



European Construction Sector Observatory

Country profile **Slovakia**

September 2021



In a nutshell

In 2020, Slovakia's GDP reached EUR 84.9 billion, registering a 20.8% increase as compared to its 2010 level. Contrarily, this represented a drop of 4.8% against its 2019 level.

In line with the overall economy, the broad construction sector in Slovakia, after experiencing some positive developments as from 2010, observed some difficulties in 2019. With regards to the **number of enterprises** in the sector, while it grew by 2.8% between 2010 and 2020 (123,905 in 2020), it significantly declined as compared to 2019 level (-15.8%). This is probably explained by the advent of COVID-19 pandemic.

Number of enterprises in the broad construction sector between 2010 and 2020

 **2.8%**

In contrast, the **volume index of production** in the broad construction sector declined by 12.0% over the 2015-2019 period. In 2020, the index further worsened because of the impact of the COVID-19 pandemic, decreasing by -3.6% with respect to 2019. Likewise, the volume index of production in the construction of buildings and civil engineering also dropped by 12.4% and 25.2% over the 2015-2020 period, respectively, thus also reflecting the negative impact of COVID-19.

Volume index of production in construction of civil engineering between 2015 and 2020

 **25.2%**

Similarly, the **total turnover** in the broad construction sector increased by 25.7% between 2010 and 2020, reaching EUR 18.4 billion in 2020. In

contrast, it witnessed a decline of 11.6% as compared to 2019 levels, mostly due to COVID-19 pandemic outbreak. The increase over the 2010-2020 period was driven by the growth in the real estate activities (+69.0%), the manufacturing (+53.3%), the architectural and engineering activities (+47.6%) and the narrow construction (+4.2%) sub-sectors. However, compared to 2019, the total turnover of the broad construction sector decreased by 11.6% in 2020, with the largest decline recorded in the narrow construction sub-sector (-21.0%). This was followed by the architectural and engineering activities (-5.0%) and the manufacturing (-1.4%) sub-sectors.

Turnover in the broad construction sector between 2010 and 2020

 **25.7%**

In contrast, the **gross operating surplus** of the broad construction sector amounted to EUR 2.7 billion in 2018¹, a 2.8% drop from 2010, owing to an increase in construction costs. The largest decrease in the gross operating surplus was registered in the narrow construction sub-sector (-11.3%), followed by the real estate activities sub-sector (-0.9%). In contrast, the gross operating surplus in the architectural and engineering activities and manufacturing sub-sectors recorded increases of 41.4% and 9.0% respectively, over the 2010-2018 period.

Similarly, the **gross operating rate** of the broad construction sector, which gives an indication of the sector's profitability, decreased from 18.9% in 2010 to 13.2% in 2018, below the EU-27 average of 16.7%.

In terms of **employment**, there were 235,532 persons employed in the Slovak broad construction

sector in 2020, representing a drop of 8.5% over 2010. This was mostly due to a decrease in employment in the narrow construction (-20.7%) sub-sector offsetting the rise in employment in the real estate activities (+51.0%), the manufacturing (+2.7%) as well as the architectural and engineering activities (+2.0%) sub-sectors during the same period.

Meanwhile, the **housing market** in Slovakia is characterised by increasing **house prices**. In fact, the house price index for total dwellings in Slovakia increased by 45.1% over the 2015-2020 period, mostly supported by a growing demand driven by lower interest rates and a growing urban population.

House price index
between 2015 and 2020



In parallel, the housing supply is not expected to fully meet the demand in the near future, especially in urban areas. In June 2021, the number of completed dwellings stood at 4,872 units, marking a significant decrease of 28.5% from the previous number of 6,810 units recorded in December 2020. Additionally, following the outbreak of COVID-19 and market related uncertainty, the preparation of new projects for house (dwelling) buildings has been further delayed. Therefore, it is expected that there will be a significant gap in the outputs of the building sector in 2021.

Under the National Recovery and Resilience Plan (RRP) Slovakia has allocated EUR 801.0 million towards development of sustainable transport, EUR 728.0 million towards building renovations, EUR 615.0 million towards developing digital Slovakia, EUR 368.0 million towards decarbonisation of the industry, and EUR 159.0 million towards climate change adaptation.

Slovakia also aims to renovate 30,000 single-family buildings and 117,000m² of historic public buildings by 2026, thereby achieving at least 30.0% primary energy savings. The country set an indicative investment requirement of EUR 6.9 billion by 2026, with its RRP contributing about EUR 776.0 million towards renovation.

With regards to the Slovak **infrastructure**, the majority of the construction work is supported by EU funding. For example, two important EU backed projects include D1 and D4 (a Public Private Partnership supported by EIB funding) motorways, forming an integral part of the Trans-European Transport Network (TEN-T). The Slovak government has also announced investment commitments up to EUR 2.9 billion to improve roads in the Upper Nitra coal mining region. In November 2020, the Slovak government signed an agreement with the Railways of the Slovak Republic (ŽSR) to modernise the Žilina railway junction.

Presently, the Slovak construction sector faces a number of issues including a shortage of skilled labour workforce, as well as low innovation rates. Moreover, the Slovak construction sector also suffers from rising cases of late payment, partly linked to the advent of COVID-19. As a result, the total value of outstanding B2B invoices in Slovakia increased from 23.0% in 2019 to 49.0% in 2020. This may also lead to additional business insolvencies in the construction sector.

Overall, the Slovak construction sector has a positive outlook in the medium and long term. Despite residential buildings being the largest construction segment, non-residential and infrastructure construction – often supported by EU funding – are expected to be the primary growth drivers.

Table of Contents

In a nutshell	2
1 Key figures	5
Construction market.....	5
Productivity	6
Turnover and profitability	7
Employment	7
2 Macroeconomic indicators	9
Economic development.....	9
Demography and employment.....	9
Public finance	10
Entrepreneurship and access to finance	10
3 Key economic drivers of the construction sector	11
Business confidence	11
Domestic sales	11
Export of construction-related products and services	12
Access to finance in the construction sector.....	13
Access to housing	13
Infrastructure.....	15
4 Key issues and barriers in the construction sector	16
Company failure	16
Trade credit	16
Late payment.....	17
Time and cost of obtaining building permits and licenses	18
Skills shortage	18
Sector and sub-sector specific issues	19
5 Innovation in the construction sector	20
Innovation performance.....	20
Eco-innovation and digitalisation	21
6 National and regional regulatory framework	23
Policy schemes.....	23
Building regulations.....	24
Insurance and liability related regulations	25
7 Current status and national strategies to meet Construction 2020 objectives	26
TO 1 – Investment conditions and volumes	26
TO 2 – Skills.....	28
TO 3 – Resource efficiency / Sustainable construction	29
TO 4 – Single Market	30
TO 5 – International competitiveness	31
8 Outlook	32

1

Key figures

Construction market

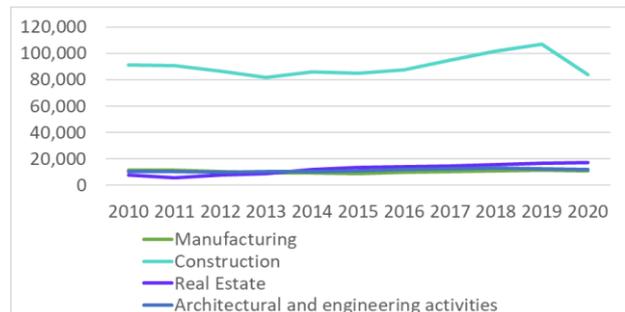
The **number of enterprises** in the broad construction sector in Slovakia totalled 123,905 enterprises in 2020², with the narrow construction sub-sector accounting for 67.5% of the total number of firms (Figure 1). The number of enterprises in the broad construction sector increased slightly by 2.8% between 2010 and 2020³. The real estate activities sub-sector experienced the highest growth (+130.4%), increasing from 7,511 in 2010 to 17,305 in 2020. It was followed by the architectural and engineering activities sub-sector (+17.2%). In contrast, the manufacturing and the narrow construction sub-sectors recorded a decline of 3.8% and 8.5% over the 2010-2020 period, respectively.

Number of enterprises in the broad construction sector between 2010 and 2020 **↑ 2.8%**

The **volume index of production** in the broad construction sector recorded a decline of 14.5% between 2015 and 2020. In parallel, the volume index of production in construction of civil engineering dropped by 25.2% over the same period. Similarly, the volume index of production in the construction of buildings also registered a decline of 12.4% over the 2015-2020 period (Figure 2).

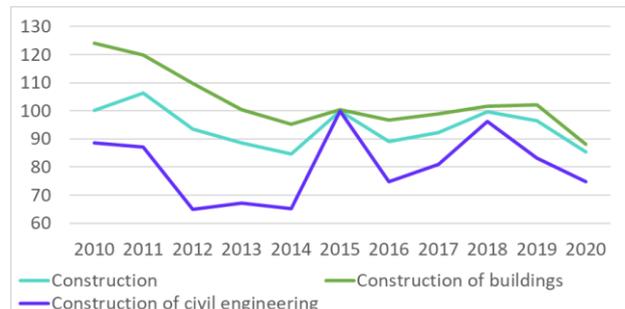
Volume index of production in construction of civil engineering between 2015 and 2020 **↓ 25.2%**

Figure 1: Number of enterprises in the Slovak broad construction sector between 2010 and 2020



Source: Eurostat, 2021.

Figure 2: Volume index of production in the Slovak construction sector between 2010 and 2020 (2015=100)



Source: Eurostat, 2021.

The total **value added** of the broad construction sector amounted to EUR 4.5 billion in 2020⁴, with the narrow construction sub-sector contributing to 43.1% of the total⁵ (EUR 1.9 billion). This represented a decline of 21.5% over the 2010-2020 period. The real estate activities sub-sector contributed 30.7% of the total⁶ (EUR 1.4 billion), followed by the manufacturing (15.7%, EUR 710.2 million) and architectural and engineering activities sub-sectors (10.5%, EUR 473.3 million).

The share of gross value added of the narrow construction sub-sector in the GDP stood at 6.2% in 2020, slightly above the EU-27 average of 5.1%. Conversely, the real estate activities sub-sector gross value added in the GDP, which stood at 9.0% in 2019, was slightly below the EU-27 average of 10.3% (Figure 3).

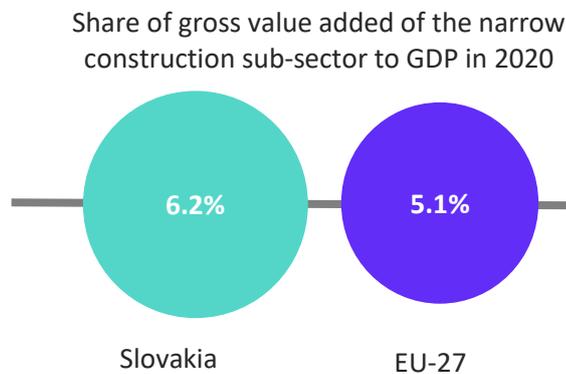
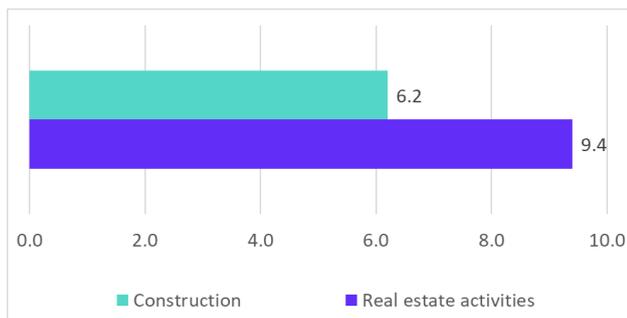


Figure 3: Gross value added as a share of GDP in the Slovak broad⁷ construction sector in 2020 (%)



Source: Eurostat, 2021.

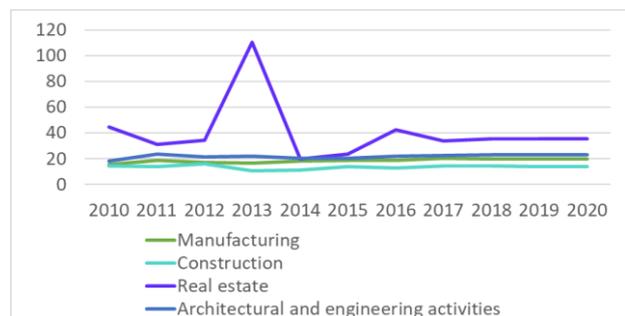
There are four statistical regions in Slovakia - *Bratislavský kraj*, *Západné Slovensko*, *Stredné Slovensko* and *Východné Slovensko*. The gross value added is not equally split over these regions. *Stredné Slovensko* had the highest share (29.9%) in gross value added in the narrow construction sub-sector in 2019, followed by *Západné Slovensko* (27.6%), *Východné Slovensko* (23.5%) and *Bratislavský kraj* (18.9%). Similarly, in the real estate activities sub-sector, *Bratislavský kraj* had the highest share (35.3%) in gross value added in 2019, followed by *Východné Slovensko* (22.8%), *Západné Slovensko* (22.6%) and *Stredné Slovensko* (19.2%).

Productivity

Apparent labour productivity⁸ of the broad construction sector reached EUR 18,578 in 2018⁹, an increase of 5.7% over the 2010-2018 period. It remained well below the EU-27 average of EUR 51,960 for 2018.

The manufacturing sub-sector experienced the highest increase in apparent labour productivity, growing from EUR 15,298 in 2010 to EUR 19,878 in 2018 (+29.9%), followed by the architectural and engineering activities sub-sector, which increased from EUR 18,000 to EUR 22,900 over the 2010-2018 period (+27.2%). Similarly, the labour productivity in the narrow construction sub-sector slightly increased from EUR 14,000 in 2010 to EUR 14,300 in 2018 (+2.1%). However, the real estate activities sub-sector experienced a decline from EUR 44,500 in 2010 to EUR 35,600 in 2018 (-20.0%).

Figure 4: Labour productivity in the broad construction sector in Slovakia between 2010 and 2020 (EUR k)



Source: Eurostat, 2021.

Over the 2018-2020 period, productivity in the manufacturing (-1.1%) and the narrow construction (-2.8%) sub-sectors decreased to EUR 19,664 and EUR 13,901, respectively. Productivity in the real estate activities and the architectural and engineering activities sub-sectors are also expected to decline to EUR 35,589 and EUR 22,892 in 2020, respectively.

