Structural Challenges

2022

NÁRODNÁ BANKA SLOVENSKA
EUROSYSTÉM

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Abbreviations

AMECO	The annual macroeconomic database of the European Commission's Directorate General for Economic and Financial Affairs
BMI	body mass index
BPM6	The sixth edition of the IMF's Balance of Payments and International Investment Position Manual
CO2	carbon dioxide
DG ECFIN	The European Commission's Directorate-General for Economic and Financial Affairs
EEA	European Economic Area
EC	European Commission
ECB	European Central Bank
EIS	European innovation scoreboard
EMD	Economic and Monetary Developments (report), published by NBS on a quarterly basis
ESM	European Stability Mechanism
ETS	Emissions Trading System
EU	European Union
FDI	foreign direct investment
FRA	European Union Agency for Fundamental Rights
GDP	gross domestic product
GEM	Global Entrepreneurship Monitor
IFR	International Federation of Robotics
ICT	information and communications technology
IMD	International Institute for Management Development
IMF	International Monetary Fund
IT	information technology
LFS	Labour Force Survey
MRCs	marginalised Roma communities
MRI	magnetic resonance imaging
NACE	Statistical classification of economic activities in the European Community (Rev. 2)
NBS	Národná banka Slovenska
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
pp	percentage point(s)
PPP	purchasing power parity
PPS	purchasing power standard
PM2.5	particulate matter with diameters of 2.5 microns or less
PM10	particulate matter with diameters of 10 microns or less
PPI	producer price index

RRF	Resilience and Recovery Facility
RRP	recovery and resilience plan
SC	Structural Challenges (report)
UNDP	United Nations Development Programme
VAT	value-added tax
V4	Visegrad Four (a cultural and political alliance of four countries: the Czech Republic, Hungary, Poland and Slovakia)
WEF	World Economic Forum
WGI	World Governance Index

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1 Structural challenges summary

The pandemic's impact on the economy has highlighted quality-of-life weaknesses in Slovakia. Health outcomes deteriorated further during the pandemic. A high number of excess deaths led to a significant decline in life expectancy in 2021. Although there have been improvements in the areas of poverty and income inequality, including income inequality between genders, certain vulnerable groups have experienced a noticeable worsening of their situation. The risk of poverty has increased for single pensioners and large families, groups that were not targets of pandemic-related public support and in fact saw their state financial support diminish during the crisis. The reviewed indicators may not sufficiently capture the pandemic's relatively stronger impact on these groups, nor recent uptrends in energy and food prices.

Risks facing the Slovak economy include the deteriorating long-term sustainability of public finances, the impact of the war in Ukraine, and the energy crisis. Although the overall score for Slovakia's economic vulnerabilities has improved owing to a favourable cyclical trend and external competitiveness, there is a high risk of further deterioration in the long-term sustainability of public finances. The financial sector remains highly resilient, but the corporate sector, still recovering from the impact of the pandemic crisis, is confronted with further risks related to rising energy prices and supply chain disruptions. Risks to the financial sector include the ongoing rapid growth in property prices and the impact of inflation on households' debt servicing capacity. A major vulnerability of the Slovak economy is its dependence on fossil fuel imports from Russia.

In the corporate sector, the pandemic has scarred mainly less productive, unprofitable and indebted firms. A sharp drop in hours worked per employee was accompanied by an increase in hourly labour productivity, which increased strongly across all sectors of the economy. Another factor that had a moderate upward impact was the increase in the share of more productive sectors in hours worked, at the expense of services sectors more exposed to the impact of the pandemic. Thanks in part to public support measures, the corporate sector weathered the pandemic crisis relatively well. The crisis weighed more heavily on less productive, unprofitable, and indebted firms. The growth in hourly labour productivity was also supported by the increasing share of more productive and larger firms in overall hours worked. Low labour productivity nevertheless remains a key challenge for the Slovak economy.

The structural reforms and investments set out in Slovakia's recovery and resilience plan (RRP) are a response to the greatest challenges facing the Slovak economy. The government must, however, bear in mind RRP implementation risks. Legislative and institutional changes concerning the governance of universities, the organisation of the Slovak Academy of Sciences (SAV) and the financing of R&D can potentially contribute to increasing the economy's innovation capacity. As regards the planned modernisation of the hospital network, the increasing specialisation and coordination of healthcare provision can bring about an improvement in healthcare quality. However, a reform of this magnitude inevitably entails implementation risks. Moreover, there are serious concerns about the feasibility of the planned uptake of funds for RRP investments in hospital construction and modernisation.

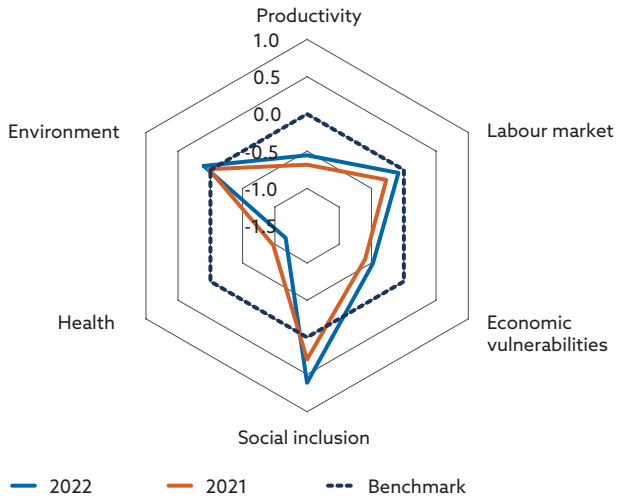
In the context of the energy crisis, it is becoming increasingly important to improve energy efficiency, to decarbonise industry, and to invest in renewable energy sources. In the short term, the government must press on with energy supplier diversification efforts and consider energy-saving measures.

Measures to offset the impact of rising prices will put further strain on public finances. The government's fiscal policy should take greater account of the serious risks to public finance sustainability. Compensation measures should therefore be as targeted as possible to the groups hardest hit by rising prices. The government should swiftly implement planned measures aimed at increasing the sustainability of the pension system. The repair of public finances could be further supported by strict compliance with newly introduced expenditure limits.

2 Economic convergence and structural challenges

The main challenges remain unchanged from last year. Besides low productivity stemming from underperformance in the areas of education, innovation potential, business environment quality, and public institution quality, the biggest challenges are, as last year, health outcomes and public finance sustainability. In the areas of social inclusion and environment, outcome indicator scores are relatively favourable, but Slovakia also faces demanding challenges: addressing the situation of marginalised groups; and the green transformation, whose importance has only been amplified by the current geopolitical situation and the urgent need for energy transformation.

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



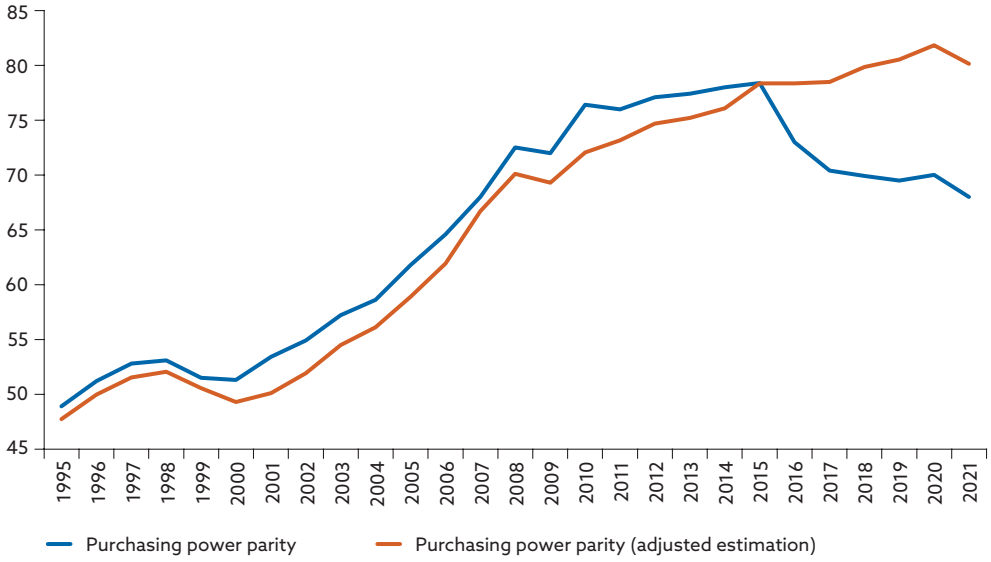
Sources: Eurostat, OECD, ECB, and NBS calculations.
Notes: The scores denote the difference between the indicator value for Slovakia and the average of the reference countries normalised by the standard deviation. Positive values denote above-average outcomes. For productivity, the outcome indicator 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 a given year represent the most recent value available at the time of producing this Structural Challenges report. A more detailed description of the methodology can be found in the 2021 Structural Challenges report.

Compared with last year, Slovakia's relative position in terms of productivity, labour market, economic vulnerabilities, and social inclusion has improved moderately, whereas its underperformance in health outcomes has become more pronounced. Despite an improvement in the overall score for economic vulnerabilities owing to a favourable cyclical trend and external competitiveness, the economy remains subject to the high risk of a further deterioration in the long-term sustainability of public fi-

nances. The financial sector remains highly resilient, although the sector does face risks in regard to the impact that rising energy prices and supply chain disruptions have on the corporate sector, to the continuing upsurge in property prices, and to the impact of inflation on households' debt servicing capacity. As for social inclusion, outcome indicators have improved but they may not be capturing the pandemic's relatively greater impact on marginalised groups, nor the fact that the current rapid growth in energy and prices represents a greater burden for vulnerable groups.

Slovakia's slowing progress in catching up to the most advanced EU countries was accentuated by the pandemic crisis having a relatively greater impact on its economy. Even in the period leading up to the crisis, the Slovak economy was losing momentum and its convergence to the EU level had almost come to a standstill. In particular because of the unfavourable evolution of hours worked during the pandemic, the gap between Slovakia and the EU average widened by 1.7 pp. The evolution of GDP per capita at purchasing power parity (PPP) has since 2015 been greatly affected by problematic estimation; however, even an analytical adjustment of the indicator, using GDP per capita at constant prices, confirms the slowdown in convergence with the EU.

Chart 2
Evolution of Slovakia's GDP per capita at purchasing power parity (index: EU27 = 100)



Sources: Eurostat, and NBS calculations.
Note: The adjusted estimation of GDP at PPP is an indicative recalculation by NBS, where Eurostat-published GDP per capita at 2015 PPP is indexed over time on the basis of the evolution of GDP per capita at constant prices.

Slovakia's persisting economic gap with the EU average level is apparent in several areas. These indicators will also be affected by the problematic estimation of PPP, but regardless of the methodology, the long-term gap

with EU average is substantial. Low productivity therefore remains a challenge and translates into comparatively lower levels of employee compensation and disposable income. Low income leads to consumption that is below the EU27 average. The convergence of prices to the EU average is accelerating, but this trend may be partly affected by methodology.

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

Indicator	2016	2017	2018	2019	2020	2021
Gross domestic product per capita	73	70	70	70	70	68
Labour productivity per hour worked	73	70	70	70	72	73
Gross disposable income per capita	68	66	67	67	66	
Actual individual consumption per capita	70	69	69	69	72	71
Compensation per employee	64	63	63	65	66	67
Compensation per hour worked	60	60	61	63	65	68
Comparative price level of GDP	73	75	78	79	81	81
Comparative price level of actual individual consumption	72	76	79	80	82	83
Comparative price level of household final consumption	78	82	85	87	90	90

Source: Eurostat.
Note: Eurostat data at (nominal) purchasing power parity may in recent year have been affected by issues with the estimation of PPP for Slovakia. 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.

Slovakia's competitiveness has shown some signs of improvement, but the overall picture remains one of no substantial progress. In a 2022 ranking of competitiveness produced by the Institute for Management Development (IMD),[1] Slovakia was in 49th place out of the 64 countries ranked. Compared with 2019, i.e. during the period affected by the COVID-19 pandemic, Slovakia improved by four places.

The IMD ranking comprises four principal sub-rankings: economic performance; government efficiency; business efficiency; and infrastructure. Compared with 2019, Slovakia improved in those areas where it was weakest: government efficiency and business efficiency. In the economic performance ranking, however, Slovak dropped ten places.

As for how the pandemic years affected the IMD ranking of Slovakia's neighbouring V4 countries, results varied. The Czech Republic climbed the ranking, to stand at 26th place in 2022. Hungary also improved its position, up to 39th place. Poland, on the other hand, fell down the ranking during the pandemic period. In 2022 it was in 50th place, behind Slovakia and 12 places below its 2019 position.

[1] International Institute for Management Development – World Competitiveness Center Rankings.

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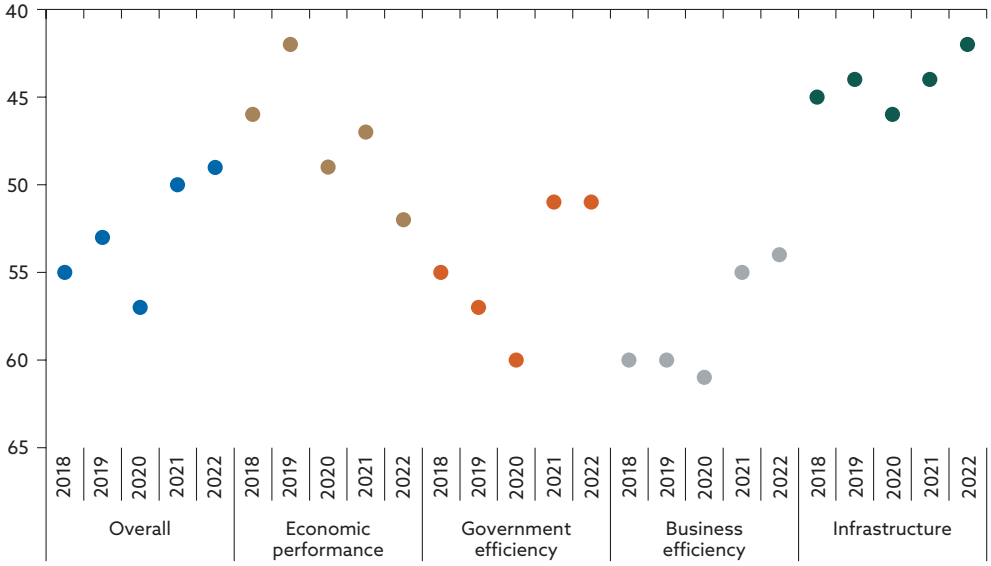
Chart 3
Slovakia's position in the IMD competitiveness ranking



Source: IMD.

Slovakia is one of the countries where business activity has declined the most. According to the Global Entrepreneurship Monitor (GEM),[2] the deterioration is due mainly to uncertainty related to the COVID-19 pandemic. Its lagged impact was not fully apparent until late 2020 and the first half of 2021. The decline in business activity was more pronounced in 2020. In 2021 firms were starting to respond to the new situation and activity picked back up, even though it was more difficult to start a business in that year than in the previous year.

In the GEM survey, the percentage of households reporting a decline in income was also comparatively high in Slovakia. The number of respondents who reported that their household income had 'strongly decreased' as a result of the pandemic increased from 12.5% in 2020 to 17.3% in 2021. A situation in which households are reporting falling income does not bode well for business activity.

Despite this, the established business ownership rate in Slovakia has remained stable, according to the GEM survey. At the same time, however, GEM warns that the situation in established businesses often lags developments in early-stage businesses. This is further indicated by the fact that only 13.4% of established business owners who responded to the survey said they saw new opportunities because of the pandemic, which was

[2] Global Entrepreneurship Monitor: 2021/2022 Global Report – Opportunity Amid Disruption.

one of the lowest figures among countries at a similar economic level as Slovakia.

Slovakia performs very poorly in terms of its readiness for implementing policies pursuing social, environmental and institutional targets and for maintaining competitiveness. Slovakia is also the country with highest percentage of jobs at risk of automation. A report by the World Economic Forum[3] created a list of 11 indicators of readiness for economic transformation and competitiveness. Among the countries reviewed, Slovakia ranked below average on as many as ten of these indicators. Where Slovakia is falling behind the most is in the social care and healthcare of the elderly and children, the protection of competition and anti-monopoly rules, and investment in innovation and patents. On the other hand, Slovakia ranks above average for energy infrastructure and information-communication infrastructure.

According to the Harvard Atlas of Economic Complexity, in 2019 Slovakia ranked 14th among the countries assessed.[4] Compared with 2018 , its position improved by one place. The Atlas points out, however, that despite high complexity, Slovakia's GDP per capita is relatively low and so its future GDP growth can be expected to be low.

2.1 Economic performance

Compared with last year's SC report, Slovakia's economic performance score has improved, despite GDP growth being lower than the EU27 average. Slovakia's underperformance in terms of GDP reflected mainly a weaker recovery in hours worked. On the other hand, the economic performance score improved because of reductions in the gaps in hourly productivity and the employment rate, the latter's improvement being largely due to a revision of the Labour Force Survey (LFS) methodology.[5]

The COVID-19 pandemic was accompanied by a dramatic decline in hours worked. The average number of hours worked in Slovakia fell by over 7%, more than the EU27 average. Moreover, the recovery in hours worked in 2021 was weaker compared with the EU27 average, meaning that, on average, workers in Slovakia were working fewer hours than were workers in the EU27.

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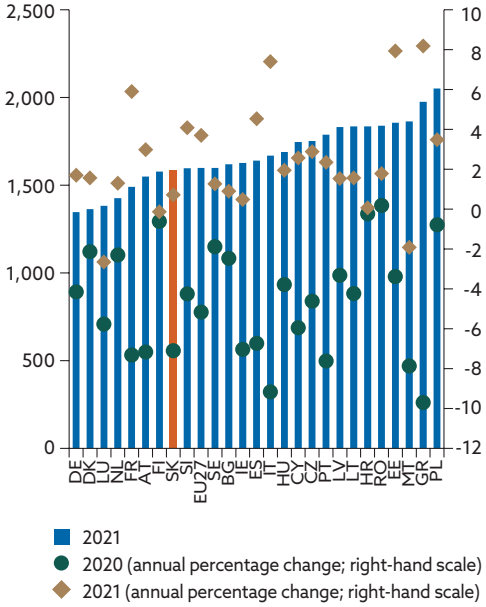
[3] World Economic Forum: The Global Competitiveness Report, Special Edition 2020 – How Countries are Performing on the Road to Recovery.

[4] The Atlas of Economic Complexity, Growth Lab, Harvard University.

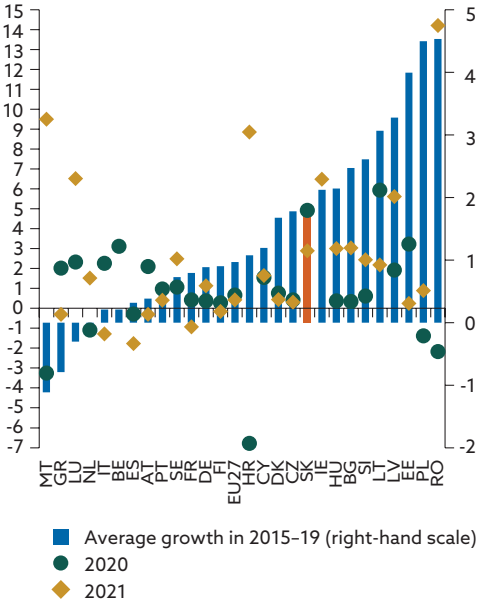
[5] https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU_Labour_Force_Survey_-_new_methodology_from_2021_onwards#Labour_force_status

Chart 4
Average hours worked per employee (ESA 2010 methodology; domestic concept)



Sources: Eurostat, and NBS calculations.

