary Developments – Summer 2025*, Národná banka Slovenska.

Chart 18
Balance of payments current account (percentages of GDP)



Sources: NBS, SO SR, and NBS calculations.

Chart 19
Growth in nominal unit labour costs (2021–2024; percentages)



Source: Eurostat.

The Slovak economy's resilience is expected to be supported by the stability of the domestic financial sector.[15] Predicting future developments – particularly in global trade relations – is extremely difficult at present, which makes it all the more important that the financial stability situation has evolved favourably in the recent period. The Slovak banking sector's resilience – confirmed by comprehensive stress tests – is near historical highs. On the domestic front, there has been a notable recovery in the mortgage and housing markets, both of which have responded to a gradual decline in interest rates and associated increase in price growth expectations. The revival of corporate lending has been more subdued. At the same time, non-performing loan ratios remain low across all loan categories, reflecting a gradual improvement in households' financial situation and favourable labour market developments. The banking sector remains sufficiently profitable – a necessary condition not only for its own stability and resilience, but also for its continued capacity to finance the domestic economy. Current developments therefore do not warrant any changes to capital requirements or other macroprudential policy tools.

3.3 Social inclusion

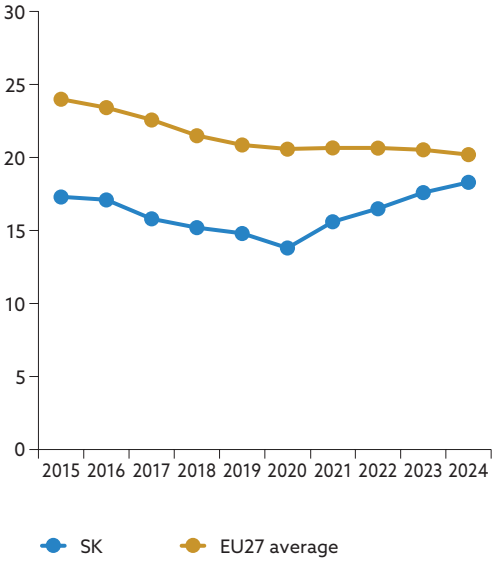
The share of the population at risk of poverty or social exclusion (AROPE) has been rising each year since 2020. By 2024 almost one in five people in Slovakia (18.3%) were at such risk. Although Slovakia still performs better than the EU27 average for this indicator, the situation across the Union is improving – while in Slovakia it is moving in the opposite direction (Chart 20).

Regional disparities in AROPE are also widening. Between 2020 and 2024, the AROPE rate increased most sharply in Eastern Slovakia (by 7.3 pp) and Western Slovakia (by 6.3 pp), while in the capital region of Bratislava it rose more moderately (by 2.7 pp) and in Central Slovakia it remained almost unchanged. By contrast, over the 2015–2020 period, the risk of poverty or social exclusion

[15] See *Financial Stability Report – May 2025*, Národná banka Slovenska.

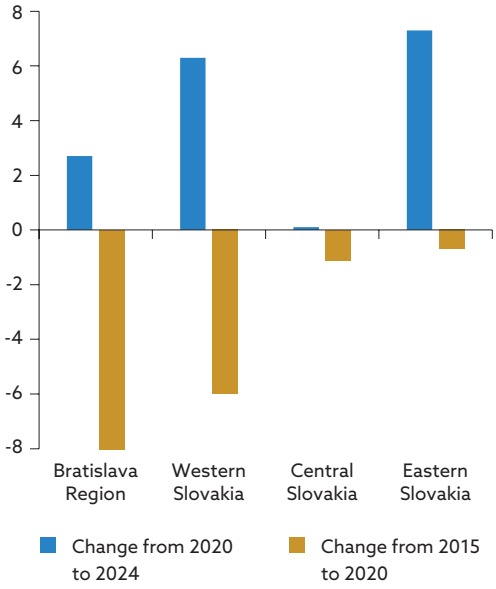
decreased in all regions – most notably in Bratislava Region and Western Slovakia, but only marginally elsewhere (Chart 21).

Chart 20
At-risk-of-poverty or social exclusion (AROPE) rate – cross-sectional indicator (percentages of the population)



Sources: Eurostat, and NBS calculations.

Chart 21
Change in the AROPE rate – cross-sectional indicator by NUTS 2 region (percentages of the population)



Sources: Eurostat, and NBS calculations.

We assess poverty risk using the AROPE indicator, which captures three dimensions of poverty. People are considered at risk of poverty if they experience at least one of the following: (1) income poverty risk; (2) severe material and social deprivation; (3) living in a household with very low work intensity. This enables a more detailed understanding of which dimension dominates and how it overlaps with the others.

In Slovakia, most people at risk of poverty are affected by income poverty.[16] This is followed – some way behind – by severe material and social deprivation[17] and by very low work intensity[18] (Chart 22). These results point to *relative poverty* – captured through income poverty – as the primary concern. Income poverty refers to having an income lower than 60% of the national median equivalised disposable income. Present to a lesser extent is *absolute poverty* – expressed through material and social deprivation – which reveals what households cannot afford. Least common is very low work intensity, which primarily reflects under-participation in society due to underutilised labour potential.

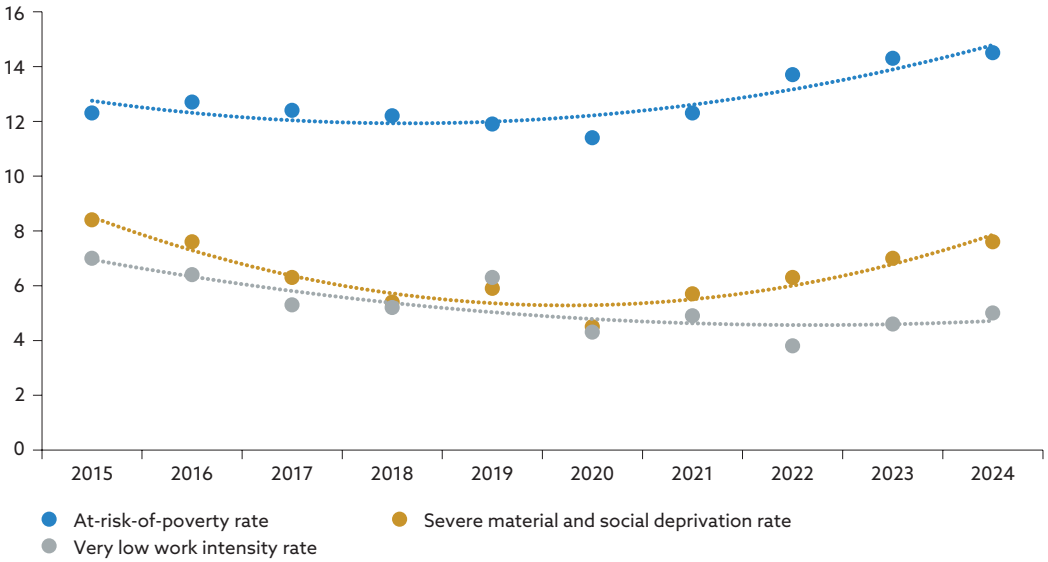
Since 2020, two out of the three poverty dimensions have worsened. Both income poverty and material and social deprivation have increased, while very low work intensity has remained relatively stable. Interestingly, deprivation decreased between 2015 and 2020, but income poverty did not record any significant improvement during that period.

[16] People are at risk of income poverty if they live in a household that has an income below the at-risk-of-poverty threshold, which is set at 60% of the national median equivalised disposable income and therefore changes annually.

[17] The severe material and social deprivation rate records what proportion of the population is experiencing an enforced lack of at least 7 out of 13 deprivation items, such as capacity to face unexpected expenses or capacity to afford paying for one week annual holiday away from home.

[18] If a person under 65 lives in a household whose working-age members have worked less than 20% of their total combined work-time potential during the previous 12 months, they are defined as living in a household with very low work intensity.

Chart 22
The three poverty dimensions covered by the AROPE rate



Sources: Eurostat, and NBS calculations.

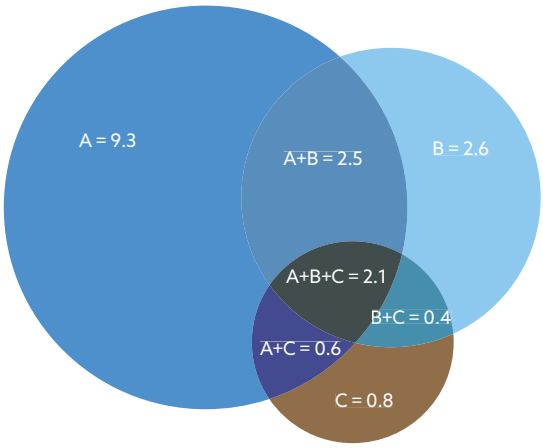
The previous chart shows the share of the population experiencing each dimension of poverty. However, people may often experience more than one dimension at the same time. To better understand the overlaps between poverty dimensions, it is helpful to take a closer look at all their subgroups.

The AROPE indicator identifies seven such subgroups. Three of them experience only one dimension of poverty: (A) – income poverty risk; (B) – material and social deprivation; (C) – very low work intensity. Another three subgroups experience a combination of two dimensions: (A+B) – income poverty and material and social deprivation; (A+C) – income poverty and very low work intensity; (B+C) – material and social deprivation and very low work intensity. The seventh and final subgroup experiences all three dimensions: (A+B+C).[19] Chart 23 shows the distribution of these subgroups in 2024.

The largest share of people experiences only income poverty risk. Following this group, with almost equal shares, are those experiencing material deprivation, those affected by both income poverty and material deprivation, and those facing all three dimensions (Chart 23). Income poverty reflects the relative nature of income distribution within society. It is also important, however, to assess whether income poverty is worsening over time and to what extent poverty as captured through material and social deprivation is changing.

[19] For detailed information on indicators and the measurement of poverty in Slovakia, see *Chudoba a sociálne vylúčenie na Slovensku v roku 2024 (Výstupy zo zisťovania EU SILC 2024)* (Poverty and social exclusion in Slovakia in 2024 (EU SILC 2024 Results)), Statistical Office of the Slovak Republic, May 2025 (in Slovak only).

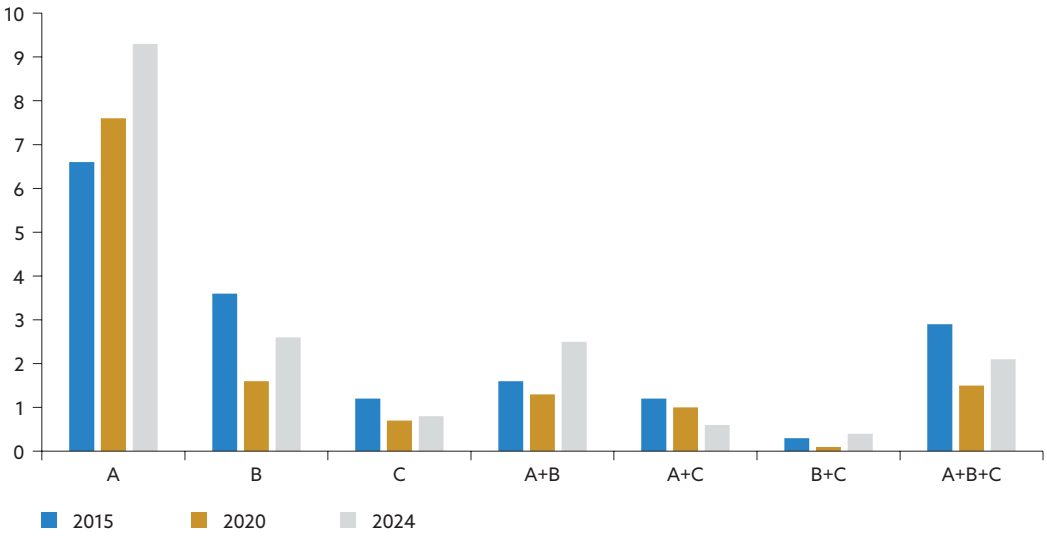
Chart 23
All subgroups of the three poverty dimensions captured by the AROPE rate in 2024 (percentages)



Source: Eurostat.
Note: The individual parts represent all subgroups of the AROPE indicator, where *A* is income poverty only, *B* is material and social deprivation only, *C* is very low work intensity only, *A+B* is both income poverty and material and social deprivation, *A+C* is both income poverty and very low work intensity, *B+C* is material and social deprivation and very low work intensity, and *A+B+C* is all three dimensions.

Between 2015 and 2024, the largest increase was in the share of the Slovak population experiencing only income poverty risk. After a decline in 2020, the shares of people facing income poverty risk in combination with either material and social deprivation or with both of the other poverty dimensions have also been increasing. The share of those experiencing only material and social deprivation has likewise been rising since it declined in 2020. This trend suggests an increase in relative poverty, followed by a rise in absolute poverty. The group experiencing very low work intensity has so far remained relatively small and stable.

Chart 24
Evolution of all subgroups of the three poverty dimensions (percentages)



Sources: Eurostat, and NBS calculations.
Note: The individual parts represent all subgroups of the AROPE indicator, where *A* is income poverty only, *B* is material and social deprivation only, *C* is very low work intensity only, *A+B* is both income poverty and material and social deprivation, *A+C* is both income poverty and very low work intensity, *B+C* is material and social deprivation and very low work intensity, and *A+B+C* is all three dimensions.

Single-parent and large families remain the most vulnerable. Households with the highest AROPE rate are those with one adult and a dependent child, and those with two adults and at least three children. Encouragingly, between 2023 and 2024, the rate fell significantly for both single-parent households (from 36.8% to 29.6%) and large families (from 37.1% to 32.7%). Despite this improvement, these household types remain considerably more at risk than the general population.

In the age breakdown of the AROPE indicator, young adults – especially women – face the highest risk of poverty and social exclusion. In 2024 the AROPE rate was highest among those aged 18–24, with women in this group significantly exceeding men. The only group in Slovakia with an AROPE rate above the EU27 average is men aged 25-49. All other age and gender groups in Slovakia have an AROPE rate better than the average of their European peers.

3.4 Health

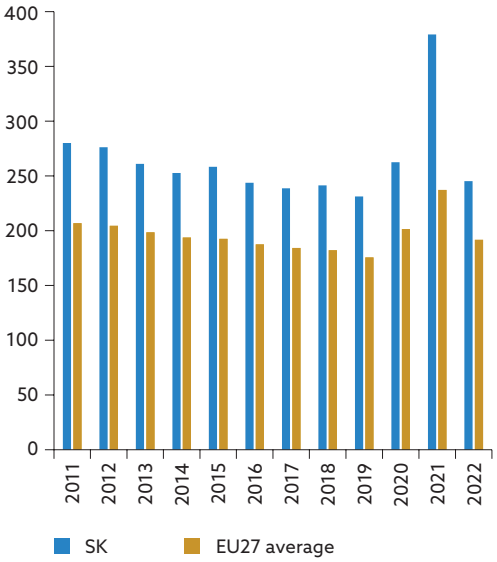
Slovakia's health indicators continue to fall further behind EU averages. Slovakia lags not only in life expectancy at birth and the number of healthy life years, but also – as highlighted in previous editions of *Structural Challenges* – in the infant mortality rate, which remains above the EU average.[20] A significant share of deaths could be avoided through effective prevention or better-quality healthcare (Chart 25 and 26). If prevention were raised to at least the EU27 average, an estimated 54 deaths per 100,000 population would be avoided; a similar improvement in healthcare quality would prevent a further 72 deaths. The task, however, is a challenging one: between 2012 and 2022, preventable mortality improved only marginally, while treatable mortality actually deteriorated. The trend is compounded by an ageing population and shortages of doctors and – even more so – nurses,[21] posing a major issue for the future functioning of the health system.

Inequalities in life expectancy in Slovakia are among the highest in Europe. While not extreme in a global comparison, they place Slovakia near the bottom of the EU ranking (Chart 27). The large disparities are driven by shorter life expectancy among people with lower education and among men compared with women, regional differences in mortality, and above-average levels of risky behaviours (smoking, alcohol consumption), traffic accidents, and air pollution . Increasing public spending on health must therefore be carefully planned and precisely targeted. Priority should be given to prevention (vaccination, screening, reducing smoking and excessive alcohol consumption), expanding access to health services in marginalised areas, and programmes for high-risk groups (e.g. middle-aged men with cardiovascular risks or alcohol dependence). Non-medical interventions – such as improving road safety – will also be crucial.

[20] See *Structural Challenges 2024*, Národná banka Slovenska.

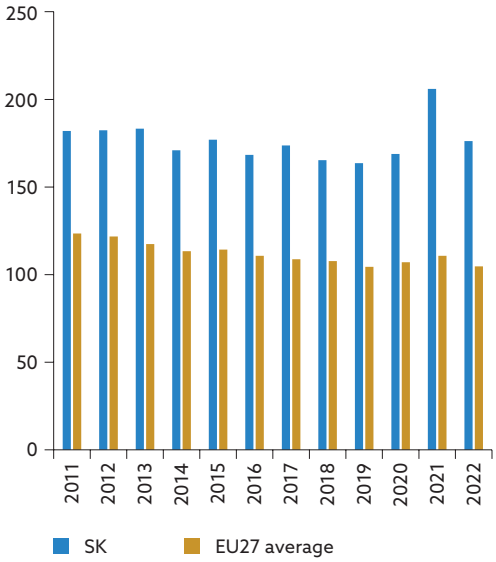
[21] See Múčka, Z. and Múčka, F. "Lekári, sestry a Slovensko 2040 (Projekcia vývoja počtu lekárov, sestier a dopytu po týchto profesiách zo strany starnúcej populácie)" (Doctors, Nurses and Slovakia 2040 (Projections about the Number of Doctors and Nurses and about Demand for these Professions from the Ageing Population)), *Analytické postrehy* (Analytical Observations blog), Council for Budget Responsibility, 27 March 2025 (in Slovak only).

Chart 25
Preventable mortality (per 100,000 population)



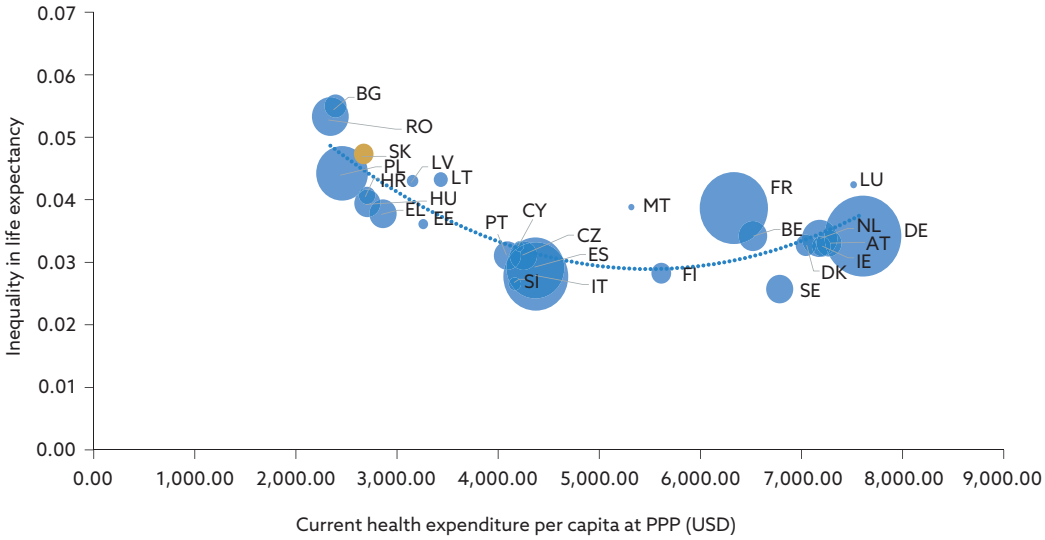
Source: Eurostat.

Chart 26
Treatable mortality (per 100,000 population)



Source: Eurostat.

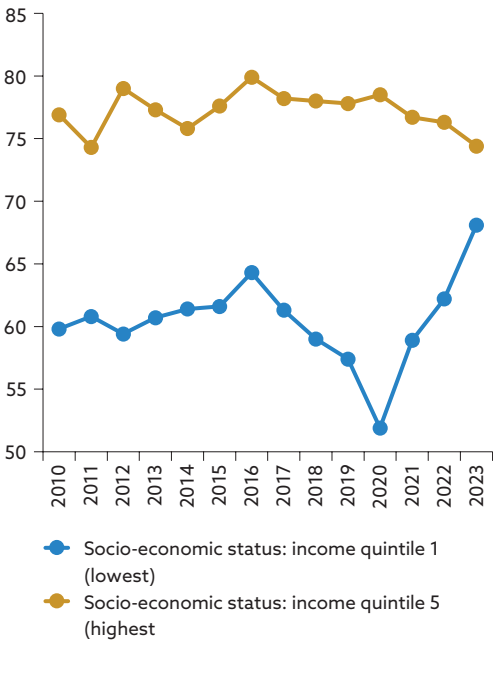
Chart27
Inequality **in life expectancy versus current health spending (2021)**



Sources: UNDP Human Development Report (2025), and Our World in Data (with minor modifications).
Notes: The size of the bubble represents the size of the country's population. Inequality in life expectancy is measured using the Atkinson index – a scale of 0 to 1, with higher values indicating greater inequality. For comparison, the highest inequality in life expectancy globally is 0.39, recorded in Nigeria. Inequality is measured by the number of years a newborn would live if age-specific mortality rates in the current year remained constant throughout their lifetime.

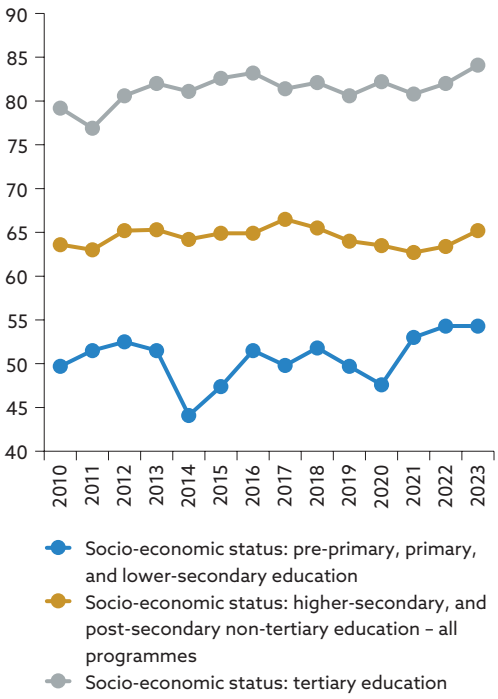
Socio-economic disparities are also reflected in how people perceive their own health. Differences in perceived health status between those with only primary education and those with tertiary education have remained large and stable over time. When looking at income groups, however, the picture is shifting: after a sharp drop in self-rated health among the poorest fifth during the COVID-19 pandemic, recent years have brought some convergence. This shift has been driven by a marked improvement in perceived health among the lowest earners, alongside a slight deterioration among the wealthiest

Chart 28
Adults rating their own health as good or very good, by socio-economic status measured by income (percentages)



Source: OECD.

Chart 29
Adults rating their own health as good or very good, by socio-economic status measured by education (percentages)



Source: OECD.

3.5 Environment

Slovakia performs relatively well in environmental matters, primarily due to low per capita emissions of greenhouse gases and generation of municipal waste (Tables 22 to 25)**.** These favourable figures reflect more the structural nature of the economy – above all its lower level of development compared with more advanced economies – than the effects of targeted environmental policy. Improvements in waste management systems have led to higher recycling rates for both municipal and packaging waste. The most pressing issue remains air pollution from fine particulate matter (PM2.5), which poses a serious health risk in certain regions. Equally urgent is the need to accelerate decarbonisation of the energy, industry and transport sectors if Slovakia is to meet its climate commitments.

The Slovak economy's greenhouse gas (GHG) emissions fell by 28% between 2000 and 2023 (Chart 30), even as real GDP doubled and 400,000 jobs were created over the same period. Emission intensity – the ratio of emissions to economic output – decreased markedly, especially in the energy and industry sectors. According to Eurostat data, this demonstrates that economic growth and emission reductions can go hand in hand. The main drivers of this progress have been structural changes in the economy, improvements in energy efficiency, and higher labour productivity.

However, emission reductions between 2000 and 2023 were uneven. While the industry and energy sectors made progress, transport remained only slightly less dependent on oil than it was two decades ago. On the other hand, construction is an example of a sector in which the situation deteriorated. Overall, Slovakia is currently 30 million tonnes of CO_2 equivalent (tCO_2e) away from achieving carbon neutrality (Table 3).