Over the 2010-2020 period, the manufacturing sub-sector recorded the largest growth in labour productivity (+28.5%), followed by the architectural and engineering activities sub-sector (+27.2%).

Slovakia’s productivity growth has been primarily driven by joining global value chains, particularly in labour-intensive segments. Large foreign investment inflows have also helped develop a competitive export-led industry, encouraging strong growth and productivity performance¹⁰.

Turnover and profitability

Over the 2010-2018 period, the **turnover** of the Slovak broad construction sector grew by 40.0%, reaching EUR 20.5 billion. In 2020, it declined to EUR 18.4 billion, a decrease of 11.6% over the previous year (while this represented an increase of 25.7% over the 2010 level). This decline reflects the impact of the COVID-19 pandemic on the sector. In 2020, over half of the total turnover (50.7%) was generated by the narrow construction sub-sector, followed by the real estate (23.8%), the manufacturing (17.3%) and the architectural and engineering activities (8.2%) sub-sectors.

Turnover in the broad construction sector between 2010 and 2020  **25.7%**

Conversely, the **gross operating surplus**¹¹ of the broad construction sector amounted to EUR 2.7 billion in 2018¹², a 2.8% drop from 2010, owing to the increase in the construction cost. The largest decrease in gross operating surplus was registered by the narrow construction sub-sector (-11.3%), followed by the real estate activities sub-sector (-0.9%). In contrast, the gross operating surplus in the architectural and engineering activities and the manufacturing sub-sectors recorded increases of 41.4% and 9.0% over the 2010-2018 period, respectively.

Gross operating surplus in the architectural and engineering activities sub-sector between 2010 and 2018  **41.4%**

Similarly, the **gross operating rate** of the broad construction sector, which gives an indication of the sector’s profitability, decreased from 18.9% in 2010 to 13.2% in 2018¹³, well below the EU-27 average of 16.7%.

In parallel, the construction cost index has been on an increasing trend since 2010. Over the 2015-2019 period, the construction cost index increased by 12.6%¹⁴.

Figure 5: Construction cost index between 2010 and 2019 (2015=100)

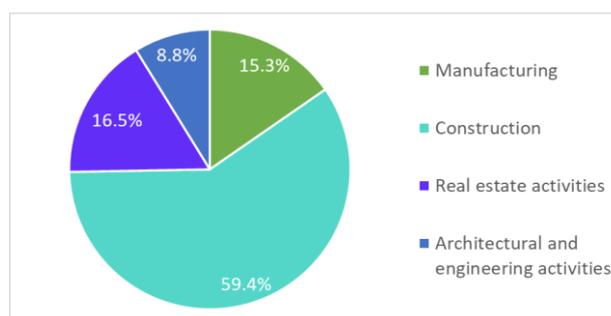


Source: Eurostat, 2021.

Employment

In 2020¹⁵, there were 235,532 **persons employed** in the Slovak broad construction sector, a decrease of 8.5% since 2010¹⁶ (257,539 people). With regards to sub-sectors, the narrow construction sub-sector employed 59.4% of the total workforce of the broad construction sector (Figure 6), followed by the real estate activities (16.5%), the manufacturing (15.3%) and the architectural and engineering activities (8.8%) sub-sectors.

Figure 6: Percentage of people employed per construction sub-sectors in Slovakia in 2020



Source: Eurostat, 2021.

Over the 2010-2020 period, the number of persons employed in the narrow construction sub-sector decreased by 20.7% (139,847 persons), offsetting the increments observed in the real estate activities (+51.0%, 38,894 persons), the manufacturing (+2.7%, 36,114 persons) and the architectural and engineering activities (+2.0%, 20,677 persons) sub-sectors.

SMEs in the broad construction sector employed a large portion of workers with almost 89.2% share in 2018¹⁷.

Number of persons employed in the narrow construction sub-sector between 2010 and 2020

↓ 20.7%

As for **employment by specific occupation**, craft and related trade workers constitute the largest occupation (56.0%) in the narrow construction sub-sector, even though they declined by 11.0% between 2010 and 2020. The largest increase was registered for clerical support workers (+91.4%), followed by technicians and associate professionals (+35.3%) over the same period.

Similarly, in the manufacturing sub-sector, service and sales workers experienced the highest growth (+276.1%) between 2010 and 2020. This was followed by clerical support workers (+108.0%) and professionals (+59.7%). Plant and machine operators and assemblers accounted for the largest occupation (32.3%) share, followed by craft and related trades workers accounting for 29.1% of the total employment in the sub-sector.

In terms of **regional employment**, *Západné Slovensko* had the highest number of persons employed in the narrow construction sub-sector (59,300) in 2018¹⁸. In the real estate activities sub-sector, *Bratislavský kraj* had the highest number of persons employed (14,100) in 2018. In parallel, *Stredné Slovensko* recorded the strongest increase of employment in the real estate activities sub-sector (+44.5%) while *Bratislavský kraj* recorded the highest decline (-16.6%) in the narrow construction sub-sector over the 2010-2018 period.

The number of **self-employed workers** in the narrow construction sub-sector declined by 12.6% from 112,400 in 2010 to 98,200 in 2020. Self-employed workers in the narrow construction sub-sector represent 26.8% of the self-employed in the general economy, hinting at a highly fragmented construction market. This is more than double of the EU-27 average of 11.7%. Similarly, self-employment in the real estate activities sub-sector increased significantly by 117.9% between 2010 and 2020, representing 1.7% of all self-employed in the general economy in 2020 (marginally below the EU-27 average of 1.6%).

Self-employed workers in the narrow construction sub-sector between 2010 and 2020

↓ 12.6%

In parallel, **full-time employment** in the narrow construction sub-sector declined by 13.4% between 2010 and 2020. In contrast, an increase of 18.6% was recorded in the real estate activities sub-sector over the same reference period.

Similarly, in terms of **part-time employment**, the narrow construction sub-sector grew considerably by 100.0% between 2010 and 2020, reaching 4,800 in 2020. The real estate activities sub-sector also recorded an increase of 41.2% over the same reference period.

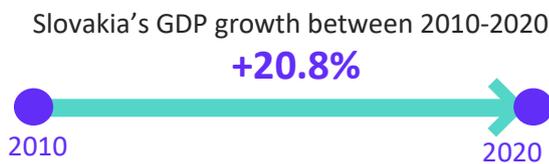
The ongoing COVID-19 global pandemic is expected to have an adverse impact on Slovakia's economy. According to the Finance Ministry of Slovakia, 76,000 jobs are projected to be lost in Slovakia, primarily in the areas of tourism, catering, retail, transport, industry and construction¹⁹.

2

Macroeconomic indicators

Economic development

Slovakia has witnessed a period of consistent growth since 2010 with GDP rising from EUR 70.3 billion in 2010 to EUR 84.9 billion in 2020. This economic expansion is primarily attributable to a rise in private consumption, low unemployment and increasing wages²⁰.



Conversely, this represented a drop of 4.8% in GDP against its 2019 level, probably due to the COVID-19 pandemic. The **potential GDP** of Slovakia stood at EUR 88.3 billion in 2020, resulting in an **output gap** of -3.9% for 2020.

Meanwhile, while the **inflation rate** remained on a deflationary trend between 2014 and 2016, it has been positive since 2017. In 2020, the inflation rate decreased to 2.0% from 2.8% in 2019.

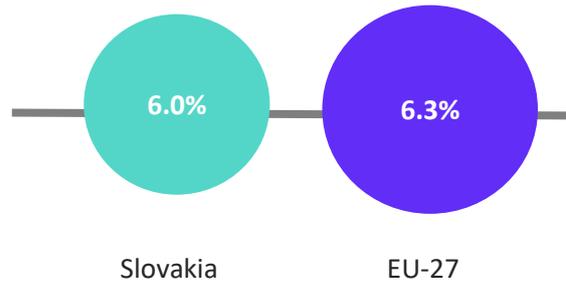
Demography and employment



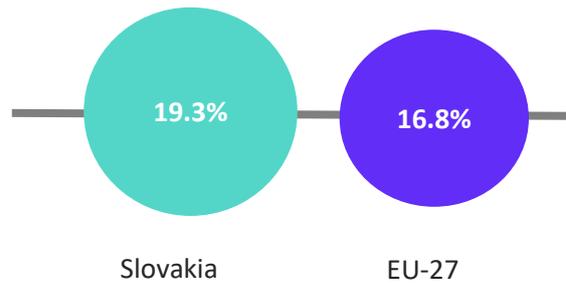
The overall unemployment rate (25-64 years old) in Slovakia deteriorated from 5.2% in 2019 to 6.0% in 2020, almost in line with the EU-27 average of 6.3%.

However, challenges with long-term structural unemployment persist. **Youth unemployment** (below the age of 25) has been declining continuously since the 2012 peak (33.7%), reaching 14.9% in 2018. However, it increased from 2019 onwards, reaching 19.3% in 2020, higher than the EU-27 average of 16.8%.

Unemployment rate in 2020



Youth unemployment rate in 2020



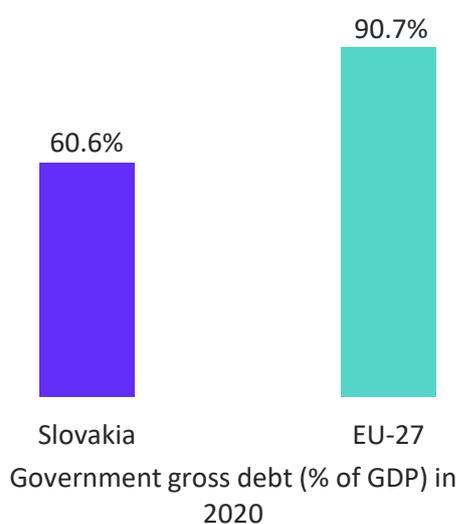
In terms of the **total population**, Slovak population amounted to 5.5 million in 2020. It is projected to shrink by 5.7% by 2050, reaching 5.1 million. Between 2010 and 2019, the net migration rate went from negative to positive from -4,929 to +3,632.

Furthermore, the **working age population (people aged between 15 and 64)** represented 67.6% of the total population in 2020, slightly higher than the EU-27 average of 64.3%. The **elderly population** (65 years or over) stood at 16.6% in 2020, well below the EU-27 average of 20.6%. Nevertheless, the share of the working age population is projected to decrease to 57.1% by 2050 while the share of the elderly population is forecast to rise to 29.4% over the 2020-2050 period. This projection indicates the future need for elderly infrastructure facilities like hospitals and care homes. This, in turn, highlights potential opportunities for the construction sector. In Slovakia, the old-age dependency ratio is expected to triple by 2060. *Banská Bystrica* region, one of the fastest ageing Slovak regions, has

identified the lack of integrated care system for elderly as an investment priority under the Catching-Up regions initiative²¹.

Public finance

In 2020, general **government expenditure** in Slovakia accounted for 48.0% of GDP, well above the 2010 level (42.2%) while below the EU-27 average of 53.4%. The same year, **general government deficit** accounted for -6.2% of GDP, marginally better than the EU-27 average of -6.9% of GDP. Similarly, the **general government gross debt** amounted to 60.6% of GDP, well below the EU-27 average of 90.7%.



Entrepreneurship and access to finance

As per World Bank Doing Business 2020 report, Slovakia ranked 118th out of 190 countries in terms of ease of starting a business with a score of 84.8. This is an improvement in comparison with previous year's 127th rank^{22, 23, 24}.

As per the report, starting a business in Slovakia requires 7 procedures, taking 21.5 days and costing 1.0% of per capita income. This is well above when compared to OECD high-income average requiring 4.9 procedures, taking 9.2 days while costing 3.0% of per capita income. Moreover, the paid-in minimum capital required (i.e., the amount that the entrepreneur needs to deposit in a bank or with a notary before registration and up to three months following incorporation) is 15.4% of per capita income, almost double as compared to the OECD high-income average (7.6% of income per capita)²⁵.

According to **Global Entrepreneurship Monitor 2020**, perceived opportunities (representing adult population aged 18 to 64 years) as well as entrepreneurial intentions (representing adult population not involved in entrepreneurial activities) for Slovakia stood at 40.9% and 13.8%, respectively²⁶.

As per **Small and Medium-sized Enterprises (SME) Fact Sheet 2020**, two out of 10 Slovaks reported their intention to start a business in next three years, well below the EU-27 average of six out of 10 citizens²⁷.

In order to promote entrepreneurship as well as to encourage innovative products and services, Slovakia launched the Ministry of Economy's award for innovative entrepreneurs (*Cena ministra hospodárstva pre Inovatívne výrobky a služby*) in 2020.

According to the **Survey on the Access to Finance of Enterprises (SAFE) Report 2020**, 8.0% of SME's respondents held that **access to finance** is the most important problem faced by them, slightly lower than the EU-27 average of 9.9%²⁸.

The Slovak government has taken several measures to improve the access to finance. It has introduced public funds for innovation investments and a micro-loan programme to support micro firms and SMEs. Over the 2014-2020 programming period, allocation of EUR 400.0 million has been made to support SMEs through a range of initiatives, including financial instruments (bank guarantees), venture capital, etc. to be distributed to beneficiaries through financial intermediaries/banks²⁹.

Overall, Slovakia's loans to non-financial corporations increased by 37.5% over 2010-2020 period, from EUR 15.1 billion in 2010 to EUR 20.8 billion in 2020.

Loans to non-financial corporations between 2010 and 2020

↑ 37.5%

SMEs in Slovakia are an important element of growth and diversification of the economy and are at the centre of several policy reforms aiming to simplify the regulatory environment and reduce administrative burden³⁰.

3

Key economic drivers of the construction sector

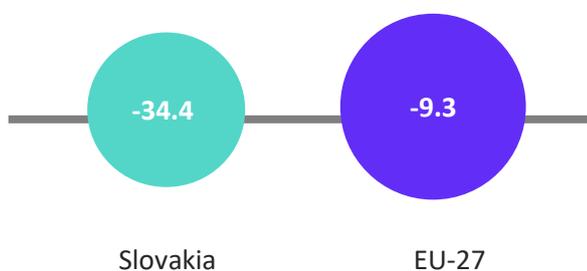
Business confidence

The **consumer and construction confidence indicators** stood respectively at -20.9 and -34.4 in 2020 in comparison to -20.0 and -41.6 in 2010, respectively. These numbers are lower as compared to the EU-27 average of -14.6 and -9.3, respectively. After remaining positive from 2014 to 2018, the **industry confidence indicator** worsened in 2019 and stood at -7.3 in 2020 from 1.9 in 2010, well above the EU-27 average of -14.4.