Chart 5
Hourly labour productivity at constant prices (annual percentage changes)



Source: Eurostat, and NBS calculations.

A corollary of this trend was a sharp increase in hourly labour productivity, which resulted in a slight narrowing of Slovakia's labour productivity gap with the EU27. In Slovakia, the decline in hours worked was not reflected in a proportional decline in value added. In the first year of the pandemic, hourly labour productivity increased by 4.9%, its fastest rate of growth since 2010. Over the whole pandemic period, hourly labour productivity growth in Slovakia was higher than the EU27 average. The evolution of hourly labour productivity at constant prices implies greater convergence to the EU average than does hourly labour productivity at purchasing power parity, which may be skewed by issues with the estimation of PPP.

Compared with last year's SC report, the labour market score has improved. In 2021 the employment rate in Slovakia was 69.4%, exceeding the EU27 average.[6] Its improvement, however, was due largely to a revision of the Labour Force Survey methodology. The evolution of employment during the pandemic was in fact worse in Slovakia than in the EU27 on average, with employment continuing to decline in Slovakia in 2021 and, unlike in the EU27, not rebounding back above pre-pandemic levels.

[6] Slovakia, however, remains slightly below the (unweighted) EU average, which informs the estimation of gaps in particular areas (so-called policy gaps). A more detailed explanation of the methodology can be found in the 2021 Structural Challenges report.

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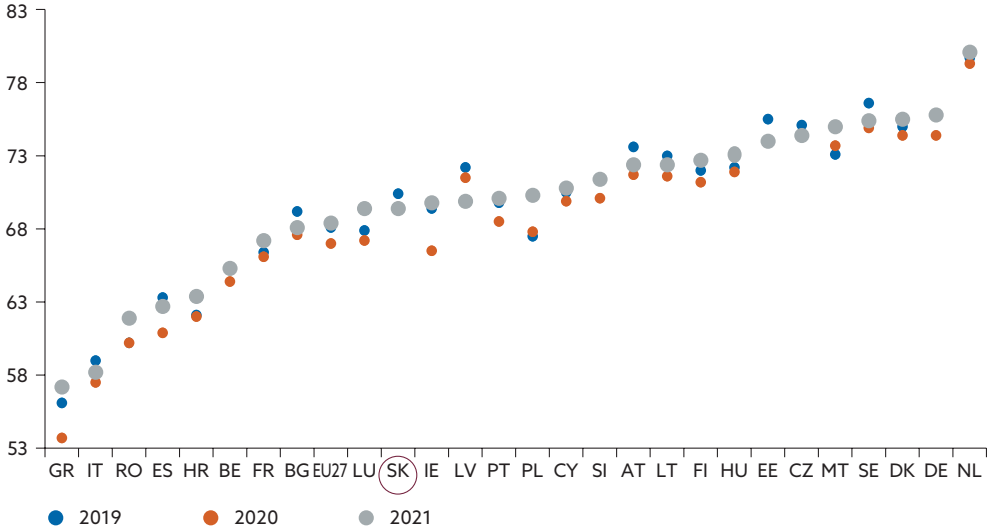
Chart 6
Employment rate of age group 15–64 in EU27 countries



Source: Eurostat.

Employment in 2020 and 2021 was affected by the COVID-19 pandemic. In the three years preceding the outbreak of the pandemic (2017–19), the evolution of employment in Slovakia by age and sex was relatively smooth. The most notable development during this period was an increase in the retirement age. The pandemic resulted in major changes in employment in 2020 and 2021, affecting mainly younger and lower-educated workers. Temporary employment fell by almost one-quarter during the pandemic period. Part-time employment is used to a very limited extent in Slovakia and was not overly affected by the pandemic.

In terms of its impact on employment, the pandemic crisis was less detrimental to people with higher education. Employment of workers with less than upper-secondary educational attainment declined by more than 2 percentage points during the pandemic, while employment of workers with tertiary educational attainment fell by only 0.5 percentage point.

The share of young people in Slovakia who are not in employment, education or training reached an all-time low in 2021. After rising by 0.7 percentage point in the first year of the pandemic, this share decreased sharply, year-on-year, in 2021. A similar trend was observed across the EU27 as a whole, only with a more moderate improvement in 2021.

Table 2 Selected employment rate indicators

Indicator		2015	2016	2017	2018	2019	2020	2021
Employment rate	SK	64.5	66.7	68.1	69.5	70.4	69.5	69.4
(percentage) Source: Eurostat	EU27	64.1	65.2	66.4	67.3	68.1	67.0	68.4
Employment rate of age group 15–24	SK	23.4	25.3	27.0	27.6	25.0	22.8	20.8
(percentage) Source: Eurostat	EU27	30.4	31.1	32.2	33.0	33.5	31.4	32.7
Employment rate of age group 55–64	SK	48.3	50.5	54.6	55.9	58.8	60.2	60.6
(percentage) Source: Eurostat	EU27	51.4	53.6	55.6	57.3	58.6	59.2	60.5
Part-time employment rate	SK	4.1	4.1	4.2	3.5	3.2	3.2	3.1
(percentage) Source: Eurostat	EU27	19.6	19.5	19.5	19.2	19.3	17.8	17.7
Temporary employment rate	SK	6.1	5.7	5.4	4.7	4.5	3.7	3.5
(percentage) Source: Eurostat	EU27	13.2	13.4	13.6	13.5	13.0	11.7	12.1
Employment rate of persons with less than upper-secondary educational attainment	SK	13.9	15.2	16.5	16.2	15.9	13.9	13.7
(percentage) Source: Eurostat	EU27	41.9	42.6	43.6	44.3	44.8	43.5	43.9
Employment rate of persons with tertiary educational attainment	SK	82.0	82.5	83.8	84.7	85.9	85.5	85.4
(percentage) Source: Eurostat	EU27	82.3	83.1	83.8	84.4	84.8	83.8	84.9
Young people aged 15–29 not in employment, education or training	SK	17.2	15.9	16.1	14.6	14.5	15.2	14.2
(percentage) Source: Eurostat	EU27	14.4	13.6	12.8	12.2	11.8	12.8	12.3

Source: Eurostat.

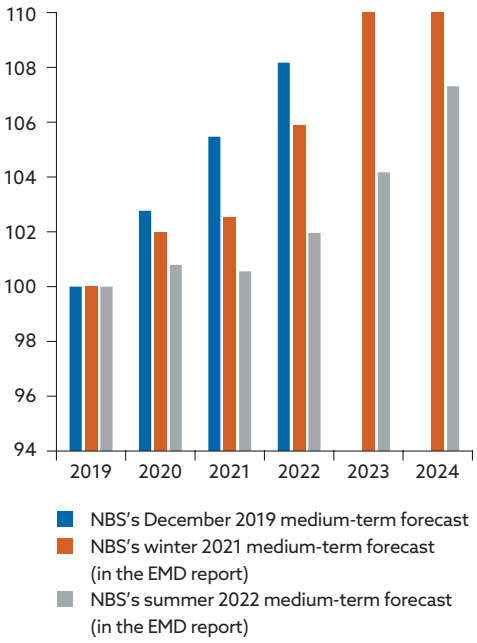
2.2 Economic vulnerabilities

The pandemic crisis has greatly reduced the potential output of the Slovak economy, which has also been adversely affected by the current geopolitical situation and energy crisis. The Slovak economy's potential has been reduced by supply chain disruptions and pandemic containment measures, as well as by pandemic-related changes in the labour market and consumer behaviour. These impacts will be compounded by the war in Ukraine, the pandemic situation in China, and high energy prices. In its summer 2022 forecast, NBS therefore projects that Slovakia's potential GDP will be almost 6% lower than projected in December 2019 (Chart 7).

Despite relatively favourable cyclical developments in 2021, the Slovak economy has not managed to close the output gap. Compared with last year's SC report, the macroeconomic stability score improved owing to cyclical developments being somewhat less unfavourable in Slovakia than in other European countries. In the pandemic's first year, the economy entered a significant downturn amid a climate of uncertainty, household

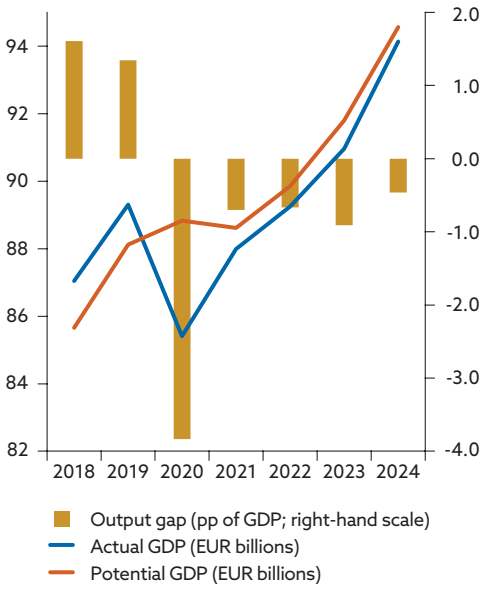
income losses and an unfavourable external environment, but in 2021 the trend turned and the output gap was to a large extent closed. However, the war in Ukraine and the pandemic's impact in China have dashed expectations of a rapid economic recovery, and so NBS expects the economy to remain subdued in coming years.

Chart 7
Potential output projection (2019 = 100)



Source: NBS.

Chart 8
Cyclical developments



Source: Economic and Monetary Developments – Summer 2022.

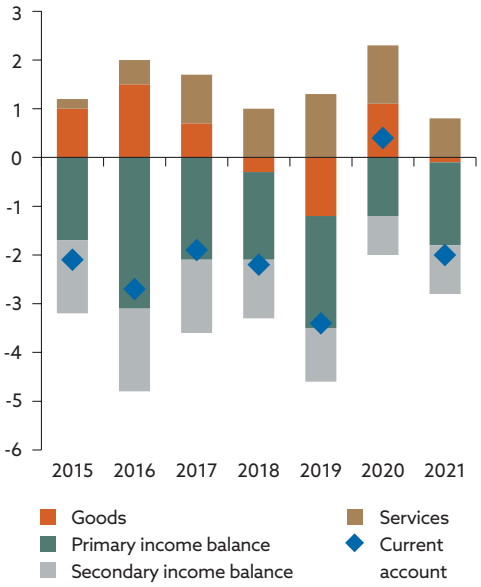
Financial stability remains high, but new risks in this area have emerged.[7] The corporate sector came through the pandemic crisis without being lastingly scarred; nevertheless, it continues to face difficulties in regard to goods supplies and rising energy prices, all of which are being exacerbated by the war in Ukraine. Although households are in a better situation than firms, the impact of inflation on their debt servicing capacity represents a risk. At the same time, imbalances in the housing market and its financing are still increasing.

Compared with the pre-pandemic period, Slovakia's external imbalance has decreased moderately. The first year of the pandemic saw goods imports decline more sharply than goods exports, resulting in a modest surplus in the balance of payments current account. Last year, the current account recorded a 2% deficit owing to deteriorations in the trade balance and income accounts; nevertheless, it was still not as high as the 2019 current account deficit. In 2021 the economy's competitiveness was supported

[7] Financial Stability Report – May 2022, Národná banka Slovenska.

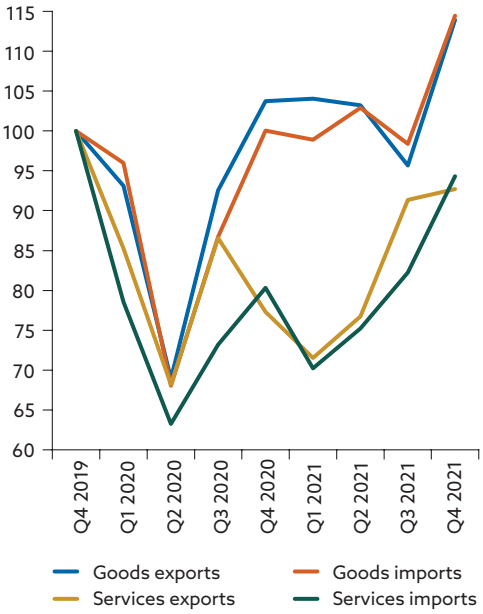
by real depreciation (the PPI-deflated real effective exchange rate). On the other hand, unit labour cost growth continued to outpace the EU average throughout the pandemic crisis.

Chart 9
Balance of payments current account (percentages of GDP)



Source: Eurostat

Chart 10
Trade in goods and services (index: Q4 2019 = 100)



Source: Eurostat.

A significant risk to the Slovak economy is its heavy dependence on commodity imports from Russia. The war in Ukraine is disrupting supply chains and pushing up commodity prices. Although imports from Russia and Ukraine (Chart 11) constitute a relatively small share of Slovak imports overall, Slovakia is highly dependent on these countries for nuclear fuel, natural gas, oil, and certain other commodities. Such dependence represents a considerable risk to the Slovak economy. For example, according to NBS's estimates, a 20% reduction in gas imports could reduce Slovakia's GDP by between 0.6% and 1.4% and lead to a further increase in prices.[8] Moreover, high commodity prices will have a negative impact on the trade balance in coming months.

The very high risks to the long-term sustainability of public finances date back to the pre-pandemic period and are still increasing. According to the European Commission, the S2 indicator[9] was showing debt sustainability to be at high risk even before the onset of the pandemic crisis, owing mainly to a rapidly ageing population and the unsustainable configuration of the pension system. Adverse economic developments and expenditure in-

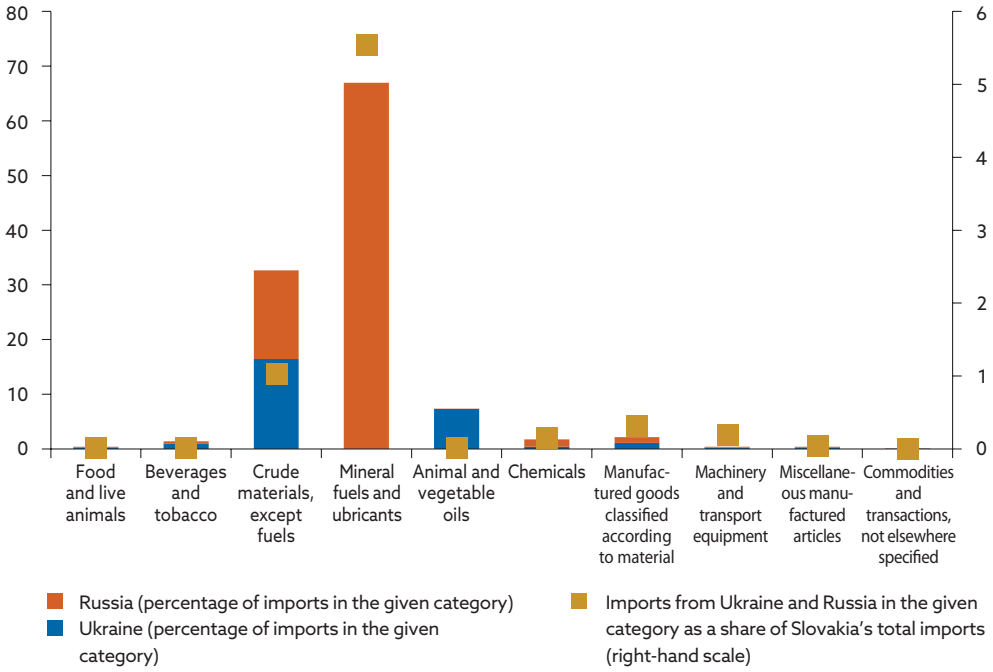
[8] Economic and Monetary Developments – Spring 2022

[9] This indicator shows the adjustment to the current structural primary balance required to stabilise public debt.

creases related to the pandemic have resulted in a further deterioration in public finance sustainability in Slovakia, which is now the second lowest in the EU (Chart 12).

Chart 11

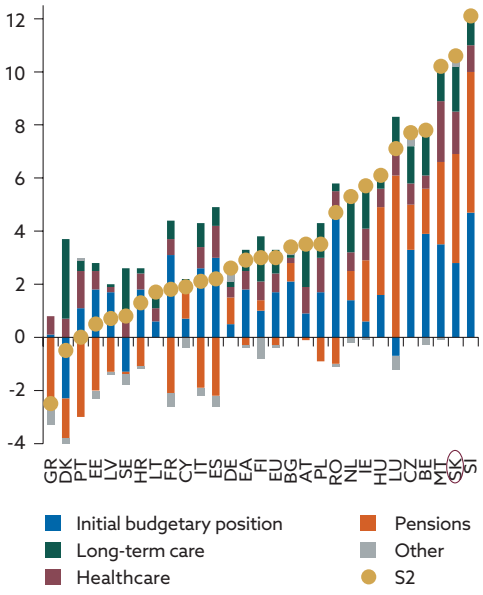
Dependence on imports from Ukraine and Russia as defined by the Standard International Trade Classification (SITC), Revision 4 (2021)



Sources: SO SR, and NBS calculations.

Chart 12

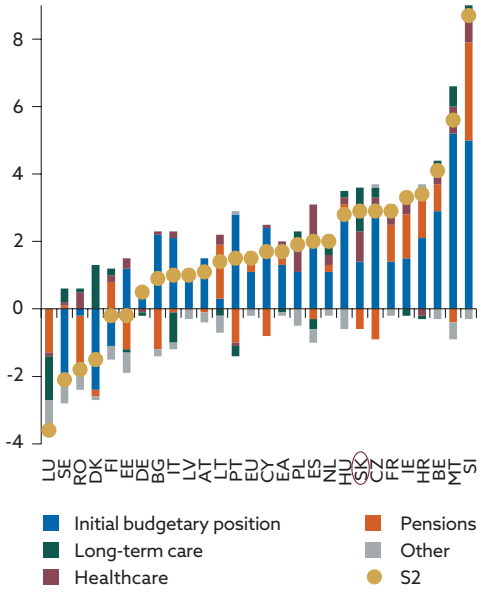
Decomposition of the S2 fiscal sustainability gap indicator (2021)



Source: European Commission.

Chart 13

Change in the S2 indicator between 2020 and 2021



Source: European Commission.

2.3 Social inclusion

Income inequality in Slovakia has been low for a long time. Equality as measured by the GINI coefficient, as well as by the ratio of the income share of richest 20% to that of the poorest 20% of the population, is high in Slovakia. In 2020, equality in Slovakia increased even further and, according to both indicators, Slovakia had the lowest income gap of any EU27 country.

Income inequality between genders in Slovakia reached an all-time low in 2020. The gender pay gap in Slovakia has been gradually narrowing for several years. Compared with other EU countries, Slovakia made greater progress in this area in 2020, with the income gap narrowing by 2.6 percentage points, to 15.5%. Nevertheless, Slovakia remains slightly below the EU average on this metric.