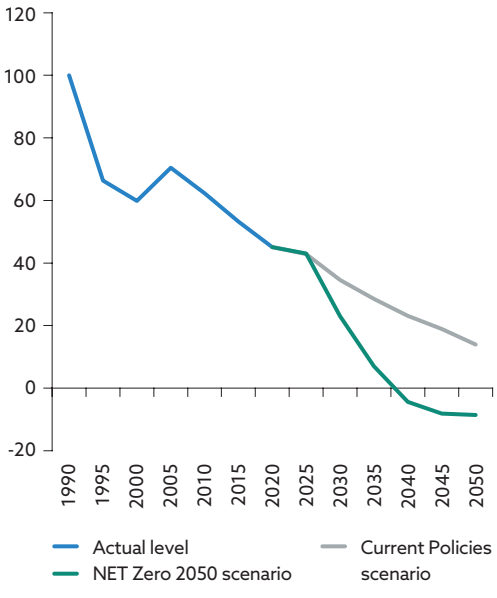
Table 3
Changes in selected indicators between 2000 and 2023

Sector	Δ CO_2e	Δ Sector share in total emissions	ΔCO_2e/ GVA	Δ GVA	ΔGVA/E	Δ Invest-ment	Δ Sector share in total GVA	Δ KTOE/ GVA
Total	-28%	N/A	-67%	120%	83%	334%	N/A	-50%
A: Agriculture, forestry and fishing	-19%	13%	-81%	318%	683%	270%	90%	-74%
C: Manufacturing	-38%	-13%	-83%	274%	260%	332%	70%	-59%
D: Electricity, gas, steam and air conditioning supply	-38%	-13%	-45%	13%	87%	135%	-49%	-30%
F: Construction	13%	57%	-43%	97%	28%	402%	-10%	-46%
H: Transportation and storage	-21%	9%	-35%	21%	16%	625%	-45%	-21%
Other	5%	47%	-45%	93%	43%	342%	-12%	-49%

Sources: Eurostat, and NBS calculations.
Notes: Emissions are expressed in CO_2 equivalents. GVA stands for gross value added; E stands for employment. ΔCO_2e/GAV expresses the change in emission intensity. ΔGVA/E expresses labour productivity growth. The energy unit is expressed in kilotonnes of oil equivalent (ktoe). Δ KTOE/GVA expresses the change in energy intensity.

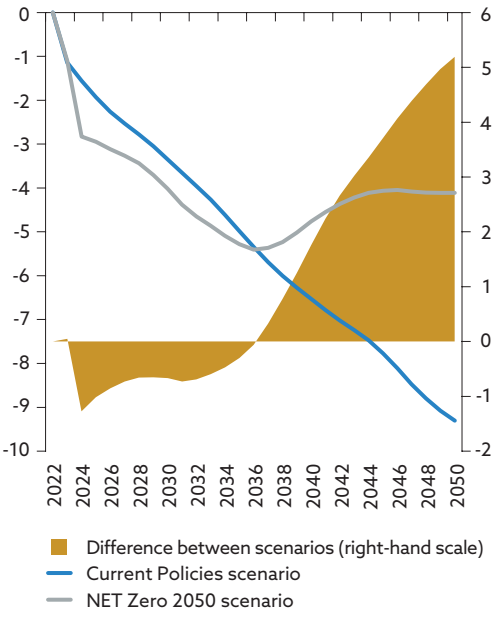
Without additional measures, Slovakia will come closer to – but still fall short of – achieving carbon neutrality by 2050 (Chart 30). This, at least, is suggested by version 5.0 of the NGFS long-term climate scenarios, which outline possible trajectories of the world economy in the light of climate risks and policies. These are the latest scenarios produced by the Network for Greening the Financial System (NGFS), a group of central banks and financial supervisory authorities established to support the greening of the financial system. At the core of the NGFS climate scenarios is the assumption of a carbon price (USD/tCO_2), which plays a key role in shaping the extent and pace of the economy's transition to carbon neutrality. Each scenario is based on different premises and assumptions about the scale and pace of climate action, technological progress, and the economy's response. In this text, we focus primarily on the Net Zero 2050 and Current Policies scenarios. For details of these scenarios, see Box 1.

Chart 30
Net GHG emissions excluding the LULUCF sector (index: 1990 = 100)



Sources: EEA, NGFS (2024), and NBS calculations.

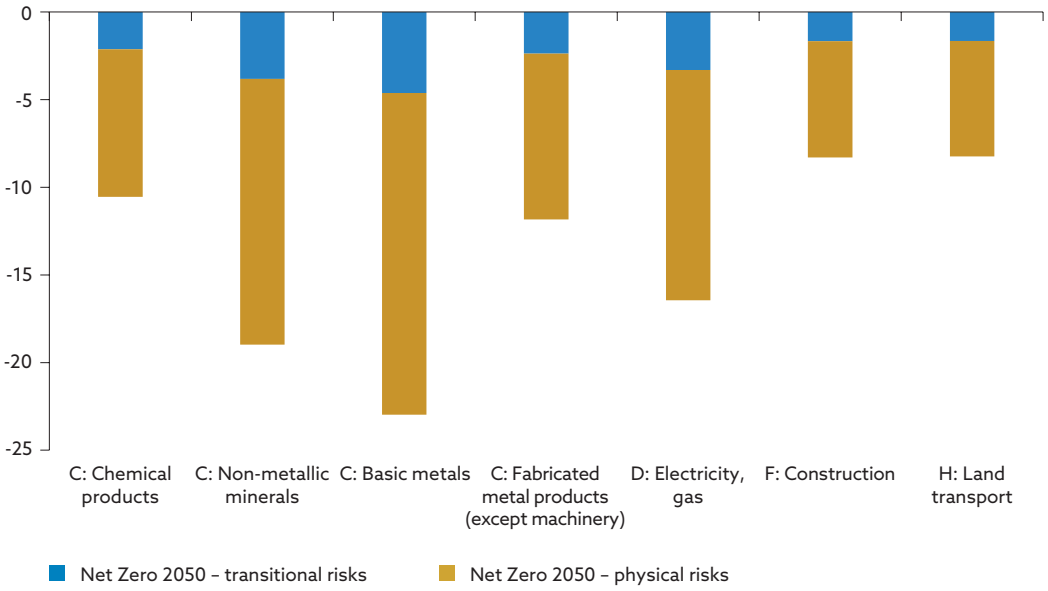
Chart 31
Impact of NGFS climate scenarios on GDP (percentage point deviations from the no-climate-change baseline scenario)



Sources: NGFS (2024), and NBS calculations.

Which sectors will be most affected by physical risks and potentially more stringent climate policies? Approximately 75% of Slovakia's emissions come from sectors that generate 20% of economic output and employ 15% of the workforce. Particularly vulnerable are the energy, metal manufacturing, and non-metal mineral product manufacturing sectors, in which value added is estimated to decline by 15–20%. In the construction and transportation sectors, the impact will be more moderate – around 7% of value added (Chart 32).

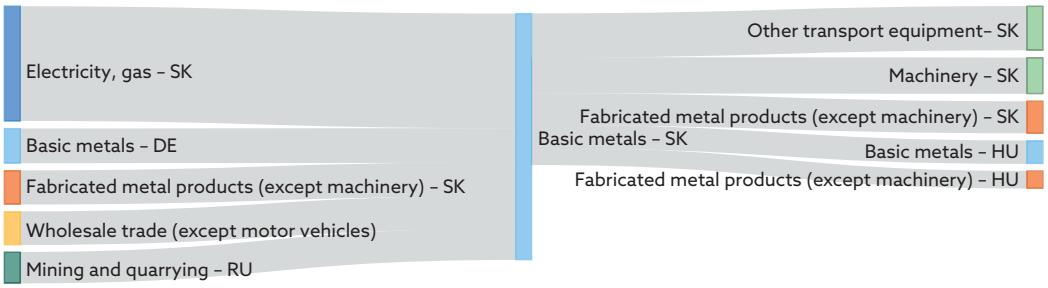
Chart 32
Sectoral impacts in the Net Zero 2050 scenario – physical risks and transition risks (percentages of value added)



Sources: Eurostat (FIGARO), and NBS calculations.

The initial effects of an increase in carbon prices will spread in a chain reaction. Although the secondary effects have not been precisely quantified, we can identify the most significant linkages. To illustrate this, we focus on the basic metals sector. Chart 33 shows the chain linkage between the five most important inputs to the basic metals sector and the five main sectors receiving its outputs. The magnitude of each flow indicates the significance of the input or output for gross production. Chart 85 in the Annex provides a graphical representation of the relationships among the seven most vulnerable sectors in the Slovak economy.

Chart 33
The basic metals sector's input and output flows with upstream and downstream sectors



Sources: Eurostat (FIGARO), and NBS calculations.

Significant sources of EU funding that can help expedite the green transition – and thus reduce the potential future adverse impacts of rising carbon prices – are the Recovery and Resilience

Facility (RRF), from which €2 billion is to be disbursed under Slovakia's recovery and resilience plan (RRP), and the Modernisation Fund. Technological solutions such as wind and solar energy, electrification, and carbon capture are today available and financially viable thanks to these EU funds aimed at decarbonising the economy. Slovakia has the opportunity to step up a gear – the extent to which it does so will depend only on its determination to act in a timely manner.

BOX 1

Network for Greening the Financial System (NGFS) scenarios

Established in 2017 as an international platform of central banks and supervisors, the Network for Greening the Financial System (NGFS) aims to integrate climate-related risks into financial decision-making. The NGFS emphasises that climate change is no longer merely an environmental issue but a serious economic and financial risk.

The network provides the central banking community and the public with practical tools, scenarios, and methodologies for assessing climate-related risks, and supports the standardisation of transparency and disclosure. With over 130 members worldwide, the NGFS sends a strong signal that climate risks are among the priority areas of supervision and can no longer be ignored.

In its Phase V scenarios, the NGFS outlines various trajectories for the global economy in the light of climate risks and policies. The basic premise of the NGFS climate scenarios is the setting of a carbon price (USD/tCO_2), which significantly influences the extent and pace of the economy's transition to carbon neutrality. Each scenario is based on different premises and assumptions about the scale and pace of climate action, technological progress, and the economy's response. In this box, we describe only the two scenarios used in the analysis. For a detailed description of all scenarios, see https://www.ngfs.net/ngfs-scenarios-portal/.

Overview of selected NGFS Phase V scenarios:

The **Net Zero 2050** scenario assumes the immediate and globally coordinated implementation of ambitious climate policies supported by technological innovation. The carbon price gradually increases, reaching USD 600–700/tCO_2 by 2050 – leading to end of century (peak) warming of approximately 1.4°C. Policies focus primarily on substantial investments in renewable energy and rapid emission reductions. The scenario aims to illustrate an ideal trajectory that minimises the physical impacts of climate change, although it involves a significant economic burden during the early phase of the transition.

By contrast, the **Current Policies** scenario assumes that only currently implemented policies are preserved, with no further increase in their ambition. The carbon price remains minimal, below USD 15/tCO_2. At this low level of policy ambition, a significant increase in global temperature is expected – with peak warming of around 3.0°C. This scenario highlights the risks and damage that will arise in the absence of adequate action and serves as a warning about the long-term economic and environmental consequences of minimal climate policies.

These scenarios provide financial institutions, central banks, and regulators with tools for analysing climate change risks and their economic and financial impacts. They form the basis for long-term risk management strategies and climate policy decision-making.

Transitioning to net zero by 2050 offers significant long-term economic and systemic benefits. A timely, orderly, and ambitious transition is, in the long run, significantly less costly than a delayed or disorderly response to the climate crisis. If global warming is limited to 1.5°C above pre-industrial levels, countries will face considerably lower GDP losses compared with the Current Policies scenario, where losses may already approach double digits (in percentage points of GDP) by 2050.

A key benefit of the transition is the mitigation of physical climate risks, which, according to the updated damage model, pose the greatest threat to macroeconomic stability. The new method, implemented in Phase V, considers not only average temperature but also temperature variability, extreme precipitation events, and how the impact of climate shocks persists up to ten years after their occurrence.

The transition also supports technological innovation, increases energy efficiency, reduces dependence on fossil fuels, and makes economies more resilient to energy price volatility. While upfront costs are high, they are outweighed by long-term benefits in terms of stable and sustainable growth. Moreover, the transition opens up opportunities for job creation in green sectors and reduces health and environmental costs related to pollution.

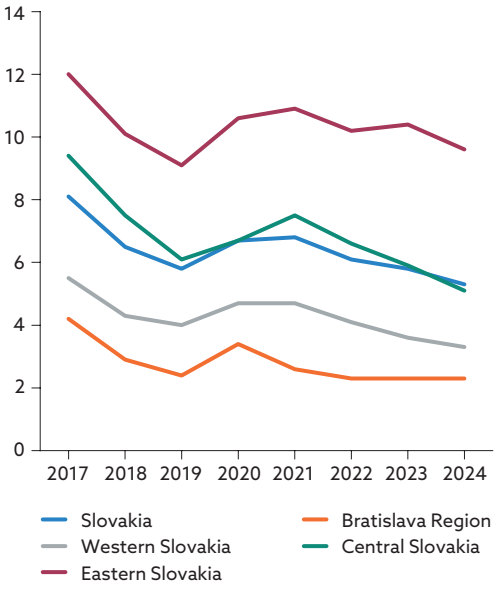
It should also be emphasised, however, that the NGFS scenarios entail a high degree of uncertainty. They are not predictions but analytical simulations describing possible developments under different combinations of policies, technologies, and climate events. It is therefore essential to perceive not only the 'central scenarios' but also their surrounding range – especially the extreme, less favourable variants. Risk analyses should incorporate uncertainty intervals and reflect potentially 'unlikely but catastrophic' scenarios, such as climate tipping points or socio-economic chain reactions.

3.6 Regional challenges

A long-standing challenge in Slovakia is the significant disparities between regions, both in economic terms and in quality of life.[22] Although some economic indicators showed historical progress in reducing these disparities, convergence has largely stagnated in recent years, as illustrated by the unemployment rate (Chart 34). As noted in the section on social inclusion, reductions in poverty rates during periods of stronger economic performance were uneven across regions. Consequently, when the poverty and social exclusion rates began rising again, Eastern Slovakia was the region most severely affected. Similarly, in 2024, disparities between regions in terms of material deprivation widened further (Chart 35).

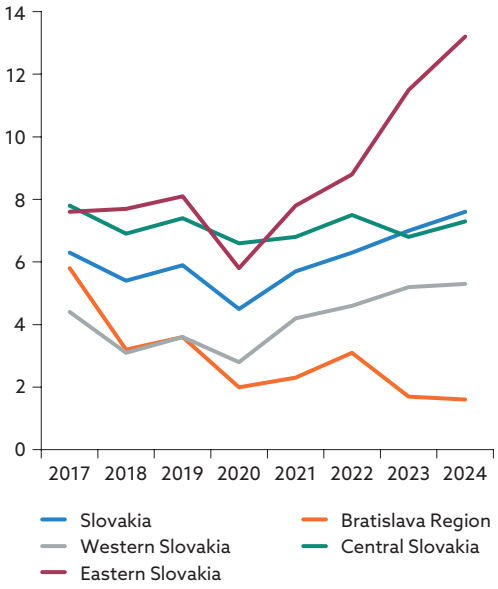
[22] The evolution of individual variables from Chart 36 is shown in Annex 7.

Chart 34
Unemployment rate (percentages)



Source: Eurostat.

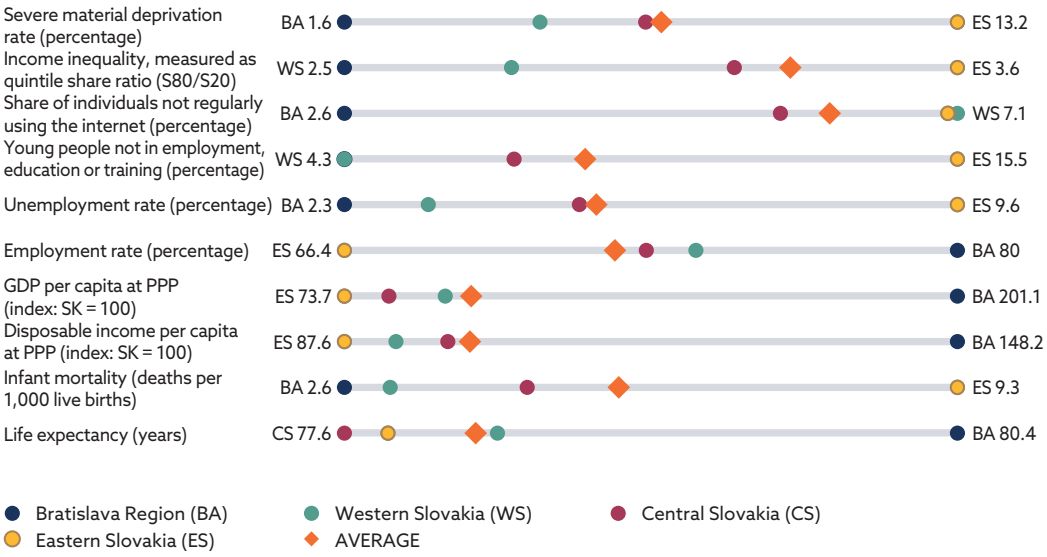
Chart 35
Severe material deprivation (percentages)



Source: Eurostat.

One of the most striking differences in quality of life between regions is observed in infant mortality, which remains particularly alarming in Eastern Slovakia. Significant interregional disparities are also evident in life expectancy and in the proportion of young people not in employment, education or training (NEETs). For example, in Eastern Slovakia, as many as 15.5% of young people fall into the NEETs category, compared with just 4.3% in Western Slovakia. In a time of labour shortages and marked population ageing, these challenges warrant increased attention.

Chart 36
Selected indicators for Slovak regions



Sources: Eurostat, and NBS calculations.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

4 Thematic annex 1: Global trade fragmentation risks

The breakdown of global supply chains during the COVID-19 pandemic, the energy crisis linked to the war in Ukraine, and the risks of trade wars have raised questions about the interconnectedness of the global economy. For small, open economies like Slovakia, it is crucial to understand both the benefits and risks of engaging in international trade. This annex aims to provide details about Slovakia's openness and trade – with an emphasis on the risks of direct and indirect exposure to US protectionism – and to propose policies for reducing this vulnerability.

Over the long term, global trade has been a fundamental pillar of modern economic growth and a key driver of rising living standards.[23] Global trade expands choice and lowers costs for consumers by providing access to goods and services that are not produced efficiently in their own country. The result is a wider supply of goods at lower prices, directly increasing households' real purchasing power. At the same time, trade supports productivity and innovation: exposure to international competition compels firms to increase efficiency and invest in research and development. Export-oriented sectors tend to be more productive and provide better-paid jobs than sectors focused only on the domestic market. In addition, participation in global value chains allows firms to specialise and achieve economies of scale.

According to the World Bank and the World Trade Organisation, global trade has helped lift more than one billion people out of extreme poverty since 1990.[24] However, global trade does not automatically bring benefits; it can also create losers. Trade must be part of a broader policy package that includes investment in education and skills, infrastructure, and social protection, and targeted support for vulnerable population groups.

High openness to global trade also entails significant risks and vulnerabilities. The fragmentation of supply chains during the COVID-19 pandemic showed how quickly global production and distribution can be disrupted. Another risk is dependence on energy commodity imports, which can expose the economy to price shocks and political pressures from supplier countries. Trade wars between major economic blocs can lead to an increase in tariff and non-tariff barriers, to the detriment of conditions for international trade.

Higher tariff and non-tariff barriers would ultimately have significant adverse effects on the economy. As the IMF (2025) notes,[25] tariffs are a negative supply shock for the economy imposing them, as resources are reallocated towards the production of non-competitive goods, with a resulting loss of aggregate productivity, lower activity, and higher production costs and prices. In the longer term, by reducing competition, tariffs increase the market power of domestic producers and decrease incentives to innovate. For trading partners, tariffs constitute mostly a negative external demand shock, driving foreign customers away from their products. Although some countries could benefit from the rerouting of trade flows, the adverse effects are magnified in the presence of modern global supply chains. This is because most traded goods are intermediate inputs that traverse countries multiple times, so disruptions could propagate up and down the global input-output network.

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[23] A review of the literature can be found, for example, in Newfarmer, R. and Sztajerowska, M., "Trade and Employment in a Fast-Changing World", in Lippoldt, Douglas (ed.), *Policy Priorities for International Trade and Jobs*, OECD, Paris, 1 May 2012.

[24] World Bank Group and World Trade Organization, *The Role of Trade in Ending Poverty*, World Trade Organization, Geneva, 2015.

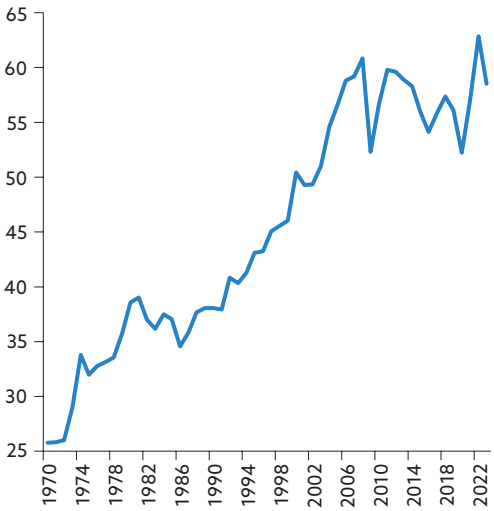
[25] International Monetary Fund, *World Economic Outlook: A Critical Juncture amid Policy Shifts*, April 2025.

This annex is structured into multiple sections. The first describes the global trade growth and compares the openness of world economies, including Slovakia. The second section takes a closer look at the composition of Slovakia's foreign trade. The next section describes the Slovak economy's vulnerability resulting from the United States' increased disengagement from the global trading system. Finally, we consider measures that could reduce this vulnerability.

4.1 Openness to global trade

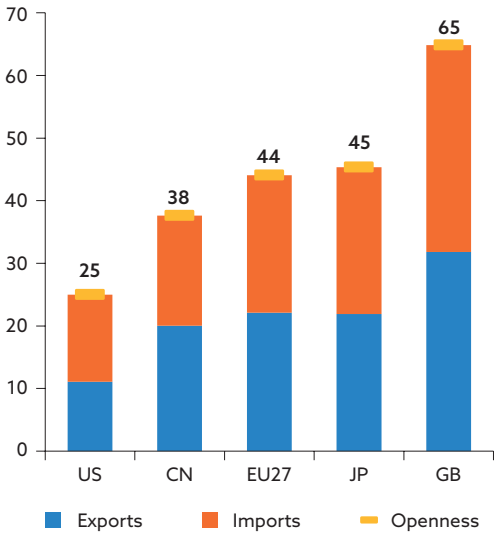
In the long run, economic development goes hand in hand with the deepening of trade relations between countries. As Chart 37 shows, world trade – measured as the sum of exports and imports – has more than doubled its share of world GDP since 1970, though there has been some stagnation since the global financial crisis. There are, however, significant differences in trade openness among the major economies (Chart 38). In 2023 the United States had a trade-to-GDP ratio of 25%, while smaller or highly interconnected economies reported much higher figures – for example, 65% in the case of the United Kingdom. For the European Union as a whole, the ratio was 44%; for China, 38%; and for Japan, 45% – reflecting these economies' strong integration into global supply chains.

Chart 37
World trade (percentages of world GDP)



Source: World Bank.

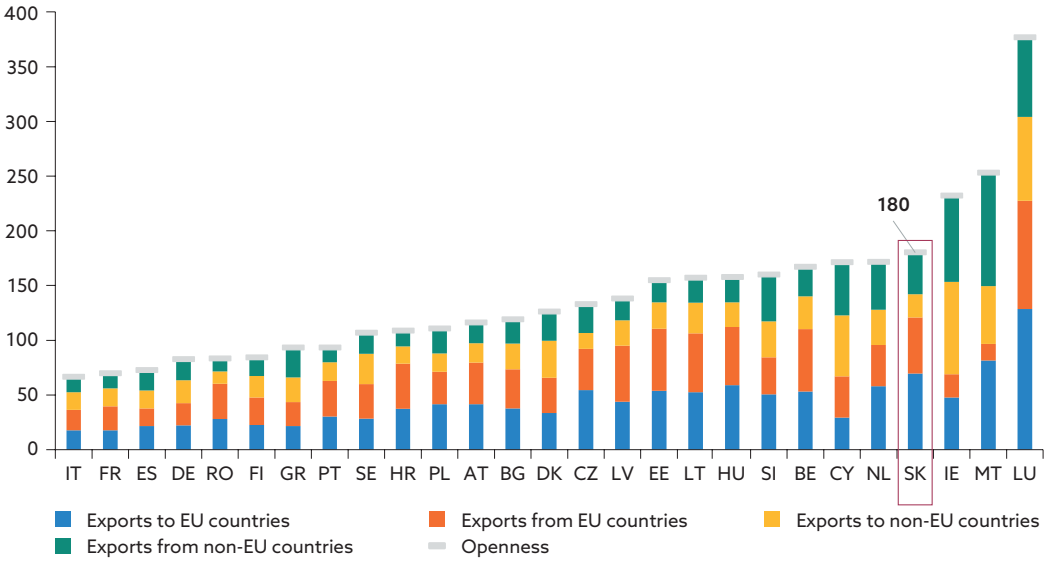
Chart 38
Openness of major economies (2023; percentages of GDP)



Sources: UNCTAD, and NBS calculations.
Notes: Sum of exports and imports. Adjusted for trade between EU countries.

In this comparison, all EU countries show high levels of openness (Chart 39). This is partly due to the high interconnectedness of the EU economy and the substantial intra-EU trade. Even within the EU, however, there are significant differences in openness (trade-to-GDP), from Italy's 66% to Luxembourg's 377%. Slovakia, with a ratio of 180%, is one of the most open EU economies, with exports to other EU countries accounting for 69 pp of that figure and imports from EU countries for 51 pp.