In parallel, the Slovak **investment ratio** declined marginally from 20.7% in 2010 to 20.0% in 2020. The **investment per worker** increased by 77.7% from EUR 20,459 in 2010 to EUR 36,348 in 2018³¹.

The economic sentiment of Slovakia has been significantly weakened due to the ongoing COVID-19 crisis. The construction confidence indicator considerably deteriorated, from -14.6 in 2019 to -34.4 in 2020. The decline was mainly due to a reduced demand and the expected employment impacted by the pandemic³².

Construction confidence indicator in 2020



Domestic sales

The ranking of the **most domestically sold construction products** in Slovakia has remained constant over the 2010-2019 period. Since 2010, “Prefabricated buildings of metal (group 251110)” and “Other structures (group 251123)” have replaced “Mortars (group 236410)” and “Quicklime, slaked lime, etc. (group 235210)” in the top 5 most domestically sold products category. Furthermore, compared to 2010, the total value of “Ready-mixed concrete (group 236310)”, “Tiles, flagstones, bricks, etc. (group 236111)” and “Portland cement, aluminous cement, etc. (group 235112)” sold domestically has increased by 62.0%, 37.3% and 29.8%, respectively. Altogether, these top 5 domestically sold construction products are presented in Table 1, including a comparison with the top 5 sold construction products in the EU-27. Overall, these represented almost half (50.1%) of the total domestic construction products sold in 2019.

Table 1: 5 most domestically sold construction products in Slovakia and in the EU-27 in 2019³³

	Slovakia			EU-27
	Product	Value (EUR m)	Share in construction product domestic sales (%)	Product
1	Ready-mixed concrete (group 236310)	160.9	12.3	Other structures (group 251123)
2	Portland cement, aluminous cement, etc. (group 235112)	158.9	12.1	Doors, windows, etc. (group 251210)

	Slovakia			EU-27
	Product	Value (EUR m)	Share in construction product domestic sales (%)	Product
3	Tiles, flagstones, bricks, etc. (group 236111)	139.2	10.6	Ready-mixed concrete (group 236310)
4	Prefabricated buildings of metal (group 251110)	108.2	8.3	Prefabricated buildings of metal (group 251110)
5	Other structures (group 251123)	90.2	6.9	Prefabricated structural components (group 236112)

Source: PRODCOM, 2021.

Export of construction-related products and services

Table 2 represents the **top 5 most exported construction products** in both Slovakia and in the EU-27 in 2019. Since 2010, “Shuttering for concrete constructional work, etc. (group 162312)”, “Builders joinery and carpentry, etc. (group 162319)”, “Pallets, box pallets, etc. (group 162411)” and “Towers and lattice masts, etc. (group 251122)” have been replaced by “Other structures (group 251123)”, “Particle board (group 162112)”, “Other plywood, etc. (group 162116)” and “Windows, French windows, etc. (group 162311)”. Additionally, compared to 2010, the total value of “Windows, French windows, etc. (group 162311)” and “Portland cement, aluminous cement, etc. (group 235112)” has increased by 252.9% and 39.3% in 2019 respectively. Together, the top 5 product groups made up 49.2% of all construction product exports in 2019.

Table 2: 5 most exported construction products in Slovakia and in the EU-27 in 2019³⁴

	Slovakia			EU-27
	Product	Value (EUR m)	Share in construction product exports (%)	Product
1	Portland cement, aluminous cement, etc. (group 235112)	131.7	12.5	Ceramic tiles and flags (group 233110)
2	Other structures (group 251123)	125.5	11.9	Other structures (group 251123)
3	Particle board (group 162112)	102.7	9.8	Fibreboard of wood (group 162115)
4	Other plywood, etc. (group 162116)	89.0	8.5	Doors, windows, etc. (group 251210)
5	Windows, French windows, etc. (group 162311)	69.0	6.6	Marble, travertine etc. (group 237011)

Source: PRODCOM, 2021.

In terms of cross-border provision of construction services³⁵, in 2020, Slovakia exported services for a total amount of EUR 162.0 million worldwide, representing a 10.9% decrease in comparison to 2013³⁶. It is important to note that EUR 155.9 million (96.2% of the total exports) were exported to the EU-27, showing the importance of the Single Market.

Medium-sized companies exploit most of the construction service export-related opportunities, as micro and small companies would not have the necessary financial capacities, and multinational companies (who are mainly foreign) are mostly interested in the Slovak market.

At the same time, Slovakia **imported** a total of EUR 115.4 million in construction services in 2020 from the world, a 0.8% increase since 2013³⁷ (EUR 114.5 million), out of which EUR 112.2 million came from EU-27 countries (i.e., 97.2% of the total imports). As such, the Slovak construction sector experienced a **trade surplus** of EUR 46.6 million in 2020.

Access to finance in the construction sector

In 2020, the **credit extended** to the narrow construction sub-sector increased by 13.0% over 2019 reaching EUR 1.3 billion, indicating restored confidence in the sector. This represents an increase of 22.7% between 2010 and 2020.

Credit extended to narrow construction sub-sector between 2010 and 2020

↑ 22.7%

According to the **2020 Survey on the Access to Finance of Enterprises (SAFE)** report, around 17.7% of small and medium enterprises (SMEs) in Slovakia reported of grants or bank loans being relevant, well above the EU-27 average (44.4%). Around 12.8% of the SMEs reported of using bank loans recently, well below the EU-27 average (17.9%). During the same period, 27.6% of Slovak SMEs applied for a bank loan, lower than the EU-27 average of 34.6%. Around 3.4% of SMEs did not apply for bank loans fearing rejection, almost in line with the EU-27 average of 3.9%. Around 21.4% of SMEs did not apply for bank loans because of sufficient internal funds, well below the EU-27 average of 35.1%^{38,39}.

Moreover, the availability of bank loans for Slovak SMEs has also changed. Around 7.4% of SMEs recorded that the availability of bank loans has improved for the period, well below the EU-27 average (18.6%). On the contrary, around 9.3% of SMEs mentioned that it has deteriorated, lower than the EU-27 average of 14.2%. However, around 61.5% of SMEs believed that the condition of availability of bank loans remains unchanged, slightly better than the EU-27 average of 57.6%⁴⁰.

As per the **European Investment Bank (EIB) Investment Survey 2020**, 62.0% of the Slovak construction firms consider availability of finance as a long-term barrier for the sector. Bank loans and

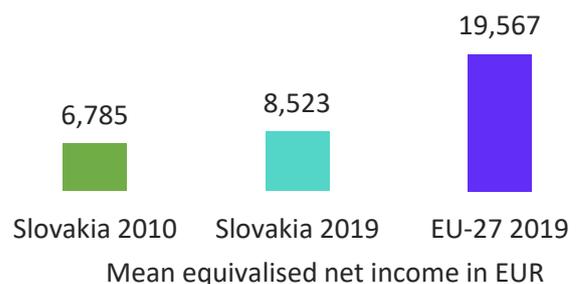
other bank finance continue to make up the largest share of external finance (both 45.0%) in the construction sector in Slovakia, followed by leasing (10.0%). About 22.0% of the Slovak firms in the construction sector rely on internal sources of finance for investment purposes, in comparison with external sources. This is also driven by the fact that 75.0% of the Slovak construction firms reported making a profit, slightly below the EU-27 average of 80.0%. Nonetheless, the share of 'financially constrained'⁴¹ firms in the construction sector (2.0%) is slightly higher than the firms operating in the services (6.0%) and infrastructure sectors (8.0%) in Slovakia⁴².

The impact of COVID-19 on investment strategies have also been quite negative with almost 30.0% of Slovak construction firms investing less in 2020, lower than EU-27 average of 45.0%⁴³. However, almost 78.0% of construction firms believed their investment over the last three years was about the right amount, well above the EU-27 average of 50.0%⁴⁴.

In order to improve access to finance for SMEs, the Slovak government has introduced several measures. These measures include the provision of loans and guarantees to SMEs by specialised state banks (The Slovak Guarantee and Development Bank and Eximbank), and the Slovak Business Agency (SBA)⁴⁵.

Access to housing

The **number of households** in Slovakia has grown by 9.5% since 2010, reaching 1.9 million in 2020. At the same time, the **share of total population in cities and greater cities** has remained constant since 2011, standing at 20.5% in 2019. The **mean equivalised net income** increased by 25.6%, from EUR 6,785 in 2010 to EUR 8,523 in 2019⁴⁶. However, this is significantly below the EU-27 average of EUR 19,567.



Due to the increasing number of households, growing urban population and income, supported by low interest rates, housing demand in Slovakia has also grown. This rise is reflected in the **house price index** for dwellings, which increased by 45.1% over the 2015-2020 period, including an increase of 49.6% for existing dwellings and 37.0% for new dwellings over the same reference period.

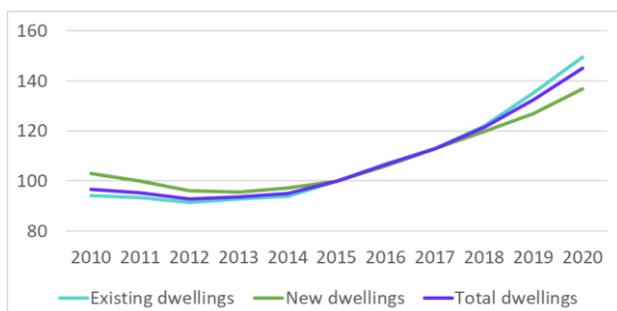
Slovakia’s housing market growth is expected to slow down in the short-term due to the negative impact of COVID-19 pandemic on the national economy. Nonetheless, it is also forecasted to recover soon given that property demand, both from foreign as well as local investors, continues to be fundamentally strong⁴⁷.



According to the National Bank of Slovakia (NBS), the average residential property price grew by 8.6% to EUR 1,671 per square metre (m²) during the year to the first quarter of 2020, following year-on-year increases of 6.3% in the fourth quarter of 2019, 9.7% in the third, 6.4% in the second and 7.6% in the first quarter of 2019⁴⁸.

The Bratislava region of Slovakia features the most expensive housing, where residential property prices grew by 8.7% year-on-year to EUR 2,231 per m² during the year to the first quarter of 2020, after growing by 5.6% a year earlier⁴⁹. Similarly, the Žilina region registered the largest increase of 16.5% year-on-year to EUR 1,254 per m² during the first quarter of 2020, closely followed by the *Trenčín* (+14.5%, EUR 1,025 per m²) as well as *Banská Bystrica* (+14.1%, EUR 1,038 per m²) regions over the same reference period⁵⁰.

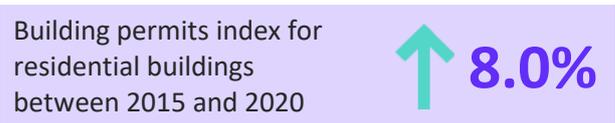
Figure 7: House price index in Slovakia between 2010 and 2020 (2015=100)



Source: Eurostat, 2021.

Despite an increase in construction, supply constraints continue to push prices up. In 2018, the number of completed dwellings grew by 10.6% year on year, reaching more than 22,000 dwellings, the highest level since the crisis. However, in March and June 2021, it stood at 4,485 and 4,872 units, respectively, marking a steep drop from the previous number of 6,810 units for December 2020⁵¹. Additionally, following the outbreak of COVID-19 and market related uncertainty, the preparation of the new projects for house (dwelling) buildings has been delayed. Therefore, it is expected that there will be a considerable gap in the outputs of the building sector in the next year.

The **building permits index** for residential buildings declined by 6.5% in 2020 over 2019. Between 2015 and 2020, the building permits index for residential buildings increased by 8.0%.



As evoked earlier, the interest rates on mortgages are at their lowest level since 2010 (Figure 8). In fact, interest rates on mortgages (for over 5 years of original maturity) stood at 1.6% in 2020 as compared to 5.7% in 2010. As a result, **outstanding residential loans** to households grew from EUR 10.8 billion in 2010 to EUR 31.0 billion in 2019 (+185.7%).

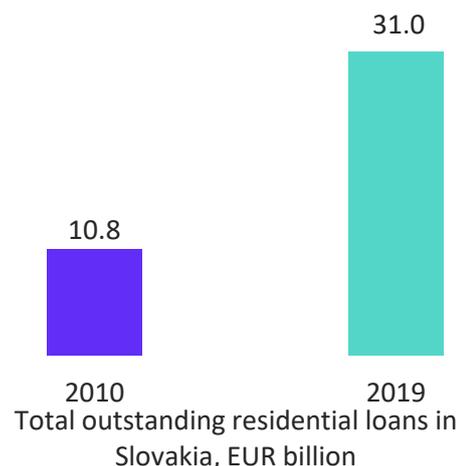
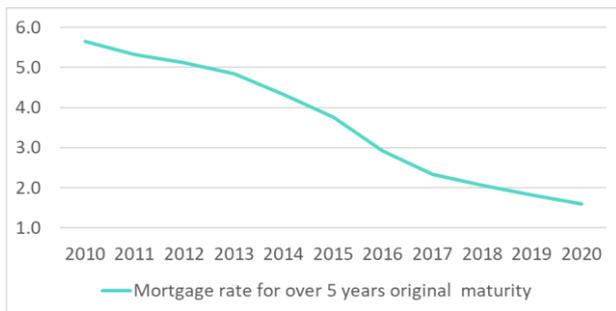


Figure 8: Mortgage rates for loans for over 5 years original maturity (%) between 2010 and 2020



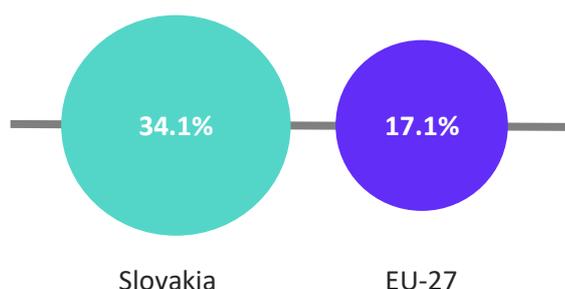
Source: ECB MFI Interest Rate Statistics, 2021.