The share of the Slovak population at risk of poverty or social exclusion (AROPE) fell to a historical low in 2020. The AROPE rate dropped to 14.8% in 2020. The people who moved above the at-risk-of-poverty threshold comprised mainly people without employment and pensioners. The AROPE rate for employed people remained unchanged at 7.4%.

One in three single people aged over 65 is at risk of poverty or social exclusion. While the AROPE rate for single-person households aged under 65 fell by 4.1 pp in 2020, the rate for those aged over 65 rose by 5.1 pp, to 33%. This divergence was due mainly to the difference between, on the one hand, the increase in the median income from which the poverty threshold is derived and, on the other hand, the indexed increase in pensions. Pensions are indexed to pensioner household inflation, which during the period under review was lower than the increase in the median income. Moreover, net income also includes transfers and benefits from the state, and although these were relatively higher during the pandemic period, only a few were targeted at single-person households aged over 65.

The households most at risk of poverty or social exclusion in 2020 were those with three or more children, with their AROPE rate increasing by 1 pp, to 39.0%. On this measure they leapfrogged single-parent households, whose AROPE rate fell by 1.3 pp to 38.8%. Households with three or more dependent children were particularly affected by the restriction of job creation schemes and the reduction in school meal allowances, which had a significant impact on their net cash income.

The households most at risk of income poverty,[10] those with dependent children, recorded the largest improvement in this indicator in 2021. For single-parent families with at least one dependent child, the at-risk-of-income-poverty rate improved only slightly, by 0.3 pp; for two-adult households with three or more dependent children, it increased by 0.8 pp; and for other households with dependent children, it increased by 0.9 pp. For most childless households, the at-risk-of-income-poverty rate rose, and in the case of the most at-risk households in this category – single-person households aged over 65 – it did so by 0.9 pp. The most notable exception to this trend was single-male households, as their at-risk-of-income-poverty rate fell by 1.3 pp.

The AROPE rate for marginalised Roma communities was the same in 2018 as in 2016, even while the AROPE rate for the whole population of Slovakia fell by 2.2 pp over the same period. Even in the years preceding the pandemic, Slovakia's economic growth and rising household income had only a modest upward impact on the income of people from marginalised Roma communities and was not sufficient to lift many of them above the at-risk-of-poverty threshold.

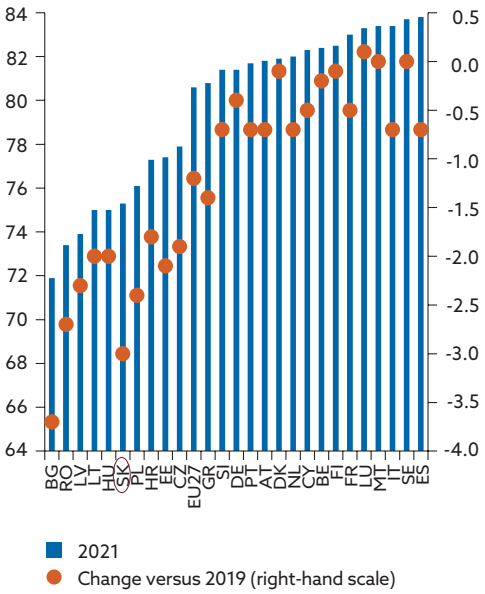
Like the AROPE rate, the material and social deprivation rate in Slovakia has decreased. The number of households that could not afford some items considered by most people to be desirable or even necessary to lead an adequate life decreased by 1.7 pp in 2020, to 9.7%. The rate fell for all types of households except for two-adult households with three or more dependent children, and households with one dependent child.

2.4 Health

The COVID-19 pandemic has exacerbated Slovakia's underperformance in the area of health. With more than 30,000 excess deaths between January 2020 and May 2022, Slovakia was among the EU countries hardest hit by the pandemic (Chart 15). The pandemic was the direct cause of the excess mortality, but it may also have led indirectly to additional deaths through the reduced availability and neglect of healthcare. The high excess mortality had a negative impact on life expectancy in 2021, which was three years lower compared with 2019. The gap with the EU27 on this measure therefore widened, with the average Slovak's life expectancy at birth standing at 74.8 years, 5.3 years below the EU average.

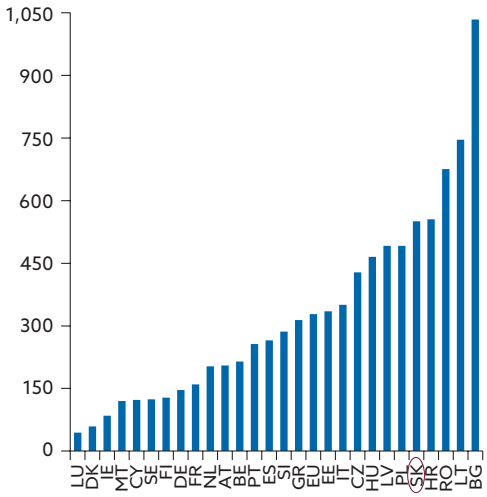
[10] The risk of income poverty indicator is slightly different from the risk of poverty and social exclusion indicator; it is used here because the AROPE data are not yet available for 2021.

Chart 14
Life expectancy at birth



Source: Eurostat.

Chart 15
Cumulative excess mortality per 100,000 population (1 January 2020 – 22 May 2022)



Source: The Economist – Our World in Data.

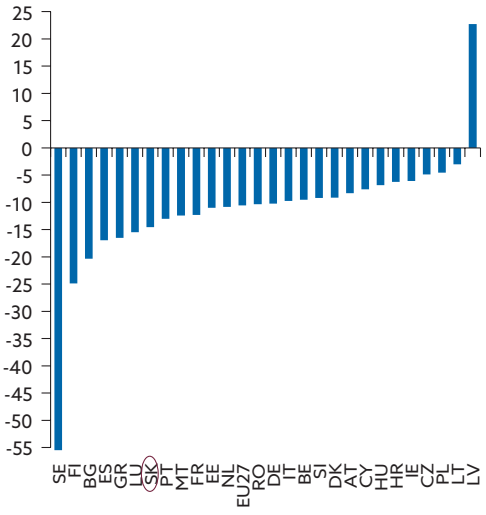
The pandemic has underlined the problems in the Slovak health system. The bed capacity of Slovak hospitals is higher than the EU average, but a general shortage of healthcare staff limits the extent to which it can be used. Moreover, Slovak hospitals suffer from a high investment gap. The pandemic increased challenges in regard to healthcare workers and to expanding the competences of general practitioners and nurses. Another challenge is to ensure that the hospital network is modernised so as to meet reform targets of higher-quality and cost-efficient healthcare without diminishing healthcare access.

2.5 Environment

On the environmental front, Slovakia's position has improved since the publication of last year's SC report thanks to progress in net greenhouse gas (GHG) emissions. In the first year of the pandemic, net emissions fell by 14.5%, more than the EU27 average. However, available data from the European Union Emissions Trading System (EU ETS), which covers around 41% of all GHG emissions in the European Economic Area, indicate that in 2021 emissions in Slovakia were again increasing sharply, beyond pre-pandemic levels. These data may have been skewed by the impact of a single

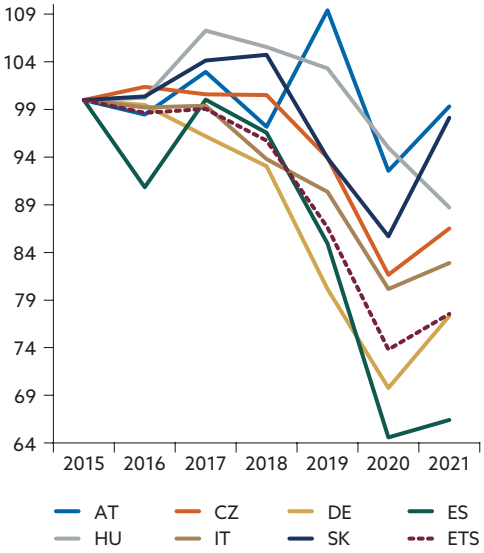
major player in the steel industry, with the rest of the economy more closely mirroring the European trend.[11]

Chart 16
GHG emissions in 2020 (annual percentage changes)



Source: Eurostat.
Note: Including emissions from international air transport and from land use, land use change and forestry (LULUCF).

Chart 17
Emission allowances issued (index: 2015 = 100)



Source: NBS Analytical Commentary No 116 (2022).

The energy crisis and geopolitical situation are further highlighting the need to accelerate the green transition, to increase the share of renewable energy in the energy mix and to increase the economy's energy productivity. As regards the share of renewables in the energy mix, Slovakia's position has improved in recent years.[12] In this area, however, Slovak still lags behind other EU countries. Another issue for Slovakia is the high energy intensity of its economy, which compared with other EU countries is becoming more pronounced.

An increasing municipal waste recycling rate is improving Slovakia's environmental score. In this area, Slovakia has made progress in recent years, though due in part to the impact of a change in the reporting meth-

[11] Nevický, M., "Slovenské firmy v roku 2021 vyprodukovali viac emisií ako pred pandémiou" (Slovak firms produced more emissions in 2021 than before the pandemic), *Analytical Commentary*, No 116, Národná banka Slovenska, April 2022 (in Slovak only).

[12] This improvement, however, stems mainly from better statistical reporting of households' consumption of solid fuel (especially wood), resulting from a Slovak Hydrometeorological Institute project co-funded by Eurostat: "Zlepšenie kvality účtov emisií do ovzdušia a rozšírenie poskytovaných časových radov" (Improving the quality of air emissions accounts and extending the time series provided).

odology for metal recycling.[13] On the other hand, there is a less favourable trend in per capita municipal waste production, in which Slovakia is close to the EU average.

2.6 Regional challenges

Regional disparities in Slovakia are significant and are only slowly diminishing. The weakest region remains eastern Slovakia, where GDP and disposable income are only 31% and 56%, respectively, of the corresponding figures for the strongest region, Bratislava Region. A similar comparison exists in the labour market, both in the employment rate and in unemployment rate. The pandemic crisis has actually exacerbated labour market disparities. In 2019 the unemployment rate was 6.7 pp higher in eastern Slovakia than in Bratislava Region, while in 2021 it was already 8.3 pp higher. The share of young people not in employment, education or training is almost three times higher in eastern Slovakia than in western Slovakia.

The longest life expectancy is in Bratislava Region, where it is two years longer than in central Slovakia. The long-term trend in this metric was also altered by the pandemic, with life expectancy falling in all regions after rising steadily for many years. In Bratislava Region, life expectancy was half a year lower in 2020 than in 2019, while in eastern Slovakia it dropped by one year, back to the level recorded in 2014 and 2015.

Regional differences in terms of the mortality rate for children under five have decreased, but not in a favourable way. The situation has long been worse in eastern Slovakia, where the mortality rate for children under five is almost three times higher than in Bratislava. The narrowing of regional differences in this area was, however, caused by a deteriorating situation in Bratislava Region, where the mortality rate increased in 2019 and 2020, in contrast to the downward trend across the country as a whole.

The pandemic crisis has accelerated the internet usage rate in Slovakia. In 2019 the share of the Bratislava Region population who had no experience of using the internet was 10%, while in the most recent data for 2021 it was just 2%, representing a significant improvement. Although a similar trend is seen in other regions too, a high percentage of the population still has no experience of using the internet.

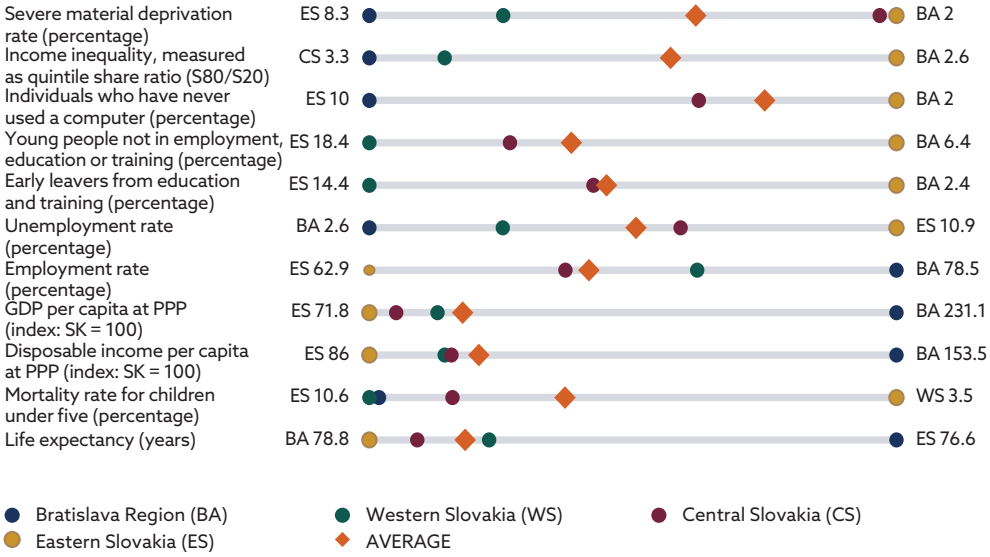
In terms of income inequality and material deprivation, poverty in Slovakia is more pronounced in eastern Slovakia. By European standards, how-

[13] "(Ne)plechy v komunálnom odpade", Institute for Environmental Policy of the Ministry of Environment of the Slovak Republic, March 2021.

ever, income inequality in Slovakia is low. Moreover, it is actually decreasing further. In terms of the ratio of the income share of the richest 20% to that of the poorest 20% of the population (the S80/S20 quintile share ratio), the regions of central and eastern Slovakia are at a similar level. As measured by the material deprivation rate, poverty is falling far faster in western Slovakia than in the central and eastern parts of the country, where it nevertheless is still decreasing gradually.

Chart 18

Selected indicators for Slovak regions



Source: Eurostat.
Note: BA – Bratislava Region, WS – western Slovakia, CS – central Slovakia, ES – eastern Slovakia.

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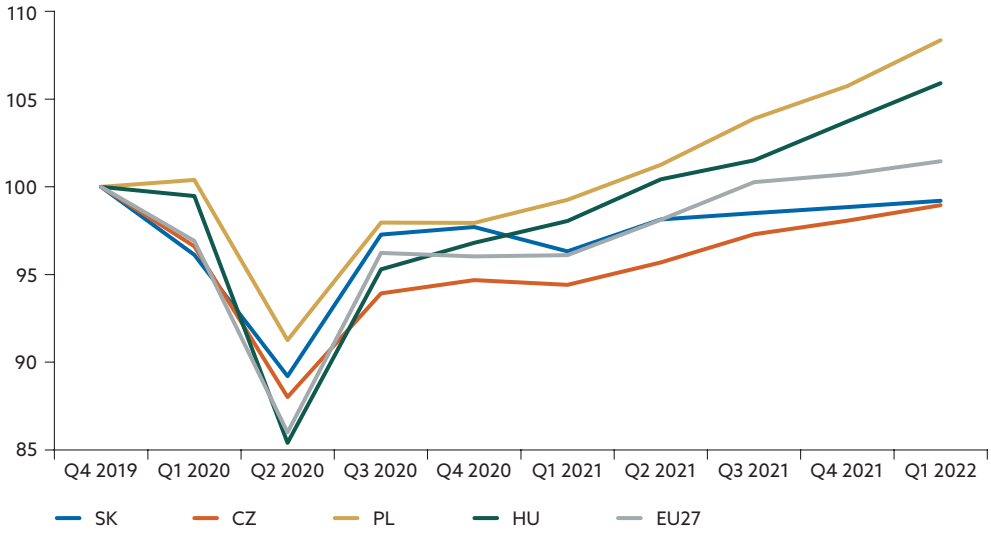
3 The pandemic's impact on the Slovak economy

Although the pandemic had less impact on the Slovak economy than on other EU economies in spring 2020, domestic GDP has not yet rebounded to the level it was at in the fourth quarter of 2019. Whether through the public support measures adopted in response to it or through supply chain disruptions resulting from it, the pandemic crisis contributed to a sharp decline in GDP in both Slovakia and the EU as a whole in the second quarter of 2020. Despite experiencing a more moderate initial downturn compared with other EU countries, as well as a stronger recovery in the subsequent quarter, Slovakia's post-2019 economic growth has been below the EU27 average, and domestic GDP in the first quarter of 2022 was still slightly below its level in the fourth quarter of 2019.

Chart 19
Evolution of GDP in selected countries and the EU27 (index: Q4 2019 = 100)

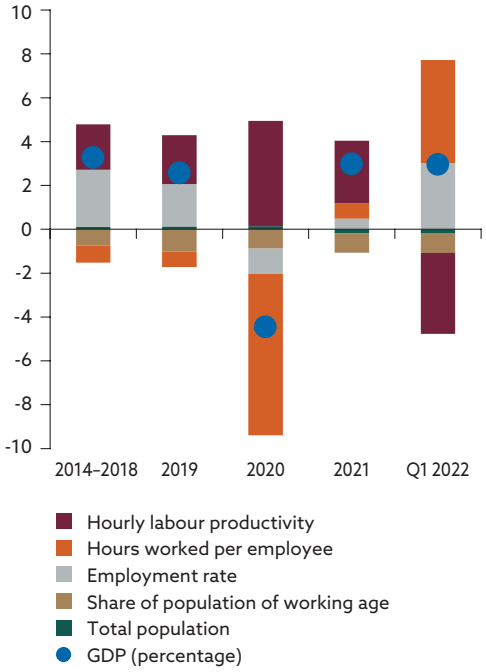


Source: Eurostat.

The decline in Slovakia's GDP in 2020 stemmed mainly from a decline in hours worked. The downturn in economic activity in the first year of the pandemic was largely due to a sharp fall in the numbers of hours worked. The decline in employment, mitigated by public support measures, had only a moderate negative impact on GDP growth, as did long-term negative demographic trends. The drop in hours worked was largely offset by growth in labour productivity per hour. The strong rise in hourly labour productivity was also the main driver of the economy's recovery in 2021, which was further supported by moderate increases in employment and hours worked. In experiencing a large decline in hours worked between 2020 and 2021 and the

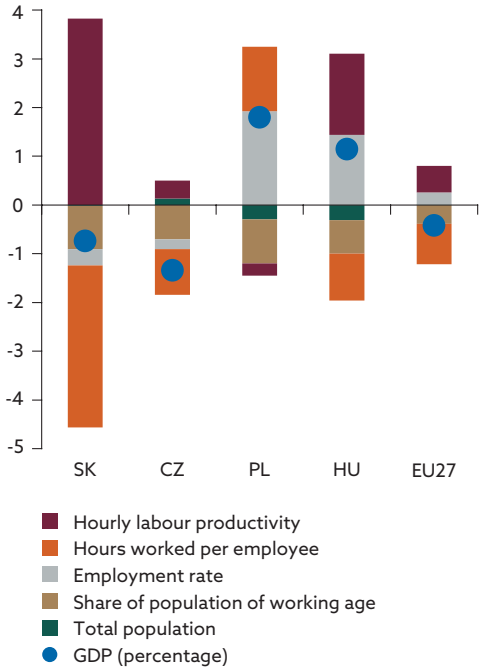
offsetting impact of sharp growth in hourly labour productivity, Slovakia differed from the trend in the other V4 countries and the EU average.