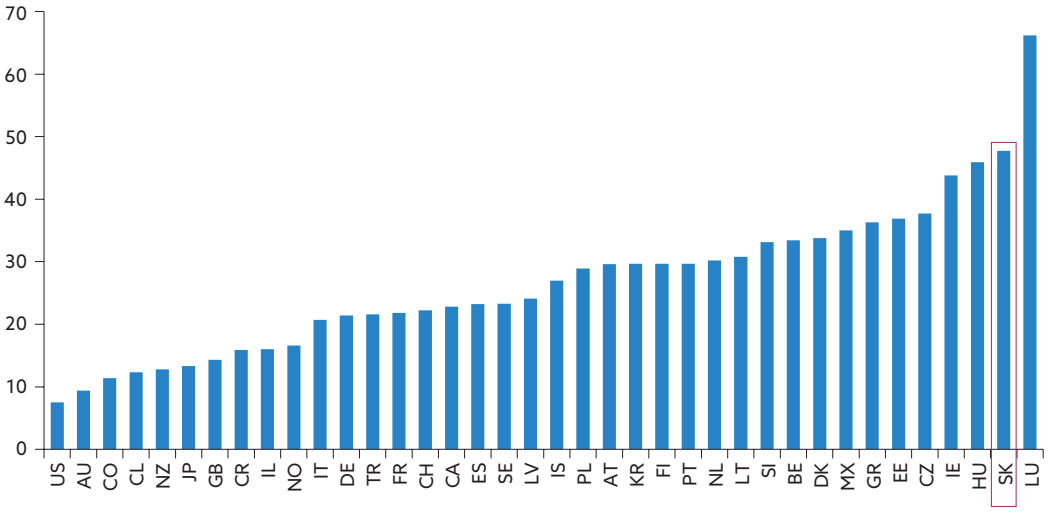
Chart 39
Openness of EU Member States (2023; percentages of GDP)



Sources: UNCTAD, and NBS calculations.
Note: Sum of exports and imports.

Global trade is largely driven by participation in global value chains. Economies trade not only in final goods, but increasingly in inputs and outputs at intermediate stages of production. As a result, a country's exports reflect not only the value added directly by exporters, but also the value added indirectly by their domestic and foreign suppliers. Chart 40 shows that the share of foreign value added in exports of OECD countries generally amounts to several tens of per cent. Slovakia ranks second with a share of 47.7%, indicating its economy's very high level of integration in the global production process.

Chart 40
Foreign value added in exports (2020; percentages of exports)

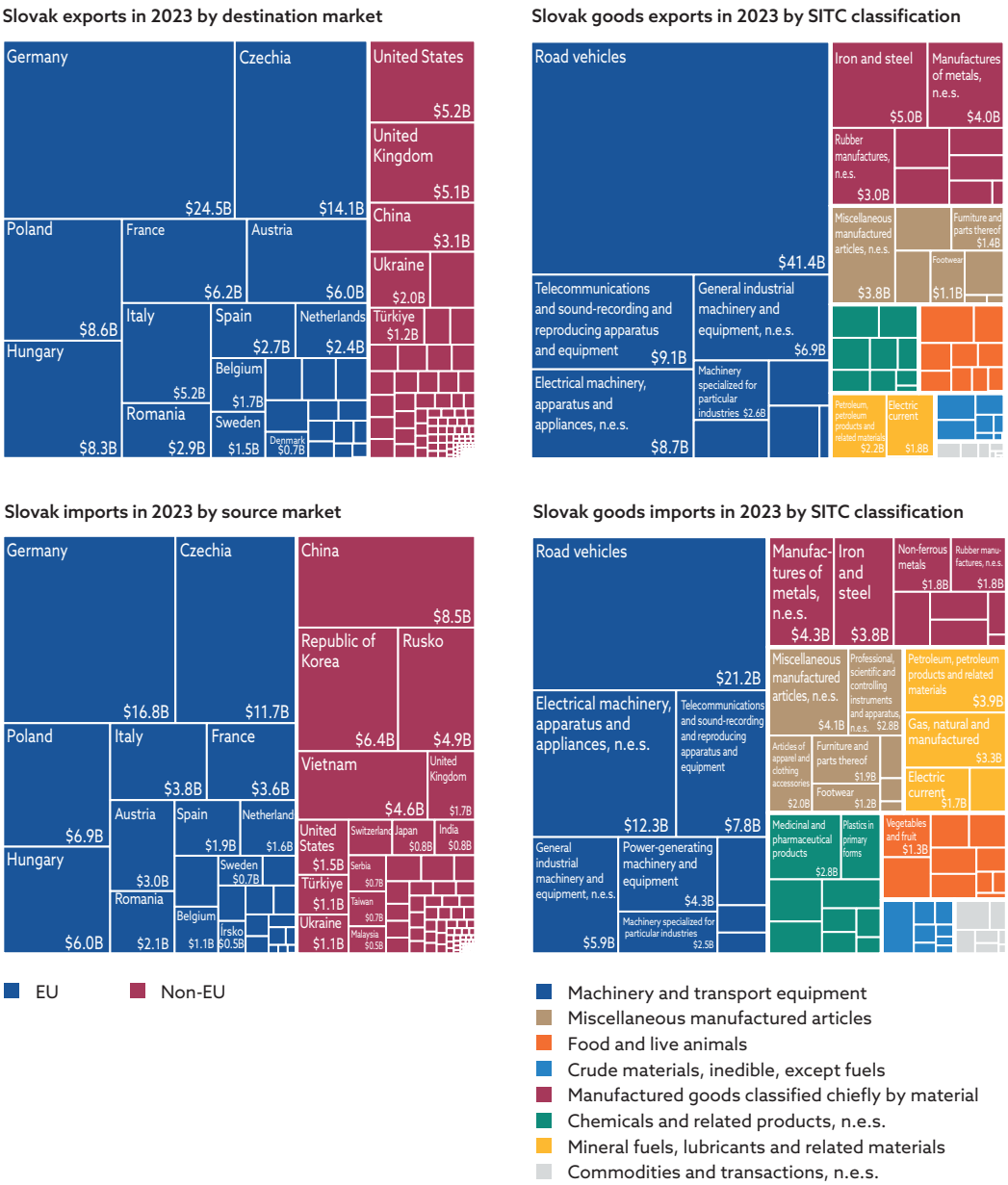


Source: OECD (Trade in Value Added database).

4.2 The composition of Slovakia's international trade

Slovakia's imports and exports of goods are dominated by vehicles, machinery, and electronics. Chart 41 provides a visual breakdown of exports and imports by product category and trading partner. As is well known, Slovakia is a major automotive producer, with cars accounting for as much as one-third of its exports. Other types of vehicles and products from the electronics and machinery industries also hold a significant share. These product types are, albeit to a lesser extent, among the most important import items as well, again reflecting the influence of global supply chains. Imports of natural resources and energy commodities exceed exports, making Slovakia a net importer of these goods. Geographically, the vast majority of Slovakia's trade takes place with European countries, while key non-European partners include China and the United States for exports and China, South Korea and Vietnam for imports.

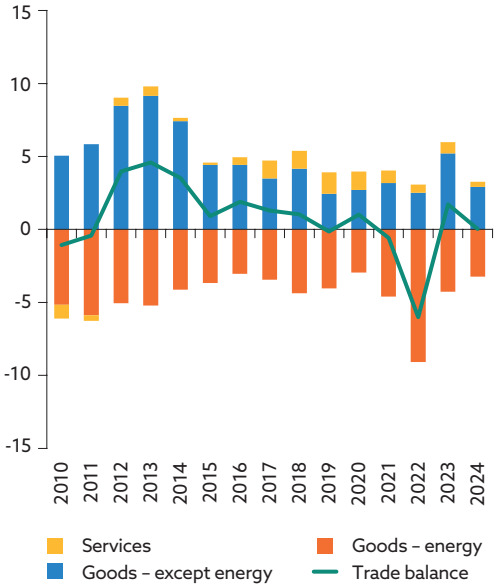
Chart 41
Composition of Slovak exports and imports (2023)



Sources: UNCTAD, and NBS calculations.

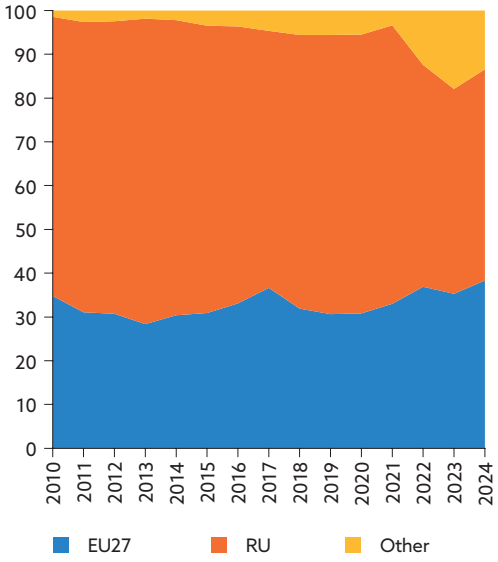
Slovakia is dependent on fuel and energy imports. Net imports in this category have consistently averaged 4–5% of GDP (Chart 42), largely offsetting the trade surplus in other goods. Dependence on imported energy constitutes a macroeconomic risk – as demonstrated during the 2022 energy crisis, when a sharp rise in global energy prices pushed the share of net imports up to 9% of GDP. Russia remains the dominant source of imports, although its share has fallen below 50% and has been declining over time in favour of the EU and, over the past three years, in favour of other countries (Chart 43).

Chart 42
Trade balance (percentages of GDP)



Sources: SO SR, and NBS calculations.
Note: Energy defined as SITC category 3 (including coal, coke and briquettes; petroleum and petroleum products; gas, natural and manufactured; electric current).

Chart 43
Energy imports by source (percentages)



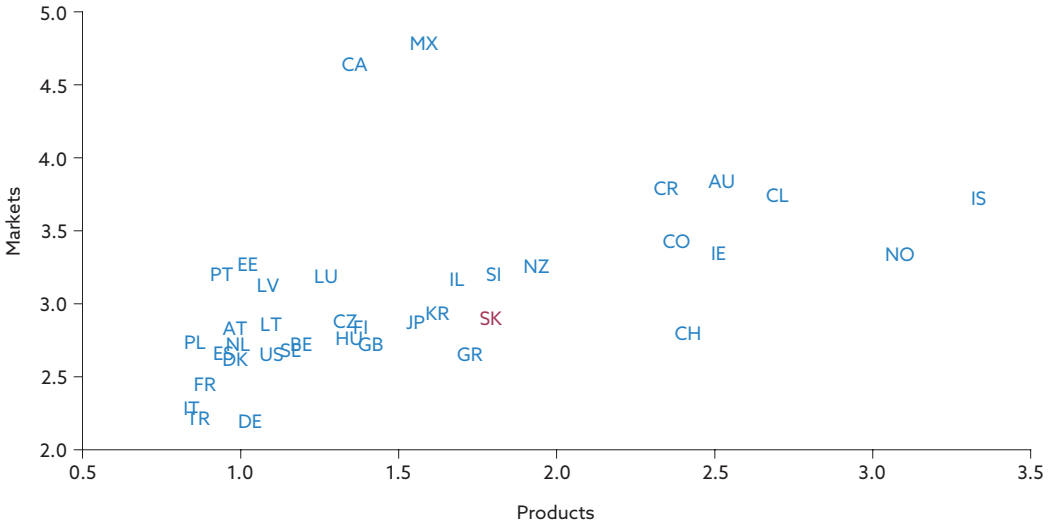
Sources: SO SR, and NBS calculations.

Insufficient diversification of exports may pose a risk. A certain degree of specialisation is natural in international trade. However, economies whose exports are concentrated in specific products or trading partners are more exposed to sectoral or regional shocks and thus could face greater macroeconomic volatility.[26] For this reason, it is worth looking at how the concentration of Slovakia's exports compares internationally. Chart 44 shows export concentration by product and destination market for OECD economies.[27] Slovakia tends to show a higher concentration of exports by product, while it ranks closer to the middle of the distribution in terms of destination markets.

[26] See, for example, Haddad, M., Lim, J.J., Pancaro, C. and Saborowski, C., "Trade openness reduces growth volatility when countries are well diversified", *The Canadian Journal of Economics*, Vol. 46, No 2, May 2013, pp. 765–790.

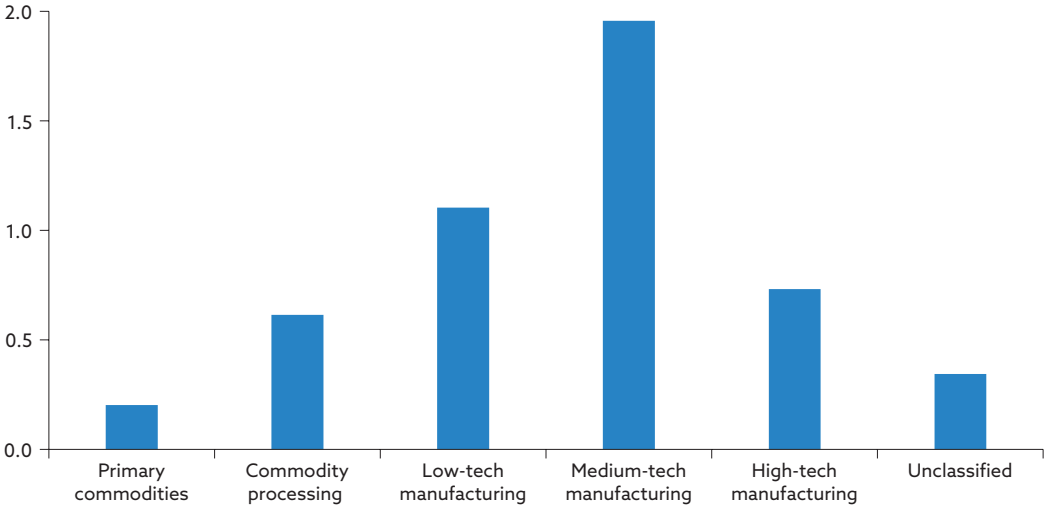
[27] These are UNCTAD-calculated Theil indices, capturing the degree of inequality in the distribution of the given variable. A higher value means that exports are more concentrated in fewer product categories or markets. For the methodology, see Bruckner, M., "Measuring export concentration for identifying least developed countries", *Background Paper Series*, No 59, United Nations Committee for Development Policy, October 2023.

Chart 44
Theil indices of export concentration by product and market (2023)



Source: UNCTAD.

Chart 45
Index of comparative advantage of Slovak exports by technological intensity (2023)



Sources: UNCTAD, and NBS calculations.
Notes: The index is calculated as a fraction with the share of products in Slovak exports in the numerator and the share in world exports in the denominator. Product breakdown according to Lall (2000) and UNCTAD, see footnote.

Slovakia specialises in exports of medium technology products. According to the classical Ricardian theory of international trade, countries export relatively more of those goods in which they have a comparative production advantage. Empirically, this can be observed by comparing a product's share in Slovak exports with its share in world exports. According to UNCTAD data, Slovakia's largest advantage is in exports of televisions (its share is 8.4 times higher than the global average), sanitary fittings (7.9 times), railway rolling stock (7.9 times), and automobiles (7 times). An alternative perspective is provided by comparing shares across broader technological categories[28] (Chart 45),

[28] This is a product breakdown following Lall, S., "The Technological Structure and Performance of Developing Country Manufactured Exports, 1985-98", *Oxford Development Studies*, Vol. 28, No 3, June 2000. The specific SITC categorisation is available at https://unctadstat.unctad.org/EN/Classifications.html

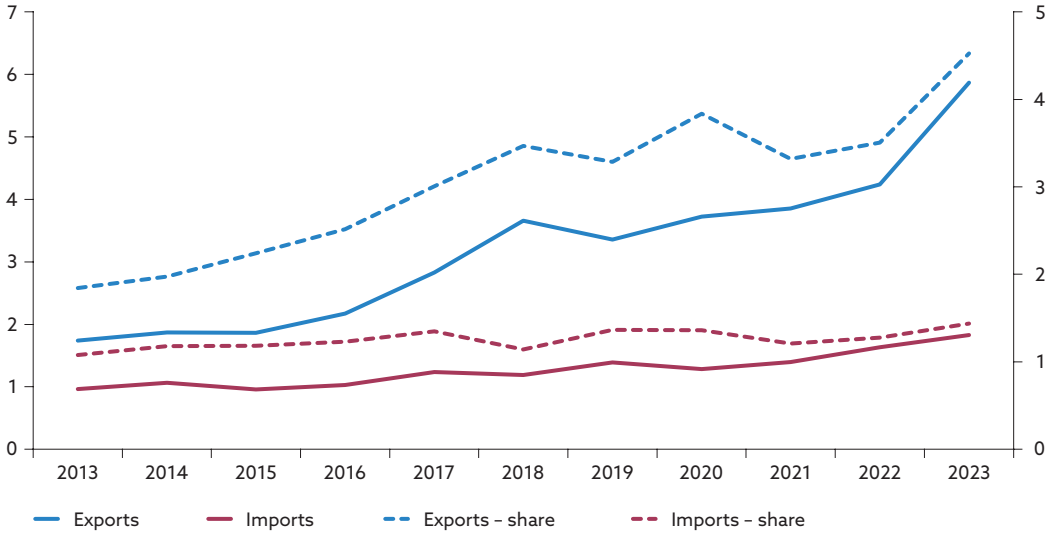
which highlights Slovakia's specialisation in medium-tech products. Going forward, the challenge will be to reorient the industrial base towards higher-tech products.

4.3 Vulnerability to trade relations with the United States

Shocks in international trade pose a macroeconomic risk. The current US Administration's plans to impose high tariffs could lead to significant changes in the structure of global trade, which represents a potential threat for a small and highly open economy like Slovakia. What matters are not only the direct effects on trade flows between Slovakia and the United States, but also the indirect effects on other trading partners and the consequent impact on foreign demand for Slovak goods and services.[29]

In its trade with the Unites States, Slovakia is a net exporter. Chart 46 shows the volume of exports to, and imports from, the United States over time – both in absolute terms and relative to total exports or imports. While both exports and imports have been increased over time, exports have clearly outpaced imports, particularly in recent years. Table 4 lists the most important export categories, with road vehicles in the leading position – accounting for three-quarters of goods exports to the United States – and ICT services dominating the services segment. One in ten cars exported from Slovakia goes to the United States, as does nearly one-fifth of ICT services exports. Overall, exports to the United States make up just under 5% of Slovakia's total exports. While this is significantly lower than the share going to the EU, it reflects only direct trade flows between Slovakia and the United States.

Chart 46
Exports to/imports from the United States (left-hand scale: USD billions; right-hand scale: percentages)



Source: UNCTAD.

[29] Restrictions on US imports from other countries may lead to these products being rerouted to the Slovak market, increasing competition for Slovak manufacturers. This effect is not accounted for in the input-output analysis.

Table 4
Composition of exports to the United States (percentages)

	Of total exports to the United States	Of total exports of the given category
Exports to the US – goods (SITC Rev. 3 classification)		
Machinery and transport equipment	88.5	6.3
of which road vehicles	*75.3*	*9.5*
Manufactured goods	7.6	2.4
Miscellaneous manufactured articles	3.3	1.7
Exports to the United States – services (EBOPS 2010 classification)		
Telecommunications, computer, and information services	63.4	18.2
Other business services	31.7	6.5
Travel	2.0	0.8

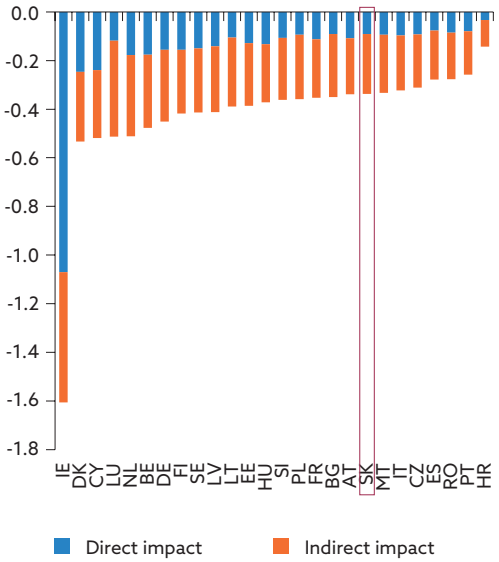
Source: UNCTAD.

Given the uncertainty about the final form of US tariff policy and how it will be transmitted to trade relations, we express the degree of vulnerability through a hypothetical shock in the form of a uniform decline in US imports. We apply input-output analysis to capture both the direct and indirect effects of such a trade shock,[30] simulating a uniform 10% decline in US final demand for imports from each country and sector. Demand from other countries for imports from the United States is reduced in the same way. This experiment therefore does not directly model the introduction of tariffs (which input-output analysis does not explicitly capture), but rather illustrates the qualitative impact of a global trade slowdown. It should also be emphasised **that this is not a forecast but a hypothetical scenario designed to help us understand the effects of such changes in the interconnected global economy**.

Overall, under the given assumptions, Slovakia is not among the most affected countries, but it exhibits a high share of indirect effects. Chart 47 shows the estimated impacts on GDP across EU countries. We distinguish between the direct impact (a decline in final demand from the United States) and the indirect impact, which includes a decline in demand from all customers. The most affected country would be Ireland, with a loss of 1.6% of GDP. For Slovakia, the estimated loss is 0.34%, but only 0.09 pp of this stems from the direct impact. Hence, for Slovakia, the indirect effects are 3.7 times greater than the direct effects of US demand. Chart 48 shows that, across European countries, there is an inverse relationship between this indirect effects 'multiplier' and the size of the direct impact, underlining the importance of global economic interconnection in the face of such shocks.

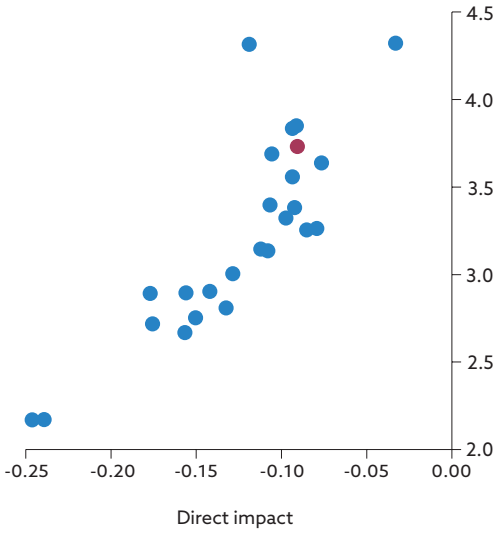
[30] We used FIGARO's international input-output tables, which capture output flows and final demand among 64 industries in 47 countries and the rest of the world (i.e. a total of 3,008 combinations of industries and countries). Assuming that the proportions of inputs in output are maintained, it is possible to calculate the change in output and value added across sectors and countries in response to an exogenous change in final demand, including indirect effects taking into account the global structure of intermediate consumption. However, the model does not include the possibility of input substitution and is therefore more suitable for capturing short-run effects.

Chart 47
Impact of a trade shock on GDP (percentages)



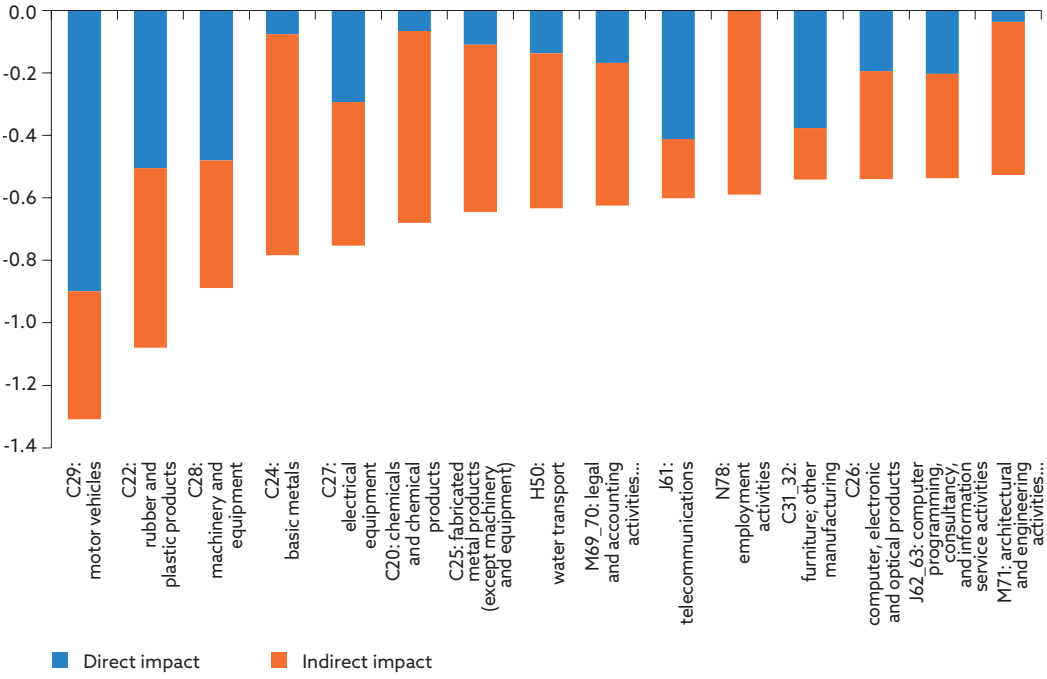
Sources: Eurostat (FIGARO), and NBS calculations.

Chart 48
Indirect effects multiplier



Sources: Eurostat (FIGARO), and NBS calculations.
Notes: The red point denotes Slovakia. Ireland is not shown in the chart for reasons of scale.

Chart 49
Impact of a trade shock on gross output in Slovak sectors (percentages)



Sources: Eurostat (FIGARO), and NBS calculations.