In terms of **home ownership rate**, 92.5% of the population earning above 60.0% of median equivalised income owned (or co-owned) their dwelling in 2019 as compared to 91.3% in 2010. In contrast, the population earning below 60.0% of median equivalised income showed a slight decline in ownership, from 80.8% in 2010 to 79.1% in 2019. The high home ownership rate in Slovakia is partially explained by the lack of public rental housing, a legal structure that supports ownership over renting, and the large transfer of apartments into private ownership after the fall of the communist regime⁵².

In addition, the **overcrowding rate**⁵³ stood at 34.1% in 2019 as compared to 35.5% in 2018 and well above the EU-27 average of 17.1%⁵⁴. This can be explained by the fact that almost 84.2% of Slovak people between 18 and 29 years old live with their parents, compared to an average of 68.2% in the EU.

In parallel, the **housing cost overburden rate**⁵⁵ stood at 5.7% in 2019, below the 2010 level (7.6%) as well as EU-27 average of 9.4%⁵⁶. Moreover, the **severe housing deprivation rate**⁵⁷ reached 3.6% in 2019 (against 3.8% in 2010), marginally below the EU-27 average of 4.0%⁵⁸.

Overcrowding rate in 2019



Investment or external funding in public housing and simplifying the legal structure could help develop the rental market. It could also ease supply shortages and help serve temporary workers. It would also help people with lower incomes insofar as it provides housing at a lower cost than on a pure market basis. Also, simplifying administrative process for municipalities and regions to obtain and dedicated funding may also support the housing supply⁵⁹.

Infrastructure



As per **Global Competitiveness Report 2019**, Slovakia ranked **30th out of 141 economies** in terms of its infrastructure^{60,61}.

According to the report, Slovakia ranked 10th in terms of railroad density, 39th for efficiency of train services, and 45th for road connectivity. In terms of quality of road infrastructure, its performance deteriorated in 2019 (rank: 72nd) as compared to 2018 (rank: 67th).

The EU Structural and Investment Funds are contributing to major transformations of the Slovak infrastructure. By 2019, European Regional Development Fund and the Cohesion Fund provided funding for the building or modernisation of 123 kilometres (km) of roads, both at the regional level and in connection with the Trans-European Transport Network (**TEN-T**) network⁶². More efforts need to be made to make Slovakia's infrastructure, including transport, broadband access, waste management and energy efficiency, fully developed, sustainable and equally distributed within the country. These challenges partly affect the country's productivity growth⁶³.

4

Key issues and barriers in the construction sector

Company failure

Between 2010 and 2018⁶⁴, the number of **company deaths** in the narrow construction sub-sector increased by 152.8%, while at the same time, the number of **company births** increased by 61.5%. Similarly, in the architectural and engineering activities sub-sector, both the number of company births and company deaths increased by 60.7% and 35.3% over the 2010-2018 period, respectively. In contrast, the real estate activities sub-sector registered a decline both in the number of company births and company deaths by 18.8% and 13.8% over the same reference period.

Company births in the narrow construction sub-sector between 2010 and 2018

↑ 61.5%

Company deaths in the narrow construction sub-sector between 2010 and 2018

↑ 152.8%

According to Global Insolvency Report 2020, 1,959 companies became insolvent in Slovakia in 2018. This marks an increase of 123.6% over the previous year (876), and well above the 2010 level (782)⁶⁵. The bankruptcy in Slovakia is expected to increase by 12.0% by 2020⁶⁶. Nonetheless, improvement in firm exit policies and the insolvency framework could foster the resource reallocation and productivity growth in Slovakia. Currently, the proportion of zombie firms (firms with at least three consecutive years of negative operating profits) has increased, in part due to an underperforming insolvency framework⁶⁷.

In May 2020, the Slovak Ministry of Justice approved a new tool of a temporary protection to safeguard companies from the fallout caused by COVID-19. These measures provide interim bankruptcy protections for business operators⁶⁸. The temporary protection from insolvency can be allowed by an insolvency court determined by law at the request of an entrepreneur that was not insolvent as of March 12, 2020. Its duration was limited until October 1, 2020⁶⁹.

Trade credit

As per the Payment Practices Barometer Slovakia 2020, about 68.0% of the respondent suppliers turned down trade credit requests from B2B customers (mostly SMEs) more repeatedly as compared to pre-pandemic period, primarily due to deterioration of customer creditworthiness⁷⁰.

Since the onset of COVID-19 pandemic, there has been a drastic drop in Slovakia's total B2B credit sales by businesses. As per the survey, in 2020, trade credit was involved in 46.0% of B2B sales in Slovakia, significantly below when compared to 91.0% of Slovakia's B2B sales in 2019. This is primarily attributable to demand shocks weathered by several sectors due to pandemic. Nonetheless, 53.0% of the surveyed businesses concluded that their credit sales levels remained stable as compared to last year. Additionally, about 20.0% of the businesses reported accepting more trade credit requests from their B2B customers during the pandemic period⁷¹.



According to the 2020 SAFE Report, around 22.8% of Slovak SMEs respondents reported trade credit to be relevant, slightly below the EU-27 average of 27.7%^{72, 73}.

Around 14.2% of the Slovak SMEs respondents disclosed using trade credit in the past six months, marginally above the EU-27 average of 13.6%. During the same period, around 44.4% of Slovak SMEs applied for trade credit, well above the 31.4% EU-27 average. Around 3.5% of SMEs did not apply due to possibility of rejection and 19.4% of SMEs did not apply because of sufficient internal funds, lower as compared to the EU-27 averages of 4.4% and 33.1%, respectively⁷⁴.

Amongst the firms which applied for trade credit in Slovakia, around 65.4% of SMEs received everything they applied for, slightly lower than the EU-27 average of 67.3%. About 19.6% of Slovak SMEs received above 75.0% of what they applied for in trade credit, well above the EU-27 average of 10.8%. Around 10.5% of SMEs in Slovakia received below 75.0% of what they applied for, marginally above the EU-27 average of 10.1%⁷⁵.

Late payment

According to 2020 Atradius Payment Practice Barometer, the total value of outstanding B2B invoices increased from 23.0% in 2019 to 49.0% in 2020, representing an increment of 26 percentage points (pp) in late payments⁷⁶.

As per the report, 37.0% of the Slovak business respondents reported reducing their workforce in order to reduce cost pressures due to the impact of late payment, slightly higher than the Eastern Europe regional average of 31.0%. Slovakia has one of the lowest days outstanding sales in the Eastern European region, amounting to 73 days. This is well below as compared to the Eastern Europe regional average of 103 days⁷⁷.

As per the report, the Slovak businesses protected their financial viability through various means. About 40.0% of businesses delayed payments to their suppliers while 37.0% of businesses laid off their staff to manage rising costs. Furthermore, 60.0% of the surveyed firms employed invoice payment reminders, followed by adjustment of credit terms (59.0%) as well as earlier collection of

outstanding dues (53.0%). As a result, overdue Slovak invoices written off as uncollectable reduced from 7.0% in 2019 to 3.0% in 2020⁷⁸.

As per Intrum European Payment Report 2021, 62.0% of Slovak businesses are concerned about debtor's ability to pay debt on time and 45.0% of businesses expect the widening gap between payment terms and payment duration to become a serious risk for sustainable business growth⁷⁹.

As per the report, due to COVID-19 pandemic, Slovak firms (63.0% of the surveyed businesses) have been forced to accept longer payment terms to avoid bankruptcy, well above the EU-27 average of 57.0%. Additionally, 56.0% of the surveyed Slovak businesses accepted longer payment terms in order to avoid damaging client relationships, slightly higher as compared to EU-27 average of 49.0%. Conversely, 43.0% of the businesses accepted longer payment terms to avoid risk of bankruptcy. This is also higher as compared to the EU-27 average of 39.0%⁸⁰.

Share of real estate and construction sector monthly profit margins affected by COVID-19 pandemic in 2020⁸¹ **52.0%**

Similarly, almost 43.0% of Slovak business respondents use pre-payments as a precautionary measure, followed by credit checks (29.0%), debt collection (27.0%), credit insurance (14.0%), factoring (12.0%), bank guarantee (10.0%) and fraud prevention (9.0%)⁸².

The Late Payment Directive was transposed by a set of measures amending the Commercial Code, Civic Code, Code of Civil procedures, the Enforcement Code, Act n. 659/2007 on the introduction of the euro currency, other measures on the organisation of government activities and central public administration, as well as the Government Regulation no. 21/2013⁸³. According to stakeholders, the new rules have not had a significant impact on payment practice, as similar rules were already in place. Only 12.0% of the companies that are aware of the Directive make use of the provision to charge, in addition to interests, the flat rate compensation of EUR 40.0 to B2B and public sector clients.

Time and cost of obtaining building permits and licenses

As per World Bank Doing Business 2020 report, Slovakia ranked 146th out of 190 economies in 2020 in terms of “Dealing with Construction Permits”, three places lower as compared to the 143rd position held in 2019^{84, 85}.

In 2020, completing administrative formalities to build a warehouse⁸⁶ in Slovakia requires 14 procedures, above the OECD high-income average of 12.7 and takes 300 days, well above the OECD high-income average of 152.3. This limits Slovakia’s ability of supply to quickly adapt to shifts in demand. Implementation of the three packages of measures is expected to simplify and accelerate the acquisition of buildings permits and at the same time reduce administrative burden and legal / environmental risks borne by SMEs⁸⁷. Lastly, the cost for completing the formalities to build a warehouse accounts for 0.2% of the warehouse’s value as compared to the OECD high-income average of 1.5% (Table 3).

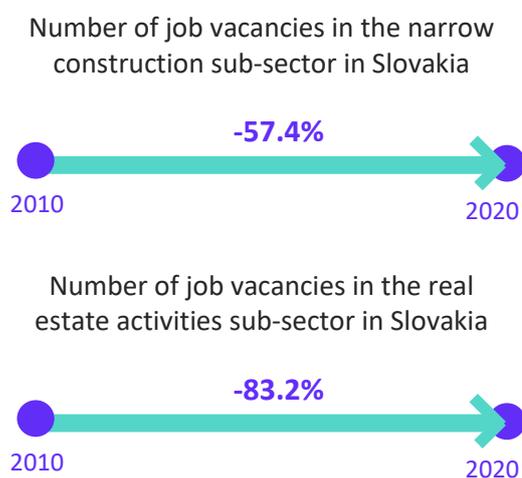
Table 3: Construction procedures timing and costs in Slovakia⁸⁸

Procedure	Time to complete	Associated costs
Obtain a clearance for the investment project	30 days	No charge
Obtain a clearance from the Environmental Office at the Municipality	30 days	No charge
Obtain a fire safety clearance	30 days	No charge
Obtain a health and sanitation clearance	30 days	EUR 50
Obtain consent from water and sewage provider and request water and sewage connection	26 days	EUR 18
Obtain certificate of ownership of the land and a cadastral map	1 day	EUR 16
Request and obtain a location permit from the Municipality	90 days	EUR 100
Request and obtain the construction permit from the Municipality	80 days	EUR 600
Receive on-site inspection before construction	1 day	No charge
Obtain water and sewage connection	7 days	EUR 332
Request occupancy permit	1 day	EUR 400
Receive final inspection from the Municipality	1 day	No charge
Obtain an occupancy permit from the Municipality	29 days	No charge
Register the building with the Real Estate Registry	60 days	No charge

Source: Doing Business overview for Slovakia, World Bank, 2021.

Skills shortage

In 2020, the number of **job vacancies** in the narrow construction sub-sector decreased from 628 in 2010 to 267, representing a significant drop of 57.4% over the 2010-2020 period. After registering an increase of 109.9% between 2010 and 2019, the number of job vacancies steeply declined by 79.7% between 2019 and 2020. This may be explained by the impact of the COVID-19 pandemic, which prevented construction firms to operate at full capacity, thus not requiring additional labour. Similarly, the job vacancies in real estate activities sub-sector recorded an increase of 14.4% between 2010 and 2019 whereas a decline of 85.3% between 2019 and 2020. Overall, this represented a decrease of 83.2% between 2010 and 2020. This highlights the impact of COVID-19 on the construction sector.



To cope with labour shortages, employers' associations demanded immediate solutions in the form of hiring foreign nationals⁸⁹. In this regard, the Slovak government revised the Law on Employment Services in 2018. It also introduced procedures to facilitate the employment of foreign workers. Since 2018, MPSVR (Central Office of Labour, Social Affairs and Family) is publishing occupations with labour supply shortage during the previous calendar year, in regions where the reported unemployment rate did not exceed 5.0%. For these occupations, foreign workers can be employed as per the simplified procedures⁹⁰.

The number of **tertiary students** in engineering, manufacturing and narrow construction⁹¹ sub-sectors, specifically in the architecture and building, amounted to 1,189 in 2019, representing a 46.4% decline since the 2,219 students reported

in 2010. In parallel, life-long learning is still undeveloped. Adult participation in education and training in the narrow construction sub-sector⁹² reached 2.7% in 2020 as compared to 1.6% in 2010.

Number of tertiary students in architecture and building between 2010 and 2019



In order to map labour market demand and supply and address skill mismatch in the economy, the Slovak government introduced a national project ‘Forecasting of Developments of Labour Market Needs’ (2014—2020). Further to get a clear view on job vacancies and skill mismatch, the government imposed a legal obligation on employers, as of January 2019 to publish all vacancies using one of the contracted online job portals⁹³.

Additionally, Slovakia also organises various promotional campaigns and interactive programmes to engage with young people as well as to promote various construction professions and trades. For instance, in the annual competition of construction crafts (*Súťažná prehliadka stavebných remesiel*), Slovak students are able to get hands-on experience across various trades such as masonry, joinery, carpentry, bricklaying and floor fitting⁹⁴.

Sector and sub-sector specific issues

Material efficiency and waste management

Waste management in Slovakia is governed by the Waste Act 79/2015, with effect since January 2016. Paragraph 40c of the Waste Act 223/2001 explains the **Construction and Demolition Waste (CDW)** as “wastes that arise as a result of construction, safety work as well as maintenance, refurbishment or demolition work”.