Chart 20
Contributions to Slovakia's GDP growth (percentage points; 2014–2021 and Q1 2022)



Sources: Eurostat, and NBS calculations.

Chart 21
Contributions to GDP growth in the V4 countries and EU27 (average growth in 2020–2021)

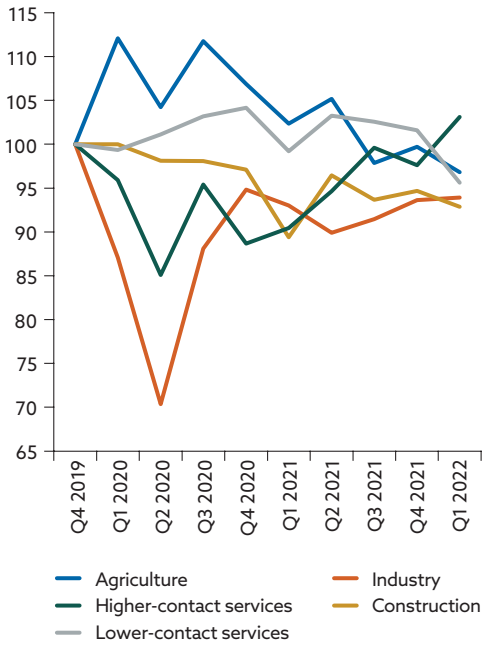


Sources: Eurostat, and NBS calculations.

Along with the pandemic's direct adverse impact on higher-contact services,[14] Slovakia has also experienced unfavourable developments in the industry and construction sectors. A combination of public hygiene measures and people's changing behaviour patterns have had a particularly negative impact on higher-contact services. At the same time, pandemic-related supply chain disruptions have weighed on industry. The second of these repercussions has had a greater impact in Slovakia, with the decline in value added in the second quarter of 2020 being greater in industry than in higher-contact services. Moreover, the industry sector has recovered more slowly than have higher-contact services, despite the continuation of public hygiene measures throughout the pandemic period. As well as in industry, value-added creation in construction and lower-contact services has been below the EU27 average since 2019. On the other hand, value-added creation in higher-contact services fared relatively well during the pandemic crisis.

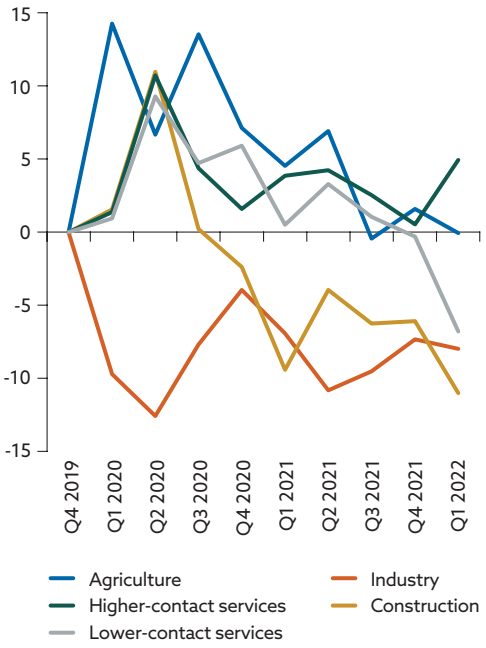
[14] These include the following sectors: wholesale and retail trade, repair of motor vehicles and motorcycles (code G in the NACE classification); transportation and storage (H); accommodation and food service activities (I); arts, entertainment and recreation (R); and other activities (S-U) broken down by NACE A10 activities.

Chart 22
Evolution of value added at constant prices by sector in Slovakia (index: Q4 2019 = 100)



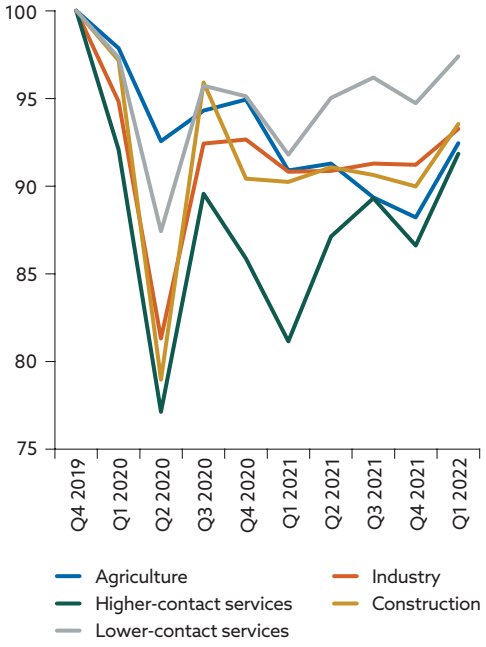
Source: Eurostat.

Chart 23
Difference between Slovakia and the EU27 average in value added at constant prices (percentage points)



Source: Eurostat.

Chart 24
Evolution of hours worked by sector in Slovakia (index: Q4 2019 = 100)



Source: Eurostat.

Chart 25
Difference between Slovakia and the EU27 average in hours worked (percentage points)

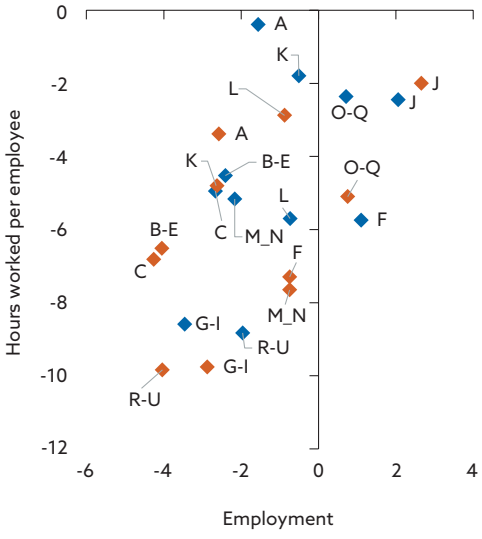
Source: Eurostat.

The decline in hours worked in the second quarter of 2020 was not confined to higher-contact services, but affected all sectors. In the construc-

tion and industry sectors, the decline in hours worked in the second quarter of 2020 was only marginally less than that in higher-contact services. The fall in hours worked across all sectors was more pronounced than the EU27 average and was increasing up until the end of 2021. In the first quarter of this year, however, the increase in hours worked in Slovakia was higher than the EU average, therefore representing a slight correction of the previous negative trend.

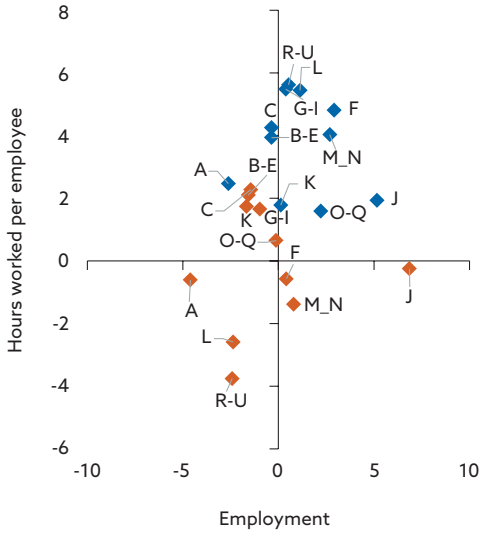
Public job retention schemes have cushioned the decline in employment, despite a sharp drop in hours worked across the economy. Like in the EU27 as a whole, the decline in hours worked in Slovakia stemmed largely from a drop in hours worked per employee and, to a lesser extent, from a drop in employment. Compared with the EU27 average, however, Slovakia recorded a relatively larger decline in total hours worked in the first year of the pandemic, which reflected a more marked decrease in average hours worked per employee as well as declining employment in a majority of sectors. The unfavourable trend relative to the EU27 became more pronounced in 2021, with many sectors experiencing a sluggish recovery or continuing to record a decline in hours worked (most notably in the real estate activities sector and the arts, entertainment and recreation sector).

Chart 26
Number of employees and hours worked per employee by sector in Slovakia and the EU27 in 2020 (annual percentage changes)



Source: Eurostat.

Chart 27
Number of employees and hours worked per employee by sector in Slovakia and the EU27 in 2021 (annual percentage changes)

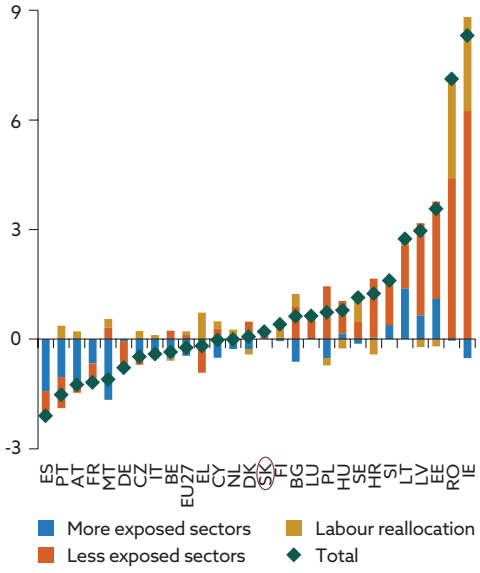


Source: Eurostat.

Notes: The orange circles represent data for Slovakia; the blue circles, the EU27 average. A: Agriculture, forestry and fishing; B-E: Industry in total; C: Manufacturing; F: Construction; G-I: Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, and accommodation and food service activities; J: information and communication; K: financial and insurance activities; L: real estate activities; M-N: professional, scientific and technical activities, and administrative and support service activities; O-Q: public administration and defence, compulsory social security, education, and human health and social work activities; R-U: arts, entertainment and recreation, and other activities.

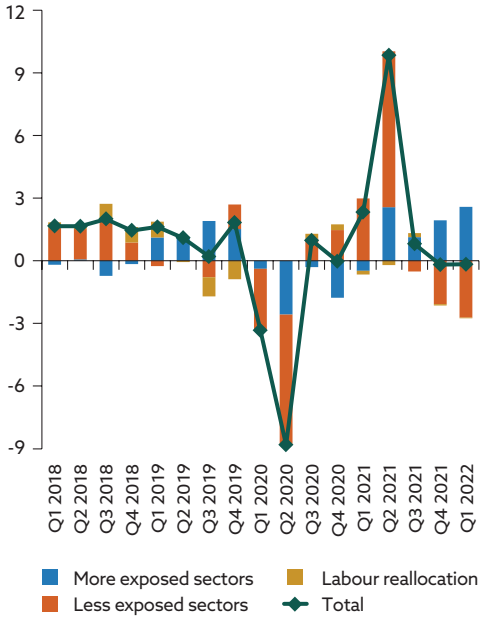
Through its impact on production during the pandemic, the decline in hours worked per employee acted as a drag on growth in labour productivity per employee. Labour productivity fell significantly in the first half of 2020, with sectors across the economy contributing to the negative trend and the reallocation of labour between sectors playing a negligible role. Although labour productivity began to pick up gradually from the third quarter of 2020, its overall increase during the pandemic years was marginal. The labour productivity situation in Slovakia was therefore slightly better than in the EU27 on average. Labour productivity growth was relatively heterogeneous across EU countries. In Ireland and Romania, labour productivity increased quite sharply thanks to higher productivity in less exposed sectors as well as to the reallocation of labour to more productive sectors, while several other countries experienced a relatively strong decline in productivity.

Chart 28
Contributions to the average year-on-year change in labour productivity per employee (2020–2021; percentages)



Sources: Eurostat, and NBS calculations.

Chart 29
Labour productivity per employee in Slovakia (annual percentage changes)

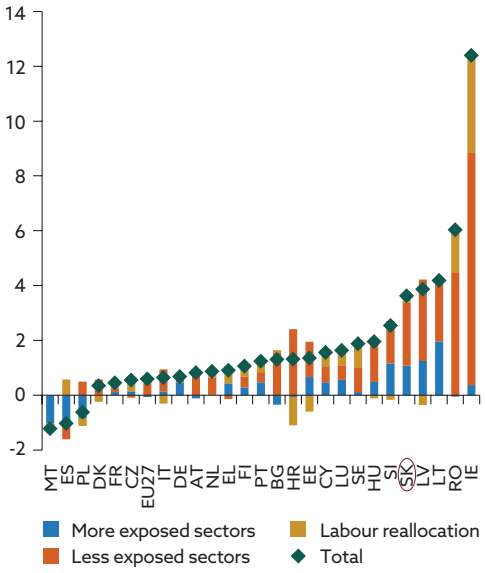


Sources: Eurostat, and NBS calculations.

Hourly labour productivity increased particularly strongly during the first year of the pandemic. Its growth was supported by both sectors less exposed to the pandemic crisis and higher-contact services. At the same time, the reallocation of labour from the sectors of wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage, and accommodation and food service activities to sectors with higher productivity made a moderately positive contribution. In the pandemic's second year, however, intrasectoral productivity growth was already

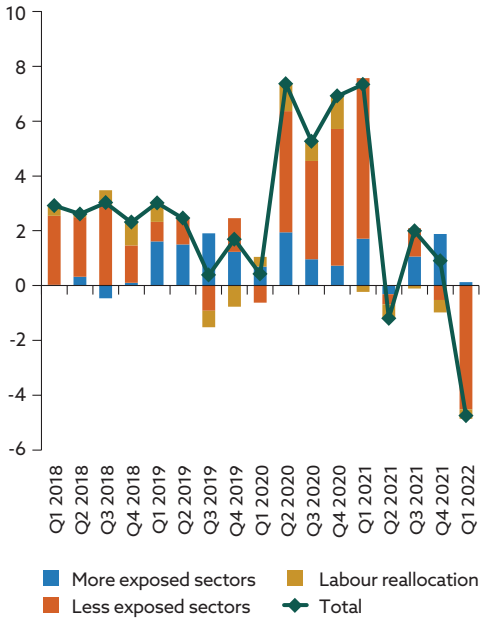
slowing and the reallocation of hours worked owing to a recovery in less productive higher-contact services sectors had a slightly negative impact. Nevertheless, hourly productivity growth in Slovakia during 2020 and 2021 was the fifth highest in the EU. In the first quarter of this year, however, the strong recovery in hours worked across the economy, together with a decline in hourly labour productivity, indicated that the hourly labour productivity growth observed during the pandemic may have been only temporary in nature.

Chart 30
Contributions to the average year-on-year change in hourly labour productivity (2020–2021; percentages)



Sources: Eurostat, and NBS calculations.

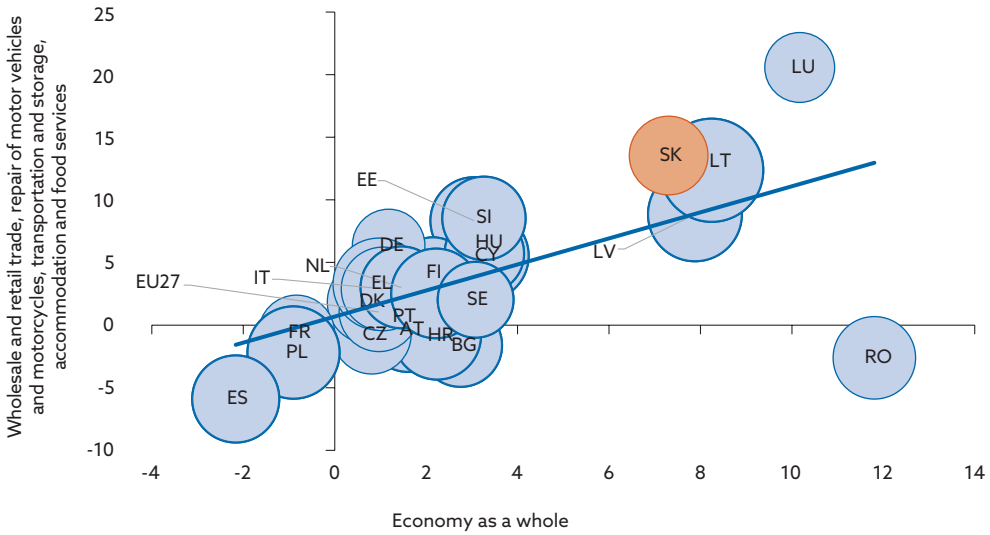
Chart 31
Hourly labour productivity in Slovakia (annual percentage changes)



Sources: Eurostat, and NBS calculations.

The economic sectors of retail trade and of accommodation and food services were among those hardest hit by the pandemic, and they experienced a significant drop in hours worked in the first year of the crisis. At the same time, however, between 2019 and 2021, the increase in hourly labour productivity was far higher in the sectors of wholesale and retail trade, repair of motor vehicles and motorcycles, and accommodation and food service activities than in the economy as a whole, and its growth across these sectors was the second highest in the EU.

Chart 32
Hourly labour productivity between 2019 and 2021 (percentages)



Sources: Eurostat, and NBS calculations.
Note: The bubble size corresponds to the share of the given sectors in total hours worked in the economy in 2019.

Most of the corporate sector came through the pandemic crisis without being lastingly scarred.[15] The first pandemic year saw a temporary but substantial decline in corporate revenues, to which firms responded by cutting costs. Moreover, the fall in corporate profitability was cushioned by public support measures. Overall, most firms remained profitable during the crisis, although their financial situation worsened to some extent. In 2021, half of all firms were still reporting revenues below pre-pandemic levels, albeit slightly higher than in the first year of the pandemic. Because non-labour operating expenses remained subdued and public support measures had been stepped up, corporate profitability in 2021 remained at its 2020 level and the share of loss-making firms fell back to its 2019 level. However, this aggregate picture masked heterogeneity across sectors, with the pandemic having a far more severe impact on firms in the accommodation and food services sector and the arts, entertainment and recreation sector.

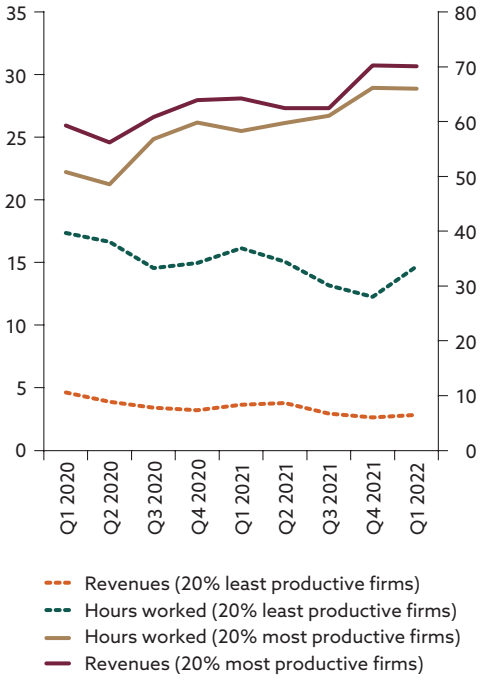
While the pandemic crisis had direct adverse effects on corporate health, production and employment, it may also have had positive effects on labour productivity through the reallocation of resources to more productive firms.[16] The scope for analysing the pandemic's impact on intra-firm

[15] Financial Stability Report – May 2022, Národná banka Slovenska (Section 5.1: The impact of the pandemic and rising costs on firms).