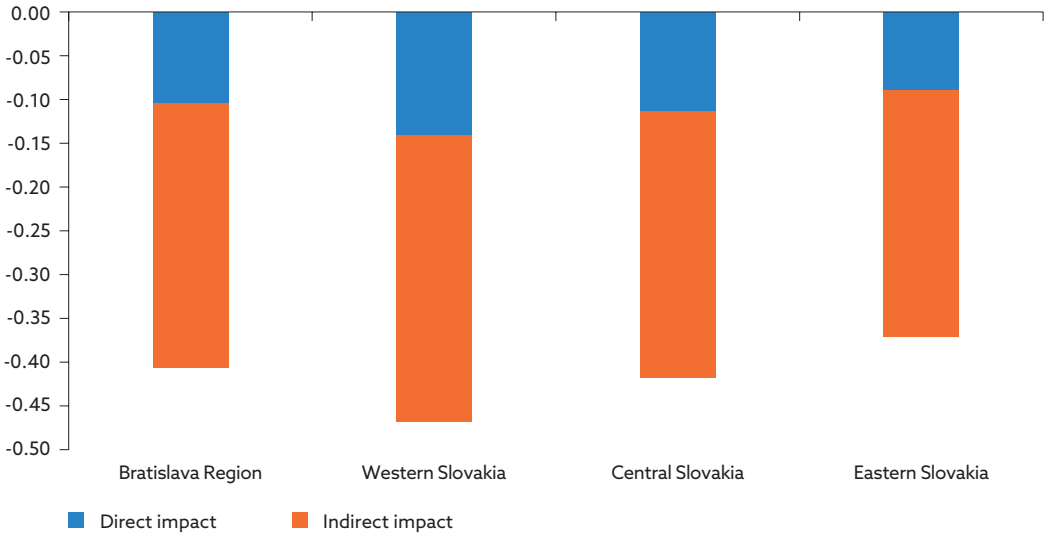
Under the given scenario, the hardest hit sector in Slovakia is car manufacturing. Chart 49 shows the impact on gross output[31] in the 15 most vulnerable Slovak sectors. Assuming propor-

[31] In input-output analysis, the impact on gross output and value added within each sector is proportional, so the results presented in percentage terms also apply to value added.

tionality, these results correspond to a decline in value added or employment within the sectors. The automotive sector is the most affected, experiencing a decline of 1.3% in output, mostly due to direct effects. However, a number of other manufacturing industries are also vulnerable, with direct effects predominating in some (e.g. machinery, furniture) and indirect effects in others (e.g. metals and fabricated metal products). Several service industries are also at risk, including, for example, employment services, where virtually the entire decline is due to indirect effects. The United States does not directly hire Slovak employment agencies, but other Slovak sectors that export to the US (in some cases via other countries) do.

The regional effects within Slovakia do not differ dramatically, with the largest impact observed in Western Slovakia. In the next step, we estimate the approximate impacts on employment across Slovak regions.[32] As shown in Chart 50, the impacts on overall employment do not differ markedly across the country, ranging from -0.37% in Eastern Slovakia to -0.46% in Western Slovakia. In the west, most of the decline is attributed to direct effects of the shock. Both patterns reflect the concentration of the automotive industry – the most affected sector – in Western Slovakia.

Chart 50
Impact of a trade shock on employment by region defined at the NUTS 2 level (percentages)



Sources: Eurostat (FIGARO), Eurostat (structural business statistics), and NBS calculations.

The degree of vulnerability may, however, be influenced by the assumptions and methodology of the analysis, with uncertainty arising not only from the final form of trade policy but also from the model-based approach used to estimate its impacts. Despite the illustrative and simplified assumptions about the nature of the trade shock, the presented results are qualitatively comparable to a recent Oesterreichische Nationalbank analysis,[33] which was also based on input-output analysis. At the same time, however, there is considerable uncertainty about the final configuration of tariff policy: for example, relatively higher barriers in the automotive sector could significantly increase Slovakia's overall vulnerability. Uncertainty is further amplified by differences in assumptions between model-based approaches. The Oxford Economics model used in the

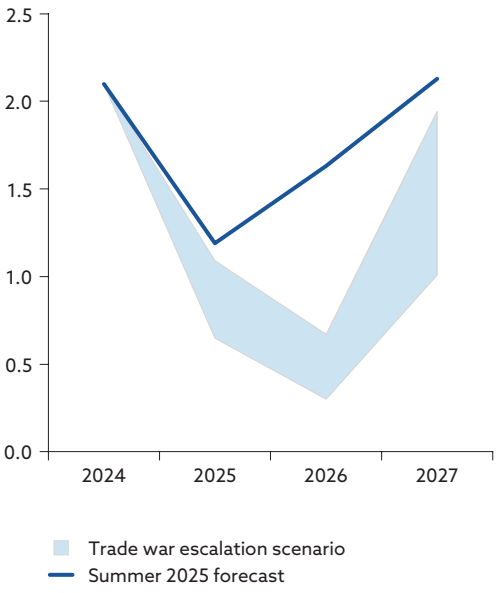
[32] The input-output tables we use do not go to the level of national regions. However, using regional structural business statistics, we know employment by sector and region combinations and can thus roughly 'distribute' the employment decline in a given sector across the four regions defined at the NUTS 2 level.

[33] Schneider, M. and Sellner, R., "The impact of US tariffs on Austrian industries – Results from a global Input-Output model", Oesterreichische Nationalbank, available at https://www.oenb.at/dam/jcr:293aaa96-9366-4dab-b43a-de0b2df58afd/impact-of-us-tariffs-on-austrian-industries.pdf

NBS spring 2025 forecast[34] – which, unlike input-output analysis, also captures price developments – suggests that the relative vulnerability of the Slovak economy is substantially higher. Uncertainty therefore relates not only to the potential nature of future trade shocks, but also to the model-based approaches to estimating their effects. Regardless of the modelling method, one point is clear: the Slovak economy's high openness amplifies the impact of external shocks.

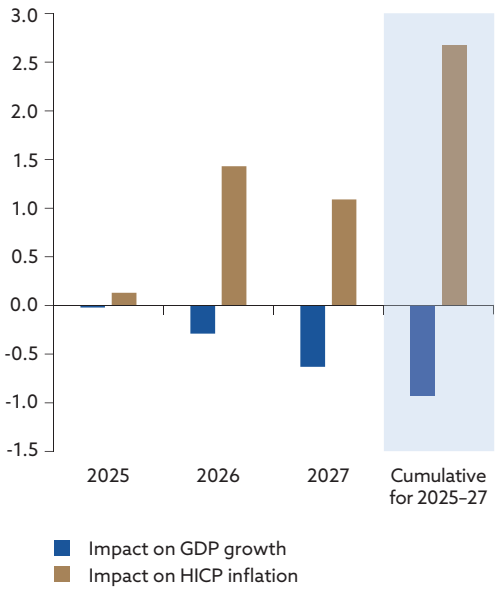
The input-output analysis used an illustrative scenario of a uniform trade shock. In reality, there is considerable uncertainty not only about the magnitude of potential tariffs, but also about their geographical and sectoral distribution and their transmission to trade flows. In the event of a more severe disruption in trade relations, the impacts on both the global and Slovak economies could be significantly stronger than the simulated scenario suggests. Moreover, uncertainty regarding the future direction of US trade policy – including threats of broad-based tariffs – is itself already affecting financial markets as well as the behaviour of firms and consumers, potentially resulting in additional negative impacts on the global and domestic economies. According to the NBS summer 2025 forecast, a failure of trade negotiations and ensuing trade war escalation could lower Slovakia's GDP over the 2025–27 period by a cumulative 1.7–2.5% compared with the baseline forecast (Chart 51), implying a loss of between 17,000 and 21,000 jobs. Not even this scenario, however, captures all risks. A deteriorating real economy could, as a result of corporate bankruptcies and a slump in financial markets, lead to bank difficulties and a financial crisis, thereby further amplifying the initial trade shock's impact on the real economy. Similarly, a more severe disruption of global supply chains could have an additional negative cumulative effect on GDP growth of 1 percentage point (Chart 52).

Chart 51
Estimated impact of trade war escalation on GDP growth (percentages)



Sources: NBS (*Economic and Monetary Developments – Summer 2025*), SO SR, and NBS calculations.
Note: The light blue area represents the range of possible impacts of trade war escalation on the Slovak economy, as estimated using an NBS macroeconomic model, including secondary effects estimated using an ECB satellite model and the Oxford Economics model.

Chart 52
Estimated impact of global supply chain disruptions on GDP growth and HICP inflation (p.p.)



Sources: NBS (*Economic and Monetary Developments – Summer 2025*), Oxford Economics' Global Economic Model, and NBS calculations.

[34] See *Economic and Monetary Developments – Spring 2025*, Národná banka Slovenska.

4.4 Conclusion

Global trade remains a key instrument for raising living standards in small, open economies like Slovakia, as well as in the European Union as a whole – but it also entails vulnerabilities. Global trade promotes economic growth, increases productivity, creates jobs, and enables broader access to more affordable and higher-quality goods and services. These benefits, however, are not automatic and are accompanied by considerable vulnerabilities, particularly for economies that are highly open and deeply integrated into global production chains. This vulnerability is further exacerbated by rising geopolitical tensions and the risk of trade wars.

To avoid overdependence on the stability of existing relationships, it is becoming increasingly important at the European level to build stable trade partnerships that remove barriers for both European and Slovak firms, while also ensuring diversified access to critical materials and energy. Even within the EU – regardless of external trade – there is still significant untapped potential to benefit from free trade by deepening the Single Market, particularly in the areas of services, the digital economy, energy, and capital markets. Completing the Single Market and removing internal trade barriers is one of the key challenges for reviving economic growth, boosting productivity and competitiveness, and preserving the European social model.[35]

At the same time, this strategy must be complemented by structural policies at the national level. For Slovakia, this primarily means improving the business environment and supporting innovation, technological development, and investment in research and development. Investment in human capital is also essential to increase workforce adaptability and enable the movement of workers into more productive and forward-looking sectors. Greater diversification of the economy – particularly reducing dependence on the automotive industry – will increase resilience to external shocks. It is equally important to ensure that the benefits of trade are shared across society – through stable, higher-productivity jobs and inclusive growth.

[35] Draghi, M., *The future of European Competitiveness – A Competitiveness Strategy for Europe*, Publications Office of the European Union, September 2024.

5 Thematic annex 2: Two generations, two worlds? What the data say about Generations X and Y[36]

Intergenerational mobility is considered a fundamental pillar of both economic and social progress, as it indicates the extent to which children are able to achieve a higher standard of living than their parents – in other words, to fulfil their potential regardless of the circumstances in which they were born and raised. International studies show that in countries with higher mobility, human capital grows more rapidly because talent is not constrained by family background; at the same time, the legitimacy of market institutions and trust in democracy are strengthened.[37, 38] Consequently, the development of human capital is key to productivity growth and thus to ensuring stable economic growth.[39] For economic policy makers, measuring intergenerational mobility is therefore essential: it allows them to identify barriers (e.g. in education or access to housing) and to target public resources where they will generate the greatest societal return.

Insufficient mobility also increases pressure for more extensive redistribution, potentially posing a significant challenge to public finances. Results from economic experimental studies show that when people are informed about weak intergenerational mobility, their willingness to support higher taxes or subsidies for 'equality of opportunity' increases.[40] Thus, low intergenerational mobility is also a matter of macroeconomic efficiency: it impedes the allocation of talent, reduces innovation potential, and encourages zero-sum thinking,[41] which can lead to poor economic decisions and investments, thereby slowing economic development.[42]

For these reasons, we examined intergenerational educational mobility in Slovakia and Europe in last year's edition of Structural Challenges, drawing on data compiled by the World Bank.[43] In this year's follow-up, we take a closer look at the situation in Slovakia by comparing the circumstances of Generation X and Generation Y when they were in the same working-age range (25 to 40 years).

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36 This section presents a small excerpt of the preliminary results from a forthcoming paper by Vladimír Novak, titled "The Slovak Illusion: Unraveling the Gap Between Believed and True Intergenerational Mobility".

37 OECD, *A Broken Social Elevator? How to Promote Social Mobility*, OECD Publishing, Paris, 2018, available at https://doi.org/10.1787/9789264301085-en

38 Narayan, A., Van der Weide, R., Cojocaru, A., Lakner, C., Redaelli, S., Mahler, D.G., Gupta, R., Ramasubbaiah, N. and Thewissen, S., *Fair progress? Economic mobility across Generations around the World*, The World Bank, Washington DC, 2018.

39 See, for example, Hanushek, E.A. and Woessmann, L., "Do better schools lead to more growth? Cognitive skills, economic outcomes, and causation", *Journal of economic growth*, Vol. 17, 14 July 2012, pp. 267–321.

40 Alesina, A., Stantcheva, S. and Teso, E., "Intergenerational Mobility and Preferences for Redistribution", *American Economic Review*, Vol. 108, No 2, pp. 521–554.

41 Chinoy, S., Nunn, N., Sequeira, S. and Stantcheva, S., "Zero-Sum Thinking and the Roots of U.S. Political Divides", *NBER Working Paper*, No 31688, National Bureau of Economic Research, September 2023.

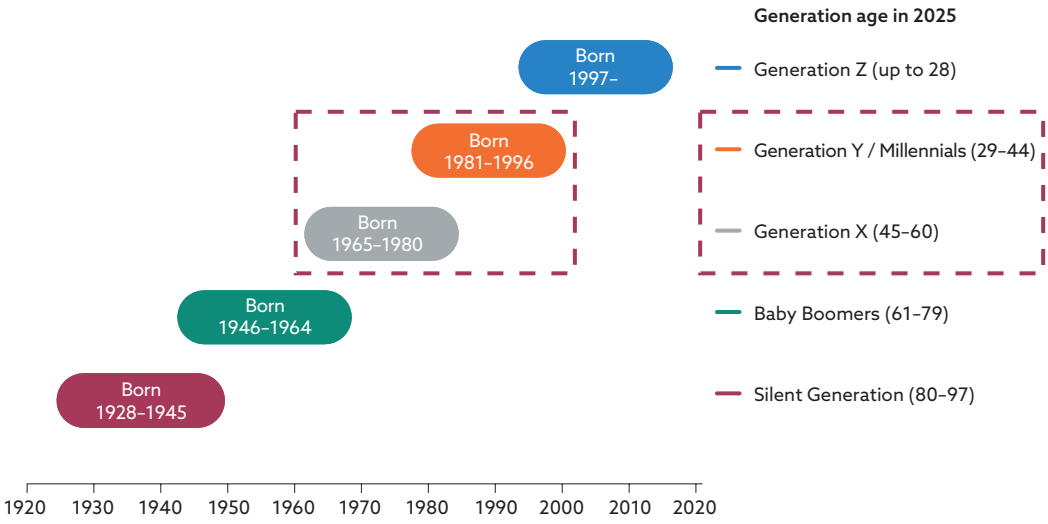
42 Carvalho, J-P., Bergeron, A., Henrich, J., Nunn, N. and Weigel, J., "Zero-Sum Environments, the Evolution of Effort-Suppressing Beliefs, and Economic Development", *NBER Working Paper*, No. 31663, National Bureau of Economic Research, September 2023.

43 World Bank, Global Database on Intergenerational Mobility, 2023.

5.1 Why look at the world through generational eyes

A generational perspective reveals the different historical shocks, experiences, and frames of reference people use to assess satisfaction with the economic situation and related policies. In standard cross-sectional comparisons of indicator trends, these relationships may be obscured. For example, subjective perceptions of happiness are more closely tied to relative than absolute income (the Easterlin paradox), so what gives one cohort a sense of progress may be seen as the 'new normal' by another.[44] Perceptions of the favourability of the economic status quo – which can differ across generations – influence what information people seek about new policy proposals and, consequently, whether they support them.[45] Similarly, past experience of issues such as high inflation or market downturns shape expectations and risk appetite for decades to come. For example, Malmendier and Nagel (2011)[46] showed that the generation of 'Depression Babies'[47] were generally less inclined to invest in equities; similar effects are now being studied in the inflation expectations of generations that experienced the rapid price increases after 2021.

Figure 1
Defining generations



Source: Pew Research Center.

The contrast between Generation X (1965–1980) and Millennials/Generation Y (1981–1996) is particularly instructive in Slovakia, as these cohorts experienced the post-1989 transition and global crises in different ways.[48] When comparing generations, it is crucial to understand what life was like for members of Generation X – and how they were shaped by their environment – when they were the same age as Generation Y is today. In this annex, we therefore juxtapose the recent living conditions of Millennials with historical data from their Generation X parents and examine how they differ in educational attainment, partnering, and relative earnings.

44 Stevenson, B. and Wolfers, J., "Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox", *NBER Working Paper*, No 14282, National Bureau of Economic Research, August 2008.
45 Novák, V., Matveenko, A. and Ravaioli, S., "The Status Quo and Belief Polarization of Inattentive Agents: Theory and Experiment," *American Economic Journal: Microeconomics*, Vol. 16, No 4, November 2024, pp. 1–39.
46 Malmendier, U. and Nagel, S., "Depression Babies: Do Macroeconomic Experiences Affect Risk Taking?", *The Quarterly Journal of Economics*, Vol. 126, No 1, February 2011, pp. 373–416.
47 In the literature, 'Depression Babies' refers to the cohort of people who grew up during the Great Depression of the 1930s.
48 In this study, we use the Pew Research Center's definition of generations (see Figure 1).

We show, for example, the following:

- The share of the tertiary-educated has increased significantly, but at the same time the gender gap in tertiary education has doubled for Generation Y relative to Generation X. Generation Y men have improved less than women, resulting in new asymmetries in the labour market and suggesting the need for gender-sensitive lifelong learning policies.
- While Generation Y has higher real incomes than Generation X did at the same age, its position in the income distribution has shifted slightly downwards. This relative decline in status may deepen frustration and lower the aspiration to pursue ambitious goals, further reducing the generation's chances of upward mobility.
- Among Generation Y, there is a clear correlation between unmet medical needs and low income, whereas in Generation X this relationship was not statistically significant. This indicates the emergence of barriers to access to health services, potentially reducing long-term productivity and increasing public spending on chronic diseases.
- Unless these gender and health disparities are addressed, negative externalities (lower tax revenues, higher social transfers, weaker social cohesion) will grow, presenting a clear challenge for public policy.

5.2 Methodology[49]

The basis of our analysis is microdata from the EU's statistics on income and living conditions (EU-SILC) survey – an annual survey whose Slovak part is conducted by the Statistical Office of the Slovak Republic on approximately 7,000 households in around 600 cities, towns and villages across the country. This is the EU's most important harmonised source for statistics on income, poverty, inequality, and living conditions. In 2020 (SILC 2021 data collection[50]), when the pandemic broke out, a full-scale field survey was still conducted, although subsequent pandemic waves made in-person data collection more difficult.

The choice of the years 2006 and 2021 allows us to capture Generation X and Generation Y at nearly the same stage of life. This enables us, on the one hand, to compare how each generation fared relative to the rest of the Slovak population at the same age and, on the other hand, to minimise distortions caused by differences in labour market entry age and changes in the labour market. Specifically, in 2006, the youngest members of Generation X were 25 years old, while in 2021 the youngest Millennials were 24 years old; hence, we analyse Generation X in the 25–40 age range Generation Y in the 24–39 age range. The one-year age difference between the generations was chosen to minimise any short-term skew caused by the COVID-19 pandemic.[51]

The rest of this annex is structured into three thematic parts – general characteristics, financial situation, and health status – in order to comprehensively capture how the living conditions of Generation X and Generation Y differ across key dimensions. The first part describes the demographic and educational profiles of both cohorts, including gender differences; the second

[49] Methodological limitations and data restrictions are as follows: The analysis relies only on indicators that were measured identically in the 2006 and 2021 EU-SILC surveys. Changes in definitions (e.g. the threshold for unexpected expenses – SKK 10,000 ≈ €276 vs €370) and sample selection (migrants, collective housing, excluded localities) may have a skewing effect. Although we use weighted estimates, the confidence intervals for proportion-based indicators are often narrower than the rounding error; therefore, ,we do not display them for clarity. However, readers should keep these implicit deviations in mind when interpreting even minor differences between cohorts. These limitations do not invalidate the observed trends but require caution when quantitatively assessing the exact magnitude of effects or when comparing results with other countries, where methodological deviations may differ even more.

[50] See, for example, EU SILC 2021 – Indicators of poverty and social exclusion, Statistical Office of the Slovak Republic, 2022.

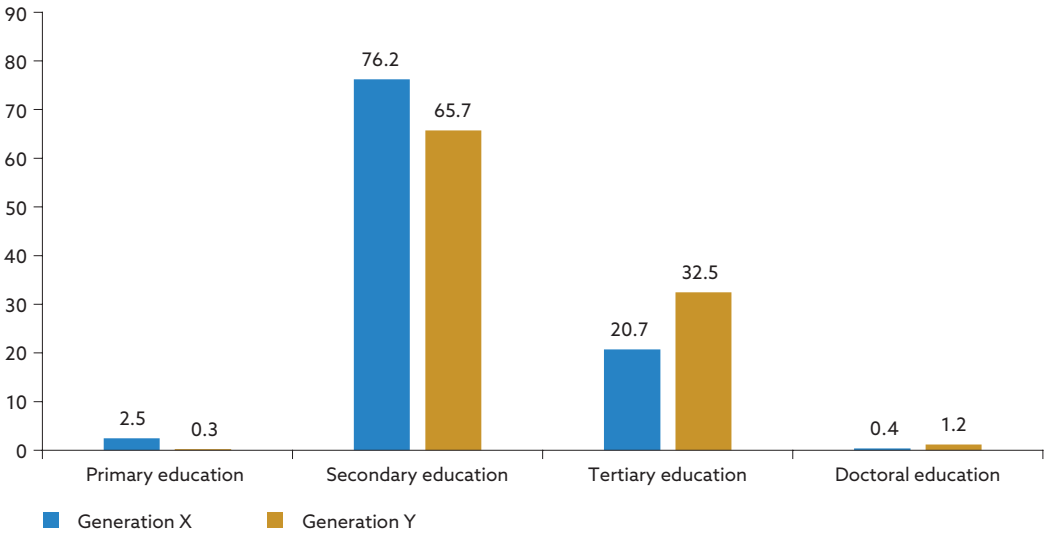
[51] The chosen design follows a Czech study that compared Czech cohorts in the same way: Peňázová, E. and Šoltés, M., "What the Data Says about Generations X and Y: When Our Parents Were as Young as We Are", Study 6/2023, Institute for Democracy and Economic Analysis (IDEA), Center for Economic Research and Graduate Education – Economics Institute (CERGE-EI), May 2023. This allows us to directly contrast results between Slovakia and Czechia. Such a comparison, however, is beyond the scope of this section of Structural Challenges.

focuses on income, wealth, and position within the income distribution; and finally, the third part examines self-rated health status, access to healthcare, and related inequalities.

5.3 Two faces of one country: Generations X and Y in the mirror of everyday life

Among Millennials (Generation Y), tertiary educational attainment increased significantly (Chart 53), but the gender gap in favour of women doubled to 15 percentage points, creating a new asymmetry in the labour market (Charts 54 and 55). While 24% of women and 17% of men in Generation X had completed tertiary education, these shares rose to 40% and 25% respectively in Generation Y. This sharp intergenerational rise in the female-to-male ratio among tertiary graduates raises further research questions – in particular regarding the factors that drive higher aspirations among women, lower aspirations among men, or the differing conditions and barriers to tertiary education for each group. The observed trend also challenges public policies and social norms to adapt. If we are to ensure rising labour productivity and maximise the country's innovation potential, it is essential to integrate individuals with higher human capital effectively into the labour market. Limited access to preschool education, part-time jobs, and similar options therefore presents significant barriers to realising this potential – especially in the case of Generation Y. The rising share of tertiary-educated women relative to men also affects educational homogamy,[52] which in turn influences income inequality between households.[53] It may likewise increase the incidence of loneliness, potentially leading to further negative externalities such as higher public health spending[54]and lower productivity.[55]

Chart 53
Educational structure of Generations X and Y in Slovakia (percentages)



Sources: EU-SILC, and NBS calculations.

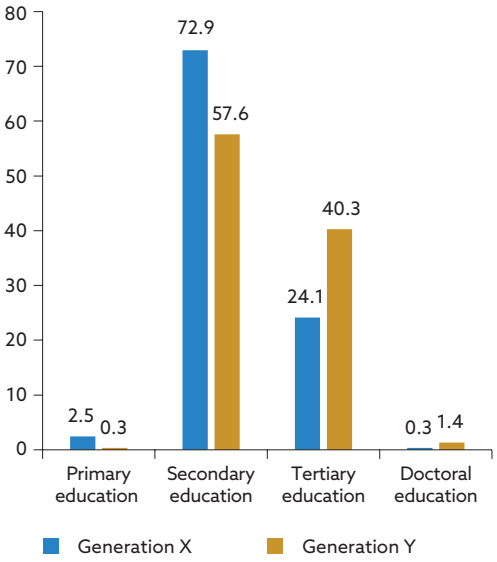
[52] Educational homogamy refers to the tendency of individuals to partner or marry others who have a similar level of educational attainment.

[53] Greenwood, J., Guner, N., Kocharkov, G. and Santos, C., "Marry Your Like: Assortative Mating and Income Inequality", *American Economic Review*, Vol. 104, No 5, May 2014, pp. 348–353.