The construction sector is the largest producer of waste in Slovakia. Therefore, there is a greater concern over effective waste management. Construction of building and reconstruction of private houses are the two activities that produce most of the waste. In addition, these activities’ waste is most of the time illegally dumped⁹⁵.

In 2018⁹⁶, the CDW totalled 541,876 tonnes, representing a decline of 69.7% and 44.0% from 2010 (1,786,430 tonnes) and 2016 (967,275 tonnes) levels, respectively. This is considerably below the EU-27 average of 838.9 million tonnes in 2018. Moreover, out of the total CDW generated by Slovakia in 2018, around 2,840 tonnes of waste were classified as hazardous waste, comprising 0.5% of the total and 539,036 tonnes of waste were categorised under non-hazardous waste, making up 99.5% of the total⁹⁷.

Construction and demolition waste between 2010 and 2018



In 2019, the recycling rate of municipal waste was 38.5%, well below than the country’s own target of 50.0% by 2020⁹⁸. The Waste Management Plan for the 2016-2020 period showed that several objectives had not been reached, including the municipal waste recycling targets⁹⁹. These include the lack of End of Waste (EoW) criteria for C&D waste as well as limited capacity of recycling facilities for CDW¹⁰⁰.

Waste management is one of the country’s key environmental challenges. The upcoming Slovak Envirostrategy 2030 aims to assist in integrated policy responses and identify investment priorities for the country over the next funding period 2021-2027¹⁰¹.

Climate and energy

Emissions of greenhouse gases (carbon dioxide, methane and nitrous oxides) from activities in the narrow construction and the real estate sub-sectors amounted to 1,900,338.9 tonnes and 216,506.8 tonnes in 2019, respectively. Emissions from activities in the narrow construction sub-sector experienced a marginal increase of 1.2% since 2010 (1,878,533.7 tonnes), whereas emissions from the real estate activities sub-sector declined by 24.7% (287,411.6 tonnes) since 2010.

Air emissions in the real estate activities sub-sector between 2010 and 2019



5

Innovation in the construction sector

Innovation performance

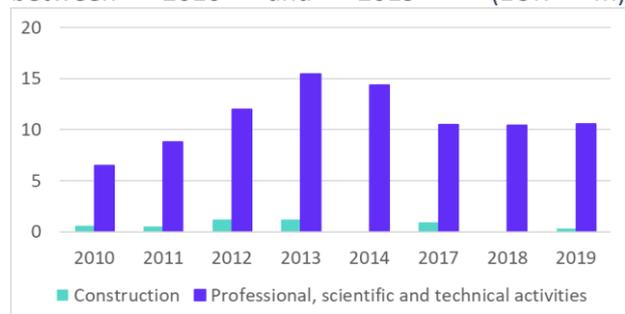
As per the 2021 European Innovation Scoreboard, Slovakia is classified as an Emerging Innovator¹⁰².

According to the report, Slovakia scores high in Environmental sustainability, Sales impact and Use of information technologies dimensions. Its top indicators include Environment-related technologies and Medium and high-tech goods exports. Nonetheless, Slovakia's good performance in Tertiary education, International scientific co-publications, Most-cited publications, Venture capital, Government support for business R&D, ICT specialists, and Environment-related technologies dimensions are partially mitigated by its weaker achievements in Digital skills, Enterprises providing ICT training, Design applications, and Sales of innovative products dimensions¹⁰³.]

Slovakia's business expenditure on R&D is relatively low, especially among small and medium enterprises (SMEs). In 2019, the **Business Enterprise R&D Expenditure (BERD)** in the Professional, scientific and technical activities sub-sector amounted to EUR 10.6 million, representing a 63.4% and 1.6% increment as compared to 2010 and 2018 levels, respectively. Conversely, BERD in the narrow construction sub-sector decreased from EUR 591,000 in 2010 to EUR 333,000 in 2019¹⁰⁴, representing a 43.7% decline over the reference period (Figure 9).

BERD in the professional, scientific and technical activities sub-sector between 2010 and 2019  **63.4%**

Figure 9: Business enterprise R&D expenditure (BERD) per construction sub-sector in Slovakia between 2010 and 2019¹⁰⁵ (EUR m)



Source: Eurostat, 2021.

At the same time, in 2019¹⁰⁶ there were 23 **R&D employees** (full-time equivalents – FTE¹⁰⁷) in the narrow construction sub-sector as compared to 14 in 2010 (+64.3%). In contrast, in the professional, scientific and technical activities sub-sector, the number of FTEs stood at 245 in 2019, in comparison to 259 in 2010 (-5.4%).

Number of FTEs in the narrow construction sub-sector between 2010 and 2019  **64.3%**

These trends are reflected (to a lesser extent) in the decline in patenting activity in recent years. The number of **construction-related patent applications** increased to four in 2020 from one in 2010. This is still below the 2015 level (five patents).

The government has taken several measures to improve the research ecosystem in the country. In 2018, the Ministry of the Economy provided support to Slovak SMEs by investing EUR 167.0 million in the science and innovation programme. An additional support of EUR 100.0 million was provided to smart innovations and Industry 4.0 developments, to help Slovak businesses implement smart technologies in their production systems.

Eco-innovation and digitalisation



Slovakia scored 82, in comparison to the EU-27 average of 121, in the 2021 Eco-Innovation Scoreboard (Eco-IS)¹⁰⁸.

As per the report, in 2019, Slovakia's performance was below the EU-27 average in all of the five components of the Eco-Innovation Index. Nonetheless, for Slovakia, its best performing component was eco-innovation activities while its worst performing components continued to be eco-innovation inputs and eco-innovation outputs. Additionally, eco-innovation related patents and socio-economic outcomes also remained low¹⁰⁹.

In the **European Commission Digital Economy and Society Index (DESI) 2020**, Slovakia is ranked 22nd among EU-28 countries. With a 45.2 score, Slovakia stands below the EU-28 average score of 52.6¹¹⁰.

As per the Index, in 2019, Slovakia's performance slightly improved in terms of connectivity, the use of internet services and digital public services. Nonetheless, many indicators such as human capital, use of internet services and digital public services have not improved sufficiently to keep pace with the EU average.

As per the **European Investment Bank (EIB) Investment Survey 2020**, the most frequent long term impact of COVID 19 on Slovak construction firms was an increased usage of digital technologies (6.0%). In fact, almost 65.0% of Slovak construction sector firms are expected to have implemented digital technologies within their business, either fully or partially. Furthermore, only 15.0% of the construction firms developed some new innovation in 2020, well below the EU-27 average of 40.0%¹¹¹.

According to EIB Investment Survey 2020, the top digital technologies implemented by businesses in Slovakia, either partially or fully, in the broad construction sector includes internet of things (59.0%), drones (17.0%), 3-D printing (8.0%) and augmented or virtual reality (3.0%)¹¹².

In 2019, the Slovak government introduced a new 'Strategy for the digital transformation of Slovakia 2030'. It is a framework that explains the long term vision to guide the economy, society and public administration through technological change. Its

objectives are to encourage smart regional development and support researchers and innovators to keep pace with global trends¹¹³.

Under the Recovery and Resilience Facility, Slovakia will benefit from EUR 6.3 billion in grants to boost its green and digital transition¹¹⁴.

Out of the total allocation, EUR 712.0 million has been allotted for developing low-carbon transport facilities and EUR 368.0 million for decarbonisation of industry, including promotion of energy efficiency and investment in innovative decarbonisation technologies. About 21.0% of the total allocation will be used for supporting digital objectives and reforms in the country. This included EUR 177.5 million for introducing friendly e-government solutions for citizens and businesses as well as EUR 102.0 million for digitalising businesses, establishing a network of digital hubs and providing training for digital skills¹¹⁵. Moreover, under the RRP, Slovakia has also allocated EUR 615.0 million towards developing 'Digital Slovakia'. This includes infrastructures related to telecommunications, cybersecurity, fast internet and digital economy¹¹⁶.

In parallel, the **Slovak Innovation and Energy Agency (SIEA)** is a national agency dedicated to energy efficiency and development of innovations. It provides free energy advice on energy-efficient measures and using renewable energy as part of its 'Live energy' project. Regarding innovation in the construction sector, SIEA has been involved in both national and international projects¹¹⁷. SIEA is a partner in various EU funded projects: MaTrID project, aiming to promote the integrated energy design and market transformation for nearly zero energy buildings; Request2Action project, aiming to improve collaboration and the quality of reconstruction works to increase the energy performance of buildings; and StavEDU project, seeking to improve professional training of craftsmen and fitters in the construction sector¹¹⁸.

Under the EUREKA SK scheme, a total of EUR 170,000 was allocated for the period 2019-2021 to support research and development, projects. These projects will receive funds based on an allocated annual amount of EUR 35,000 in 2019, EUR 45,000 in 2020 and EUR 90,000 in 2021. For each project, the maximum amount of financial support from the government is EUR 10,000 in

2019, EUR 15,000 in 2020 and EUR 25,000 in 2021, with a cap of EUR 50,000 overall for each project¹¹⁹.

In terms of Building Information Modelling (BIM) adoption, interest is growing in Slovakia. Further to encourage its adoption, several measures are being taken through BIM education.

- BIM Challenge: The competition is organised every year by BIMAS (BIM Association Slovakia) for all civil engineering students in Slovakia. Participants are allotted 5 hours to create the design of the specific structure and appropriate level of student's skills and the given time in detail which is needed for approval of the structure.

- BIM4FREE: It is a set of lectures prepared by the faculties for the students at the university in cooperation with BIMAS¹²⁰.

The BIM Association Slovakia, a non-profit organisation, is focused on the implementation of BIM in a professional practice on the level of all stakeholders in the project and construction process for the whole duration of the life cycle of the construction. The primary role of the association is to promote, popularise and develop the possibilities and the application of BIM within Slovakia¹²¹. In October 2019, the 5th National BIM Conference was organised by the BIM Association Slovakia in cooperation with the JAGA Publishing House, in Bratislava. More than 350 people attended the conference¹²².

6

National and regional regulatory framework

Policy schemes

The Ministry of Transport, Construction and Regional Development (MTCRD) defines the National Housing policy in Slovakia. The State Housing Policy Concept to 2020 is a framework document that formulates the priorities and strategic objectives of the State in the area of housing development. Its main objective is the sustainable development of housing.

Two main national priorities in the area of housing are presented in the Concept of State Housing Policy 2015-2020. The first priority is to strengthen and develop the public rental sector and the second priority is to promote thorough renovation of the existing housing stock¹²³. Under this policy, state support to the housing sector is provided through direct and indirect economic instruments.

Direct support measures include **subsidies** (in the form of direct grants) by the MTCRD for the construction and renovation of the housing stock, covering rental dwellings, purchase of technical equipment and removal of system faults in existing residential buildings¹²⁴. The government of Slovakia approved an annual budget of EUR 610,000 for 2020, 2021 and 2022 to fund preparation of land-use (spatial) planning documentation for municipal areas¹²⁵. For the years 2020 to 2022, the Slovak government has planned to allocate EUR 20.0 million to support housing. This is 50.0% less compared to the 2019 allocation (EUR 40.0 million)¹²⁶.

The Ministry of Transport and Construction of the Slovak Republic amended Act no. 555/2005 Coll. The amendment provides contribution to the households for the insulation of a family house, so as to improve its energy economy by carrying out its

building modifications. For this, technologies such as thermal cladding, roof cladding, interior cladding and separating structures between heated and unheated space are being implemented. The scheme provides a contribution of up to EUR 8,800 for one household¹²⁷.

An additional key instrument in the delivery of direct support to the housing and construction sectors is the **State Housing Development Fund (Štátny Fond Rozvoja Bývania-ŠFRB)**, which provides low-interest loans for the construction of rental dwellings and refurbishment of the housing stock. It is currently governed by Ministry of Transport and Construction of the Slovak Republic. Since 2018, the ŠFRB has supported the procurement of technical equipment for the financed apartments and for legal persons and entrepreneurs, and the purchase of related land¹²⁸.

As for indirect support measures, instances include:

- **Boarding house:** In order to support workforce mobility, a new purpose of support consisting of the procurement of a boarding house, was introduced within the ŠFRB in 2019. The Boarding house is a building providing long-term accommodation mainly for the employees of the companies that employ people from distant regions of Slovakia or for foreign workers¹²⁹. However, the period of depreciation of the investments into “boarding” flats currently stands at 40 years making the (economic) return on investment relatively long.
- Effective from January 2020, conditions for a loan from the ŠFRB to fund procurement of rental apartments has been amended for business operators. It will mainly consist of

the increase in the maximum credit line and the average floor area, and the removal of the total maximum eligible costs per m² of the floor area of an apartment¹³⁰.

- **Social housing enterprises:** Its objective is to ensure adequate and human dignified housing for a specifically defined circle of natural persons after fulfilment of legal conditions. This creates space for the development of rental housing according to a rental housing model in Austria¹³¹.

Slovakia also provides supports to the public rented housing sector through direct subsidies from the state budget and low-interest loans through SHDF¹³².

The provision of subsidies for purchase of rented dwellings are done according to the Act No. 443/2010 Coll. on subsidies for housing development and on social housing, as amended by the Act No. 134/2013 Coll. The act explains the scope, conditions and method for providing subsidies which can be given for purchase of a rented dwelling and related technical infrastructure.

The Building savings scheme is a state-subsidised saving scheme in specialised commercial building societies/saving banks, aiming to finance the acquisition, reconstruction and modernisation of housing¹³³. It consists of an obligatory saving period, followed by the issuing of a loan at a preferential interest rate. In 2019, an amendment (277/2018 Z.z.) limited the state premium from 5% to 2.5%, with an increased amount of EUR 70.0 (against EUR 66.4 previously)^{134, 135}.

Likewise, the issues of homelessness and housing exclusion are partly addressed by the National Framework Strategy for Support of Social Inclusion and Fight Against Poverty (2014) and by the State Housing Policy Concept to 2020 (2015)¹³⁶. In 2018, the Ministry of Labour, Social Affairs and Family asked the Institute for Labour and Family Research to create a background document for a concept for preventing and controlling homelessness¹³⁷. Currently, the national strategy for preventing and ending homelessness is still pending, despite growing evidence of policy action being necessary¹³⁸. With respect to EU funding, the Fund for European Aid to the Most Deprived (FEAD), with a total allocation of EUR 64.8 million for the period 2014-2020, focuses on the homeless population

specifically. According to the mid-term evaluation of the FEAD for the period 2014-2020, Slovakia has improved its performance in several respects with regards to homelessness¹³⁹.