[16] According to Schumpeter's concept of creative destruction, the dismantling of less productive firms, industries and production methods makes way for the reallocation of resources to areas of higher productivity and greater innovation. The term 'creative destruction' was coined by Joseph Schumpeter in his 1942 book "Capitalism, Socialism, and Democracy".

and inter-firm growth in hourly productivity is limited by a lack of available data on hours worked for a sufficiently large set of firms as well as data from 2021 financial statements. A 2021 study[17] looked at the impact of the crisis on labour productivity per employee in four EU countries, Slovakia, Slovenia, Finland and Croatia. In the case of Slovakia, the impact was negative in the pandemic's first year, stemming mainly from a decline in the intra-firm component. The rate of change in the inter-firm component remained positive, albeit reduced by the pandemic's impact. Moreover, the study showed that the public support measures in Slovakia were targeted relatively efficiently at more productive firms, and fears that these measures would create zombie firms did not materialise. The support measures had a positive impact on productivity, although compared with the size of the pandemic-induced negative shock, that impact was relatively small.

Chart 33
Share of revenues and hours worked by firm productivity (percentages; sample of firms with more than 20 employees)



Sources: SO SR, and NBS calculations.

Chart 34
Hours worked per employee (annual percentage changes; sample of firms with more than 20 employees)

Sources: SO SR, and NBS calculations.

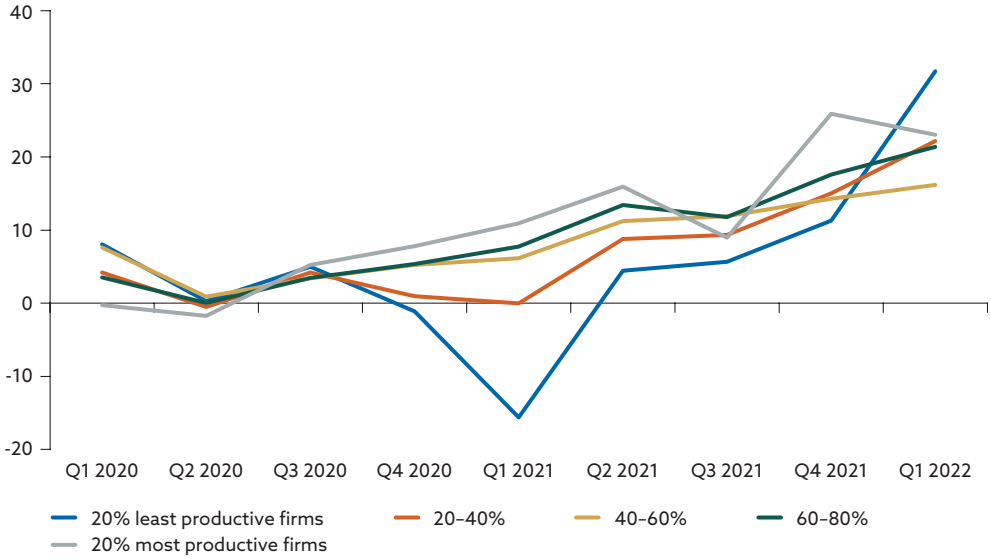
The increase in hourly labour productivity may have been further supported by an increase in the share of more productive and larger firms in to-

[17] Bighelli, T., Lalinsky, T. and CompNet Data Providers, "COVID-19 government support and productivity: Micro-based cross-country evidence", *Policy Brief*, No 14, The Competitiveness Research Network, 6 August 2021.

tal hours worked. In a sample of firms with over 20 employees,[18] the most productive firms and firms with the largest workforce recorded a more moderate decline in average hours worked from the start of the pandemic period until the end of the first quarter of 2021. Moreover, hourly productivity growth was stronger in more productive firms.

Chart 35

Hourly labour productivity (annual percentage changes; sample of firms with more than 20 employees)



Sources: SO SR, and NBS calculations.

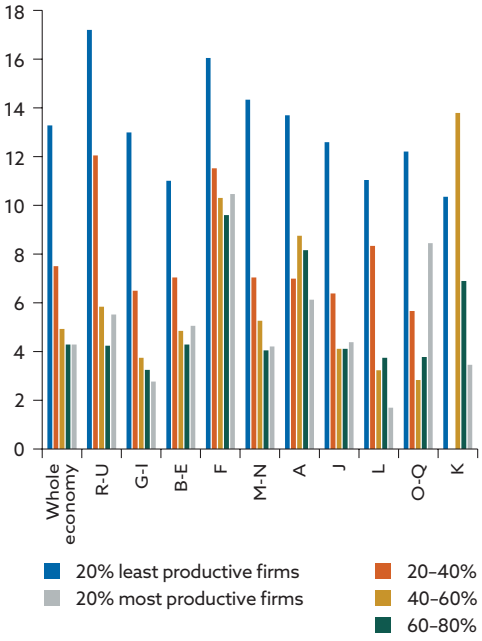
Unproductive firms were the firms whose survival was most jeopardised by the pandemic crisis. Using data on VAT payers, we estimated the share of firms that stopped paying value-added tax in the period 2019–20.[19] In the first year of the pandemic, a significantly higher number of the least productive firms (evaluated according to 2019 data) ceased paying VAT. This trend was most pronounced among unproductive firms in the following sectors: arts, entertainment and recreation; construction; professional, scientific and technical activities; and administrative and support service activities. Compared with 2019, the share of firms that ceased paying VAT increased in most sectors and in most categories of firm productivity. The largest increase was among the least productive firms in the arts, entertainment and recreation sector. The firms most at risk during the pandem-

[18] Firms with more than 20 employees account for a major share of value added and employment, but only a negligible share of the total number of firms. Moreover, the sample is not exhaustive, so the conclusions should be treated only as indicative.

[19] This sample is not fully representative, since the obligation to register as a VAT payer applies to domestic taxable persons whose turnover exceeds €49,790 for the preceding 12 calendar months at most. Moreover, the analysis was confined to legal persons for which data are available in the FinStat database. At the same time, a VAT payer that ceases to make VAT payments may not necessarily have been dissolved.

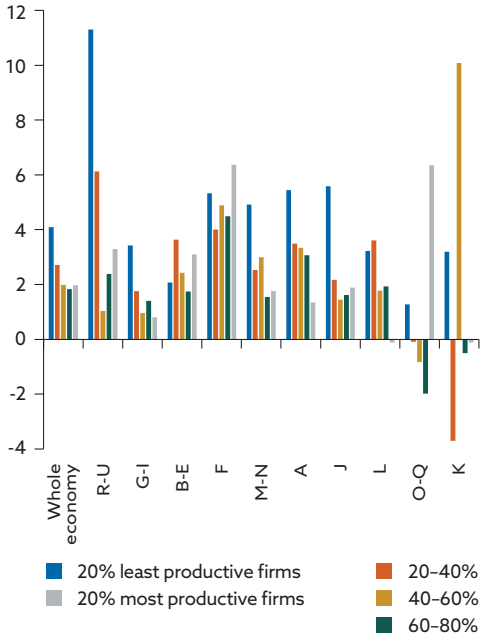
ic's first year were least productive firms, which also recorded the highest absolute increase in the share of firms that ceased paying VAT. In relative terms, however, more productive firms recorded a higher increase in this share.

Chart 36
VAT exit rate in 2020 by firm productivity and economic sector



Source: Financial Administration of the Slovak Republic, FinStat, SO SR, and NBS calculations.

Chart 37
Change in VAT exit rate between 2019 and 2020 by firm productivity and economic sector

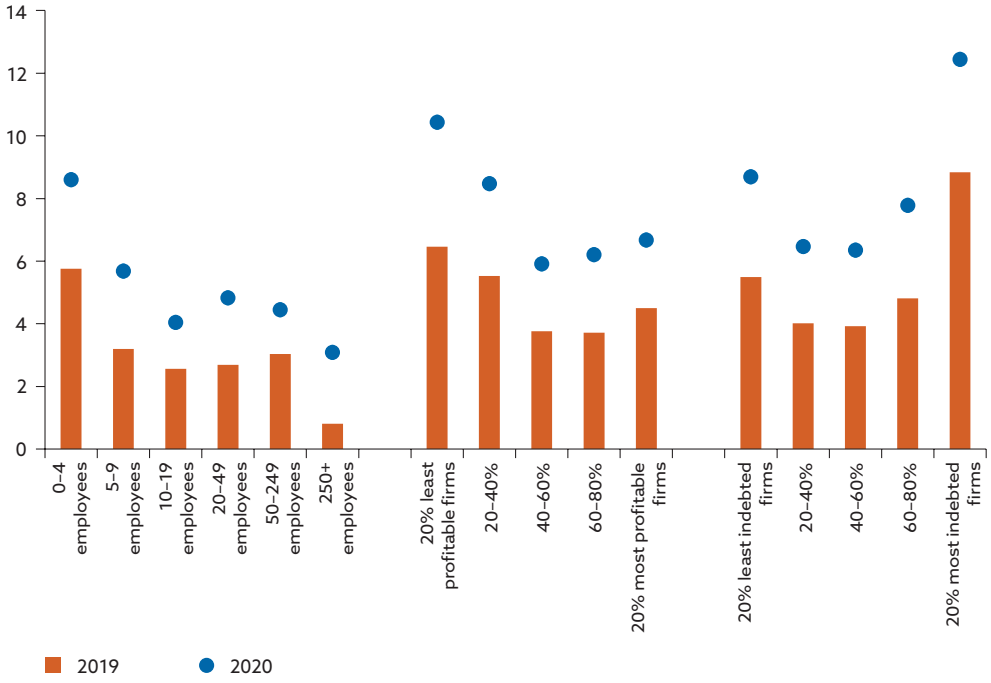


Sources: Financial Administration of the Slovak Republic, FinStat, SO SR, and NBS calculations.

Small firms, loss-making firms and highly indebted firms had the highest VAT exit rates. The share of firms that ceased paying VAT was higher among smaller firms than larger firms, with the share for firms with 0 to 4 employees being far higher than that for the largest firms. The VAT exit rate was also significantly higher for the 20% least profitable firms (in ROE terms) and the 20% most indebted firms. Compared with 2019, however, the VAT exit rate increased in all categories.

Chart 38

VAT exit rates in 2019 and 2020 for firms broken down by number of employees, profitability (ROE) and debt ratio



Sources: Financial Administration of the Slovak Republic, FinStat, SO SR, and NBS calculations.

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4 Structural reforms and the recovery and resilience plan

The challenges facing Slovakia include addressing persistent economic underdevelopment, transitioning to a climate-neutral economy, and improving outcomes in regard to health, the inclusion of disadvantaged groups, and public finance sustainability. To spur convergence to western European living standards, the Slovak economy's productivity and innovation capacity must be increased. Furthermore, this needs to take place in conjunction with a green transition intended to achieve climate-neutrality by mid-century. At the same time, the need for this transformation is being exacerbated by the current energy crisis and dependence on fossil fuel imports. The pandemic has compounded Slovakia's underperformance in health outcomes and further exposed the weakness of its healthcare system. Attention must also be paid to the exclusion of disadvantaged groups and the fact that, compared with the general population, they are disproportionately affected by rising energy and food prices. Besides these challenges, the increasing risks to public finance sustainability also require a response, as they are reaching critical levels. The structural reforms and investments set out in Slovakia's recovery and resilience plan (RRP) are set to receive more than €6 billion in grants from the European Union's Recovery and Resilience Facility (RRF) and have the potential to respond to the above challenges.

Reforms to improve the education system, R&D financing and business environment quality are essential to supporting the economy's innovation capacity and accelerating productivity growth. Reforms aiming to improve the quality of higher education are focused on the governance and internationalisation of higher education institutions and on integrating them into larger units. The quality of R&D is expected to be boosted by the transformation of the Slovak Academy of Sciences into a public organisation and by reforms in governance and in research, development and innovation, all of which should bring greater coordination of public support as well as better evaluation of projects and more efficient targeting of funding. Of key importance, however, will be whether and to what extent legislative and institutional changes actually translate into better functioning of higher education and R&D. As for primary and secondary education, the essential prerequisites for reversing the underperformance of Slovak pupils in educational outcomes and for preparing them for the labour market of the future are, besides investment in school infrastructure, rigorous preparation and subsequent implementation of planned curric-

ulum and textbook reforms. Efforts to improve the business environment can be supported by reducing the administrative burden on business, digitalising public administration and reforming the justice system.

Investments in the green economy and in energy-saving measures are gaining in importance, including in the context of the war in Ukraine and the energy crisis. The RRP puts forward green investments amounting to €2.3 billion, which should make buildings more energy efficient, increase the share of renewable energy sources in the energy mix, and modernise energy infrastructure. Changes in the concept of transport sustainability and industry decarbonisation are expected to be key tools in adapting to climate change. In its response to the global energy market situation – the REPowerEU Plan – the EU envisages raising targets in regard to energy saving and to the share of renewables in the energy mix, as well as investing in the diversification of energy supplies. The war in Ukraine and the energy crisis have accentuated the need to improve energy efficiency, increase the share of renewables and diversify energy supplies. For these purposes, additional resources can be reallocated through the RRF and EU structural funds. As regards the risk of natural gas shortages, the government is in the short term expected to continue efforts to secure alternative gas supplies and build up sufficient gas inventories, and to consider adopting an energy-saving programme.[20]

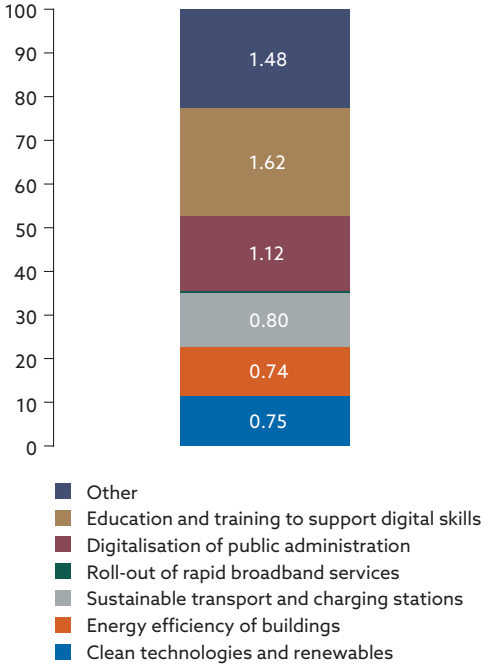
Besides providing opportunities, healthcare reforms supported by RRP investments also entail implementation risks. The chronic shortage of healthcare staff poses a serious challenge. As part of the hospital network optimisation reform, parliament has approved a legislative framework that defines five levels of hospital care providers and lays down the main principles for the functioning of the hospital network. Greater specialisation and coordination of healthcare provision has the potential to improve the quality of healthcare; however, a reform of this magnitude inevitably entails implementation risks as well. Minimising these risks will require liaison with stakeholders and close monitoring of both the availability of healthcare and the outcomes achieved. RRP investments to healthcare reform can amount to €1.5 billion, including almost one billion for constructing, renovating and equipping hospitals. Partly, however, because of Slovakia's previous experience in absorbing EU funds, there are serious concerns about the feasibility of the planned deadlines. Already before the pandemic crisis, the Slovak healthcare system was suffering from a shortage of healthcare staff, in particular general practitioners and nurses, and the difficult working conditions during the crisis further exacerbated this

[20] Savings can be made, for example, by reducing heating temperatures in public buildings and also, with support from an information campaign, in households. Industrial demand for natural gas could be temporarily reduced through an auction system that would incentivise industrial users to reduce consumption.

problem. The government should reassess whether planned measures to strengthen general care are sufficient and consider adopting additional measures to stabilise the healthcare workforce.

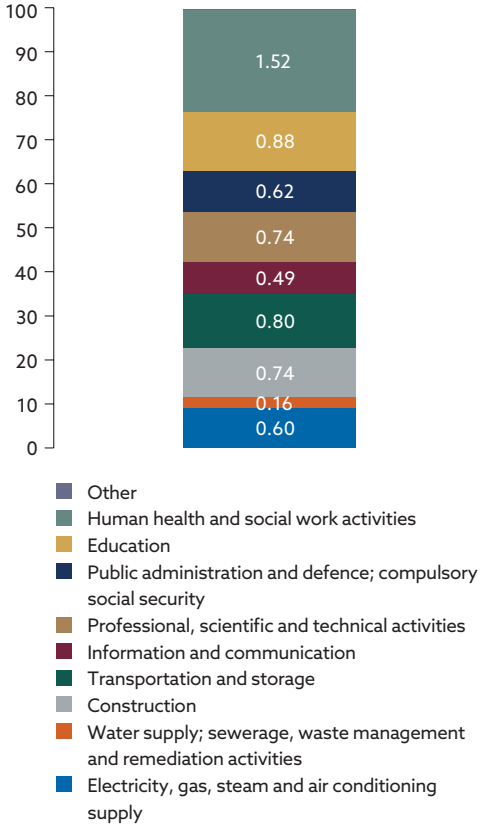
Measures in the area of education can help increase the inclusion of socially marginalised groups, and the government should ensure that the people most affected by rising food and energy prices are targeted with compensation for their increased costs. As part of the RRP reforms and investments, the government plans to expand pre-primary education and to increase inclusion in education. Instruments to prevent early school leaving and to expand opportunities for additional upper-secondary education can also have a positive impact. In view of the pandemic's particularly adverse effects on the education of children from socially disadvantaged backgrounds, the government is expected to continue and expand remedial teaching programmes for primary and secondary school pupils. High levels of food and energy inflation are having a greater impact on low-income groups and on people receiving pensions and various forms of social assistance, the indexation of which may be lagged or insufficient. Government compensation measures should be aimed at the population groups most adversely affected.

Chart 39
Allocations under Slovakia's RRP by priority area (percentages of total allocation; EUR billions)



Source: Bruegel Dataset.

Chart 40
Allocations under Slovakia's RRP by economic sector (percentages of total allocation; EUR billions)

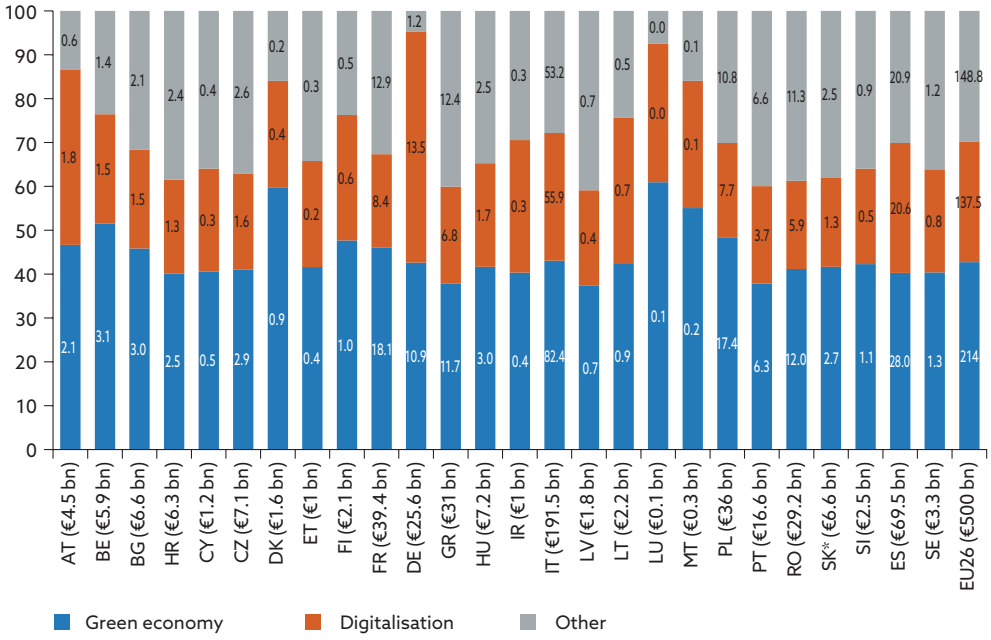


Source: Bruegel Dataset.