[54] Shaw, J.G., Farid, M., Noel-Miller, C., Joseph, N., Houser, A., Asch, S.M., Bhattacharya, J. and Flowers, L., "Social Isolation and Medicare Spending: Among Older Adults, Objective Social Isolation Increases Expenditures while Loneliness Does Not", *Journal of Aging and Health*, Vol. 29, No 7, October 2017, pp. 1119-1143.

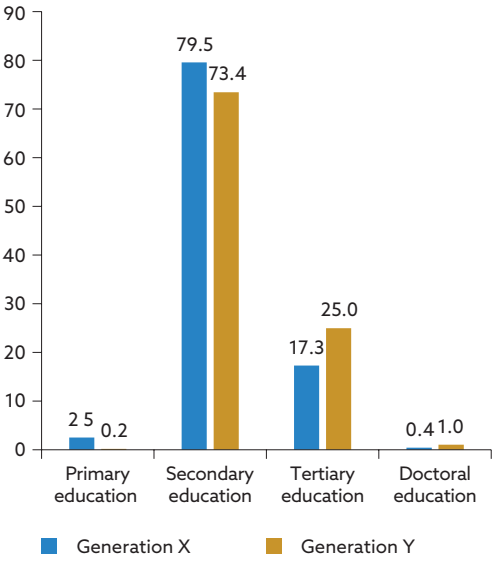
[55] Bryan, B.T., Andrews, G., Thompson, K.N., Qualter, P., Matthews, T. and Arseneault, L., "Loneliness in the workplace: a mixed-method systematic review and meta-analysis", *Occupational Medicine*, Vol. 73, No 9, December 2023, pp. 557–567.

Chart 54
Educational structure of women in generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

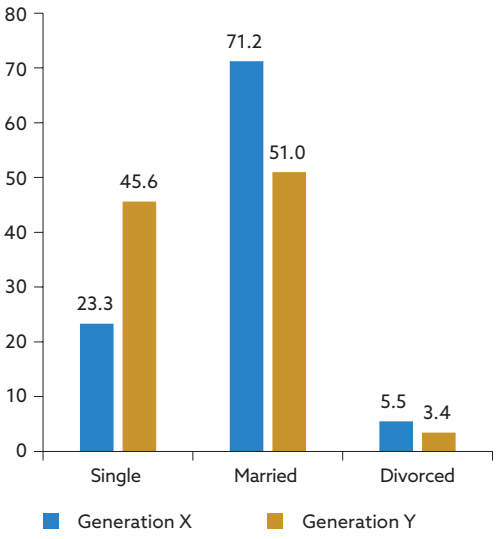
Chart 55
Educational structure of men in generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

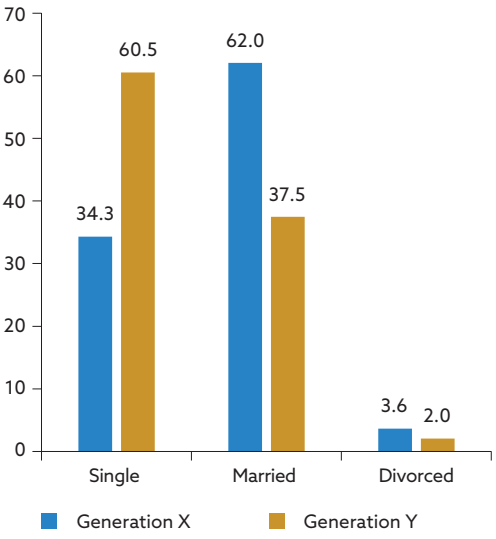
Marital status has shifted radically within one generation: by the age of 40, twice as many men and women in Generation Y were single compared with Generation X (Charts 56 and 57). Only 37.5% of men and 51% of women in Generation Y reported being married before age 40, compared with 54% and 73% respectively in Generation X.

Chart 56
Marital status of women in Generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

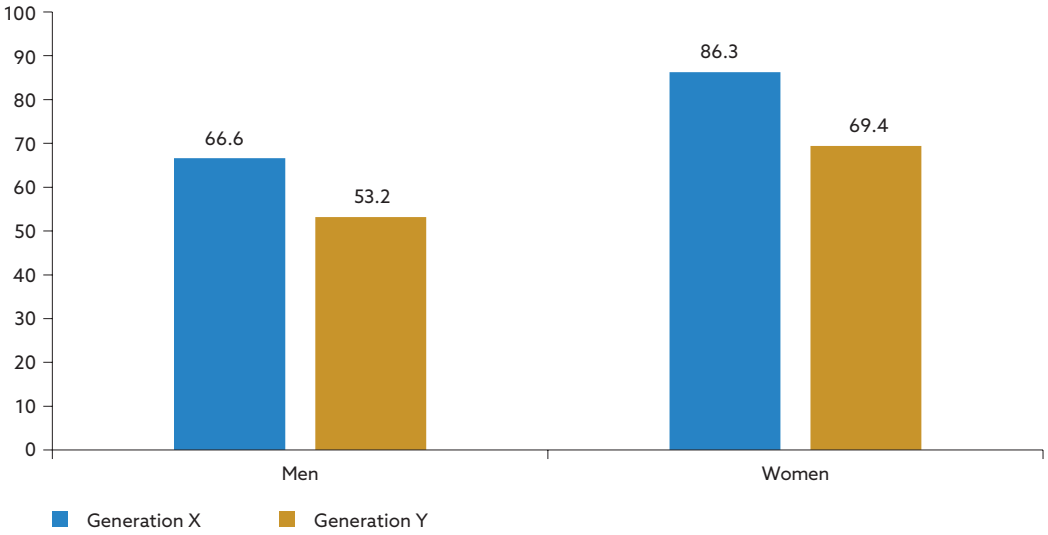
Chart 57
Marital status of men in Generations X and Y (%)



Sources: EU-SILC, and NBS calculations.

Parenthood differs markedly between the cohorts: the number of Generation Y members living with a dependent child declined compared with Generation X, while women continue to bear the majority of parental responsibilities (Chart 58). A lower rate of parenthood may increase long-term pressure on the pension system and widen regional labour supply disparities, particularly if the mobility of women caring for children becomes reduced.

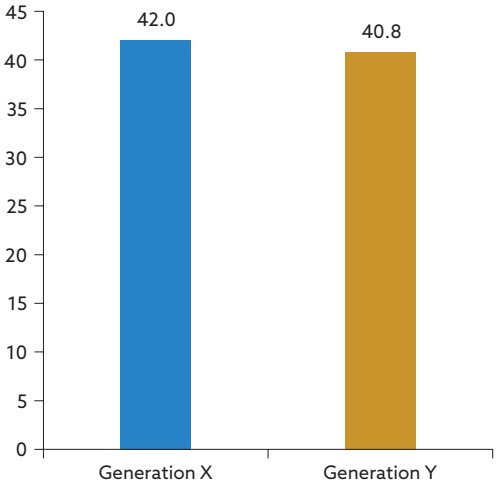
Chart 58
Parenthood rate in Generations X and Y in Slovakia (percentages)



Sources: EU-SILC, and NBS calculations.

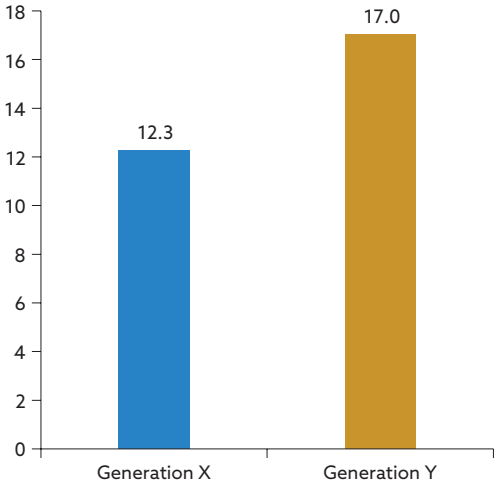
The average number of hours worked per week in the main job has declined, meaning Generation Y works fewer hours than their parents – although a very small group with secondary employment works more hours in total (Charts 59 and 60). To Generation X, this may appear as a lower work ethic among Millennials, but the data instead indicate greater flexibility and a shift towards portfolio careers. Perceived 'slacking' may therefore reflect a distortion arising from failure to capture new forms of work.

Chart 59
Average number of hours worked in the main job by Generations X and Y (hours)



Sources: EU-SILC, and NBS calculations.

Chart 60
Average number of hours worked in secondary employment for members of Generations X and Y with secondary employment (hours)

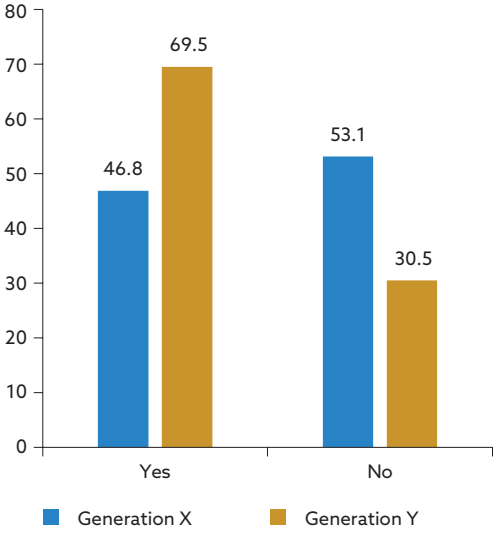


Sources: EU-SILC, and NBS calculations.

5.4 Money and opportunities: a financial portrait of Generations X and Y

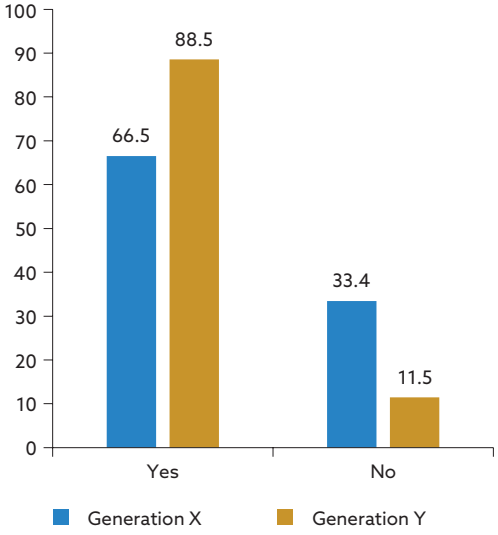
Generation Y can afford a higher standard of living much more frequently than their parents did – the share of young people who have no difficulty in affording one week of annual holiday away from home and a meal with meat every second day rose by around one-third (Charts 61 and 62). This jump in everyday consumption reflects higher real incomes, but it also lowers the threshold of what society considers a reasonable standard of living, shifting relative deprivation into other areas of consumption.

Chart 61
Ability to afford a one-week annual holiday away from home in Generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

Chart 62
Ability to afford a meal with meat, chicken or fish every second day in Generations X and Y (percentages)

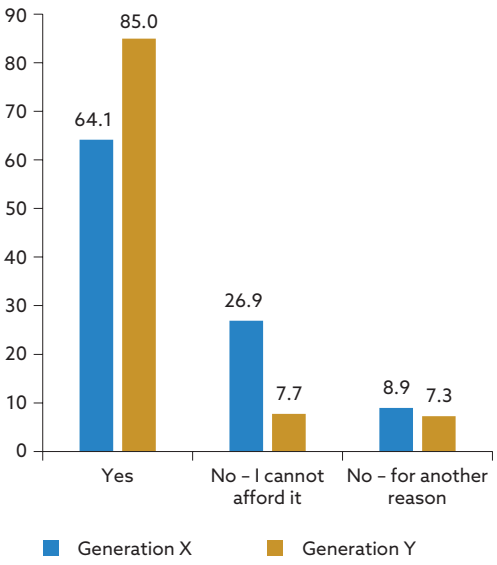


Sources: EU-SILC, and NBS calculations.

A significant shift can also be seen in households' major purchases: significantly more Generation Y members say they can easily afford a car or a personal computer (Charts 63 and 64). The increased availability of durable goods indicates both declining technology prices and credit expansion – once again redefining what is perceived as a reasonable standard of living.

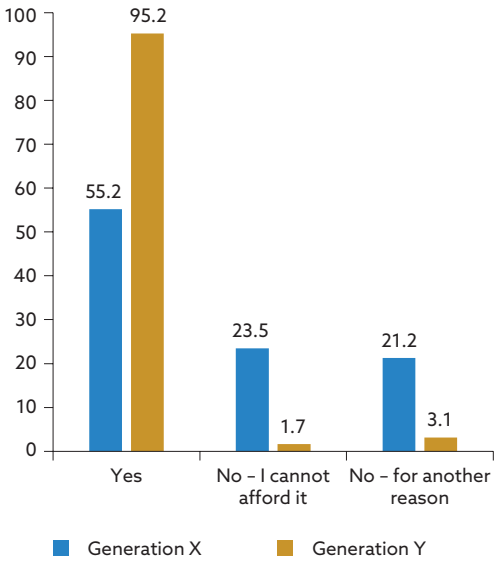
While households' material constraints have eased, the improvement has not been uniform: the share of people in financial difficulties fell from 79% to 64%, while the ability to cope with unexpected expenses rose to three-quarters (Charts 65 and 66). At the same time, however, we observe that increasing capacity to buy durable goods such as cars or computers has not come at the expense of household financial stability.

Chart 63
Car ownership in Generations X and Y (percentages)



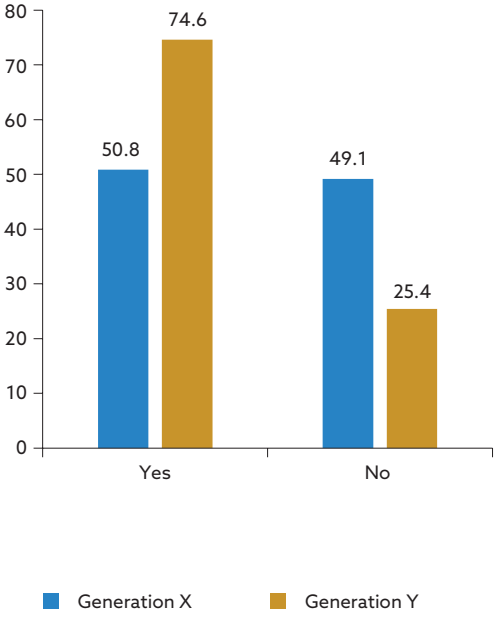
Sources: EU-SILC, and NBS calculations.

Chart 64
Personal computer ownership in Generations X and Y (percentages)



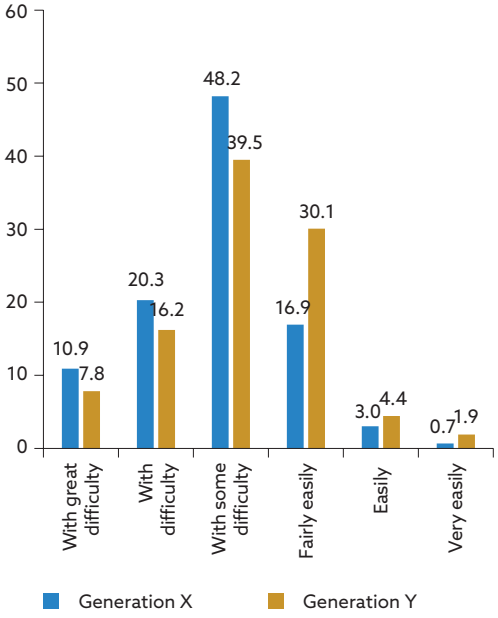
Sources: EU-SILC, and NBS calculations.

Chart 65
Ability to cope with unexpected financial expenses in Generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

Chart 66
Ability to make ends meet in Generations X and Y (percentages)



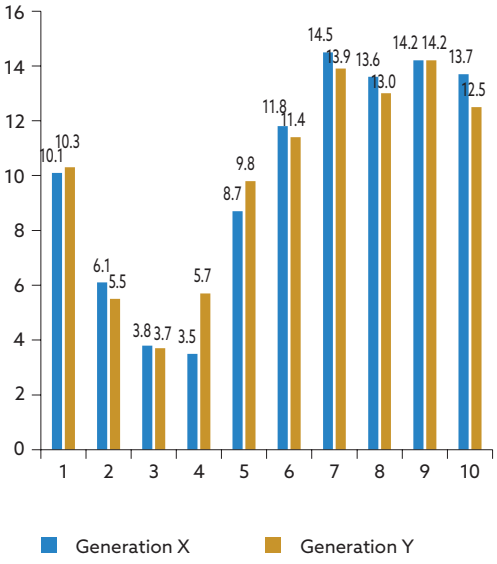
Sources: EU-SILC, and NBS calculations.

It is clear that Generation Y has higher real incomes than Generation X, but its relative position within the income distribution has deteriorated slightly (Chart 67). Specifically, if we first divide the population into ten equally sized income groups and then examine how each generation is represented within these groups, we obtain information about how the relative income standing of each generation evolved compared with the population at the time when members of that generation were between 25 and 40 years old. In other words, if the income distribution of Gen-

erations X and Y mirrored that of the overall population, each generation would account for 10% of each decile. What we see, however, is that both generations are more heavily represented in the higher-income deciles, though with Generation X having a slightly higher representation than Generation Y. Specifically, 67.8% of Generation X earned above the median income, compared with 65.1% of Generation Y. The most notable difference was the increase in Generation Y's representation in the fourth and fifth deciles – just below the median. The perception of such a decline in intergenerational mobility may influence the aspirations of people within a given generation and, consequently, their key economic decisions.[56] It will therefore be important to observe whether Generation Z's relative position in the income distribution further deteriorates. An interesting finding is the almost identical representation of Generations X and Y in the lowest income decile compared with the total population, possibly implying immobility in the lowest-income decile – individuals who may be caught in a poverty trap.

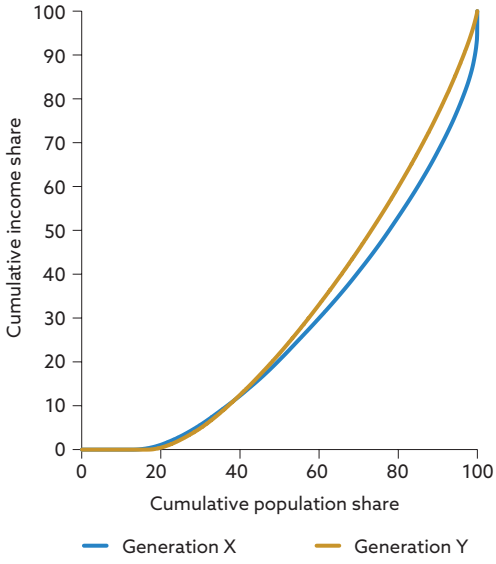
For Generation Y, income inequality has declined. As measured by the Gini coefficient, inequality decreased from 0.373 for Generation X to 0.280 for Generation Y. Similarly, we can visualise this reduction in inequality using Lorenz curves[57] (Chart 68). In this chart, the gold curve represents Generation X, and the blue curve represents Generation Y. As the blue curve lies slightly closer to the 45-degree diagonal than the gold one, income distribution is more even within Generation Y – meaning income inequality is slightly lower compared with Generation X. However, this reduction in inequality is a consequence of the aforementioned decline in Generation Y's relative income position and a shift of incomes closer to the median.

Chart 67
Income distribution in deciles for Generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

Chart 68
Income inequality as measured by the Lorenz curves of gross income for generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

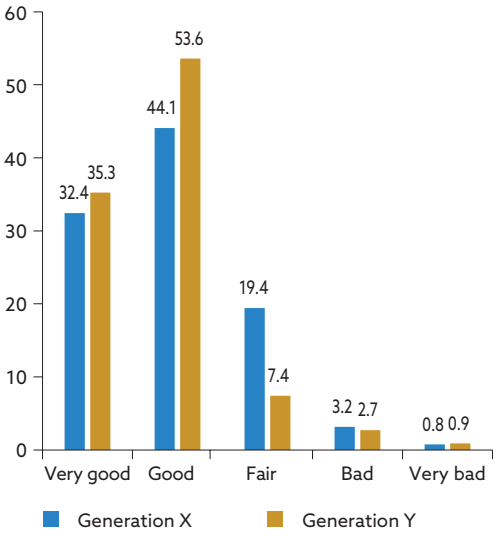
[56] For a summary of the economic literature on aspirations, see La Ferrara, E., "Presidential Address: Aspirations, Social Norms, and Development", *Journal of the European Economic Association,* Vol. 17, No 6, October 2019, pp. 1687–1722.

[57] The Lorenz curve shows the cumulative share of total income (vertical scale) that accrues to the poorest *x*% of the population (horizontal scale). In a perfect distribution (everyone having the same income), the curve would merge with the 45-degree line. The further the curve is from the 45-degree line, the greater the inequality.

5.5 Health as an indicator of socio-economic disparities: a cohort comparison of Generations X and Y

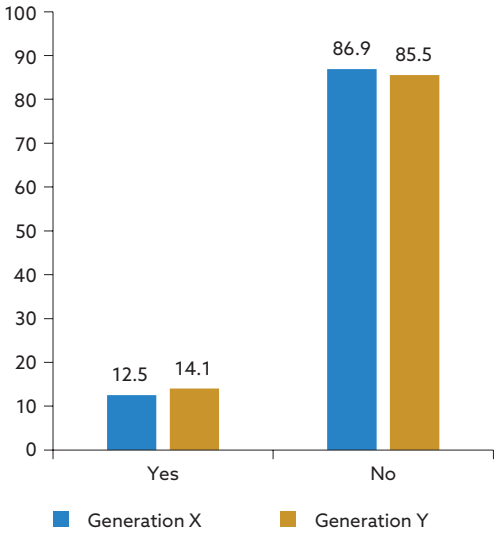
The share individuals who assess their own health as good or very good increased to 88.9% in Generation Y, compared with 76.5% in Generation Y, confirming an improvement in self-rated health in younger cohorts (Chart 69). This shift can be attributed to the complex interplay of higher educational attainment and access to prevention programmes and information technology, which reduce the transaction costs of healthy behaviours. For chronic diseases, we observe almost no intergenerational changes at the aggregate level.

Chart 69
General health in Generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

Chart 70
Chronic diseases in Generations X and Y (percentages)

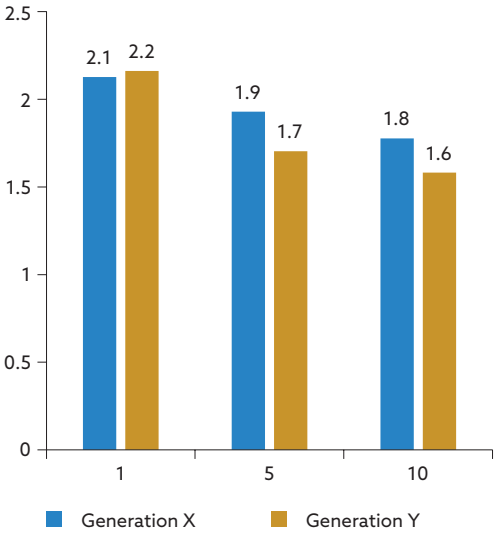


Sources: EU-SILC, and NBS calculations.

A closer look at self-rated health by income decile reveals an increasing dependence of better health on income. In the lowest income decile, self-rated health even declined slightly (Chart 71). This steeper socio-economic gradient suggests that gains in health capital are increasingly concentrated in higher-income groups, raising the risk of widening health inequalities – with economic consequences for labour productivity.

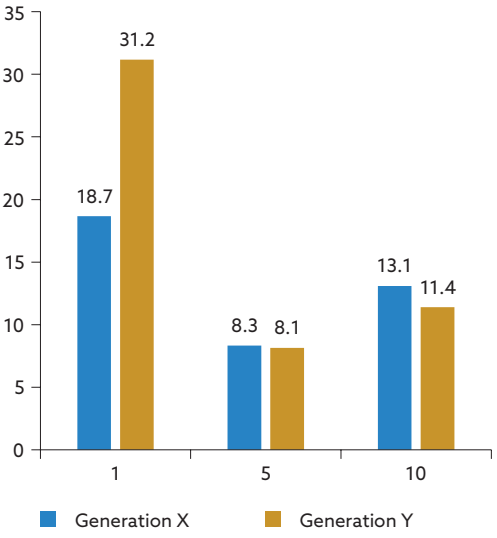
While the overall prevalence of chronic diseases has remained relatively stable across generations, the poorest income decile of Generation Y experienced a disproportionate increase in reported diagnoses (Chart 72). The concentration of chronic morbidities among economically vulnerable groups poses a significant challenge for activating these citizens in the labour market and ensuring their access to healthcare. It also signals potential increases in future public health spending.

Chart 71
General health by income decile in Generations X and Y (average ranking)



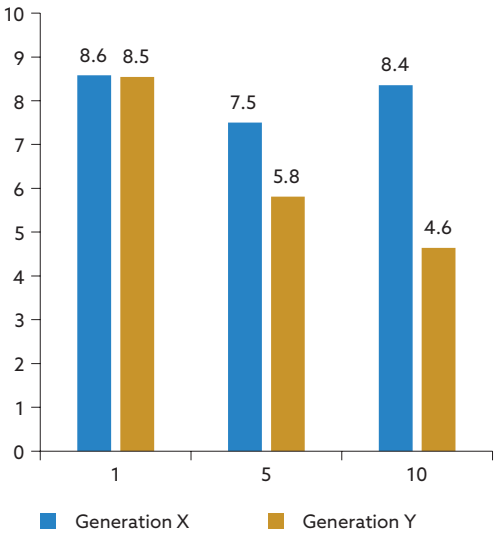
Sources: EU-SILC, and NBS calculations.
Notes: Health ratings are shown on a scale of 1 to 5, where 1 is very good health and 5 is very poor health. Therefore, lower values correspond to improving health.