As part of its RRP Slovakia has allocated EUR 728.0 million towards building renovations including EUR 528.0 million for energy efficiency in single family homes and EUR 200.0 million for renovation of historical public buildings¹⁴⁰.

Slovakia plans to renovate at least 30,000 single-family buildings and 117,000m² of historic public buildings by 2026, thereby achieving at least 30.0% primary energy savings. To reach the goals of its **Long-Term Renovation Strategy (LTRS)**, Slovakia plans to invest further EUR 13.5 billion by 2030, EUR 22.2 billion by 2040 and EUR 22.8 billion by 2050. On the short-to-medium term, Slovakia has an indicative investment requirement of EUR 6.9 billion by 2026, with its RRP contributing about EUR 776.0 million towards renovation¹⁴¹.

Energy efficiency improvements will be verified by energy certificates. Projects are expected to support holistic measures including climate mitigation and adaptation, and water storage systems (in the case of single-family homes)¹⁴². Moreover, investment linked to buildings renovation requires compliance with 'Do No Significant Harm' (DNSH), including, the prevention and recycling of construction demolition waste and the boiler replacement scheme¹⁴³.

As per National Energy and Climate Action Plan (NECP) estimates, by 2030, Slovakia will need EUR 3.0 billion for renovation of non-residential buildings. This includes EUR 1.2 billion required for renovation of public buildings. Additionally, given the EU climate objectives agreed by Slovakia, a reduction of 40.0% in the energy consumption of buildings by 2050 is essential. Under its renovation and recovery plan, Slovakia has allocated EUR 741.0 million towards building renovations, mostly aimed at making homes more energy-efficient¹⁴⁴.

Building regulations

In Slovakia, Building Act (Act No. 50/1976 Coll. on territorial planning and building order, as amended) is the main base of legal regulation for construction law. The Act, which is implemented through several governmental orders, deals with the public relationships between private parties and local

authorities¹⁴⁵. Contractual relationships between parties are regulated by the following Acts:

- **The Commercial Code:** It explains the general rules related to contracts and basic provisions of individual contracts. For example, a contract for work between two or more businesses. Most of the provisions of this code which regulate a contract work can be modified or adjusted by the parties in a mutual agreement.
- **The Civil Code:** It regulates the general concepts of contractual law and the contract for work typically used for doing building works. These provisions will be implemented, if a business or a physical person (consumer), who do not opt for the Commercial Code, enters into the contract.

In addition, the **Act on public procurement** which regulates the procurement of Public-Private Partnership (PPP) projects and other relevant issues in the field of carrying out building works, is also a useful source.

In 2017, the Slovak Ministry of Construction proposed to replace the existing Building Act with two new laws on Construction and on Land-use planning. The new laws would reduce two procedures per building, making the overall process efficient and streamlined¹⁴⁶. Under this concept, the urban planning would be decentralised to respective cities and municipalities, involving the participation of its citizens¹⁴⁷. The government introduced working versions of the Act in February 2018. Beside this, another law will also be drafted focusing on urban planning¹⁴⁸.

By October 2020, the Slovak government is planning to prepare and submit for approval new building regulations that will have effect on its position in the Doing Business ranking¹⁴⁹. The proposed new regulation is expected to reduce the administrative burden in the business environment. Its objective is to increase project preparation processes and reduce public investment preparation costs¹⁵⁰.

Insurance and liability related regulations

The building-and-assembly insurance requires Slovak contractors to obtain a particular type of building insurance cover¹⁵¹. This is applicable to all parties involved in the construction project, such as investors, developers, owners, contractors and sub-contractors, and deals with the potential risks arising from the construction process (including natural catastrophes, accidents, negligence, etc.). It is currently a prerequisite for financial institutions to provide funds for a construction project. Additionally, architects and engineers are legally required to be covered by **professional liability insurance**, as stipulated in the Act No. 138/1992 Coll. on Authorised Architects and Authorised Civil Engineers¹⁵².

Liability of construction actors is governed by two regimes, depending on whether it arises due to failure to meet contractual duties, or duties stipulated by law¹⁵³. Under the **Commercial Code** (Act No. 513/1991 Coll.), if the contractor builds, reconstructs or adjusts a building on property belonging to the client, the latter bears the risk of damage. However, these provisions can be amended by the parties involved. Under the **Civil Code** (Act No. 40/1964 Coll.), the contractor bears the risk of damage or destruction to the building until its handover to the client. The general limitation period depends on the regime. Under the Commercial Code, it amounts to five years and can be freely determined in the contract, as opposed to three years (and in some cases, 18 months) in the case of the Civil Code¹⁵⁴.

Guarantee insurance benefits an employee in the event of an employer's insolvency and incapacity to settle the employee's entitlements. It is a one-time benefit available to an employee. The concerned employee can claim the benefit for a period of maximum three months in the last 18 months of the employment duration. The relevant period shall be preceding the commencement of insolvency, or as of the employment termination date resulting from the employer's insolvency¹⁵⁵.

Current status and national strategies to meet Construction 2020 objectives

TO 1 – Investment conditions and volumes



The total investment by the narrow construction sub-sector amounted to EUR 439.8 million in 2020, as compared to EUR 294.6 million in 2010.

The total investment by the broad construction sector¹⁵⁶ fluctuated significantly between 2010 and 2020 (Figure 10). Investment by the narrow construction sub-sector increased by 49.3% over the 2010-2020 period, after a peak reached in 2019 (EUR 506.3 million). Likewise, investment by the real estate activities sub-sector increased by 65.6%, from EUR 1.9 billion in 2010 to EUR 3.2 billion in 2020. However, this represented a drop of 6.9% as compared to the 2019 levels.

Figure 10: Investment by the Slovak broad construction industry between 2010 and 2020 (EUR m)



Source: Eurostat, 2021.

Investment in intellectual property products by the narrow construction sub-sector declined by 55.6% over 2010-2020 period, reaching EUR 5.5 million.

This is 75.1% lower than the EUR 22.1 million peak in 2011. In contrast, investment by the real estate activities sub-sector in this category increased significantly by 387.5% over the same period, reaching EUR 23.4 million in 2020.

Investment in intellectual property products by the narrow construction sub-sector between 2010 and 2020

↓ 55.6%

Similarly, **investment in machinery and equipment** by the real estate activities sub-sector increased significantly by 405.2%, from EUR 9.7 million in 2010 to EUR 49.0 million in 2020. In contrast, investment by the narrow construction sub-sector in this category slightly grew by 3.9%, reaching EUR 139.5 million in 2019 from EUR 134.3 million in 2010.

Investment in machinery and equipment by the real estate activities sub-sector between 2010 and 2020

↑ 405.2%

The investment index in the broad construction sector¹⁵⁷ experienced a moderate decline since 2015, by 14.3% over the 2015-2020 period (Figure 11).

In line with the development of the housing market, investment index in dwellings increased by 44.2% over the 2015-2020 period. Conversely, investment index in the non-residential construction and civil engineering experienced a decline of 33.5% over the same reference period.

Investment index in dwellings between 2015 and 2020

↑ 44.2%

Figure 11: Investment index in the Slovak construction sector between 2010 and 2020 (2010=100)



Source: AMECO, 2021.

The share of total inland infrastructure¹⁵⁸ investment in the GDP has marginally increased from 0.9% in 2010 to 1.2% in 2018¹⁵⁹.

Reflecting this trend, investment in road infrastructure surged from EUR 342.0 million in 2010 to EUR 1.1 billion in 2015 (+231.5%) and then decreased by 32.2% between 2015 and 2018¹⁶⁰, reaching EUR 768.8 million. The 2018 level was 124.8% above the 2010 level highlighting a clear focus of the government on the road infrastructure. Conversely, investment in rail and air transport infrastructure reached EUR 279.4 million (+2.3% as compared to 2010 levels) and EUR 2.9 million (-95.9% as compared to 2010 levels) in 2018¹⁶¹, respectively. As for infrastructure maintenance, it increased from EUR 12.0 million in 2010 to EUR 15.1 million in 2018 for rail infrastructure (+25.8%) and from EUR 175.0 million in 2010 to EUR 295.7 million in 2018 (+69.0%) for road infrastructure. In contrast, investment in air transport infrastructure maintenance declined by 56.0%, from EUR 5.0 million in 2010 to EUR 2.2 million in 2018¹⁶².

In 2017, the Government approved the **Strategic Transport Development Plan till 2030** (*Strategický plán rozvoja dopravy SR do roku 2030*), a long-term strategic document that sets the framework for the effective development of the transport sector and determines the implementation of its development vision. It sets strategic priorities and measures that are evaluated and prioritised in terms of their potential benefits and economic efficiency¹⁶³.

EU funding continues to be the main investment driver for Slovakia's transport infrastructure. In fact, roads are expected to account for the largest share of transport infrastructure investment. For instance, two important EU-backed projects include D4 and D1 motorways. These already form an integral part of the Trans-European Transport Network (TEN-T)¹⁶⁴.

Additionally, the Slovak government has also announced investment commitments up to EUR 2.9 billion to improve roads in the Upper Nitra coal mining region. In November 2020, the Slovak government signed an agreement with the Railways of the Slovak Republic (ŽSR) to modernise the Žilina railway junction.

Slovakia will invest over EUR 801.0 million towards development of sustainable transport, as part of its RRP¹⁶⁵.

However, the infrastructure in Slovakia in terms of sustainable transport facilities, access to broadband, energy efficiency and waste management, remains underdeveloped and is unevenly distributed. Lack of proper planning, low capacity in administering EU funds, inefficient and non-transparent public procurement procedures and complex land-use and construction permit processes have negatively impacted investment¹⁶⁶. Slovakia does not have a good track record for completing large-scale infrastructure projects. As such, the entire stretch of D1 highways, originally to be completed before 2010, is not expected to be completed until 2026¹⁶⁷.

In absolute terms, Slovakia also benefits from the EU supports in terms of investments. In 2020, the EIB Group invested almost EUR 8.0 million in infrastructure¹⁶⁸. Likewise, Italy also benefitted from investments from the European Fund for Strategic Investments (EFSI). As of December 2020, the total financing under EFSI amounted to EUR 657.0 million and is set to trigger additional investments of EUR 2.0 billion. Under the infrastructure and innovation window, 11 projects have been approved, amounting to EUR 528.0 million and are set to trigger EUR 1.0 billion in total investments. Under the SMEs window, eight agreements have been approved, involving a total financing of EUR 129.0 million, and are set to trigger investments of up to EUR 713.0 million thereby

providing improved access to finance to 13,196 SMEs in Slovakia¹⁶⁹.

Additionally, in the current Multiannual Financial Framework, the financial allocation from EU Cohesion policy funds for Slovakia stands at EUR 17.23 billion, which is equal to 2.8% of the country's GDP annually. Low spending by the projects reflects a limited level of implementation, which is mainly due to the low absorption capacity of the Slovak public sector¹⁷⁰. Moreover, under the Cohesion Policy programmes, Slovakia has been allocated EUR 2.8 billion for smart growth, EUR 6.7 billion for sustainable growth and sustainable transport and EUR 3.4 billion for inclusive growth¹⁷¹.

Renovation spending as a share of total household disposable income in Slovakia has registered negligible variation since 2010. In 2019 and 2020, it stood at 0.7% compared to 1.0% in 2010. This is below the EU-27 average of 0.9% in 2019. In 2020, households were investing annually EUR 394.2 million in maintenance and repair of dwellings. This is 8.4% below the 2010 levels (EUR 430.5 million).

TO 2 – Skills

In 2019, the employment rate of recent VET graduates in Slovakia stood at 84.6%, well above the EU-27 average of 79.1%¹⁷².

The notable increase in the employability of VET graduates is mainly due to the removal of entry barriers, which made the Dual Education more attractive for schools and employers¹⁷³. In this regard, the Ministry of Education eased the 'entrance quotas' for learners in VET programmes, launched by the 2018 amendment of the VET Act, due to the dissatisfaction of VET schools and families.

In 2018¹⁷⁴, total enrolment in upper secondary VET in Slovakia stood at 67.8%, above the EU-27 average of 47.8%. Students enrolled in VET had some exposure to work-based learning (12.0% in 2017¹⁷⁵). Most educational programmes include the provision of practical elements in the curriculum¹⁷⁶.

In 2019, the European Social Fund (ESF) launched a project 'Sector-driven innovations for an efficient labour market in the Slovak Republic', focused on vocational education and training. With a budget of EUR 20.0 million, the project is aimed at supporting employees and identifying the skills needed by observing the business demand for skilled labour¹⁷⁷.

The development of professionally oriented bachelor education and the introduction of dual VET into tertiary education are progressing gradually. Currently, the **National Programme for the Development of Education (NPDE)** is intended to connect education and training with the labour market, primarily through funding for employers' organisations involved in dual VET (an annual estimated budget of EUR 987,062 for 2018-2027) and by increasing financing for VET schools (estimated EUR 76.9 million over the same period)¹⁷⁸.

Adult participation in learning remains low in Slovakia. In 2020, adult participation (18 to 64 age group) in education and training in the narrow construction sub-sector stood at 2.7%, well below the EU-27 average of 7.4%. This is mainly due to the lack of both labour market intelligence and interest from adults.

The Slovak government is making efforts to improve the adult learning at regional level. According to the guidelines for programmes for underdeveloped regions, there is a special focus on upskilling and reskilling. Some of the priorities of the programme include providing support to low-skilled workers, young people and marginalised Roma to acquire labour-market relevant skills; creating a training centre focused on IT and electrical engineering to attract young learners and retrain jobseekers in Bardejov; and establishing a regional VET campus in Kežmarok offering initial and continuing training, and career guidance¹⁷⁹.

Under the four-year ESF project 'System of verifying qualifications' launched in 2019, the Slovakian government is setting up an overall system for lifelong learning, with emphasis on validation and recognition of qualifications for non-formal and informal learning of approximately 300 qualifications, including partial qualifications¹⁸⁰.