Public finance sustainability can be improved by accelerating the implementation of measures to stabilise the pension system and by rigorously implementing spending limits in the budgetary process. A key step towards making the pension system sustainable is the planned abolition of the retirement age cap, as is the planned adjustment of the calculation of newly awarded pensions (adjusting the current pension value by only 95% of average wage growth). On the other hand, efforts to introduce a parental pension are counterproductive from the perspective of public finance sustainability. The pandemic has left a significant mark on public finances, while the war in Ukraine and measures to offset the impact of inflation will put further upward pressure on public finances. The government's fiscal policy should therefore take account of the significant risks to public finance sustainability. Strict adherence to newly introduced expenditure limits could help repair public finances.

Chart 41

Total allocations under national RRPs (percentages of total allocation; EUR billions)



Source: Bruegel Dataset (European Union countries' recovery and resilience plans).
Note: Slovakia's RRP has a budget of €6.6 billion. The actual RRF allocation is €6 billion.

[21] RRF: Update of the maximum financial contribution. Commission note to the Council and European Parliament, 30 June 2022

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5 Annex of tables

5.1 Economic performance

Table 3 Factors of economic growth

Category	Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicator	GDP per hour worked	SK	26.4	29.4	27.7	27.6	28.0	28.7	30.3	31.8
	(PPP units) Sources: Eurostat, NBS calculations	EU average	31.5	35.7	35.8	37.0	37.8	38.7	40.0	41.5
Additional indicators	Total factor productivity	SK	5.8	1.6	-0.7	0.4	1.2	0.2	-4.2	2.6
	(annual percentage change) Source: Ameco	EU average	1.9	2.1	0.9	1.8	1.1	0.8	-4.7	4.4
	Capital stock per employee	SK	3.6	2.9	0.4	0.6	0.9	2.4	3.2	1.8
	(annual percentage change) Sources: DF ECFIN, Ameco	EU average	3.3	0.4	-0.1	-0.2	-0.1	1.3	3.7	0.8
	Fixed capital formation	SK	8.6	21.4	-9.2	2.9	2.8	6.7	-11.6	0.6
	(annual percentage change) Source: Eurostat	EU average	-3.1	8.3	3.8	6.4	3.8	8.6	-3.6	4.2
Category	**Score**		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Outcome indicator	GDP per hour worked		-0.42	-0.44	-0.57	-0.65	-0.68	-0.70	-0.60	-0.56
Additional indicators	Total factor productivity		1.79	-0.13	-0.96	-0.88	0.06	-0.48	0.19	-0.64
	Capital stock per employee		0.16	1.30	0.25	0.50	0.50	0.36	-0.16	0.26
	Fixed capital formation		1.21	0.83	-0.91	-0.66	-0.17	-0.10	-1.09	-0.34

Table 4 Economic openness

Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Export performance	SK	75	90	93	94	95	92	86	
(BPM6, percentage of GDP) Source: United Nations	EU average	59	68	67	69	70	70	65	
Foreign direct investment inflow	SK	2.0	0.1	0.9	4.2	1.6	2.4	-1.8	0.1
(percentage of GDP) Source: OECD	OECD average	4.1	6.1	3.8	1.8	0.9	3.5	5.2	2.0
Foreign value added embodied in domestic exports	SK	45	47	48	49	48			
(percentage of exports) Source: OECD	OECD average	27	28	27	28	28			
Domestic value added embodied in foreign exports	SK	18	19	19	19	19			
(percentage) Source: OECD	OECD average	19	20	20	20	20			
Re-exported intermediate imports	SK	67	73	74	75	74			
(percentage) Source: OECD	OECD average	45	47	47	48	48			

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Table 4 Economic openness (continued)

Score	2010	2015	2016	2017	2018	2019	2020	2021
Export performance	0.47	0.58	0.70	0.70	0.71	0.60	0.57	
Foreign direct investment inflow	-0.20	-0.35	-0.51	0.30	0.09	-0.15	-0.31	-0.56
Foreign value added embodied in exports	-1.59	-1.70	-1.82	-1.83	-1.75			
Domestic value added embodied in foreign exports	-0.26	-0.12	-0.19	-0.23	-0.24			
Re-exported intermediate exports	-1.46	-1.58	-1.65	-1.69	-1.61			

Table 5 Innovation capacity

Indicator		2014	2015	2016	2017	2018	2019	2020	2021
R&D expenditure – business sector	SK	22	26	21	22	28	34	31	31
(standardised index: EU 2014 = 100)	EU average	73	72	72	72	72	74	76	78
R&D expenditure – public sector	SK	51	46	65	114	37	39	35	35
(standardised index: EU 2014 = 100)	EU average	79	79	78	80	67	68	71	74
Innovators	SK	49	49	49	35	35	31	31	37
(standardised index: EU 2014 = 100)	EU average	93	93	93	93	93	106	106	134
Attractive research systems	SK	37	46	46	51	53	52	60	64
(standardised index: EU 2014 = 100)	EU average	91	95	97	97	102	105	107	112
Knowledge-intensive services exports	SK	37	37	37	35	36	44	46	44
(standardised index: EU 2014 = 100)	EU average	73	75	75	75	77	77	77	79
High-tech product exports	SK	127	131	135	139	137	139	142	142
(standardised index: EU 2014 = 100)	EU average	81	86	91	93	90	90	93	94
Intellectual assets	SK	36	40	37	39	42	45	43	42
(standardised index: EU 2014 = 100)	EU average	86	89	88	88	89	87	85	83
Linkages	SK	55	57	58	66	66	69	76	66
(standardised index: EU 2014 = 100)	EU average	113	115	117	122	125	134	140	152
Scientific publications among the top 10% most cited publications worldwide	SK	16	26	25	29	32	27	38	42
(standardised index: EU 2014 = 100)	EU average	78	80	82	81	84	83	83	84

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Table 5 Innovation capacity (continued)

Score	2014	2015	2016	2017	2018	2019	2020	2021
R&D expenditure – business sector	-0.90	-0.83	-0.94	-0.92	-0.84	-0.77	-0.86	-0.86
R&D expenditure – public sector	-0.67	-0.80	-0.30	0.81	-0.67	-0.67	-0.81	-0.88
Innovators	-0.91	-0.91	-0.91	-1.02	-1.02	-1.25	-1.25	-1.45
Attractive research systems	-0.98	-0.88	-0.91	-0.87	-0.90	-0.99	-0.93	-0.95
Knowledge-intensive services exports	-0.80	-0.84	-0.87	-0.94	-0.95	-0.77	-0.73	-0.79
High-tech product exports	1.39	1.31	1.35	1.41	1.49	1.53	1.57	1.62
Intellectual assets	-1.10	-1.12	-1.20	-1.17	-1.13	-1.03	-1.07	-1.07
Linkages	-1.11	-1.09	-1.10	-1.01	-1.06	-1.19	-1.13	-1.38
Scientific publications among the top 10% most cited publications worldwide	-1.29	-1.12	-1.22	-1.14	-1.20	-1.25	-1.11	-1.08

Source: The European Commission's European innovation scoreboard (EIS).

Table 6 Digital technology and infrastructure

Indicator		2015	2016	2017	2018	2019	2020	2021
Robot density in manufacturing	SK	79	135	151	165	169	175	
(number of robots per 10,000 workers) *Source: IFR*	IFR member countries' average	200	224	240	266	286	285	
Broadband connectivity	SK		25	31	33	34	38	46
(score: 0–100) *Source: European Commission*	EU average		30	33	35	39	44	51
Integration of digital technology	SK		21	23	26	27	28	29
(score: 0–100) *Source: European Commission*	EU average		25	28	31	33	35	39

Score	2015	2016	2017	2018	2019	2020	2021
Robot density in manufacturing	-1.05	-0.66	-0.54	-0.51	-0.55	-0.62	
Broadband connectivity		-0.67	-0.28	-0.38	-0.72	-0.74	-0.56
Integration of digital technology		-0.48	-0.61	-0.53	-0.70	-0.80	-0.92

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Table 7 Business environment

Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Regulatory quality	SK	1.00	0.79	0.89	0.83	0.81	1.01	0.78	
(score: from -2.5 to +2.5) Source: World Bank	EU average	1.21	1.15	1.14	1.15	1.15	1.19	1.12	
Enforcing contracts – time	SK	565	775	775	775	775	775	775	
(days) Source: World Bank	EU average	587	649	639	645	645	645	645	
Enforcing contracts – cost	SK	30.6	30.6	30.6	30.4	20.5	20.5	20.5	
(percentage of contracts) Source: World Bank	EU average	20.7	20.7	20.6	20.8	20.3	20.3	20.3	
Resolving insolvency – time	SK	4	4	4	4	4	4	4	
(years) Source: World Bank	EU average	2.2	2.1	2.0	2.0	2.0	2.0	2.0	
Resolving insolvency – cost	SK	18	18	18	18	18	18	18	
(percentage of debt) Source: World Bank	EU average	10.9	10.6	10.6	10.6	10.6	10.6	10.6	
Starting a business – time	SK	28.5	26.5	26.5	26.5	26.5	26.5	21.5	
(days) Source: World Bank	EU average	17.8	14.4	13.2	12.7	12.4	13.3	12.2	
Starting a business – cost	SK	2.0	1.5	1.5	1.1	1.1	1.0	1.0	
(percentage of average income), Source: World Bank	EU average	5.9	4.6	4.3	4.2	3.7	3.5	3.2	
Digital public services for business	SK			37	39	42	46	50	54
(score: 0–100) Source: European Commission	EU average			47	51	55	59	63	69

Score	2010	2015	2016	2017	2018	2019	2020	2021
Regulatory quality	-0.51	-0.77	-0.51	-0.65	-0.72	-0.43	-0.71	
Enforcing contracts – time	0.08	-0.41	-0.47	-0.43	-0.43	-0.43	-0.43	
Enforcing contracts – cost	-1.54	-1.72	-1.75	-1.66	-0.03	-0.03	-0.04	
Resolving insolvency – time	-1.46	-2.00	-1.98	-1.98	-1.98	-1.98	-1.98	
Resolving insolvency – cost	-1.45	-1.56	-1.56	-1.56	-1.56	-1.56	-1.56	
Starting a business – time	-0.83	-1.27	-1.38	-1.52	-1.63	-1.37	-1.09	
Starting a business – cost	0.65	0.67	0.62	0.72	0.64	0.64	0.62	
Digital public services for business			-0.74	-0.82	-0.86	-0.86	-0.83	-0.90

Table 8 Institutional quality

Indicator		2010	2015	2016	2017	2018	2019	2020
Voice and accountability	SK	0.91	0.97	0.96	0.91	0.84	0.86	0.88
(score: from -2.5 to +2,5)	EU average	1.10	1.10	1.08	1.07	1.05	1.05	1.07
Political stability	SK	1.05	0.87	0.72	0.91	0.74	0.67	0.64
(score: from -2.5 to +2,5)	EU average	0.76	0.69	0.67	0.70	0.69	0.72	0.71
Government effectiveness	SK	0.79	0.77	0.83	0.70	0.62	0.59	0.54
(score: from -2.5 to +2,5)	EU average	1.12	1.11	1.09	1.08	1.07	1.05	1.03
Rule of law	SK	0.57	0.49	0.63	0.54	0.50	0.53	0.68
(score: from -2.5 to +2,5)	EU average	1.13	1.12	1.09	1.08	1.07	1.08	1.07
Control of corruption	SK	0.25	0.14	0.19	0.13	0.26	0.22	0.44
(score: from -2.5 to +2,5)	EU average	0.99	0.98	0.98	0.95	0.96	0.96	0.99

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Table 8 Institutional quality (continued)

Score	2010	2015	2016	2017	2018	2019	2020
Voice and accountability	-0.59	-0.39	-0.33	-0.46	-0.56	-0.50	-0.51
Political stability	0.70	0.48	0.13	0.57	0.15	-0.17	-0.25
Government effectiveness	-0.55	-0.62	-0.48	-0.69	-0.81	-0.85	-0.83
Rule of law	-0.92	-0.95	-0.76	-0.91	-0.94	-0.93	-0.65
Control of corruption	-0.90	-1.06	-1.01	-1.08	-0.88	-0.94	-0.71

Table 9 Labour market characteristics

Category	Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicator	Employment rate	SK	60.4	64.5	66.7	68.1	69.5	70.4	69.5	69.4
	(percentage) Source: Eurostat	EU average	62.7	65.0	66.0	67.5	68.8	69.7	68.7	69.8
Additional indicators	Participation rate	SK	70.5	72.9	73.9	74.1	74.4	74.7	74.5	74.6
	(percentage) Source: Eurostat	EU average	70.1	72.2	72.6	73.3	73.9	74.3	73.9	74.9
	Hours worked per employee	SK	1,805	1,754	1,740	1,714	1,704	1,692	1,572	
	(hours per year) Source: OECD	OECD average	1,722	1,713	1,715	1,704	1,699	1,689	1,602	
	Employment rate of age group 15–64	SK	41.5	48.3	50.5	54.6	55.9	58.8	60.2	60.6
	(percentage) Source: Eurostat	EU average	44.6	50.3	52.4	54.7	56.9	58.4	59.0	60.6
	Employment rate of women	SK	56.0	59.9	62.4	64.5	65.5	66.8	66.1	65.6
	(percentage) Source: Eurostat	EU average	57.6	60.3	61.4	62.9	64.2	65.1	64.2	65.5
	Part-time employment rate	SK	2.6	4.1	4.1	4.1	3.4	3.2	3.2	3.1
	(percentage) Source: Eurostat	EU average	13.3	14.1	14.1	13.9	13.6	13.5	13.1	13.2
	Youth employment rate for persons aged 15–24	SK	20.8	23.4	25.3	27.0	27.6	25.0	22.8	20.8
	(percentage) Source: Eurostat	EU average	31.3	31.4	32.1	33.2	34.1	34.3	31.6	32.6
	Young people aged 15–24 not in employment, education or training	SK	14.1	13.7	12.3	12.1	10.2	10.3	10.7	11.0
	(percentage) Source: Eurostat	EU average	12.2	11.8	11.1	10.4	9.6	9.4	10.2	10.0
	Employment rate of persons with less than upper-secondary educational attainment	SK	10.6	13.9	15.2	16.5	16.2	15.9	13.9	13.7
	(percentage) Source: Eurostat	EU average	38.0	38.4	38.7	39.6	40.6	40.9	39.4	40.0
	Long-term unemployment rate	SK	10.6	8.8	6.8	5.8	4.6	3.8	3.7	3.9
	(percentage) Source: Eurostat	EU average	4.5	5.0	4.3	3.6	2.9	2.4	2.3	2.5
	Adult participation in learning	SK	3.1	3.1	2.9	3.4	4.0	3.6	2.8	4.8
	(percentage) Source: Eurostat	EU average	9.4	10.6	10.7	11.2	11.4	11.7	10.1	12.6

Table 9 Labour market characteristics (continued)

Category	Score	2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicator	Employment rate	-0.38	-0.07	0.11	0.10	0.11	0.12	0.14	-0.08
Additional indicators	Participation rate	0.07	0.14	0.26	0.17	0.11	0.07	0.11	-0.05
	Hours worked per employee	0.39	0.19	0.12	0.05	0.03	0.01	-0.16	
	Employment rate of age group 15–64	-0.33	-0.20	-0.19	-0.01	-0.10	0.04	0.12	0.00
	Employment rate of women	-0.20	-0.05	0.12	0.20	0.17	0.23	0.25	0.02
	Part-time employment rate	-1.22	-1.09	-1.08	-1.06	-1.09	-1.09	-1.10	-1.09
	Youth employment rate for persons aged 15–24	-0.82	-0.61	-0.52	-0.49	-0.50	-0.71	-0.67	-0.88
	Young people aged 15–24 not in employment, education or training	-0.43	-0.43	-0.29	-0.43	-0.16	-0.28	-0.16	-0.30
	Employment rate of persons with less than upper-secondary educational attainment	-2.12	-2.15	-2.02	-1.98	-2.01	-2.07	-2.06	-2.17
	Long-term unemployment rate	-2.36	-1.09	-0.83	-0.82	-0.72	-0.64	-0.69	-0.76
	Adult participation in learning	-0.83	-0.92	-0.99	-0.99	-0.95	-0.96	-1.00	-0.94

Table 10 Programme for International Student Assessment (PISA)

Indicator		2006	2009	2012	2015	2018
Reading	SK	466	477	463	453	458
(score)	OECD average	485	491	493	490	487
Science	SK	488	490	471	461	464
(score)	OECD average	495	498	498	491	489
Mathematics	SK	492	497	482	475	486
(score)	OECD average	490	492	490	487	489
Score		**2006**	**2009**	**2012**	**2015**	**2018**
Reading		-0.56	-0.52	-1.10	-1.43	-1.14
Science		-0.18	-0.23	-0.84	-1.00	-0.93
Mathematics		0.04	0.15	-0.25	-0.37	-0.10

Table 11 Quality of human capital

Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Mean years of schooling	SK	11.6	12.5	12.6	12.6	12.6	12.7		
(years) *Source: UNDP*	EU average	11.4	11.8	11.9	12.0	12.0	12.0		
Early leavers from education and training	SK	4.7	6.9	7.4	9.3	8.6	8.3	7.6	7.8
(percentage) *Source: Eurostat*	EU average	12.0	9.7	9.3	9.3	9.0	8.9	8.7	8.2
Early childhood education and care	SK	76.9	78.4	76.5	78.2	82.2	82.6	83.2	
(percentage) *Source: Eurostat*	EU average	89.9	92.1	92.3	92.7	92.9	93.4	93.8	
Population aged 25–64 with at least upper secondary educational attainment	SK	91.0	91.4	91.9	91.4	91.7	91.4	92.7	93.3
(percentage) *Source: Eurostat*	EU average	74.7	78.6	79.4	80.0	80.7	81.4	82.3	83.0
Population aged over 25 with tertiary educational attainment	SK	17.3	21.1	22.0	23.1	24.6	25.8	26.8	27.9
(percentage) *Source: Eurostat*	EU average	26.2	31.0	31.7	32.5	33.5	34.4	35.5	36.6
Qualification mismatch rate	SK	10.0	21.3	21.2	22.2	23.7	22.6	22.5	
(percentage) *Source: Eurostat*	EU average	17.0	20.0	20.0	20.1	20.4	20.4	19.7	
Skills mismatch rate	SK	10.0	21.3	21.2	22.2	23.7	22.6	22.5	
(percentage) *Source: Eurostat*	EU average	17.0	20.0	20.0	20.1	20.4	20.4	19.7	
Employment rate of recent graduates	SK	69.4	75.2	79.6	81.5	83.4	83.9	82.8	79.5
(percentage) *Source: Eurostat*	EU average	76.5	75.9	78.2	79.7	81.8	82.1	79.5	80.1
Public expenditure on early childhood education and care	SK	105	147	160	179				
(USD at constant prices; per capita at PPP) *Source: OECD*	EU average	251	290	297	312				
Connection to the internet – all types of households	SK	67.0	79.0	81.0	81.0	81.0	82.0	86.0	90.0
(percentage) *Source: Eurostat*	EU average	66.2	79.9	82.1	84.1	85.9	87.9	89.6	91.8
Connection to the internet –households with children	SK	86.0	96.0	96.0	97.0	95.0	96.0	92.0	97.0
(percentage) *Source: Eurostat*	EU average	84.4	94.4	95.7	96.6	97.0	97.6	98.0	98.8
Digital skills	SK			39.4	40.3	43.8	44.2	42.6	43.8
(score: 0–100) *Source: European Commission*	EU average			44.5	45.1	46.3	47.0	47.9	48.5