Chart 72
Chronic (persistent) diseases by income decile in Generations X and Y (percentages)



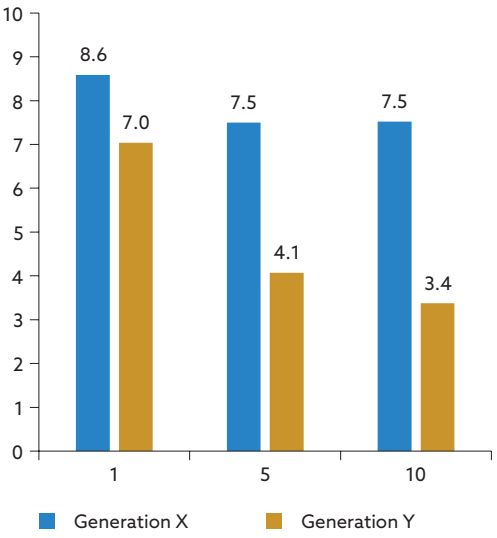
Sources: EU-SILC, and NBS calculations.

Chart 73
Unmet need for a medical examination/ treatment in the past 12 months by income decile in Generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

Chart 74
Unmet need for dental treatment by income decile in Generations X and Y (percentages)



Sources: EU-SILC, and NBS calculations.

Whereas twenty years ago unmet needs for medical care were not linked to household income, today the disparity has nearly doubled. Low-income households are almost twice as likely to forgo medical examinations or treatment compared with the wealthiest groups (Chart 73). A new time-cost mechanism divides access to care by income: those who can afford private services shorten waiting times, while low-income groups accumulate deferred morbidity. This creates a new form of health exclusion not captured by conventional affordability indicators. The income

gradient is even more pronounced for unmet dental care needs (Chart 74). This may further reduce the potential income mobility of low-income individuals by the worsening their chances in the labour market and facilitating easier identification of socio-economic groups – thereby increasing the barriers they must overcome.[58]

[58] See, for example: Celeste, R.K., Darin-Mattsson, A., Lennartsson, C., Listl, S., Peres, M.A. and Fritzell, J., "Social Mobility and Tooth Loss: A Systematic Review and Meta-analysis", *Journal of Dental Research,* Vol. 101, No 2, February 2022, pp. 143–150; Moeller, J., Starkel, R., Quiñonez, C. and Vujicic, M., "Income inequality in the United States and its potential effect on oral health", *The Journal of the American Dental Association,* Vol. 148, No 6, June 2017, pp. 361–368.

6 Annex: Tables

6.1 Economic performance

Table 5
Factors of economic growth

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
GDP per hour worked *(PPP units)*	SK	26.5	29.6	29.1	32.7	35.3	35.8	39.1	41.3
Sources: Eurostat. NBS calculations	EU average	31.5	35.8	38.8	40.6	42.7	45.1	47.1	48.9
Total factor productivity *(annual percentage change)*	SK	6.4	2.7	1.4	3.5	5.5	-2.1	0.7	0.6
Source: AMECO	EU average	2.0	2.4	0.7	-0.7	3.5	0.7	-0.8	0.3
Capital stock per employee *(annual percentage change)*	SK	2.8	1.8	0.9	1.9	1.0	-1.1	2.1	4.4
Sources: DG ECFIN, AMECO	EU average	3.5	0.4	1.3	3.8	-0.1	-0.6	0.9	0.9
Fixed capital formation *(annual percentage change)*	SK	8.2	20.6	5.0	-9.6	5.1	4.3	4.0	1.8
Source: Eurostat	EU average	-3.7	8.1	9.1	-2.6	5.4	3.2	2.8	-1.9
Export performance *(percentage of GDP)*	SK		91	92	84	91	99	91	85
Source: Eurostat	EU average		66	70	67	71	78	73	71
Foreign direct investment inflow *(percentage of GDP)*	SK	1.9	0.1	2.4	-2.2	1.5	3.0	0.1	1.3
Source: OECD	OECD average	4.2	18.2	4.3	1.6	2.8	-7.9	1.7	4.2
Foreign value added embodied in domestic exports *(percentage of exports)*	SK	41	46	47	48				
Source: OECD	OECD average	26	26	27	27				
Domestic value added embodied in foreign exports *(percentage of exports)*	SK	59	54	53	52				
Source: OECD	OECD average	74	74	73	73				
Re-exported intermediate imports *(percentage)*	SK	68	73	71	71				
Source: OECD	OECD average	43	45	46	45				

Score	2010	2015	2019	2020	2021	2022	2023	2024
GDP per hour worked	-0.41	-0.43	-0.68	-0.50	-0.43	-0.52	-0.47	-0.44
Total factor productivity	2.13	0.09	0.34	1.31	0.65	-1.16	0.73	0.18
Capital stock per employee	-0.29	0.80	-0.13	-0.68	0.34	-0.23	0.44	1.42
Fixed capital formation	1.34	0.80	-0.22	-1.13	-0.03	0.20	0.16	0.58
Export performance		0.69	0.60	0.45	0.51	0.52	0.47	0.35
Foreign direct investment inflow	-0.21	-0.22	-0.16	-0.68	-0.25	0.17	-0.36	-0.16
Foreign value added embodied in domestic exports	-1.39	-1.68	-1.65	-1.73				
Domestic valued added embodied in foreign exports	-1.39	-1.68	-1.65	-1.73				
Re-exported intermediate imports	-1.55	-1.64	-1.51	-1.51				

Table 6
Institutional quality, innovation capacity, and technology

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Voice and accountability	SK	0.91	0.97	0.86	0.88	0.90	0.89	0.91	
(score: from -2.5 to +2.5) Source: World Bank	EU average	1.10	1.10	1.04	1.06	1.07	1.09	1.12	
Political stability	SK	1.05	0.87	0.67	0.63	0.62	0.45	0.57	
(score: from -2.5 to +2.5) Source: World Bank	EU average	0.76	0.68	0.70	0.69	0.71	0.63	0.63	
Government effectiveness	SK	0.78	0.74	0.55	0.50	0.49	0.38	0.23	
(score: from -2.5 to +2.5) Source: World Bank	EU average	1.11	1.07	1.02	0.98	0.98	0.98	0.95	
Rule of law	SK	0.56	0.47	0.50	0.66	0.68	0.62	0.60	
(score: from -2.5 to +2.5) Source: World Bank	EU average	1.12	1.09	1.05	1.03	1.04	1.03	1.05	
Control of corruption	SK	0.25	0.11	0.19	0.42	0.21	0.21	0.29	
(score: from -2.5 to +2.5) Source: World Bank	EU average	0.98	0.94	0.92	0.96	0.95	0.95	0.93	
Regulatory quality	SK	1.00	0.77	1.00	0.77	0.87	0.85	0.60	
(score: from -2.5 to +2.5) Source: World Bank	EU average	1.20	1.14	1.18	1.11	1.11	1.07	1.08	
R&D expenditure – business sector	SK			33	31	31	34	35	39
(standardised index: EU 2016 = 100) Source: EIS	EU average			72	74	77	80	80	80
R&D expenditure – public sector	SK			46	43	41	49	46	49
(standardised index: EU 2016 = 100) Source: EIS	EU average			73	76	78	83	81	80
Innovators	SK			38	43	43	54	54	53
(standardised index: EU 2016 = 100) Source: EIS	EU average			97	122	122	124	124	115
Attractive research systems	SK			40	45	48	52	54	58
(standardised index: EU 2016 = 100) Source: EIS	EU average			106	109	115	121	122	123
Knowledge-intensive services exports	SK			42	43	41	54	55	47
(standardised index: EU 2016 = 100) Source: EIS	EU average			69	70	71	83	82	76
High-tech product exports	SK			112	114	118	111	107	116
(standardised index: EU 2016 = 100) Source: EIS	EU average			76	78	80	76	72	77
Intellectual assets	SK			46	50	45	44	48	47
(standardised index: EU 2016 = 100) Source: EIS	EU average			86	85	83	82	84	82
Linkages	SK			66	67	71	77	66	75
(standardised index: EU 2016 = 100) Source: EIS	EU average			140	156	161	173	174	169

Table 6
Institutional quality, innovation capacity, and technology (continued)

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Scientific publications among the top 10% most cited publications worldwide	SK			22	27	27	31	34	37
(standardised index: EU 2016 = 100) *Source: EIS*	EU average			82	80	81	83	84	85
Broadband coverage (>100 Mbps)	SK						32	37	45
(percentage of total broadband coverage) *Source: European Commission*	EU average						52	58	65
Broadband coverage (>1 Gbps)	SK						1.2	1.0	1.8
(percentage of total broadband coverage) *Source: European Commission*	EU average						5.1	7.9	10.6
5G coverage	SK					0	14	55	79
(percentage of households) *Source: European Commission*	EU average					13	46	74	86

Score	2010	2015	2019	2020	2021	2022	2023	2024
Voice and accountability	-0.59	-0.39	-0.50	-0.51	-0.45	-0.54	-0.53	
Political stability	0.70	0.48	-0.12	-0.20	-0.39	-0.82	-0.27	
Government effectiveness	-0.54	-0.61	-0.84	-0.81	-0.85	-1.06	-1.25	
Rule of law	-0.91	-0.95	-0.93	-0.64	-0.62	-0.71	-0.78	
Control of corruption	-0.89	-1.05	-0.94	-0.70	-0.95	-0.95	-0.86	
Regulatory quality	-0.51	-0.75	-0.42	-0.69	-0.47	-0.44	-0.93	
R&D expenditure – business sector			-0.78	-0.86	-0.90	-0.93	-0.90	-0.82
R&D expenditure – public sector			-0.67	-0.80	-0.90	-0.81	-0.86	-0.73
Innovators			-1.21	-1.39	-1.39	-1.31	-1.31	-1.17
Attractive research systems			-1.10	-1.09	-1.14	-1.12	-1.15	-1.12
Knowledge-intensive services exports			-0.83	-0.81	-0.89	-0.92	-0.91	-0.95
High-tech product exports			1.55	1.59	1.65	1.54	1.43	1.60
Intellectual assets			-1.19	-1.07	-1.17	-1.25	-1.19	-1.29
Linkages			-1.07	-1.19	-1.21	-1.25	-1.41	-1.25
Scientific publications among the top 10% most cited publications worldwide			-1.33	-1.26	-1.39	-1.26	-1.40	-1.42
Broadband coverage (>100 Mbps)						-0.88	-1.07	-1.05
Broadband coverage (>1 Gbps)						-0.45	-0.63	-0.69
5G coverage					-0.56	-1.00	-0.77	-0.41

Table 7
Labour market characteristics

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Employment rate	SK	60.4	64.5	70.4	69.5	69.4	71.3	72.0	72.4
(percentage) *Source: Eurostat*	EU average	62.7	65.0	69.7	68.7	69.9	71.6	71.9	72.3
Participation rate	SK	70.5	72.9	74.7	74.5	74.6	76.1	76.5	76.6
(percentage) *Source: Eurostat*	EU average	70.1	72.2	74.4	74.0	74.9	76.0	76.4	76.8
Hours worked per employee	SK	1,805	1,754	1,692	1,572	1,581	1,610	1,621	1,624
(hours per year) *Source: OECD*	OECD average	1,740	1,717	1,696	1,605	1,662	1,673	1,669	1,650
Employment rate of age group 15–74	SK	53.8	56.5	60.6	59.5	60.8	62.2	62.6	63.1
(percentage) *Source: Eurostat*	EU average	56.7	57.9	61.6	60.7	61.3	62.8	63.2	63.5
Employment rate of older workers, age group 55–64	SK	41.5	48.3	58.8	60.2	60.6	64.1	66.6	66.0
(percentage) *Source: Eurostat*	EU average	44.5	50.3	58.3	58.9	60.5	62.7	64.1	65.5
Employment rate of women, age group 15–39	SK	46.8	48.4	51.2	49.7	56.7	57.7	57.7	57.6
(percentage) *Source: Eurostat*	EU average	56.1	57.1	60.2	58.5	60.0	62.0	62.1	62.1
Part-time employment rate	SK	2.6	4.1	3.2	3.2	3.1	3.1	3.3	3.8
(percentages) *Source: Eurostat*	EU average	13.2	13.9	13.3	13.2	13.2	13.0	13.0	13.0
Youth employment rate, age group 15–24	SK	20.8	23.4	25.0	22.8	20.8	21.3	21.7	21.8
(percentage) *Source: Eurostat*	EU average	31.3	31.4	34.2	31.5	32.5	34.5	34.8	34.5
Young people aged 15–24 not in employment, education or training	SK	14.1	13.7	10.3	10.7	11.0	9.6	8.9	8.7
(percentage) *Source: Eurostat*	EU average	12.2	11.8	9.4	10.2	9.9	9.1	8.9	8.8
Employment rate of persons with less than upper-secondary education	SK	28.6	33.2	36.1	34.0	26.9	31.3	33.5	33.8
(percentage) *Source: Eurostat*	EU average	50.3	50.4	54.7	53.8	54.0	55.7	56.7	56.5
Long-term unemployment rate	SK	10.6	8.8	3.8	3.7	3.9	4.0	3.8	3.4
(percentage) Source: Eurostat	EU average	4.4	4.9	2.4	2.3	2.5	2.2	2.0	1.9
Participation rate of persons aged 65 or over	SK	1.6	2.6	4.6	4.5	4.4	4.9	5.4	6.1
(percentage) Source: Eurostat	EU average	5.6	5.8	6.8	6.9	7.2	7.7	8.1	8.4
Firms offering ICT courses to employees	SK			17.5	18.1	16.2	16.2	15.4	15.4
(percentage of firms) *Source: European Commission*	EU average			21.4	22.8	21.0	21.0	22.5	22.5
Adult participation in learning	SK	3.1	3.1	3.6	2.8	4.8	12.8	10.5	12.8
(percentage) *Source: Eurostat*	EU average	9.4	10.6	11.7	10.0	12.6	13.7	14.5	15.6

Table 7
Labour market characteristics (continued)

Score	2010	2015	2019	2020	2021	2022	2023	2024
Employment rate	-0.38	-0.07	0.12	0.13	-0.09	-0.05	0.01	0.02
Participation rate	0.07	0.14	0.07	0.11	-0.06	0.03	0.02	-0.04
Hours worked per employee	0.26	0.16	-0.02	-0.16	-0.38	-0.28	-0.21	-0.13
Employment rate of age group 15–74	-0.56	-0.26	-0.19	-0.24	-0.09	-0.10	-0.11	-0.08
Employment rate of older workers, age group 55–64	-0.32	-0.19	0.04	0.13	0.01	0.16	0.27	0.06
Employment rate of women, age group 15–39	-1.26	-1.15	-1.15	-1.07	-0.38	-0.48	-0.49	-0.51
Part-time employment rate	-1.26	-1.12	-1.13	-1.10	-1.09	-1.07	-1.03	-0.97
Youth employment rate, age group 15– 24	-0.82	-0.61	-0.70	-0.67	-0.88	-0.94	-0.92	-0.90
Young people aged 15–24 not in employment, education or training	-0.43	-0.43	-0.27	-0.16	-0.31	-0.17	0.02	0.05
Employment rate of persons with less than upper-secondary education	-2.12	-2.22	-2.38	-2.50	-3.00	-2.70	-2.54	-2.49
Long-term unemployment rate	-2.34	-1.09	-0.65	-0.70	-0.76	-1.16	-1.39	-1.37
Participation rate of persons aged 65 or over	-1.10	-1.09	-0.67	-0.71	-0.77	-0.72	-0.65	-0.53
Firms offering ICT courses to employees			-0.47	-0.57	-0.63	-0.63	-0.90	-0.90
Adult participation in learning	-0.83	-0.92	-0.96	-1.00	-0.94	-0.11	-0.47	-0.33

Table 8
Quality of human capital

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Mean years of schooling	SK	12.3	12.6	12.9	13.0	13.1	13.1	13.1	
(years) *Source: UNDP*	EU average	11.6	11.9	12.2	12.3	12.4	12.4	12.4	
Early leavers from education and training	SK	4.7	6.9	8.3	7.6	7.8	7.4	6.4	7.5
(percentage) *Source: Eurostat*	EU average	12.0	9.7	8.9	8.7	8.2	8.1	8.2	8.2
Early childhood education and care	SK		72.2	77.8	78.1	77.4	78.6	80.8	
(percentage) *Source: Eurostat*	EU average		87.6	90.4	91.4	90.6	91.3	92.5	
Population aged 25–64 with at least upper secondary educational attainment	SK	91.0	91.4	91.4	92.7	93.3	93.7	93.8	93.9
Population aged 25 or over with tertiary educational attainment	SK	17.3	21.1	25.8	26.8	27.9	29.2	28.8	29.0
(percentage) *Source: Eurostat*	EU average	26.2	31.0	34.4	35.5	36.7	37.3	37.6	38.8
Qualification mismatch rate	SK	10.0	21.3	22.6	22.5	22.9	23.4	22.9	20.4
(percentage) *Source: Eurostat*	EU average	17.1	20.1	20.5	19.8	20.0	20.3	20.1	19.8
Employment rate of recent graduates	SK		75.2	83.9	82.8	79.5	83.9	84.5	88.3
(percentage) *Source: Eurostat*	EU average		75.9	82.1	79.5	80.1	82.8	83.8	82.5
Public expenditure on early childhood education and care	SK	106	148	216	207	213.5			

Table 8
Quality of human capital (continued)

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
(USD at constant prices; per capita at PPP) Source: OECD	EU average	245	286	322	331	333.0	247.6	149.1	
Connection to the internet – all types of households	SK	67.5	79.5	82.2	85.8	90.0	90.7	90.6	90.5
(percentage) Source: Eurostat	EU average	66.2	79.8	87.9	89.6	91.8	92.2	93.0	94.0
Connection to the internet – households with children	SK	85.8	95.9	96.3	91.5	97.2	99.0	98.4	98.7
(percentage) Source: Eurostat	EU average	84.4	94.3	97.7	98.0	98.8	98.9	99.1	99.1
Use of internet	SK			78.5	82.0	88.2	87.2	87.7	86.1
(percentage of individuals aged 16–74) Source: European Commission	EU average			81.3	83.9	86.0	88.0	89.0	90.4
Score		**2010**	**2015**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Mean years of schooling		0.56	0.65	0.65	0.68	0.70	0.70	0.70	
Early leavers from education and training		1.15	0.65	0.15	0.32	0.13	0.21	0.55	0.20
Early childhood education and care			-1.69	-1.78	-2.32	-2.23	-2.13	-2.05	
Population aged 25–64 with at least upper secondary educational attainment		1.02	0.99	0.90	0.97	1.02	1.05	1.09	1.08
Population aged 25 or over with tertiary educational attainment		-1.09	-1.24	-1.02	-1.00	-0.98	-0.88	-0.96	-1.05
Qualification mismatch rate		1.00	-0.18	-0.30	-0.39	-0.43	-0.47	-0.43	-0.10
Employment rate of recent graduates			-0.06	0.21	0.38	-0.07	0.15	0.11	1.07
Public expenditure on early childhood education and care		-0.73	-0.66	-0.47	-0.52	-0.51			
Connection to the internet – all types of households		0.09	-0.04	-0.98	-0.79	-0.46	-0.44	-0.82	-1.20
Connection to the internet – households with children		0.12	0.33	-0.72	-3.56	-1.67	0.06	-1.12	-0.46
Use of internet				-0.34	-0.25	0.29	-0.14	-0.28	-0.90

Table 9
PISA – Programme for International Student Assessment (PISA)

Indicator		2006	2009	2012	2015	2018	2022
Reading	SK	466	477	463	453	458	447
(score)	OECD average	485	490	492	489	485	476
Science	SK	488	490	471	461	464	462
(score)	OECD average	495	498	496	489	487	485
Mathematics	SK	492	497	482	475	486	464
(score)	OECD average	490	492	488	485	487	472
Score		**2006**	**2009**	**2012**	**2015**	**2018**	**2019**
Reading		-0.56	-0.5	-1.01	-1.29	-1.01	-1.04
Science		-0.18	-0.24	-0.75	-0.88	-0.79	-0.72
Mathematics		0.04	0.15	-0.18	-0.28	-0.02	-0.25

Source: OECD.

6.2 Economic vulnerabilities

Table 10
Internal equilibrium

Category	Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Output gap	SK	0.3	-0.5	1.6	-2.4	1.6	0.6	0.5	-0.3
	(percentage of potential GDP) Source: AMECO	EU average	-3.0	-1.7	1.2	-5.1	-0.2	1.2	-0.2	-0.5
	Private sector debt	SK	65	80	92	94	91	93	85	83
	(percentage of GDP) Source: Eurostat	EU average	153	148	134	140	134	126	119	117
	Non-performing loans	SK	10.4	4.4	2.9	2.5	2.0	1.7	1.8	1.9
	(percentage) Source: Eurostat	EU average	15.4	10.4	4.9	4.1	2.7	2.2	2.0	1.9
Additional indicators	Private sector credit flow	SK	23.5	15.1	15.2	12.7	11.5	15.5	14.8	12.4
	(percentage of GDP over three years) Source: Eurostat	EU average	18.2	5.3	10.7	11.6	15.3	17.4	12.9	10.9
	Real house prices (three-year percentage change)	SK	-6.1	6.5	17.8	20.6	17.9	12.4	-5.1	-7.6
	Source: Eurostat	EU average	-12.1	3.5	12.8	13.7	16.1	12.3	2.4	-1.1
	Banking leverage	SK	10.4	9.0	9.6	9.7	10.4	10.7	10.7	9.7
	(assets-to-equity multiple) Source: Eurostat	EU average	15.4	12.3	11.9	12.5	13.0	13.2	12.1	11.9
	Banks' exposures to domestic sovereign debt	SK	18.6	14.2	8.9	10.1	10.3	10.2	9.7	10.0
	(percentage of GDP) Sources: ECB, NBS calculations	EU average	15.6	15.7	12.1	14.3	12.8	11.3	10.6	10.9
	Banking sector profitability (ROE)	SK	8.6	6.6	5.0	4.3	5.8	7.0	9.4	7.4
	(percentage) Source: ECB	EU average	-2.4	4.4	7.3	3.3	6.9	9.5	13.0	12.4

Category	Score	2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Output gap	0.87	0.65	0.42	0.94	-0.01	0.54	0.77	1.09
	Private sector debt	1.36	0.85	0.61	0.64	0.63	0.49	0.52	0.52
	Non-performing loans	0.97	0.57	0.29	0.33	0.39	0.39	0.22	0.03
Additional indicators	Private sector credit flow	-0.30	-0.59	-0.42	-0.09	0.24	0.11	-0.23	-0.22
	Real house prices	-0.40	-0.25	-0.58	-0.85	-0.20	-0.01	0.87	0.59
	Banking leverage	0.97	0.88	0.73	0.91	0.87	0.89	0.56	0.86
	Banks' exposures to domestic sovereign debt	-0.38	0.17	0.43	0.49	0.33	0.16	0.14	0.15
	Banking sector profitability (ROE)	0.32	0.27	-0.57	0.20	-0.18	-0.54	-0.89	-1.33

Notes: The output gap score was calculated from the gap's absolute value. Banking sector indicators include data for foreign bank branches.

Table 11
External equilibrium

Category	Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Real effective exchange rate (PPI-deflated)	SK	2.6	-3.1	-0.2	1.0	-2.1	-1.3	-0.8	-0.7
	(three-year percentage change) Source: ECB	EU average	-1.3	-2.1	0.8	0.8	0.1	2.2	3.9	3.2
	Nominal unit labour costs	SK	8.1	1.9	14.8	14.0	10.1	12.1	17.3	22.8
	(three-year percentage change) Source: Eurostat	EU average	9.4	1.8	8.4	11.4	8.3	11.7	15.7	22.4
Additional indicators	Export market shares	SK	-13.4	0.2	-2.1	3.4	-3.1	-7.2	-3.5	
	(three-year percentage change) Source: Eurostat	EU average	-7.5	7.0	4.6	6.5	4.1	0.8	3.5	
	Terms of trade	SK	-6.0	-3.2	-2.0	-2.1	-2.6	-5.9	-5.1	-4.4
	(five-year percentage change) Source: Eurostat	EU average	1.2	1.5	2.5	2.0	-0.1	-2.2	0.1	0.5
	Current account balance	SK	-4.8	0.9	-2.3	-1.9	-2.9	-5.0	-5.1	-4.4
	(three-year average, percentage of GDP) Source: Eurostat	EU average	-2.5	1.7	2.0	1.7	1.4	0.4	0.4	0.8
	Net investment position	SK	-11	-14	-14	-15	-14	-19	-14.7	-12.3
	(percentage of GDP) Source: Eurostat	EU average	-92	-158	-168	-169	-180	-147	-147	-159
	Net external debt	SK	20	29	32	31	30	34	33.8	36.9
	(percentage of GDP) Source: Eurostat	EU average	-95	-29	-103	-109	-124	-98	-109	-131

Category	Score	2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Real effective exchange rate (PPI-deflated)	-1.31	0.23	0.32	-0.08	0.70	0.63	0.86	1.36
	Nominal unit labour costs	0.19	-0.01	-0.97	-0.41	-0.30	-0.06	-0.16	-0.03
Additional indicators	Export market shares	-0.60	-0.40	-1.03	-0.24	-0.66	-0.81	-0.58	
	Terms of trade	-1.16	-2.20	-1.71	-1.21	-0.81	-0.84	-1.50	-1.37
	Current account balance	-0.43	-0.28	-0.91	-0.72	-0.89	-1.15	-1.06	-0.95
	Net investment position	0.24	0.21	0.20	0.20	0.19	0.18	0.18	0.19
	Net external debt	-0.21	-0.16	-0.26	-0.26	-0.28	-0.31	-0.31	-0.32

Note: A positive value for the real effective exchange rate denotes exchange rate appreciation.