Likewise, the Strategy for Digital Transformation of Slovakia 2030 is aimed at reforming the education system to improve the employability of graduates, introducing lifelong learning programmes and ensuring that people gain relevant digital skills at school¹⁸¹. In turn this may help the construction sector digitalisation process on the long-run.

Furthermore, in order to offset the declining interest of students in construction apprenticeships, the **State Vocational Training Institute** (*Štátny inštitút odborného vzdelávania - ŠIOV*) and the **Association for Development of Slovak Architecture and Construction** (*Združenie pre rozvoj slovenskej architektúry a stavebníctva – ABF*) organise a yearly competition of construction crafts known as **SUSO** (*Súťažná prehliadka stavebných remesiel*)¹⁸². The initiative aims to raise the popularity of these professions among young people and involve both the business community and VET providers in the creation of a solid base for the long-term training of skilled professionals.

A set of autonomous training modules has been created as part of IngREeS, a Horizon 2020 project. The project includes partners from Slovakia, the Czech Republic and Austria and targets middle and higher-level construction professionals such as engineers, architects, planners, site supervisors and site managers, and assessors of energy efficiency post construction¹⁸³. These modules have been developed for integrating LEC (Low Energy Construction) into VET and identifying core KSC (Knowledge, Skills and Competences).

TO 3 – Resource efficiency / Sustainable construction

Slovakia's Energy Policy is consistent with the European Union (EU) goals for energy and is also translated in the fourth **National Energy Efficiency Action Plans (NEEAPs)** to systematically improve energy efficiency. The NEEAP 2017–2019 (with projections for 2020) established the targets for energy savings¹⁸⁴.

As per its National Energy Efficiency Action Plans, Slovakia plans to cut its energy waste and related negative environmental impact by insulating most of the building stock by 2030¹⁸⁵.

Slovakia is targeting to annually renovate 3.0% of the total floor area of buildings owned and occupied by all public buildings, at least to a level of the

minimum building energy performance requirements. With regards to building energy savings, Slovakia's target for 2020 is 52.2 gigawatt-hours (GWh) per year (365.2 GWh by 2020)¹⁸⁶.

Slovakia has allocated EUR 728.0 million towards building renovations as part of its RRP. Out of this, EUR 528.0 million will finance energy efficiency interventions in single family homes and EUR 200.0 million have been allocated towards renovation of historical public buildings. Additionally, EUR 130.0 million is also allocated to other building-related climate measures that includes funding both new-buildings and renovations¹⁸⁷.

Additionally, the country has also allocated EUR 21.0 million under its RRP for technical assistance associated with renovation works related to the residential sector in order to support the creation of administrative centres including regional one-stop-shops¹⁸⁸.

A significant construction programme for new public buildings is also foreseen, including EUR 817 million allocated to new hospitals, which will be required to achieve 'BREEAM Excellent' certification. Further EUR 130 million are allocated to other building-related climate measures. However, it is unclear whether these will fund new-builds or renovations. Altogether this brings total building investment to EUR 1.7 billion.

In order to stimulate homeowners to renovate their dwellings and improve the energy performance in the residential sector, the Ministry of Transport, Construction and Regional Development has announced various initiatives including:

- a **scheme to support thermal insulation**. The scheme provides a contribution of up to 40.0% of the expenses incurred for the insulation works, for a maximum of EUR 8,800¹⁸⁹.
- a **financial support to the thermal performance of residential buildings** is also ensured by the State Housing Development Fund (SHDF) which, among other activities, provides soft loans for the thermal insulation and modernisation of single- and multi-family dwellings, as well as subsidies for the removal of their structural defects.

Moreover, the SHDF supports the insulation and modernisation of facilities providing social services¹⁹⁰. Since May 2019, a contribution of up to EUR 8,000 is being granted for the insulation of family houses and also for those houses with nearly zero energy requirements. The government also promotes the application of Energy Performance Contracting. EU funding amounting to EUR 780.0 million has also been utilised to finance the renovation of public buildings and dwellings and modernisation of heating and power systems¹⁹¹.

In parallel, the implementation of the Energy Performance of Buildings Directive (EPBD) in Slovakia has resulted in a phased tightening of the minimum requirements for the energy performance of buildings. This tightening is based on the rate of construction of high energy performance buildings. These will be followed by NZEB (Nearly Zero-Energy Buildings) prerequisites for all new buildings starting in 2021. Renovated existing buildings need to meet the requirements for new buildings to ensure they are technically, functionally and economically feasible¹⁹².

According to the National Energy and Climate Plan (NECP) estimates, by 2030, Slovakia would require EUR 3.0 billion to renovate non-residential buildings, out of which EUR 1.2 billion would be needed for public buildings¹⁹³. Furthermore, as per the Eurostat's new rules, Slovakia has adopted the energy performance contracts and prepared enabling legislation and model contract to be followed by all public bodies. Nonetheless, building owners' low income, low awareness about energy renovation and a lack of advisory services are the impediments to change¹⁹⁴.

TO 4 – Single Market

As per the 2020 EU Single Market Scoreboard, overall, Slovakia's performance was above the EU-28¹⁹⁵ average¹⁹⁶.

In relation to 2020 EU Single Market Scoreboard metrics, Slovakia's performance was average in European Employment Services (EURES). In parallel, Slovakia performed well above the EU-28¹⁹⁷ average in the Transposition of law, EU Pilot, Internal Market Information System (IMI) and Your Europe

metrics – EU's single digital gateway aimed at providing access to information, procedures, assistance and problem-solving services. Contrarily, the country performed poorly in terms of Infringements metrics¹⁹⁸.

In terms of **public procurement**, in 2019, Slovakia's performance was average overall. Out of the twelve criteria under public procurement, the country scoring unsatisfactory rating in five, satisfactory rating in four and average rating in the rest three¹⁹⁹. The complex nature of the public procurement verification procedures is a blocking factor in Slovakia for potential beneficiaries to draw EU funds²⁰⁰. In addition, corruption in public procurement is still a serious issue for companies operating in Slovakia. Slovak firms feel that bribes and irregular payments are common during the process of awarding public contracts²⁰¹.

Under its RRP, Slovakia has allocated EUR 229.0 million for dealing with corruption and money laundering, to increase the transparency of its public procurement. Moreover, about EUR 11.0 million has been allocated towards improving the business environment in the country²⁰².

To support SMEs within the single market, there is a single point of contact in place – SOLVIT centre²⁰³. According to the Regulation EU 305/2011 on construction products, the Ministry of Transport, Construction and Regional Development serves as the main **Product Contact Point for Construction (PCPC)**²⁰⁴. The PCPC gives access to national technical rules related to construction products in Slovakia and provides free information and advice on provisions aimed at fulfilling basic requirements for construction works applicable for the intended use of construction products. Furthermore, to strengthen the European Digital Single Market, Slovakia approved the European declarations in 2018 in order to improve cross-border cooperation in Europe in areas such as artificial intelligence, block chain and innovation radar, which in turn would stimulate growth opportunities in Slovakia²⁰⁵.

Regarding the implementation of **Eurocodes**, Slovakia has published all Eurocode parts as National Standards and translated over 90% of Eurocode parts in the national language, except for EN 1993-1-12, EN 1998-3, EN 1999-1-4, and EN 1999-1-5²⁰⁶. Moreover, National Annexes to all Eurocode parts have been published, though only in

Slovak. Even though the use of Eurocodes is voluntary, it is the only recognised system of standards for structural design, as of 2010. All other National Standards that were in conflict with the Eurocodes were repealed. However, the country does allow the parallel use of Eurocodes and national regulations. Indeed, three other national standards are used in parallel with Eurocode EN 1997-1 on Geotechnical design as complementary documents. Conversely, there is no legal framework for the enforcement of all Eurocodes in public procurement, but some of them are legally binding²⁰⁷.

TO 5 – International competitiveness

As per World Bank Doing Business 2020 report, Slovakia ranked 1st out of 190 economies in the ease of trading across border, achieving a full score of 100 in trading across border dimension²⁰⁸.

As per the report, in Slovakia it takes only one hour to be documentary compliant. Moreover, it only takes a few minutes to be border compliant. In terms of costs, businesses need to spend negligible money to become documentary and border compliant.

With regards to the **internationalisation of construction SMEs**, the export value of all construction-related projects in Slovakia stood at EUR 1.0 billion in 2019, representing a 38.6% increase as compared to the 2010 level of EUR 727.0 million. Slovakia's share of exports of all construction-related products in 2019 stood at 65.6% of the total production value, higher than 63.6% in 2018 and significantly above the EU-27 average of 11.3% for 2019.

Exports value of all construction-related products between 2010 and 2019

 **38.6%**

In the context of **inward FATS (Foreign Affiliates Statistics)**²⁰⁹, value added at factor cost in the narrow construction and the real estate activities sub-sectors increased by 86.0% and 69.3% between

2010 and 2018, respectively²¹⁰. Similarly, turnover in the narrow construction and the real estate activities sub-sectors increased by 76.7% and 36.8% over the 2010-2018 period, respectively. In terms of **outward FATS**²¹¹, turnover in the Slovak narrow construction sub-sector decreased by 17.1% over the 2010-2018 period. On the other hand, turnover in the real estate activities sub-sector remained in line with its 2010 levels.

In order to promote SMEs in internationalisation and export, the Slovak government has already announced several initiatives over the past few years. In 2018, the Slovak government designed '**National Support for the Internationalisation of SMEs**' with a budget of EUR 31.0 million, aimed at providing support services and a single point of contact for SMEs planning to expand into foreign markets, such as information around foreign markets along with financial and legal aide²¹².

During 2019, the Ministry of the Economy of Slovakia introduced the 'Support scheme for export of Slovak franchise concepts' (*Podpora exportovania franchisingových konceptov*). The scheme provides counselling and support services for businesses to export their franchise concepts, including help on how to adjust business models and maximise value creation²¹³.

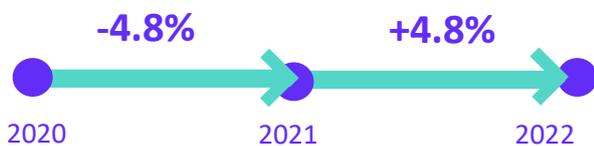
The **Slovak Investment and Trade Development Agency (Slovenská Agentúra pre rozvoj investícií a obchodu – SARIO)** also plays an important role in supporting the internationalisation of SMEs by providing comprehensive information, advice, assistance and educational services for Slovak exporters, under the framework of the Strategy for Foreign Economic Relations over the period 2014-2020 (*Stratégia vonkajších ekonomických vzťahov Slovenskej republiky na obdobie 2014-2020*)²¹⁴. SARIO organises a yearly series of cooperation events for export promotion, known as Business Link, focusing specifically on construction SMEs²¹⁵. SARIO also organises business missions for construction SMEs, helping them secure opportunities in construction and infrastructural projects through the cooperation with third countries, including Russia, Kazakhstan and Iran^{216, 217}.

8

Outlook

The Slovak GDP decreased by -4.8% in 2020, reflecting the impact of COVID-19 pandemic, and it is forecasted to rebound by 4.8% in 2021, totalling EUR 93.7 billion.

Expected GDP growth between 2020-2022



Likewise, the outlook for the Slovak broad construction sector is moderate. The **volume index of production** of the broad construction sector, construction of buildings and construction of civil engineering are projected to increase by 18.1%, 15.6% and 19.9% over the 2020-2022 period, respectively.

Similarly, the **turnover of the broad construction sector** is also projected to increase by 6.0% in 2021 as compared to 2020. At the same time, the **total value added** of the broad construction sector is expected to reach EUR 4.8 billion in 2021, increasing by 6.3% over 2020.

Similarly, the **number of persons employed** in the broad construction sector is projected to rise by 6.3% in 2021 over 2020, reaching 250,381 persons in 2021.

Number of employees in the broad construction sector between 2020 and 2021

↑ 6.3%

Due to COVID-19 pandemic, the outlook of property market is changing in Slovakia. Although Slovakia's **housing market** growth is expected to slow down in the short term, it is also forecasted to recover soon given that property demand, both from foreign as well as local investors, continues to be fundamentally strong.

Slovakia will benefit from EUR 6.6 billion in grants as part of the Recovery and Resilience Facility.

Out of this, EUR 712.0 million has been allotted for developing low carbon transport facilities. Additionally, EUR 528.0 million has been allocated for financing large-scale renovations of 30,000 residential housing to improve their energy and green performance.

Furthermore, the Slovak **non-residential and infrastructure construction** is forecasted to be supported largely by EU funding. For instance, two important EU backed projects include D4 and D1 motorways – the D4 being a PPP – forming an integral part of the Trans-European Transport Network (TEN-T). The Slovak government has also announced investment commitments up to EUR 2.9 billion to improve roads in the Upper Nitra coal mining region. In November 2020, the Slovak government signed an agreement with the Railways of the Slovak Republic (ŽSR) to modernise the Žilina railway junction..

Overall, the Slovak construction sector is forecasted to recover from 2021 onwards, driven by large infrastructure projects and COVID-19 recovery funds. Output in civil engineering will be driven by investment in railways and road infrastructure, backed by EU funding.