Score	2010	2015	2016	2017	2018	2019	2020	2021
Mean years of schooling	0.10	0.58	0.60	0.61	0.61	0.61		
Early leavers from education and training	1.15	0.65	0.45	-0.01	0.11	0.16	0.31	0.13
Early childhood education and care	-1.43	-2.03	-2.40	-2.57	-1.71	-1.93	-1.96	
Population aged 25–64 with at least upper secondary educational attainment	1.02	0.99	1.00	0.94	0.95	0.90	0.98	1.03
Population aged over 25 with tertiary educational attainment	-1.09	-1.24	-1.19	-1.15	-1.07	-1.02	-1.01	-0.97
Qualification mismatch rate	1.00	-0.19	-0.17	-0.29	-0.47	-0.31	-0.39	
Skills mismatch rate	1.00	-0.19	-0.17	-0.29	-0.47	-0.31	-0.39	
Employment rate of recent graduates	-0.76	-0.06	0.13	0.18	0.18	0.21	0.39	-0.07
Public expenditure on early childhood education and care	-0.76	-0.65	-0.61	-0.57				
Connection to the internet – all types of households	0.06	-0.09	-0.12	-0.38	-0.80	-1.04	-0.73	-0.45
Connection to the internet – households with children	0.13	0.33	0.08	0.13	-0.81	-0.81	-3.36	-1.83
Digital skills			-0.57	-0.53	-0.27	-0.29	-0.55	-0.49

5.2 Economic vulnerabilities

Table 12 Internal equilibrium

Category	Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicators	Output gap	SK	0.0	-0.3	-0.3	0.8	2.5	2.9	-2.7	-1.1
	(percentage of potential GDP) Source: Ameco	EU average	-2.7	-1.6	-0.9	0.7	1.4	1.8	-4.9	-1.3
	Private sector debt	SK	65.4	80.4	88.2	90.0	91.9	92.1	95.3	
	(percentage of GDP) Source: Eurostat	EU average	152.9	147.5	144.8	138.8	135.1	132.1	139.0	
	Non-performing loans	SK		4.4	4.6	3.7	3.2	2.9	2.5	2.0
	(percentage) Source: Eurostat	EU average		10.4	9.1	7.5	5.9	4.9	4.1	2.7
Additional indicators	Private sector credit flow	SK	23.5	15.0	19.2	19.2	21.5	16.6	15.3	
	(percentage of GDP over three years) Source: Eurostat	EU average	18.1	5.1	6.7	8.7	10.0	10.9	12.6	
	Real house prices (three-year percentage change)	SK	-6.5	6.6	14.6	17.9	17.3	16.4	19.6	17.4
	Source: Eurostat	EU average	-11.3	3.4	9.7	12.1	13.1	12.8	13.6	16.0
	Banking leverage	SK	10.4	9.0	9.2	9.3	9.5	9.6	9.7	10.4
	(assets-to-equity multiple) Source: Eurostat	EU average	15.4	12.3	12.2	11.6	11.7	11.9	12.5	12.9
	Banks' exposures to domestic sovereign debt	SK	18.7	14.3	12.7	10.2	9.5	8.9	10.3	10.8
	(percentage of GDP) Sources: ECB, NBS calculations	EU average	15.7	15.7	14.7	13.4	13.0	12.2	14.5	13.2
	Banking sector profitability (ROE)	SK	8.6	6.6	3.7	5.9	6.4	5.0	4.3	5.8
	(percentage) Source: ECB	EU average	-2.4	4.4	6.3	6.6	8.1	7.3	3.3	7.0

Category	Score	2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicators	Output gap	1.00	0.77	0.51	0.37	-0.26	-0.25	0.91	0.40
	Private sector debt	1.35	0.84	0.74	0.69	0.64	0.60	0.65	
	Non-performing loans		0.56	0.43	0.40	0.34	0.29	0.33	0.39
Additional indicators	Private sector credit flow	-0.31	-0.57	-0.92	-0.88	-0.95	-0.57	-0.18	
	Real house prices	-0.32	-0.26	-0.42	-0.59	-0.48	-0.42	-0.73	-0.14
	Banking leverage	0.97	0.88	0.84	0.68	0.67	0.73	0.91	0.87
	Banks' exposures to domestic sovereign debt	-0.38	0.16	0.25	0.42	0.43	0.43	0.48	0.30
	Banking sector profitability (ROE)	0.32	0.27	-0.38	-0.13	-0.38	-0.57	0.20	-0.19

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

Table 13 External equilibrium

Category	Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicators	Real effective exchange rate (PPI-deflated)	SK	2.7	-3.1	-5.1	-5.2	-0.8	-0.1	1.2	-1.9
	(three-year percentage change) Source: ECB	EU average	-0.9	-2.7	-3.3	-2.4	2.4	1.3	0.6	0.8
	Nominal unit labour costs	SK	8.4	2.4	4.0	7.7	11.6	14.3	16.4	14.3
	(three-year percentage change) Source: Eurostat	EU average	9.6	1.8	2.6	4.0	7.3	8.4	12.1	9.0
Additional indicators	Export market shares	SK	3.8	3.9	7.1	4.9	2.1	1.3	7.5	-2.8
	(five-year percentage change) Source: Eurostat	EU average	0.3	0.2	5.3	12.2	10.6	9.8	11.6	6.3
	Terms of trade	SK	-5.9	-3.2	-2.3	-1.6	-1.7	-2.0	-2.2	-2.6
	(five-year percentage change) Source: Eurostat	EU average	1.3	1.4	3.2	3.5	2.5	2.2	1.8	-0.2
	Current account balance	SK	-4.8	0.3	-1.2	-2.2	-2.3	-2.5	-1.7	-1.7
	(three-year average, percentage of GDP) Source: Eurostat	EU average	-2.5	1.7	1.7	1.8	1.7	1.6	1.3	1.0
	Net investment position	SK	-11	-14	-15	-15	-17	-14	-15	-14.8
	(percentage of GDP) Source: Eurostat	EU average	-90	-162	-155	-160	-148	-161	-165	-215.8
	Net external debt	SK	20	29	29	32	34	32	31	31.3
	(percentage of GDP) Source: Eurostat	EU average	-95	-31	-39	-44	-47	-73	-82	-84.1

Category	Score	2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicators	Real effective exchange rate (PPI-deflated)	-0.99	0.07	0.37	0.93	1.19	0.39	-0.21	0.79
	Nominal unit labour costs	0.15	-0.07	-0.21	-0.51	-0.58	-0.86	-0.68	-0.86
Additional indicators	Export market shares	0.19	0.29	0.12	-0.46	-0.52	-0.55	-0.29	-0.70
	Terms of trade	-1.17	-2.25	-2.13	-2.03	-1.77	-1.64	-1.19	-0.68
	Current account balance	-0.43	-0.49	-0.99	-1.30	-1.19	-1.07	-0.75	-0.68
	Net investment position	0.23	0.21	0.20	0.20	0.19	0.19	0.18	0.22
	Net external debt	-0.21	-0.17	-0.19	-0.21	-0.22	-0.23	-0.22	-0.23

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

Table 14 Fiscal sustainability

Category	Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicator	Sustainability of public finances (S2 indicator)	SK	10.4	3.5	2.4	2.4	2.5	3.8	7.7	10.6
	(percentage of GDP) *Source: European Commission*	EU average	6.8	2.2	2.1	1.9	2.3	2.4	2.4	3.8
Additional indicators	Gross public debt	SK	40.8	51.8	52.4	51.6	49.6	48.1	59.7	63.1
	(percentage of GDP) *Source: Eurostat*	EU average	60.5	70.9	70.1	67.3	65.4	63.1	75.4	72.8
	Gross public debt with a residual maturity of less than one year	SK	4.7	3.6	4.5	2.1	3.4	3.8	3.7	3.9
	(percentage of GDP) *Source: ECB*	EU average	11.5	11.4	11.7	10.3	10.9	10.4	12.7	11.8
	Gross public debt with a residual maturity of one to five years	SK	17.3	16.6	12.6	9.9	12.3	11.8	17.5	19.7
	(percentage of GDP) *Source: ECB*	EU average	22.9	22.7	22.8	21.6	20.5	20.2	24.0	22.9
	Ten-year government bond yields	SK	3.9	0.9	0.5	0.9	0.9	0.3	0.0	-0.1
	(percentage) *Source: Eurostat*	EU average	4.8	1.9	1.6	1.6	1.5	0.8	0.4	0.5

Category	Score	2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicator	Sustainability of public finances (S2 indicator)	-0.87	-0.66	-0.15	-0.26	-0.07	-0.55	-1.83	-1.88
Additional indicators	Gross public debt	0.60	0.50	0.46	0.41	0.40	0.39	0.36	0.24
	Gross public debt with a residual maturity of less than one year	0.78	0.94	0.85	1.02	0.90	0.86	0.97	0.94
	Gross public debt with a residual maturity of one to five years	0.46	0.59	0.97	1.13	0.76	0.77	0.54	0.27
	Ten-year government bond yields	0.47	0.53	0.58	0.48	0.52	0.52	0.51	0.59

5.3. Social inclusion

Table 15 People at risk of poverty, by economic activity; people at risk of material deprivation

Indicator		2010	2015	2016	2017	2018	2019	2020
Risk of poverty – population	SK	19.6	18.4	18.1	16.3	16.3	16.4	14.8
(percentage)	EU average	24.0	24.4	23.8	22.8	21.7	21.1	20.7
Risk of poverty – employed	SK	11.1	9.9	10.1	9.0	8.4	7.4	7.4
(percentage)	EU average	13.4	12.7	12.3	11.8	10.8	10.4	10.3
Risk of poverty – not employed	SK	29.2	25.8	25.4	23.3	23.2	25.7	23.1
(percentage)	EU average	35.7	35.5	35.3	34.5	34.0	33.6	33.4
Risk of poverty – retired	SK	18.6	13.6	13.1	12.8	12.2	14.4	13.3
(percentage)	EU average	24.1	21.5	22.0	22.2	22.6	22.8	22.8
Risk of poverty – retired and aged under 60	SK	54.2	44.7	42.9	22.0	12.8	18.8	19.6
(percentage)	EU average	57.2	57.9	58.6	54.3	52.8	53.6	56.5
Material deprivation	SK	-	16.8	15.5	13.5	12.3	11.4	9.7
(percentage)	EU average	-	18.9	17.2	15.8	14.2	13.1	12.3

Table 15 People at risk of poverty, by economic activity; people at risk of material deprivation (continued)

Score	2010	2015	2016	2017	2018	2019	2020
Risk of poverty – population	0.53	0.85	0.81	0.97	0.97	0.89	1.18
Risk of poverty – employed	0.29	0.48	0.36	0.48	0.53	0.70	0.74
Risk of poverty – not employed	0.69	1.17	1.20	1.30	1.25	0.98	1.33
Risk of poverty – retired	0.44	0.69	0.78	0.79	0.82	0.67	0.81
Risk of poverty – retired and aged under 60	0.30	1.36	1.83	3.13	3.02	2.84	2.63
Material deprivation	-	0.16	0.14	0.20	0.19	0.18	0.30

Source: Eurostat.

Table 16 People at risk of poverty, by type of household

Indicator		2010	2015	2016	2017	2018	2019	2020
Risk of poverty – one adult aged under 65	SK	38.2	28.3	28.7	30.7	27.9	30.8	26.7
(percentage)	EU average	40.6	39.6	38.5	38.1	35.9	34.6	33.9
Risk of poverty – one adult aged over 65	SK	26.8	18.9	16.6	17.7	19.7	28.2	33.3
(percentage)	EU average	34.1	32.3	33.2	34.1	35.8	36.4	37.4
Risk of poverty – one adult with one dependent child	SK	44.1	39.1	40.7	45.0	45.7	40.1	38.8
(percentage)	EU average	50.1	47.8	47.7	45.9	44.6	41.9	40.8
Risk of poverty – two adults with one dependent child	SK	17.7	12.5	12.3	12.3	14.2	11.9	13.5
(percentage)	EU average	19.2	18.2	17.4	16.6	15.4	14.9	13.8
Risk of poverty – two adults with two dependent children	SK	13.4	18.5	17.3	15.7	16.3	11.7	12.1
(percentage)	EU average	19.7	18.2	17.7	16.3	15.0	14.2	14.5
Risk of poverty – two adults with three or more dependent children	SK	33.7	37.9	37.7	35.4	37.7	38.0	39.0
(percentage)	EU average	33.9	35.2	33.9	31.8	29.0	28.9	29.6

Score	2010	2015	2016	2017	2018	2019	2020
Risk of poverty – one adult aged under 65	0.26	1.68	1.43	1.10	1.12	0.68	1.22
Risk of poverty – one adult aged over 65	0.42	0.71	0.87	0.86	0.83	0.44	0.23
Risk of poverty – one adult with one dependent child	0.56	1.13	0.76	0.13	-0.18	0.26	0.29
Risk of poverty – two adults with one dependent child	0.17	0.90	0.75	0.71	0.25	0.61	0.12
Risk of poverty – two adults with two dependent children	0.66	-0.04	0.04	0.08	-0.18	0.39	0.40
Risk of poverty – two adults with three or more dependent children	0.01	-0.16	-0.22	-0.22	-0.72	-0.68	-0.67

Source: Eurostat.

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Table 17 Expenditure on social inclusion

Indicator		2010	2014	2015	2016	2017	2018	2019
Social protection expenditure	SK	18.1	18.5	18.0	18.4	18.2	18.0	17.9
(percentage of GDP)	EU average	24.2	23.7	23.2	23.1	22.6	22.5	22.6
Old-age expenditure	SK	6.6	7.3	7.1	7.2	7.2	7.1	7.1
(percentage of GDP)	EU average	9.2	9.6	9.5	9.4	9.3	9.2	9.2
Disability expenditure	SK	1.5	1.6	1.5	1.6	1.6	1.5	1.5
(percentage of GDP)	EU average	2.0	1.9	1.8	1.8	1.7	1.7	1.7
Family policy expenditure	SK	1.7	1.7	1.6	1.6	1.6	1.5	1.6
(percentage of GDP)	EU average	2.2	1.9	1.9	1.9	1.9	2.0	2.0
Unemployment expenditure	SK	1.0	0.5	0.5	0.5	0.5	0.5	0.5
(percentage of GDP)	EU average	1.4	1.2	1.1	1.1	0.9	0.9	0.9
Score		**2010**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Social protection expenditure		-1.12	-0.84	-0.83	-0.76	-0.72	-0.74	-0.78
Old-age expenditure		-1.25	-0.91	-0.87	-0.84	-0.79	-0.81	-0.81
Disability expenditure		-0.53	-0.33	-0.26	-0.22	-0.17	-0.25	-0.25
Family policy expenditure		-0.51	-0.28	-0.42	-0.43	-0.46	-0.63	-0.49
Unemployment expenditure		-0.46	-0.82	-0.81	-0.82	-0.78	-0.74	-0.69

Source: Eurostat.

Table 18 Income inequality

Indicator		2010	2015	2016	2017	2018	2019	2020
Gini coefficient	SK	25.9	23.7	24.3	23.2	20.9	22.8	20.9
	EU average	29.7	30.3	30.1	29.9	29.7	29.7	29.4
Income quintile share ratio (S80/S20)	SK	3.8	3.5	3.6	3.5	3.0	3.3	3.0
	EU average	4.8	5.1	5.0	4.9	4.9	4.8	4.7
Income quintile share ratio (S80/S50)	SK	2.0	1.8	1.8	1.7	1.6	1.7	1.6
	EU average	2.2	2.2	2.2	2.2	2.2	2.2	2.1
Income quintile share ratio (S50/S20)	SK	2.0	2.0	2.0	2.0	1.9	2.0	1.9
	EU average	2.2	2.3	2.3	2.2	2.2	2.2	2.2
Score		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Gini coefficient		1.00	1.56	1.52	1.65	2.07	1.69	2.12
Income quintile share ratio (S80/S20)		0.91	1.10	1.08	1.14	1.46	1.22	1.48
Income quintile share ratio (S80/S50)		0.91	1.71	1.66	1.74	2.00	1.72	2.09
Income quintile share ratio (S50/S20)		0.79	0.62	0.62	0.59	1.04	0.74	0.97

Source: Eurostat.

Table 19 Gender pay gap								
Indicator		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Gender pay gap – population	SK	19.6	19.8	19.0	19.9	19.7	18.1	15.5
(percentage)	EU average	14.3	14.7	14.4	13.7	12.5	12.5	11.5
Gender pay gap – 25–34 age group	SK	16.2	14.5	13.4	15.7	15.9	14.1	11.5
(percentage)	EU average	6.8	8.4	8.5	8.9	8.9	9.5	8.9
Gender pay gap – 35–44 age group	SK	27.5	24.6	24.2	24.4	24.0	22.3	20.1
(percentage)	EU average	15.0	14.9	14.5	14.3	13.9	13.5	12.7
Gender pay gap – 45–54 age group	SK	21.5	22.2	22.0	22.5	22.1	20.6	17.7
(percentage)	EU average	16.4	16.3	15.8	15.7	15.1	14.3	13.4
Gender pay gap – 55–64 age group	SK	13.5	17.6	16.8	17.1	17.3	16.3	13.1
(percentage)	EU average	15.5	14.7	13.5	13.4	13.8	11.4	10.4
Gender pay gap – over 65 age group	SK	6.7	20.5	20.6	24.4	14.9	11.7	12.7
(percentage)	EU average	19.0	19.8	17.8	16.4	16.2	12.5	12.2
Gender pay gap – under 25 age group	SK	7.3	12.3	11.1	12.8	12.3	10.4	6.9
(percentage)	EU average	2.5	6.2	6.2	6.6	5.7	6.3	6.2
Score		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Gender pay gap – population		-0.84	-1.03	-0.97	-1.12	-1.38	-1.01	-0.69
Gender pay gap – 25–34 age group		-1.57	-1.19	-1.01	-1.40	-1.16	-0.96	-0.54
Gender pay gap – 35–44 age group		-1.76	-1.53	-1.60	-1.65	-1.44	-1.43	-1.21
Gender pay gap – 45–54 age group		-0.69	-0.95	-1.03	-1.14	-1.06	-1.05	-0.70
Gender pay gap – 55–64 age group		0.19	-0.40	-0.45	-0.54	-0.47	-0.70	-0.37
Gender pay gap – over 65 age group		0.83	-0.05	-0.19	-0.49	0.10	0.06	-0.04
Gender pay gap – under 25 age group		-0.88	-1.30	-1.08	-1.43	-1.30	-1.03	-0.17

Source: Eurostat.