Table 12
Fiscal sustainability

Category	Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicator	Sustainability of public finances (S2 indicator)	SK	10.4	3.5	3.8	7.7	10.6	11.3	9.9	7.8
	(percentage of GDP) *Source: European Commission*	EU average	6.8	2.2	2.4	2.4	3.8	3.3	3.3	3.3
Additional indicators	Gross public debt	SK	40.7	51.6	48.0	58.4	60.2	57.7	55.6	59.3
	(percentage of GDP) *Source: Eurostat*	EU average	60.9	71.5	63.5	75.2	71.9	67.4	65.1	65.2
	Gross public debt with a residual maturity of less than one year	SK	4.7	3.6	3.8	3.6	3.8	4.8	4.3	5.6
	(percentage of GDP) *Source: ECB*	EU average	11.7	11.2	9.5	11.6	10.5	9.9	9.5	9.8
	Gross public debt with a residual maturity of one to five years	SK	17.2	16.5	11.8	17.1	18.8	17.9	15.5	14.8
	(percentage of GDP) *Source: ECB*	EU average	23.1	23.2	20.9	24.2	22.8	21.7	21.5	21.6
	Ten-year government bond yields	SK	3.9	0.9	0.3	0.0	-0.1	2.1	3.7	3.5
	(percentage) *Source: Eurostat*	EU average	4.8	1.9	0.8	0.4	0.5	2.6	3.7	3.4

Category	Score	2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicator	Sustainability of public finances (S2)	-0.87	-0.66	-0.55	-1.83	-1.88	-2.19	-2.06	-1.57
Additional indicators	Gross public debt	0.62	0.51	0.40	0.38	0.28	0.26	0.27	0.18
	Gross public debt with a residual maturity of less than one year	0.79	0.90	0.77	0.90	0.85	0.70	0.74	0.64
	Gross public debt with a residual maturity of one to five years	0.47	0.64	0.85	0.61	0.36	0.37	0.60	0.67
	Ten-year government bond yields	0.47	0.53	0.52	0.51	0.59	0.32	0.07	-0.06

6.3 Social inclusion

Table 13
Risk of poverty or social exclusion by economic activity; risk of material deprivation

Indicator		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Risk of poverty – population	SK	17.3	17.1	15.8	15.2	14.8	13.8	15.6	16.5	17.6	18.3
(percentage)	EU average	24.0	23.4	22.6	21.5	20.9	20.6	20.7	20.6	20.5	20.2
Risk of poverty – employed	SK	8.7	8.9	8.1	7.5	5.7	6.3	8.5	9.0	10.9	12.2
(percentage)	EU average	12.5	12.0	11.5	10.5	10.2	10.0	10.0	10.1	10.5	10.2
Risk of poverty – not employed	SK	24.5	24.2	23.1	21.5	24.0	22.2	22.5	22.8	23.1	23.7
(percentage)	EU average	34.8	34.7	34.2	33.8	33.3	33.2	32.9	33.6	32.9	32.7
Risk of poverty – retired	SK	11.6	11.8	12.4	10.5	12.2	12.3	13.4	13.1	14.2	13.2
(percentage)	EU average	20.4	21.1	21.6	22.3	22.4	22.6	22.3	23.7	22.7	22.6
Material deprivation	SK	16.8	15.5	13.5	12.3	11.4	9.7	9.2	10.5	14.0	12.7
(percentage)	EU average	18.9	17.2	15.8	14.2	12.8	12.3	11.2	11.7	12.0	11.3

Table 13
Risk of poverty or social exclusion by economic activity; risk of material deprivation (continued)

Score	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Risk of poverty – population	0.87	0.82	0.96	1.02	1.06	1.20	0.92	0.78	0.62	0.43
Risk of poverty – employed	0.54	0.45	0.55	0.61	0.96	0.86	0.32	0.26	-0.11	-0.56
Risk of poverty – not employed	1.16	1.18	1.23	1.33	1.08	1.31	1.28	1.21	1.27	1.17
Risk of poverty – retired	0.72	0.75	0.72	0.88	0.77	0.83	0.73	0.84	0.75	0.82
Material deprivation	0.16	0.14	0.20	0.19	0.16	0.29	0.25	0.14	-0.27	-0.21

Source: Eurostat.

Table 14
Risk of poverty by type of household

Indicator		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Risk of poverty – one adult aged under 65	SK	26.1	27.2	29.8	26.5	28.6	23.4	27.2	27.7	27.0	26.8
(percentage)	EU average	38.4	37.0	37.0	35.1	34.0	33.0	33.2	32.3	31.6	31.6
Risk of poverty – one adult aged 65 or over	SK	15.7	14.6	15.9	15.8	24.2	31.3	32.5	30.0	36.8	29.6
(percentage)	EU average	31.9	32.9	34.1	35.9	36.0	37.7	36.9	38.2	37.4	36.3
Risk of poverty – one adult with one dependent child	SK	39.8	40.1	46.3	42.3	38.0	37.4	35.2	46.5	46.4	37.8
(percentage)	EU average	47.2	46.9	45.4	44.2	41.9	40.7	42.5	41.1	40.8	39.0
Risk of poverty – two adults with one dependent child	SK	12.1	12.4	11.3	13.7	12.0	12.3	14.0	18.4	15.2	16.2
(percentage)	EU average	18.3	17.2	16.6	15.2	14.7	13.8	13.6	14.4	14.3	13.6
Risk of poverty – two adults with two dependent children	SK	17.9	17.1	15.5	16.2	11.3	11.3	11.5	11.6	17.2	14.3
(percentage)	EU average	18.6	17.8	16.6	15.1	14.3	14.5	14.2	14.2	14.4	13.8
Risk of poverty – two adults with three or more dependent children	SK	35.9	37.7	37.1	36.9	38.0	38.0	37.8	43.8	37.1	32.7
(percentage)	EU average	34.9	34.2	32.1	29.3	29.0	29.8	29.5	27.8	29.7	30.6

Score	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Risk of poverty – one adult aged under 65	1.82	1.51	1.16	1.32	0.95	1.67	0.96	0.77	0.82	0.90
Risk of poverty – one adult aged 65 or over	0.87	0.96	0.95	1.04	0.64	0.35	0.25	0.46	0.04	0.42
Risk of poverty – one adult with one dependent child	0.92	0.66	-0.12	0.30	0.56	0.46	0.87	-0.63	-0.75	0.18
Risk of poverty – two adults with one dependent child	0.95	0.71	0.90	0.30	0.58	0.37	-0.09	-0.86	-0.21	-0.54
Risk of poverty – two adults with two dependent children	0.08	0.08	0.14	-0.15	0.46	0.50	0.44	0.35	-0.43	-0.08
Risk of poverty – two adults with three or more dependent children	-0.05	-0.20	-0.31	-0.60	-0.66	-0.59	-0.65	-1.17	-0.54	-0.15

Source: Eurostat.

Table 15
Expenditure on social inclusion

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Social protection expenditure	SK	17.9	17.9	17.8	19.4	19.0	18.2		
(percentage of GDP)	EU average	23.9	23.2	22.5	25.6	24.3	22.8		
Old-age expenditure	SK	6.5	7.1	7.0	7.7	7.5	7.3	7.7	
(percentage of GDP)	EU average	9.2	9.6	9.3	10.1	9.6	9.2	9.3	
Disability expenditure	SK	1.5	1.5	1.5	1.6	1.4	1.3	1.4	
(percentage of GDP)	EU average	2.0	1.8	1.7	1.8	1.7	1.6	1.7	
Family policy expenditure	SK	1.7	1.6	1.6	1.9	1.9	1.9	2.1	
(percentage of GDP)	EU average	2.1	1.9	2.0	2.2	2.0	2.0	2.0	
Unemployment expenditure	SK	1.0	0.5	0.5	0.8	0.7	0.7	0.6	
(percentage of GDP)	EU average	1.4	1.1	0.8	1.8	1.4	0.8	0.7	
Score		**2010**	**2015**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Social protection expenditure		-1.13	-0.83	-0.76	-0.95	-0.85	-0.78		
Old-age expenditure		-1.27	-0.90	-0.83	-0.80	-0.75	-0.75	-0.61	
Disability expenditure		-0.50	-0.31	-0.29	-0.26	-0.38	-0.37	-0.37	
Family policy expenditure		-0.55	-0.40	-0.47	-0.34	-0.16	-0.06	0.13	
Unemployment expenditure		-0.47	-0.75	-0.63	-0.93	-0.85	-0.30	-0.21	

Source: Eurostat.

Table 16
Income inequality and the gender pay gap

Indicator		2010	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gini coefficient	SK	25.9	23.7	24.3	23.2	20.9	22.8	20.9	21.8	21.2	21.6	21.7
(ratio)	EU average	29.6	30.3	30.1	29.9	29.7	29.7	29.4	29.4	29.2	29.5	29.1
Income quintile share ratio (S80/S20)	SK	3.8	3.5	3.6	3.5	3.0	3.3	3.0	3.2	3.1	3.6	3.3
(ratio)	EU average	4.8	5.1	5.0	4.9	4.9	4.8	4.7	4.8	4.6	4.7	4.6
Income quintile share ratio (S80/S50)	SK	2.0	1.8	1.8	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.6
(ratio)	EU average	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1
Income quintile share ratio (S50/S20)	SK	2.0	2.0	2.0	2.0	1.9	2.0	1.9	2.0	1.9	2.1	2.0
(ratio)	EU average	2.2	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Gender pay gap	SK	19.6	19.8	19.0	19.9	19.7	18.0	15.3	15.9	16.8	15.2	
(percentage)	EU average	14.6	14.7	14.4	13.7	12.5	12.3	11.3	11.0	11.4	11.1	
Score		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Gini coefficient		1.00	1.56	1.52	1.65	2.07	1.69	2.13	1.79	2.07	2.13	1.96
Income quintile share ratio (S80/S20)		0.91	1.10	1.08	1.14	1.46	1.22	1.48	1.29	1.47	1.16	1.37
Income quintile share ratio (S80/S50)		0.91	1.71	1.66	1.74	2.00	1.71	2.09	1.79	2.04	2.39	2.02
Income quintile share ratio (S50/S20)		0.79	0.62	0.62	0.59	1.04	0.75	0.94	0.71	0.87	0.14	0.49
Gender pay gap		-0.84	-1.03	-0.97	-1.12	-1.38	-1.01	-0.68	-0.93	-0.97	-0.80	

Source: Eurostat.
Note: The table shows difference in equivalent household income, which, unlike net disposable income, takes into account the size and composition of households.

Table 17
Risk of poverty by age

Indicator			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Risk of poverty: 18–24 age group (percentage)	total	SK	17.9	18.3	16.9	16.3	16.8	14.9	17.3	21.4	19.4	23.0
		EU average	29.0	28.9	27.6	25.4	24.5	24.6	24.3	23.9	24.4	23.7
	women	SK	17.6	21.9	18.3	17.2	17.4	14.9	17.6	21.4	21.0	24.5
		EU average	29.4	30.0	28.5	26.0	25.4	25.4	25.6	24.5	25.9	24.7
	men	SK	18.2	14.7	15.6	15.5	16.1	14.9	17.0	21.4	17.9	21.5
		EU average	28.6	27.8	26.8	24.8	23.7	23.9	23.0	23.2	22.9	22.8
Risk of poverty: 25–49 age group (percentage)	total	SK	16.6	16.3	14.5	13.8	13.0	12.5	14.6	14.8	16.8	18.2
		EU average	21.9	21.1	20.0	18.6	17.8	17.6	17.7	17.6	17.7	17.3
	women	SK	16.6	16.6	14.7	14.6	14.0	13.0	15.0	15.8	16.1	18.0
		EU average	22.4	21.7	20.6	19.2	18.2	18.0	18.1	18.1	18.1	17.8
	men	SK	16.5	16.0	14.3	13.1	12.1	12.0	14.4	13.9	17.4	18.3
		EU average	21.4	20.5	19.4	18.0	17.4	17.0	17.3	17.1	17.2	16.7
Risk of poverty: 50–64 age group (percentage)	total	SK	16.3	15.4	14.2	13.3	14.0	13.2	13.8	14.3	13.9	17.7
		EU average	24.9	24.3	23.3	22.1	21.3	20.3	20.4	19.9	19.7	19.6
	women	SK	15.7	14.0	12.9	12.7	13.9	13.2	14.6	15.0	14.4	17.9
		EU average	25.9	25.4	24.1	23.2	22.3	21.2	21.2	20.6	20.5	20.1
	men	SK	17.0	16.9	15.6	13.9	14.1	13.2	13.0	13.5	13.5	17.4
		EU average	23.9	23.2	22.4	20.9	20.1	19.4	19.7	19.1	18.9	19.1
Risk of poverty: 65–74 age group (percentage)	total	SK	10.4	10.4	10.6	10.6	12.3	12.1	13.1	12.4	13.3	13.2
		EU average	19.2	19.6	19.9	20.5	20.4	20.6	20.1	21.6	21.1	21.1
	women	SK	11.2	10.2	11.3	10.9	14.0	12.5	15.4	14.1	15.1	14.0
		EU average	21.6	21.7	22.2	22.5	22.5	22.6	22.2	23.8	23.1	23.0
	men	SK	9.2	10.6	9.6	10.2	9.7	11.3	9.8	10.0	10.9	12.2
		EU average	16.2	16.7	16.9	17.8	17.7	18.1	17.5	18.8	18.5	18.8
Risk of poverty: 75 and older age group (percentage)	total	SK	12.5	13.6	14.0	9.9	12.4	12.7	15.5	10.8	15.5	12.0
		EU average	23.0	23.7	24.8	25.6	25.8	26.0	25.8	27.2	25.2	25.0
	women	SK	15.4	15.3	16.3	11.9	15.5	15.7	18.1	11.9	15.7	14.5
		EU average	26.3	27.4	28.3	29.6	29.6	29.6	29.6	31.0	28.7	28.4
	men	SK	6.8	10.3	9.6	6.0	7.2	8.2	11.4	9.1	15.1	7.8
		EU average	17.1	17.3	18.9	19.0	19.4	19.9	19.3	20.6	19.1	19.2
Score			**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Risk of poverty: 18–24 age group	total		1.21	1.20	1.26	1.11	0.92	1.15	0.89	0.30	0.64	0.10
	women		1.29	0.85	1.14	1.00	0.96	1.21	0.94	0.37	0.57	0.02
	men		1.10	1.49	1.29	1.15	0.87	1.06	0.79	0.22	0.67	0.16
Risk of poverty: 25–49 age group	total		0.75	0.65	0.84	0.85	0.94	1.00	0.60	0.57	0.19	-0.22
	women		0.81	0.66	0.88	0.79	0.78	0.93	0.56	0.44	0.42	-0.04
	men		0.69	0.62	0.78	0.87	1.06	1.04	0.58	0.66	-0.05	-0.37

Table 17
Risk of poverty by age (continued)

Score		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Risk of poverty: 50–64 age group	total	1.13	1.15	1.23	1.34	1.14	1.25	1.11	1.02	1.21	0.40
	women	1.28	1.37	1.42	1.47	1.24	1.33	1.06	1.00	1.23	0.46
	men	0.92	0.85	0.96	1.12	0.96	1.10	1.12	0.99	1.09	0.32
Risk of poverty: 65–74 age group	total	0.79	0.85	0.86	0.87	0.76	0.83	0.72	0.93	0.84	0.86
	women	0.83	0.96	0.90	0.92	0.72	0.89	0.63	0.91	0.79	0.88
	men	0.74	0.67	0.81	0.79	0.87	0.76	0.92	0.99	0.94	0.82
Risk of poverty: 75 and older age group	total	0.79	0.77	0.78	1.12	0.92	0.97	0.77	1.15	0.86	1.06
	women	0.74	0.82	0.76	1.15	0.90	0.91	0.77	1.21	1.01	1.02
	men	0.99	0.72	0.93	1.15	1.00	1.10	0.76	1.06	0.49	1.19

Source: Eurostat.

6.4 Health

Table 18
Health outcome indicators

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Life expectancy at birth	SK	75.6	76.7	77.8	77.0	74.6	77.0	78.2	
(years) *Source: Eurostat*	EU average	78.7	79.7	80.5	79.7	79.2	79.9	80.7	
Preventable mortality	SK	280.0	258.3	231.2	262.4	379.3	245.3		
(deaths per 100,000 inhabitants) *Source: Eurostat*	EU average	206.9	192.5	175.6	201.4	237.2	191.5		
Treatable mortality	SK	182.0	176.9	163.6	168.8	206.0	176.1		
(deaths per 100,000 inhabitants) *Source: Eurostat*	EU average	123.4	114.3	104.4	107.1	110.7	104.6		
Infant mortality	SK	5.7	5.1	5.1	5.1	4.9	5.4	5.6	
(deaths per 1,000 live births) *Source: Eurostat*	EU average	4.2	3.6	3.5	3.2	3.1	3.3	3.3	
Newborns with low birth weight	SK	9.0	7.7	7.5	7.3	7.2	7.7		
(percentage) *Source: OECD*	OECD average	6.5	6.6	6.6	6.3	6.4	6.6	7.6	
Score		**2010**	**2015**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Life expectancy at birth		-1.02	-1.05	-0.97	-0.91	-1.21	-1.00	-0.96	
Preventable mortality		-0.89	-0.87	-0.82	-0.76	-1.18	-0.72		
Treatable mortality		-1.08	-1.21	-1.21	-1.12	-1.55	-1.36		
Infant mortality		-0.81	-1.08	-1.33	-1.82	-1.80	-2.05	-2.17	
Newborns with low birth weight		-1.51	-0.71	-0.62	-0.68	-0.47	-0.64		

Table 19
Health system resources

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Healthcare expenditure*	SK	8	6.8	6.9	7.1	7.8	7.7		
(percentage of GDP) *Source: Eurostat*	EU average	8.6	8.2	8.3	9.2	9.3	8.7	8.6	
Healthcare expenditure per capita*	SK	1,567.0	1,508	1,519	1,593	1,850	1,947		
(EUR at PPP) *Source: Eurostat*	EU average	2,313	2,273	2,593	2,736	3,040	3,105		
Inhabitants per hospital bed	SK	155	174	174					
Source: Eurostat	EU average	207	221	233					
Inhabitants per doctor	SK	298	290	280	273				
Source: Eurostat	EU average	302	279	249	250	205			
Inhabitants per nurse	SK	165	176	174	173				
Source: Eurostat	EU average	130	130	127	133	68			
CT examinations	SK	89	156	160	144	167	175		
(number per 1,000 inhabitants) *Source: OECD*	OECD average	110	130	153	140	157	163	104	
MRI examinations	SK	33	57	74	68	76	74		
(number per 1,000 inhabitants) *Source: OECD*	OECD average	46	66	78	71	83	85	53	
Number of examinations per CT scanner	SK	6,371	8,734	9,005	7,542	8,426	8,729		
Source: OECD	OECD average	6,115	6,111	7,107	6,181	6,944	7,413	2,822	
Number of examinations per MRI scanner	SK	4,875	6,415	7,728	6,917	7,023	7,021		
Source: OECD	OECD average	4,384	4,501	5,374	4,789	5,344	5,332	5,760	

Score	2010	2015	2019	2020	2021	2022	2023	2024
Healthcare expenditure*		-0.75	-0.75	-1.03	-0.80	-0.53		
Healthcare expenditure per capita*		-0.75	-1.04	-1.09	-1.08	-1.03		
Inhabitants per hospital bed	0.72	0.57	0.65					
Inhabitants per doctor	0.08	-0.20	-0.80	-0.54				
inhabitants per nurse	-0.71	-0.95	-1.04	-0.84				
CT examinations	-0.36	0.48	0.12	0.07	0.18	0.21		
MRI examinations	-0.45	-0.29	-0.13	-0.08	-0.18	-0.28		
Number of examinations per CT scanner	0.07	0.87	0.47	0.35	0.34	0.29		
Number of examinations per MRI scanner	0.24	0.99	1.03	0.96	0.71	0.72		

* The figures under 2010 are for 2012.

Table 20
Selected healthcare quality indicators

Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Self-reported unmet need for medical care	SK	1.7	2.1	2.7	3.2	2.9	2.8	3.2	1.6
(percentage of population aged 16 or over) Source: Eurostat	EU average	3.6	3.5	2.5	2.3	2.2	2.6	3.1	3.0
AMI 30-day mortality	SK	8.0	6.3	6.3	6.5	7.4			
(deaths per 100 admissions) Source: OECD	OECD average	7.8	7.2	6.6	6.8	7.2	7.2		
Ischaemic stroke 30-day mortality	SK	11.5	9.4	8.6	9.0	9.9			
(deaths per 100 admissions) Source: OECD	OECD average	9.2	8.8	7.9	8.1	8.3	9.2		
Haemorrhagic 30-day mortality	SK	30.8	28.8	24.0	27.9	27.2			
(deaths per 100 admissions) Source: OECD	OECD average	25.0	23.3	23.1	23.5	23.7	24.5		
Breast cancer five-year net survival*	SK	76.6	75.5						
(percentage) Source: OECD	OECD average	83.3	84.3						
Lung cancer five-year net survival*	SK	10.5	11.2						
(percentage) Source: OECD	OECD average	15.3	17.1						
Immunisation of children against measles	SK	99.2	97.6	97.8	98.0	96.4	95.7	94.5	
(percentage) Source: OECD	OECD average	89.0	90.6	90.6	90.7	87.8	88.4	88.5	
Immunisation of children against diphtheria, tetanus and pertussis	SK	99.1	96.0	96.7	97.0	97.0	96.5		
(percentage) Source: OECD	OECD average	95.2	95.2	95.1	94.8	93.8	94.1	93.1	
Immunisation of children against hepatitis B	SK	99.1	96.0	96.7	97.0	97.0	96.5		
(percentage) Source: OECD	OECD average	88.7	91.5	92.1	92.9	91.6	92.3		
Immunisation of people aged 65 or over against influenza	SK	23.8	13.8	11.5	12.8	12.9	5.6		
(percentage) Source: OECD	OECD average	45.6	46.6	45.9	53.2	54.5	53.1	54.3	
Breast cancer screening rate	SK	32.7	30.4	53.5	27.2	25.5	28.5		
(percentage of women aged 50–69) Source: OECD	OECD average	58.9	57.6	62.1	54.4	55.9	56.4	42.8	
Cervical cancer screening rate	SK	48.5	48.3	46.1	40.1	44.4	46.4		
(percentage of women aged 20–69) Source: OECD	OECD average	60.2	60.3	61.8	54.1	55.3	56.7	45.6	

Score	2010	2015	2019	2020	2021	2022	2023	2024
Self-reported unmet need for medical care	0.50	0.37	-0.07	-0.31	-0.33	-0.10	-0.03	0.46
AMI 30-day mortality	-0.04	0.20	0.06	0.08	-0.05			
Ischaemic stroke 30-day mortality	-0.67	-0.17	-0.21	-0.22	-0.37			
Haemorrhagic 30-day mortality	-0.78	-0.75	-0.14	-0.59	-0.46			

Table 20
Selected healthcare quality indicators (continued)

Score	2010	2015	2019	2020	2021	2022	2023	2024
Breast cancer five-year net survival*	-1.33	-1.73						
Lung cancer five-year net survival*	-1.05	-1.12						
Immunisation of children against measles	1.13	1.28	0.96	1.52	0.61	1.08	0.88	
Immunisation of children against diphtheria, tetanus and pertussis	1.05	0.29	0.40	0.59	0.70	0.53		
Immunisation of children against hepatitis B	0.63	0.49	0.52	0.77	0.94	1.05		
Immunisation of people aged 65 or over against influenza	-0.94	-1.39	-1.59	-1.94	-1.93	-1.98		
Breast cancer screening rate	-1.29	-1.47	-0.48	-1.43	-1.66	-1.79		
Cervical cancer screening rate	-0.70	-0.64	-0.89	-0.72	-0.56	-0.52		

* The figure for 2015 represents the period 2010–2014, while the figure for 2010 represents the period 2005–2009.