5.4 Health

Table 20 Health outcome indicators									
Indicator		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Life expectancy at birth	SK	75.6	76.7	77.3	77.3	77.4	77.8	77.0	74.8
(years) *Source: Eurostat*	EU average	78.7	79.7	80.0	80.0	80.2	80.5	79.7	79.2
Preventable mortality	SK		258	244	239	241.3	231.1		
(deaths per 100,000 inhabitants) *Source: Eurostat*	EU average		192	188	184	184.2	177.4		
Treatable mortality	SK		177	168	174	165.3	163.5		
(deaths per 100,000 inhabitants) *Source: Eurostat*	EU average		114	111	109	109.4	106.1		
Infant mortality	SK	5.7	5.1	5.4	4.5	5.0	5.1	5.1	
(deaths per 1,000 live births) *Source: Eurostat*	EU average	4.2	3.6	3.7	3.5	3.4	3.5	3.2	
Newborns with low birth weight	SK	9.0	7.7	7.5	7.5	7.3	7.5	7.3	
(percentage) *Source: OECD*	OECD average	6.5	6.6	6.6	6.6	6.6	6.6		

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Table 20 Health outcome indicators (continued)								
Score	2010	2015	2016	2017	2018	2019	2020	2021
Life expectancy at birth	-1.02	-1.05	-0.95	-0.98	-0.99	-0.97	-0.93	-1.16
Preventable mortality		-0.87	-0.77	-0.78	-0.80	-0.79		
Treatable mortality		-1.21	-1.14	-1.32	-1.15	-1.17		
Infant mortality	-0.81	-1.08	-1.21	-0.76	-1.34	-1.33	-1.82	
Newborns with low birth weight	-1.53	-0.71	-0.60	-0.59	-0.48	-0.54		

Table 21 Health system resources							
Indicator		2010	2015	2016	2017	2018	2019
Healthcare expenditure	SK		6.8	7.0	6.8	6.7	7.0
(percentage of GDP) *Source: Eurostat*	EU average	9.1	8.3	8.3	8.2	8.2	8.3
Healthcare expenditure per capita	SK		1,604	1,506	1,434	1,464	1,565
(EUR at PPP) *Source: Eurostat*	EU average	2,408	2,456	2,460	2,462	2,553	2,661
Inhabitants per hospital bed	SK	155	174	173	172	176	174
Source: Eurostat	EU average	207	221	224	228	230	233
Inhabitants per doctor	SK	298	290	288	292	284	280
Source: Eurostat	EU average	304	281	274	269	254	254
Inhabitants per nurse	SK	165	176	174	177	175	174
Source: Eurostat	EU average	133	132	130	128	126	136
CT examinations	SK	90	156	162	154	155	160
(number per 1,000 inhabitants) *Source: OECD*	OECD average	110	132	137	142	149	154
MRI examinations	SK	34	57	61	63	70	74
(number per 1,000 inhabitants) *Source: OECD*	OECD average	46	66	69	72	76	77
Number of examinations per CT scanner	SK	6,371	8,734	9,375	8,905	8,451	9,005
Source: OECD	OECD average	6,198	6,342	6,382	6,541	6,666	7,175
Number of examinations per MRI scanner	SK	4,875	6,415	6,808	6,585	7,282	7,728
Source: OECD	OECD average	4,384	4,512	5,324	5,197	5,192	5,181

Score	2010	2015	2016	2017	2018	2019
Healthcare expenditure		-0.81	-0.72	-0.75	-0.81	-0.70
Healthcare expenditure per capita		-0.80	-0.92	-0.98	-1.02	-1.00
Inhabitants per hospital bed	0.72	0.57	0.60	0.64	0.61	0.65
Inhabitants per doctor	0.10	-0.17	-0.28	-0.45	-0.75	-0.66
Inhabitants per nurse	-0.63	-0.89	-0.92	-1.01	-1.02	-0.81
CT examinations	-0.35	0.45	0.45	0.21	0.10	0.10
MRI examinations	-0.44	-0.29	-0.24	-0.28	-0.19	-0.11
Number of examinations per CT scanner	0.05	0.75	0.91	0.70	0.52	0.49
Number of examinations per MRI scanner	0.24	0.97	0.33	0.36	0.84	1.24

Table 22 Selected healthcare quality indicators

Indicator		2010	2015	2016	2017	2018	2019	2020
Self-reported unmet need for medical care	SK	1.7	2.1	2.3	2.4	2.6	2.7	3.2
(percentage of population aged over 16) *Source: Eurostat*	EU average	3.6	3.5	3.2	2.5	2.7	2.5	2.3
AMI 30-day mortality	SK	8.0	6.3	5.8	5.9	6.3	6.3	6.5
(deaths per 100 admissions) *Source: OECD*	OECD average	7.8	7.2	7.2	7.1	5.9	6.0	7.4
Ischaemic stroke 30-day mortality	SK	11.5	9.4	8.8	9.0	8.9	8.6	9.0
(deaths per 100 admissions) *Source: OECD*	OECD average	9.0	8.7	8.5	8.3	7.7	7.8	10.0
Haemorrhagic 30-day mortality	SK	30.8	28.8	25.5	26.9	25.4	24.0	27.9
(deaths per 100 admissions) *Source: OECD*	OECD average	24.2	23.2	24.4	23.2	22.9	22.7	26.9
Breast cancer five-year net survival [1)]	SK	76.6	75.5					
(percentage) *Source: OECD*	OECD average	83.3	84.3					
Lung cancer five-year net survival [1)]	SK	10.5	11.2					
(percentage) *Source: OECD*	OECD average	15.3	17.1					
Immunisation of children against measles	SK	98.0	95.0	95.0	96.0	96.0		
(percentage) *Source: OECD*	OECD average	93.5	94.8	94.6	94.4	94.8		
Immunisation of children against diphtheria, tetanus and pertussis	SK	99.1	96.0	96.4	96.4	96.5		
(percentage) *Source: OECD*	OECD average	94.9	95.1	95.1	95.0	94.8		
Immunisation of children against hepatitis B	SK	99.0	96.0	96.0	96.0	97.0		
(percentage) *Source: OECD*	OECD average	88.6	91.4	92.3	90.6	91.0		
Immunisation of people aged over 65 against influenza	SK	23.8	13.8	13.3	13.0	12.5	11.5	
(percentage) *Source: OECD*	OECD average	45.3	43.0	42.4	44.2	46.0	44.8	
Breast cancer screening rate	SK	32.7	30.4	30.8	30.7	30.4	31.0	
(percentage of women aged 50–69) *Source: OECD*	OECD average	58.7	57.1	58.2	57.9	58.8	58.5	
Cervical cancer screening rate	SK	48.5	48.3	46.0	46.2	45.6	46.1	
(percentage of women aged 20–69) *Source: OECD*	OECD average	56.8	59.6	59.1	59.5	59.0	58.0	

Score	2010	2015	2016	2017	2018	2019	2020
Self-reported unmet need for medical care	0.50	0.37	0.23	0.03	0.03	-0.07	-0.31
AMI 30-day mortality	-0.05	0.20	0.29	0.27	-0.17	-0.10	0.24
Ischaemic stroke 30-day mortality	-0.69	-0.17	-0.07	-0.17	-0.33	-0.24	0.20
Haemorrhagic 30-day mortality	-0.90	-0.76	-0.17	-0.58	-0.33	-0.20	-0.10
Breast cancer five-year net survival [1)]	-1.33	-1.73					
Lung cancer five-year net survival [1)]	-1.05	-1.12					
Immunisation of children against measles	1.03	0.05	0.16	0.41	0.42		
Immunisation of children against diphtheria, tetanus and pertussis	1.13	0.33	0.43	0.47	0.55		
Immunisation of children against hepatitis B	0.63	0.50	0.51	0.55	0.64		
Immunisation of people aged over 65 against influenza	-0.92	-1.33	-1.31	-1.49	-1.63	-1.58	
Breast cancer screening rate	-1.37	-1.61	-1.64	-1.89	-1.87	-1.82	
Cervical cancer screening rate	-0.49	-0.76	-0.93	-1.03	-1.01	-0.83	

Note: 1) The figure for 2015 represents the period 2010–2014, while the figure for 2010 represents the period 2005–2009.

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Table 23 Indictors of lifestyle and other factors								
Indicator		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Premature deaths due to ambient air pollution	SK	751	646	613	614	622	636	
(deaths per million inhabitants) Source: OECD	OECD average	350	301	286	280	285	290	
Share of out-of-pocket payments	SK		18.4	18.2	18.7	18.9	19.2	
(percentage) Source: Eurostat	EU average	21.0	21.6	21.4	22.2	21.7	20.4	
Smoking prevalence [1)]	SK	26.0	21.0		26.0			25.0
(percentage) Source: Eurostat	EU average	29.6	26.0		26.0			24.6
Obesity rate by body mass index (BMI) [2)]	SK	15.1	16.3		14.4		19.7	
(percentage) Source: Eurostat	EU average	15.8	16.8		16.8		18.4	
Alcohol consumption	SK	10.1	10.2	9.9	9.7	10.1	10.3	9.9
(litres per inhabitant aged over 15) Source: OECD	OECD average	9.0	8.8	8.7	8.7	8.8	8.7	
Score		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Premature deaths due to ambient air pollution		-1.70	-1.69	-1.68	-1.74	-1.73	-1.76	
Share of out-of-pocket payments			0.32	0.32	0.33	0.27	0.14	
Smoking prevalence [1)]		0.62	0.87		0.01			-0.05
Obesity rate by body mass index (BMI) [2)]		0.19	0.14		0.70		-0.31	
Alcohol consumption		-0.40	-0.51	-0.44	-0.35	-0.50	-0.57	

Note: 1) The figure under 2010 (2015) is for 2009 (2014). 2) The figure under 2010 (2015) is for 2008 (2014).

5.5 Environment

Table 24 Climate neutrality indicators									
Category	**Indicator**		**2010**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Outcome indicators	Change in greenhouse gas emissions	SK	61.8	53.2	53.8	55.7	57.0	52.3	44.7
	(index: 1990 = 100)	EU average	87.7	80.3	81.0	84.2	83.6	78.6	70.1
	Greenhouse gas emissions per inhabitant	SK	7.3	6.2	6.3	6.5	6.6	6.1	5.2
	(tonnes per inhabitant)	EU average	9.4	8.4	8.5	8.7	8.7	8.2	7.3
Additional indicators	Energy productivity	SK	5.8	7.2	6.8	6.5	6.8	7.0	7.0
	(PPS per kilogram of oil equivalent)	EU average	6.5	8.1	8.1	8.3	8.6	9.1	9.5
	GHG emissions intensity of energy consumption	SK	89.1	82.9	82.9	81.3	81.8	77.7	73.7
	(index: 2000 = 100)	EU average	95.0	88.6	87.1	85.9	84.6	81.8	80.2
	Final energy consumption	SK	105.2	91.8	94.8	101.5	101.4	101.8	94.3
	(index: 2000 = 100)	EU average	109.4	103.3	105.7	108.4	109.9	109.8	100.7

Table 24 Climate neutrality indicators (continued)

Category	Score		2010	2015	2016	2017	2018	2019	2020
Additional indicators	Share of renewable energy in the energy mix	SK	9.1	12.9	12.0	11.5	11.9	16.9	17.3
	(percentage)	EU average	16.4	20.3	20.4	20.9	21.5	22.4	24.4
	Share of solid fossil fuels in final energy consumption	SK	6.9	4.9	4.0	4.1	4.3	4.2	3.7
	(percentage)	EU average	2.7	2.3	2.2	2.1	2.1	1.9	1.8
	Average CO2 emissions per km from new passenger cars	SK	149.0	127.6	124.8	126.1	127.6	130.4	121.8
	(grams of CO2 per kilometre)	EU average	144.1	120.9	118.7	119.1	120.4	121.9	111.1
	Material consumption efficiency	SK	1.4	1.7	1.7	1.6	1.6	1.8	1.8
	(PPS per kilogram)	EU average	1.6	1.8	1.9	1.9	1.9	2.0	2.0
	Share of buses and trains in total passenger transport	SK	22.0	24.2	25.2	25.6	26.1	26.2	
	(percentage)	EU average	18.3	18.4	18.2	18.0	18.0	17.9	
	Share of rail in total freight transport	SK	38.5	36.6	34.6	32.9	32.6	31.0	28.5
	(percentage)	EU average	25.9	24.5	23.6	23.8	24.1	23.3	22.0

Category	Score	2010	2015	2016	2017	2018	2019	2020
Outcome indicators	Change in greenhouse gas emissions	0.87	0.98	0.92	0.92	0.94	0.96	0.96
	Greenhouse gas emissions per inhabitant	0.43	0.59	0.57	0.58	0.55	0.56	0.64
Additional indicators	Energy productivity	-0.41	-0.38	-0.53	-0.67	-0.68	-0.75	-0.77
	GHG emissions intensity of energy consumption	0.63	0.58	0.42	0.44	0.29	0.41	0.61
	Final energy consumption	0.45	1.01	0.90	0.49	0.52	0.47	0.41
	Share of renewable energy in the energy mix	-0.67	-0.63	-0.71	-0.79	-0.83	-0.46	-0.61
	Share of solid fossil fuels in final energy consumption	-1.06	-0.77	-0.56	-0.61	-0.76	-0.92	-0.75
	Average CO2 emissions per km from new passenger cars	-0.47	-0.68	-0.75	-0.89	-0.88	-0.97	-0.92
	Material consumption efficiency	-0.22	-0.12	-0.27	-0.35	-0.42	-0.28	-0.28
	Share of buses and trains in total passenger transport	0.77	1.30	1.59	1.68	1.84	1.95	
	Share of rail in total freight transport	0.57	0.63	0.60	0.50	0.46	0.43	0.41

Source: Eurostat.

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Table 25 Pollutions indicators

Category	Indicator		2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicator	Mean population exposure to PM2.5	SK	21.7	19.3	18.0	18.4	18.7	18.5		
	(micrograms per cubic metre) Source: OECD	OECD average	15.6	14.0	13.2	13.2	13.3	13.2		
Additional indicators	Nitrate in groundwater	SK	14.1	12.8	14.2	13.3	14.4	12.6		
	(milligrams per litre) Source: Eurostat	EU average	23.5	24.9	27.1	23.4	23.3	22.9		
	Phosphates in rivers	SK	0.07	0.09	0.10	0.07	0.07	0.1		
	(milligrams per litre) Source: Eurostat	EU average	0.07	0.06	0.06	0.06	0.06	0.1		
	Share of industry in GDP	SK	22.7	23.5	22.4	21.4	22.0	23.6	21.5	22.2
	(percentage) Source: Eurostat	EU average	17.9	18.1	18.0	17.7	17.4	17.2	17.1	17.7
	Population connected to waste water treatment systems	SK			63.6	65.0	65.7	68.1		
	(percentage) Source: Eurostat	EU average	72.4	72.0	75.4	74.1	74.6	74.0		

Category	Score	2010	2015	2016	2017	2018	2019	2020	2021
Outcome indicator	Mean population exposure to PM2.5	-0.96	-0.81	-0.76	-0.86	-0.87	-0.87		
Additional indicators	Nitrate in groundwater	0.64	0.64	0.53	0.64	0.59	0.68		
	Phosphates in rivers	-0.08	-0.67	-0.86	-0.18	-0.20	-0.14		
	Share of industry in GDP	-0.91	-0.83	-0.69	-0.60	-0.75	-1.08	-0.73	-0.70
	Population connected to waste water treatment systems			-0.54	-0.43	-0.38	-0.27		

Table 26 Waste production indicators

Category	Indicator		2010	2015	2016	2017	2018	2019	2020
Outcome indicators	Generation of municipal waste per capita	SK	319	329	348	378	414	421	433
	(kilograms per inhabitant)	EU average	480	469	488	499	505	518	510
	Recycling rate of municipal waste	SK	9.1	14.9	23.0	29.8	36.3	38.5	42.2
	(percentage)	EU average	26.8	35.2	37.4	37.9	38.5	39.9	39.4
Additional indicators	Recycling rate of packaging waste	SK	45.7	64.3	65.8	65.7	66.6	67.5	
	(percentage)	EU average	59.9	63.5	65.0	64.4	64.3	63.5	
	Recovery rate of packaging waste	SK	47.5	66.7	69.5	68.6	69.1	69.7	
	(percentage)	EU average	70.8	74.7	76.3	75.9	75.7	75.7	
	Landfill rate of waste	SK	55.0		47.0		40.0		
	(percentage)	EU average	35.3		30.5		28.8		

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Table 26 Waste production indicators (continued)								
Category	Score	2010	2015	2016	2017	2018	2019	2020
Outcome indicator	Generation of municipal waste per capita	1.34	1.11	1.02	0.95	0.72	0.74	0.58
	Recycling rate of municipal waste	-1.02	-1.33	-0.98	-0.56	-0.14	-0.09	0.20
Additional indicators	Recycling rate of packaging waste	-1.15	0.09	0.09	0.14	0.25	0.39	
	Recovery rate of packaging waste	-1.19	-0.48	-0.41	-0.44	-0.38	-0.31	
	Landfill rate of waste	-0.85		-0.70		-0.49		

Source: Eurostat.

Table 27 Environmental policy indicators								
Indicator		2010	2015	2016	2017	2018	2019	2020
Implicit tax rate on energy	SK	118	191	188	185	185	178	185
(EUR per tonne of oil equivalent)	EU average	184	219	222	221	221	222	209
Environmental tax revenues	SK	2.1	2.5	2.5	2.5	2.5	2.4	2.4
(percentage of GDP)	EU average	2.6	2.7	2.7	2.7	2.6	2.6	2.4
Share of environmental taxes in public revenues	SK	7.4	7.7	7.6	7.5	7.2	7.0	6.8
(percentage)	EU average	7.7	7.6	7.6	7.4	7.2	7.1	6.7
Environmental protection investments	SK	0.4	0.8	0.4	0.4	0.4	0.3	
(percentage of GDP)	EU average	0.6	0.7	0.4	0.4	0.4	0.4	
National expenditure on environmental protection	SK	2.2	2.3	1.9	1.9	1.7	1.8	
(percentage of GDP)	EU average	1.8	2.0	1.8	1.8	1.9	1.9	
Score		2010	2015	2016	2017	2018	2019	2020
Implicit tax rate on energy		-0.97	-0.34	-0.44	-0.45	-0.44	-0.58	-0.35
Environmental tax revenues		-1.00	-0.29	-0.35	-0.18	-0.22	-0.28	-0.08
Share of environmental taxes in public revenues		-0.14	0.04	-0.05	0.04	0.01	-0.09	0.06
Environmental protection investments		-0.54	0.30	0.19	0.36	-0.02	-0.66	
National expenditure on environmental protection		0.79	0.51	0.10	0.09	-0.23	-0.16	

Source: Eurostat.