Table 21
Indicators of lifestyle and other factors

Indicator		2010	2014	2019	2020	2021	2022	2023	2024
Premature deaths due to ambient air pollution	SK	751	639	636					
(deaths per million inhabitants) Source: OECD	OECD average	353	306	289					
Share of out-of-pocket payments*	SK	23.2	18.0	19.2	18.8	19.4	19.3		
(percentage) Source: Eurostat	EU average	21.9	22.3	21.0	19.1	18.8	19.2	18.0	
Smoking prevalence**	SK	26.0	21.0		25.0			27.0	
(percentage) Source: Eurostat	EU average	29.6	26.0		24.6			24.6	
Obesity rate by body mass index (BMI)***	SK	15.1	16.3	19.7			17.1		
(percentage) Source: Eurostat	EU average	15.8	16.8	18.1			17.1		
Alcohol consumption	SK	10.1	10.1	10.3	10.2	9.6	9.5		
(litres per inhabitant aged 15 or over) Source: OECD	OECD average	9.0	8.8	8.6	8.7	8.9	9.0	7.0	

Score	2010	2014	2019	2020	2021	2022	2023	2024
Premature deaths due to ambient air pollution	-1.71	-1.73	-1.81					
Share of out-of-pocket payments*	-0.14	0.37	0.21	0.04	-0.08	-0.01		
Smoking prevalence**	0.62			-0.05			-0.33	
Obesity rate by body mass index***	0.19		-0.39			0.01		
Alcohol consumption	-0.40	-0.52	-0.63	-0.60	-0.26	-0.21		

* The figures under 2010 are for 2012.
** The figures under 2010 are for 2009.
*** The figures under 2010 are for 2008.

6.5 Environment

Table 22
Climate neutrality indicators

Category	Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Change in greenhouse gas emissions	SK	63.1	54.5	53.6	46.1	52.2	45.9	43.9	
	(index: 1990 = 100)	EU average	85.0	77.0	78.9	71.5	76.4	75.8	72.0	
	Greenhouse gas emissions per inhabitant	SK	7.6	6.5	6.4	5.5	6.2	5.5	5.2	
	(tonnes per inhabitant)	EU average	8.9	8.1	7.9	7.1	7.5	7.3	6.7	
Additional indicators	Energy productivity	SK	5.6	7.0	7.1	7.5	7.4	8.4	9.1	
	(PPP per kilogram of oil equivalent)	EU average	6.5	8.1	9.1	9.7	10.2	11.6	12.7	
	Final energy consumption	SK	106.6	91.6	98.2	91.8	100.2	94.5	87.2	
	(index: 2000 = 100)	EU average	99.6	94.0	99.7	91.5	97.3	95.8	93.8	
	Share of renewable energy in the energy mix	SK	9.1	12.9	16.9	17.3	17.4	17.5	17.0	
	(percentage)	EU average	16.4	20.3	22.4	24.4	24.8	25.8	27.2	
	Share of solid fossil fuels in final energy consumption	SK	6.4	4.6	4.2	3.7	3.8	3.1	2.4	
	(percentage)	EU average	2.7	2.3	1.9	1.8	1.8	1.6	1.3	
	Average CO_2 emissions per km from new passenger cars	SK	149.0	127.6	158.0	144.6	138.0	136.8	134.9	
	(grams of CO_2 per kilometre)	EU average	144.1	120.9	147.8	134.2	121.8	115.6	109.2	
	Share of buses and trains in total passenger transport	SK	22.2	25.1	24.3	18.9	16.7	21.0	21.7	
	(percentage)	EU average	18.3	18.1	18.0	13.3	13.2	16.5	17.0	
	Share of rail in total freight transport	SK	38.5	36.6	31.1	28.6	32.1	30.4	30.4	
	(percentage)	EU average	25.9	24.5	23.5	22.1	21.7	20.6	19.1	

Category	Score	2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Change in greenhouse gas emissions	0.68	0.70	0.96	1.02	0.93	1.08	0.96	
	Greenhouse gas emissions per inhabitant	0.30	0.44	0.43	0.55	0.42	0.65	0.60	
Additional indicators	Energy productivity	-0.54	-0.46	-0.72	-0.66	-0.73	-0.71	-0.81	
	Final energy consumption	-1.22	0.28	0.11	-0.03	-0.23	0.09	0.41	
	Share of renewable energy in the energy mix	-0.67	-0.63	-0.46	-0.61	-0.60	-0.65	-0.79	
	Share of solid fossil fuels in final energy consumption	-0.95	-0.69	-0.92	-0.75	-0.81	-0.70	-0.52	
	Average CO_2 emissions per km from new passenger cars	-0.47	-0.68	-0.96	-0.84	-0.98	-1.05	-1.10	
	Share of buses and trains in total passenger transport	0.82	1.60	1.57	1.61	1.09	1.34	1.35	
	Share of rail in total freight transport	0.57	0.63	0.42	0.42	0.68	0.75	0.99	

Source: Eurostat.

Table 23
Pollution indicators

Category	Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicator	Mean population exposure to PM2.5	SK	21.3	19.0	15.7	15.3				
	(micrograms per cubic metre) Source: OECD	OECD average	15.0	13.5	11.9	11.6				
Additional indicators	Nitrate in groundwater	SK	24.7	19.9	16.3	18.9	18.1	18.7		
	(milligrams per litre) Source: Eurostat	EU average	24.7	25.6	22.7	20.9	20.3	21.6		
	Phosphates in rivers	SK	0.07	0.09	0.1	0.1	0.1	0.1		
	(milligrams per litre) Source: Eurostat	EU average	0.07	0.07	0.1	0.1	0.1	0.1		
	Share of industry in GDP	SK	21.7	22.6	22.6	21.5	19.6	18.9	21.3	20.7
	(percentage) Source: Eurostat	EU average	17.8	18.0	17.0	16.9	16.9	17.5	17.2	16.2
	Population connected to waste water treatment systems	SK			68.1	68.8	69.9	70.6		
	(percentage) Source: Eurostat	EU average	70.6	73.1	76.2	75.8	75.4	76.8		

Category	Score	2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicator	Mean population exposure to PM2.5	-1.10	-0.96	-0.76	-0.74				
Additional indicators	Nitrate in groundwater	0.00	0.31	0.40	0.14	0.16	0.19		
	Phosphates in rivers	0.03	-0.32	0.11	0.40	0.40	-0.15		
	Share of industry in GDP	-0.74	-0.71	-0.95	-0.79	-0.45	-0.22	-0.74	-0.84
	Population connected to waste water treatment systems			-0.36	-0.33	-0.25	-0.29		

Table 24
Waste production indicators

Category	Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Generation of municipal waste per capita	SK	319	329	421	478	497	478	472	
	(kilograms per inhabitant)	EU average	481	471	517	539	543	526	511	
	Recycling rate of municipal waste	SK	9.1	14.9	38.5	45.3	48.9	49.5	50.3	
	(percentage)	EU average	26.8	35.2	39.6	39.7	41.1	41.2	43.0	
Additional indicators	Recycling rate of packaging waste	SK	45.7	64.3	67.5	70.8	73.9	72.2		
	(percentage)	EU average	59.9	63.5	63.5	63.7	62.5	62.6		
	Recovery rate of packaging waste*	SK	65.0	66.7	69.7	74.1	79.7	77.2		
	(percentage)	EU average	73.4	74.7	76.0	77.1	74.6	75.0		
	Landfill rate of waste°	SK	55.0	47.0		31.0				
	(percentage)	EU average	35.3	30.5		24.8				

Table 24
Waste production indicators (continued)

Category	Score	2010	2015	2019	2020	2021	2022	2023	2024
Outcome indicators	Generation of municipal waste per capita	1.33	1.11	0.74	0.43	0.34	0.37	0.36	
	Recycling rate of municipal waste	-1.02	-1.34	-0.08	0.38	0.49	0.51	0.51	
Additional indicators	Recycling rate of packaging waste	-1.15	0.09	0.38	0.72	1.06	0.82		
	Zhodnotenie obalových odpadov*	-0.51	-0.48	-0.33	-0.17	0.27	0.12		
	Miera skládkovania°	-0.85	-0.70		-0.31				

Source: Eurostat.
* The figures under 2010 are for 2011.
° The figures under 2015 are for 2016.

Table 25
Environmental policy indicators

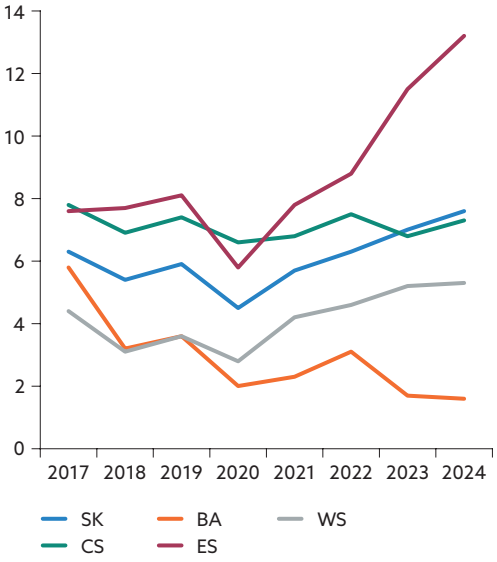
Indicator		2010	2015	2019	2020	2021	2022	2023	2024
Implicit tax rate on energy*	SK	151	179	188	193	180	203	180	
(EUR per tonne of oil equivalent)	EU average	207	230	234	221	221	221	214	
Environmental tax revenues*	SK	2.4	2.5	2.5	2.4	2.3	2.5	2.0	
(percentage of GDP)	EU average	2.7	2.8	2.7	2.5	2.5	2.4	2.2	
Share of environmental taxes in public revenues*	SK	8.3	7.7	7.3	7.1	6.7	7.0	5.7	
(percentage)	EU average	7.7	8.0	7.4	7.1	6.8	6.6	6.2	
Environmental protection investments	SK	0.4	0.8	0.3					
(percentage of GDP)	EU average	0.6	0.7	0.4	0.3				
National expenditure on environmental protection	SK	2.2	2.3	1.8					
(percentage of GDP)	EU average	1.8	2.0	1.9	1.7				

Score	2010	2015	2019	2020	2021	2022	2023	2024
Implicit tax rate on energy*	-0.63	-0.56	-0.53	-0.35	-0.51	-0.17	-0.47	
Environmental tax revenues*	-0.51	-0.44	-0.27	-0.16	-0.19	0.07	-0.32	
Share of environmental taxes in public revenues*	0.32	-0.12	-0.09	0.02	-0.05	0.12	-0.24	
Environmental protection investments	-0.54	0.30	-0.66					
National expenditure on environmental protection	0.79	0.51	-0.16					

Source: Eurostat.
* The figures under 2010 are for 2012.

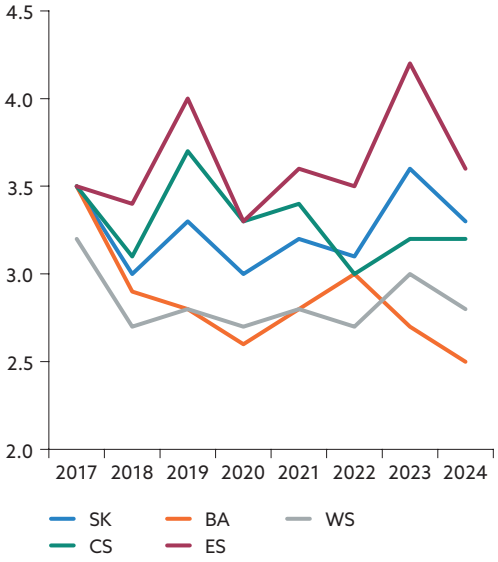
7 Annex: Regional challenges

Chart 75
Severe material deprivation (percentages)



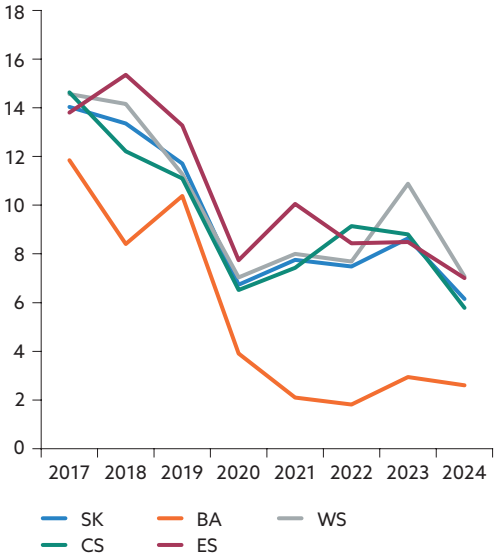
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 76
Income inequality, measured as quintile share ratio (S80/S20)



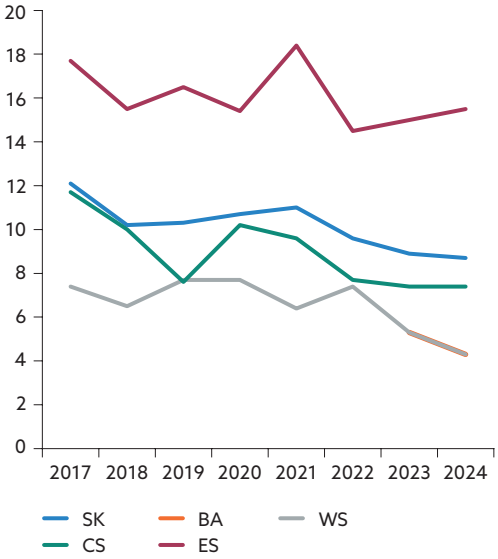
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 77
Share of individuals not regularly using the internet (percentages)



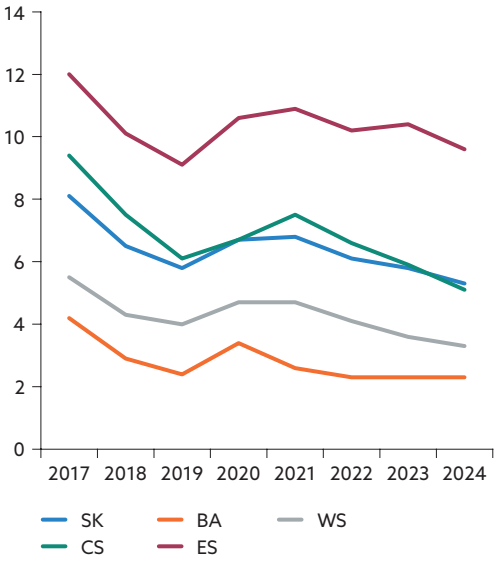
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 78
Young people not in employment, education or training (percentages)



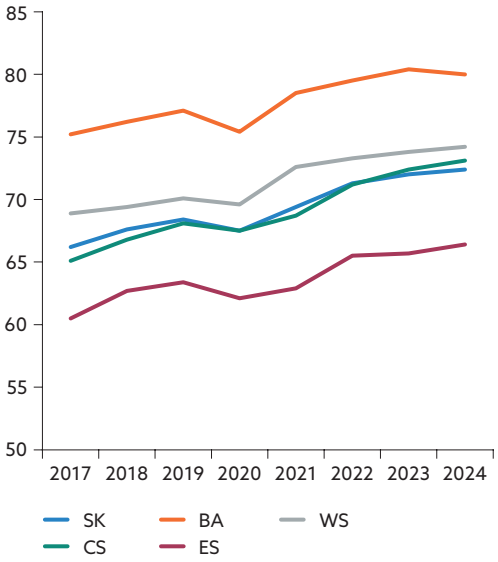
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 79
Unemployment rate (percentages)



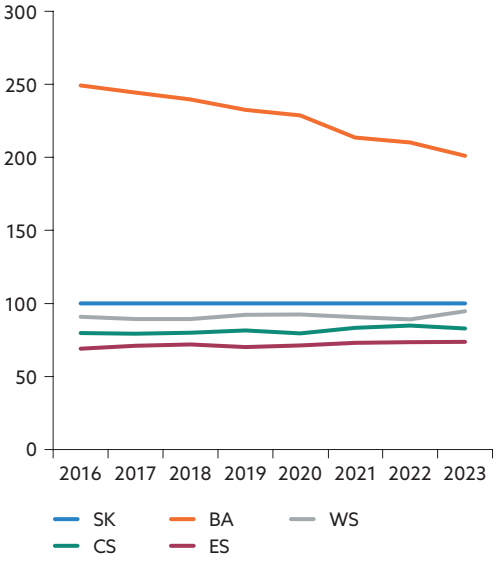
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 80
Employment rate (percentages)



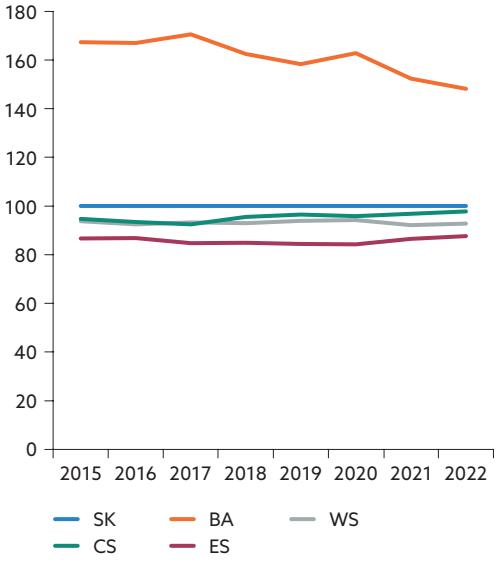
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 81
GDP per capita at PPP (index: SK = 100)



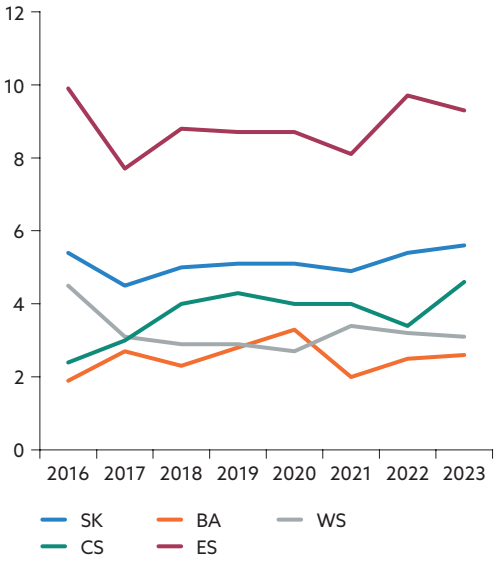
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 82
Disposable income per capita at PPP (index: SK = 100)



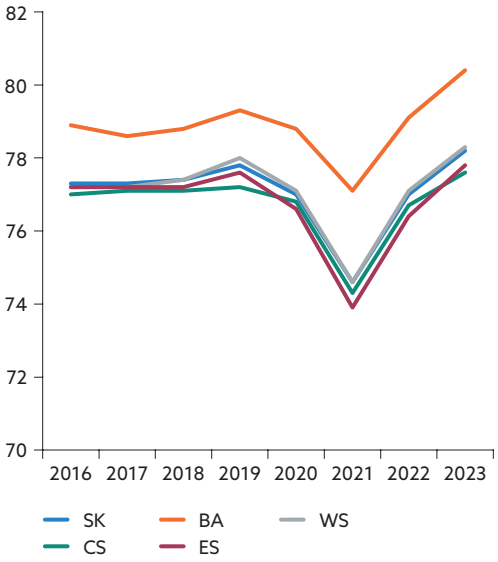
Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

Chart 83
Infant mortality (deaths per 1,000 live births)



Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

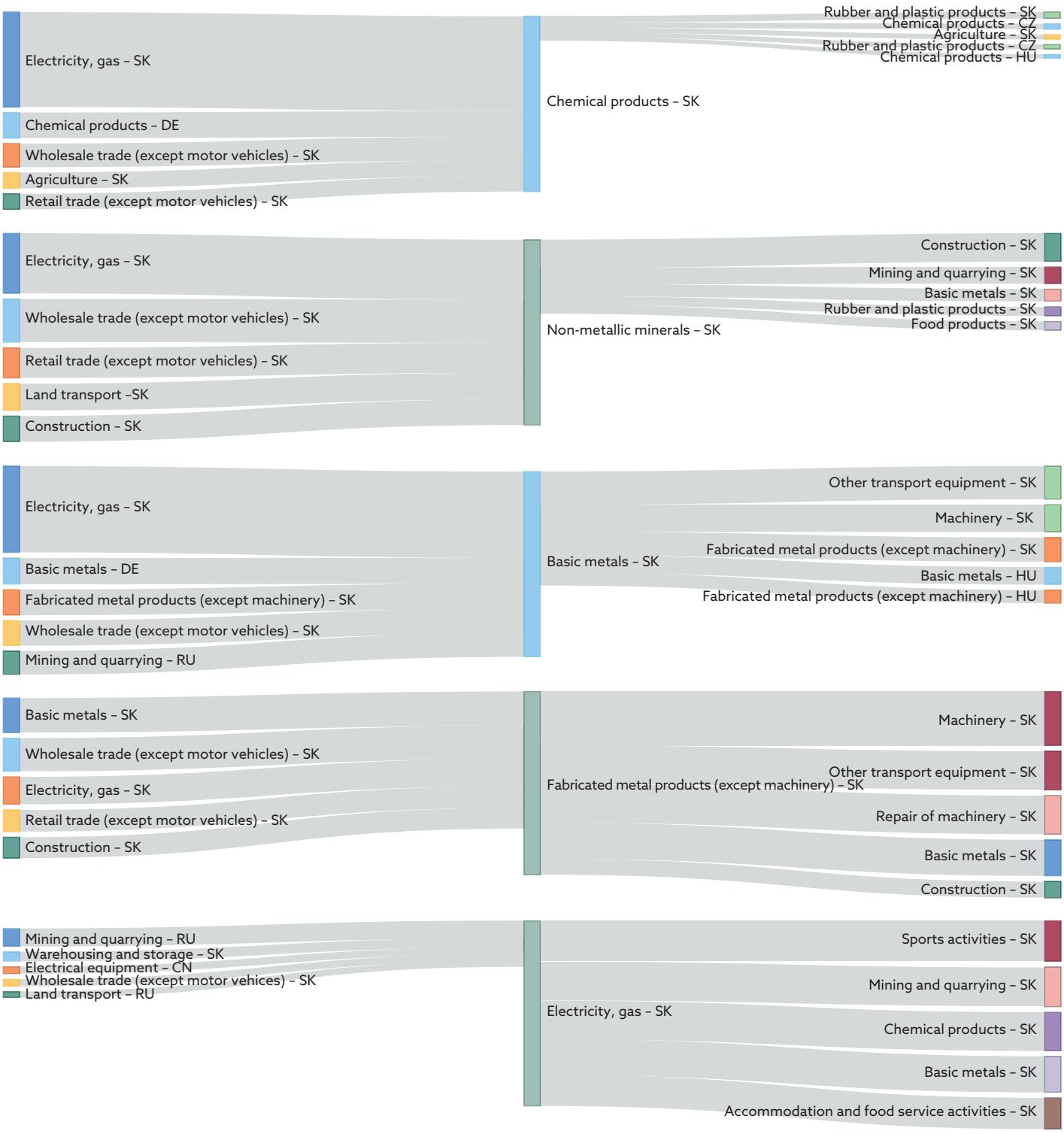
Chart 84
Life expectancy (years)

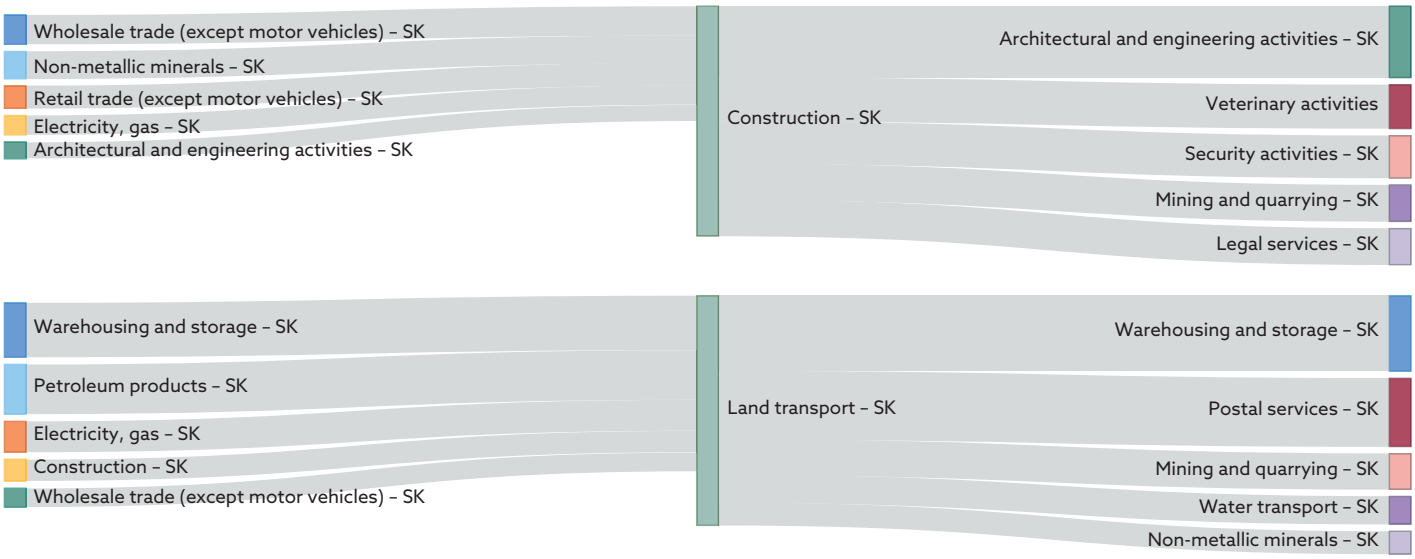


Source: Eurostat.
Note: BA stands for Bratislava Region; WS stands for Western Slovakia; CS stands for Central Slovakia; ES stands for Eastern Slovakia.

8 Annex: Environment

Chart 85
Individual sectors' input and output flows with upstream and downstream sectors





Sources: Eurostat (FIGARO), and NBS calculations.