References

- 1 No data available for subsequent years.
- 2 Please note that this 2020 data is a nowcast - please refer to the methodology notes for further details.
- 3 Please note that there is a structural break in the data between 2009 and 2010. Hence, data for 2010 onwards cannot be compared to data prior to 2010.
- 4 Please note that this 2020 data is a nowcast - please refer to the methodology notes for further details.
- 5 Please note that the share of each sub-sector in the value added of the broad construction sector should not be compared to the shares of the Gross Value Added in the GDP, since the GDP also includes taxes and excludes subsidies.
- 6 Please note that the share of each sub-sector in the value added of the broad construction sector should not be compared to the shares of the Gross Value Added in the GDP, since the GDP also includes taxes and excludes subsidies.
- 7 Data was not available for the manufacturing and architectural and engineering activities
- 8 Apparent labour productivity refers to the gross value added per person employed.
- 9 Data unavailable for subsequent years.
- 10 OECD Economic Surveys, Slovak Republic, February 2019. <https://www.oecd.org/economy/surveys/Slovak-Republic-2019-OECD-economic-survey-overview.pdf>
- 11 The gross operating rate is the ratio of Gross Operating Surplus to Turnover, and is an indicator of profitability.
- 12 No data available for subsequent years.
- 13 No data available for subsequent years.
- 14 Data on input prices for materials index and labour cost index in construction not available.
- 15 Please note that this 2020 data is a nowcast – please refer to the methodology notes for further details.
- 16 Please note that there is a structural break in the data between 2009 and 2010. Hence, data for 2010 onwards cannot be compared to data prior to 2010.
- 17 No data available for subsequent years.
- 18 No data available for subsequent years.
- 19 FinMin’s Outlook for Slovak Economy Deteriorates; 10% Slump Expected, June 2020. <https://newsnow.tasr.sk/economy/finmins-outlook-for-slovak-economy-deteriorates-10-slump-expected/>
- 20 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 21 Ibidem.
- 22 World Bank Doing Business Report 2020 – Slovakia, https://www.doingbusiness.org/en/data/exploreeconomies/slovakia#DB_sb
- 23 World Bank Doing Business Report 2019 – Slovakia, https://www.doingbusiness.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf
- 24 As the publication of the WB Doing Business report 2021 was not available at the time of the writing, this report relies on the data provided by the 2020 edition
- 25 World Bank Doing Business Report 2020 – Slovakia, https://www.doingbusiness.org/en/data/exploreeconomies/slovakia#DB_sb
- 26 Global Entrepreneurship Monitor 2020 – Slovakia, <https://www.gemconsortium.org/data/key-aps>
- 27 SBA Fact Sheet Slovakia 2020, https://ec.europa.eu/growth/smes/sme-strategy/performance-review_en#sba-fact-sheets
- 28 SAFE Report 2020, https://ec.europa.eu/growth/access-to-finance/data-surveys_en
- 29 European Commission: SBA Fact Sheet 2019- Slovakia, <https://ec.europa.eu/docsroom/documents/38662/attachments/25/translations/en/renditions/native>
- 30 European Bank for Reconstruction and Development, Slovak Republic Country Strategy 2017-2022, November 2017. <https://www.ebrd.com/documents/...and.../slovak-republic-country-strategy-2017.pdf>
- 31 Data unavailable for subsequent years.
- 32 Economic sentiment indicator in April 2020, https://slovak.statistics.sk/wps/portal/ext/products/informationmessages/inf_sprava_detail/bcffe83c-2f5d-4bdc-bcae-14eb79374e7b/lut/p/z1/tVJnc4lwEP0tPXiMuxAwelxOC1h0ioofuXQAoaYlWGGw_vuG2ksPIfbQXJKdeW_3vewDARsQRdiiI7CWZREeVL0Vg2e_fudZopHHEkUfRnTwuZs74QbcDE9bfAdZsfo_ukj_Z84mhoWGCuM1fgQARF_Wx3sO2jKpwT6qMyCIIYVb3UD3KU67UNEVCquMpbC49bKqkztQdxWmaWDQmemruiBHtYhLFYUI0I4nYkDijYVhb_hjLHWx_hv53-W3t4A-H4xd_bHPHYB6i5dkmutwJ5kOfUuS06zuu_BsDOvniE3JLQZeHK4D7vr_wViuOV_oDuISzcRYEauSgA7AcwKLKYKucsB-lagzWjUzOEbtfg-w-QOIHQJCbnI_XOc97HPLIaUMcvQjeHApLRNrn6ajqcvqm1Y79tllbD5VW9Fla9vb4KrZJZfNbZxSpmPaB7zILfoRUqSzZ3zeZnuD43H7-4-AlwxRfE!/dz/d5/LOIHSkovdORNQUZrQUVnQSEhLzROVkuVzW4/
- 33 Data unavailable for 2019.
- 34 Data unavailable for 2019.
- 35 “According to Eurostat, construction services comprises Construction Abroad (code 250) and Construction in the Compiling Economy (code 251). They do not include architectural services, or engineering services.”
- 36 Data for prior years not available.
- 37 Data for prior years not available.
- 38 SAFE Report 2020, <https://ec.europa.eu/docsroom/documents/43869>
- 39 SAFE Analytical Report 2020, <https://ec.europa.eu/docsroom/documents/43872>
- 40 SAFE Report 2020, <https://ec.europa.eu/docsroom/documents/43869>

- 41 Finance constrained firms include those dissatisfied with the amount of finance obtained (received less), firms that sought external finance but did not receive it (rejected) and those who did not seek external finance because they thought borrowing costs would be too high (too expensive) or they would be turned down (discouraged)
- 42 EIB Investment Survey, Slovakia 2020, https://www.eib.org/attachments/efs/eibis_2020_slovakia_en.pdf
- 43 EIB Investment Survey, Slovakia 2020, https://www.eib.org/attachments/efs/eibis_2020_slovakia_en.pdf
- 44 EIB Investment Survey, Slovakia 2020, https://www.eib.org/attachments/efs/eibis_2020_slovakia_en.pdf
- 45 OECD- Financing SMEs and Entrepreneurs 2019, https://www.smefinanceforum.org/sites/default/files/OECD_fin_sme_ent-2019-en.pdf
- 46 Data unavailable for 2020.
- 47 Global Property Guide, House prices are rising strongly in Slovak Republic, September 2020. <https://www.globalpropertyguide.com/Europe/Slovak-Republic>
- 48 Global Property Guide, House prices are rising strongly in Slovak Republic, September 2020. <https://www.globalpropertyguide.com/Europe/Slovak-Republic>
- 49 Ibidem.
- 50 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 51 Slovakia No of Dwellings: Completed, <https://www.ceicdata.com/en/slovakia/number-of-dwellings-and-dwellings-area/no-of-dwellings-completed>
- 52 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 53 The overcrowding rate is defined as the percentage of the population living in an overcrowded household.
- 54 Eurostat, Overcrowding rate. http://ec.europa.eu/eurostat/product?code=ilc_lvho05a&language=en&mode=view
- 55 The housing cost overburden rate is the percentage of the population living in households where the total housing costs represent more than 40 % of disposable income.
- 56 Eurostat, Housing cost overburden rate by age, sex and poverty status - EU-SILC survey. https://ec.europa.eu/eurostat/en/web/products-datasets/-/ILC_LVHO07A
- 57 Eurostat, Severe housing deprivation rate is defined as the percentage of population living in the dwelling, which is considered as overcrowded, while also exhibiting at least one of the housing deprivation measures. Housing deprivation is a measure of poor amenities and is calculated by referring to those households with a leaking roof, no bath/shower and no indoor toilet, or a dwelling considered too dark.
- 58 Eurostat, Severe housing deprivation rate by age, sex and poverty status - EU-SILC survey. https://ec.europa.eu/eurostat/en/web/products-datasets/-/ILC_MDHO06A
- 59 Ibidem.
- 60 World Economic Forum, The Global Competitiveness Report 2019. http://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2019.pdf
- 61 As the World Economic Forum Global Competitiveness Index – Special Edition 2020 did not provide updated data on infrastructure, this report relies on the data provided by the 2019 edition
- 62 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 63 Ibidem.
- 64 No data available for subsequent years.
- 65 Euler Hermes, Global Insolvency Outlook 2020. January 2020. https://www.eulerhermes.com/content/dam/onemarketing/ehndbx/eulerhermes_com/en_gl/erd/insightsimport/pdf/insolvency-report-jan20-compressed.pdf
- 66 Ibidem.
- 67 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 68 Protection against Bankruptcy for Businesses in Slovakia, 2020. <http://www.cechova.sk/wp-content/uploads/2020/04/Temporary-protection.pdf>
- 69 Ibidem.
- 70 Artadius, Payment Practices Barometer- 2020, <https://atradiuscollections.com/global/reports/payment-practices-barometer-slovakia-2020-late-payments-and-cost-containment-cloud-2021-outlook.html>
- 71 Ibidem.
- 72 SAFE Report 2020, <https://ec.europa.eu/docsroom/documents/43871>
- 73 SAFE Analytical Report 2020, <https://ec.europa.eu/docsroom/documents/43872>
- 74 SAFE Report 2020, <https://ec.europa.eu/docsroom/documents/43871>.
- 75 Ibidem.
- 76 Slovakia: late payments and costs cloud 2021 outlook, <https://atradiuscollections.com/global/reports/payment-practices-barometer-slovakia-2020-late-payments-and-cost-containment-cloud-2021-outlook.html>
- 77 Slovakia: late payments and costs cloud 2021 outlook, <https://atradiuscollections.com/global/reports/payment-practices-barometer-slovakia-2020-late-payments-and-cost-containment-cloud-2021-outlook.html>
- 78 Slovakia: late payments and costs cloud 2021 outlook, <https://atradiuscollections.com/global/reports/payment-practices-barometer-slovakia-2020-late-payments-and-cost-containment-cloud-2021-outlook.html>

Country Fact Sheet Slovakia

- 79 Intrum European payment Report 2021, <https://www.intrum.com/publications/european-payment-report/european-payment-report-2021/>
- 80 Intrum European payment Report 2021, <https://www.intrum.com/publications/european-payment-report/european-payment-report-2021/>
- 81 Intrum European payment Report 2021, <https://www.intrum.com/publications/european-payment-report/european-payment-report-2021/>
- 82 Ibidem.
- 83 EUR-Lex, National Implementing Measures (NIM) communicated by the Member States concerning: Directive 2011/7/EU of the European Parliament and of the Council of 16 February 2011 on combating late payment in commercial transactions Text with EEA relevance. <http://eur-lex.europa.eu/legal-content/EN/NIM/?uri=celex:32011L0007>
- 84 World Bank, Doing Business 2020, Slovakia. <https://www.doingbusiness.org/content/dam/doingBusiness/country/s/slovakia/SVK.pdf>
- 85 World Bank, Doing Business 2019, Slovakia. <https://www.doingbusiness.org/content/dam/doingBusiness/country/s/slovakia/SVK.pdf>
- 86 The warehouse in this example is defined as a structure for general storage activities, with two stories, above ground and with total constructed area of approx. 1,300 square meters. The ground, on which the warehouse is built is owned by the company that will use it and valued at 50 times income per capita. There are architectural and technical plans prepared for the warehouse, which are also taken into account and counted as procedures if their preparation requires obtaining further documentation or getting prior approvals from external agencies. Finally, in this example the warehouse takes 30 weeks to construct, excl. all delays due to administrative and regulatory requirements.
- 87 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 88 World Bank, Doing Business 2020, Slovakia. <https://www.doingbusiness.org/content/dam/doingBusiness/country/s/slovakia/SVK.pdf>
- 89 Labour Market in Slovakia 2019+, http://www.ekonom.sav.sk/uploads/journals/390_labour_market_in_slovakia_2019.pdf
- 90 Ibidem.
- 91 Graduations in the first and second stages of tertiary education (based on the International Standard Classification of Education – ISCED 1997, levels 5 and 6).
- 92 No data available for real estate activities.
- 93 Euroguidance Cross Border Seminar 2019, <https://www.euroguidance.eu/compendia-of-results-from-euroguidance-cross-border-seminars/download/cross-border-seminar-2019-compedium>
- 94 European Construction Sector Observatory - Analytical Report - Improving the human capital basis - March 2020, <https://ec.europa.eu/docsroom/documents/41261>
- 95 European Commission, Country Report Slovakia 2019. February 2019. https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-slovakia_en_0.pdf
- 96 Data not available for 2019.
- 97 Generation of waste by waste category, https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=env_wasgen&lang=en
- 98 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 99 European Commission, The EU Environmental Implementation Review Country Report – Slovakia. February 2017. http://ec.europa.eu/environment/eir/pdf/report_sk_en.pdf
- 100 BIO by Deloitte et al., Construction and Demolition Waste management in Slovakia, September 2015, http://ec.europa.eu/environment/waste/studies/deliverables/CDW_Slovakia_Factsheet_Final.pdf
- 101 European Commission, Country Report Slovakia 2019. February 2019. https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-slovakia_en_0.pdf
- 102 European Innovation Scoreboard 2021- Slovakia. <https://ec.europa.eu/docsroom/documents/45934>
- 103 European Innovation Scoreboard 2021- Slovakia. <https://ec.europa.eu/docsroom/documents/45934>
- 104 No data available for subsequent years.
- 105 Data for the real estate activities and for some gap years is not available.
- 106 Data unavailable for subsequent years.
- 107 A full-time equivalent (FTE) is a unit to measure employed persons in a way that makes them comparable. However, they may work a different number of hours per week. The unit is obtained by comparing an employee's average number of hours worked to the average number of hours of a full-time worker. A full-time person is therefore counted as one FTE, while a part-time worker gets a score in proportion to the hours worked.
- 108 European Eco-Innovation Scoreboard. 2021. https://ec.europa.eu/environment/ecoap/indicators/index_en (reports for subsequent years are not available)
- 109 European Eco-Innovation Scoreboard 2019 Profile – Slovakia, https://ec.europa.eu/environment/ecoap/slovakia_en
- 110 Digital Economy and Society Index 2020 Slovakia. https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=66931
- 111 EIB Investment Survey, Slovakia 2020, https://www.eib.org/attachments/efs/eibis_2020_slovakia_en.pdf
- 112 EIB Investment Survey, Slovakia 2020, https://www.eib.org/attachments/efs/eibis_2020_slovakia_en.pdf
- 113 Ibidem.
- 114 Slovakia's recovery and resilience plan – June 2021, https://ec.europa.eu/info/system/files/slovakia-recovery-resilience-factsheet_en.pdf
- 115 Slovakia's recovery and resilience plan – June 2021, https://ec.europa.eu/info/system/files/slovakia-recovery-resilience-factsheet_en.pdf
- 116 Analysis of recovery and resilience plan of Slovakia – June 2021, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0161&from=EN>
- 117 SIEA, International projects involving SIEA. <http://www.siea.sk/medzinarodne-projekty/>

Country Fact Sheet Slovakia

- 118 Slovak Innovation and Energy Agency (SIEA), Power engineering. <http://en.siea.sk/power-engineering/>
- 119 Ministerstvo, Skolstva, Vedy, Vyskumu A Sportu Slovenskej Republiky, August 2019. <https://www.minedu.sk/institucie-vyskumu-a-vyvoja-sa-mozu-uchadzat-o-podporu-svojich-uspesnych-vyskumnych-projektov-v-ramci-schemy-eureka-sk/>
- 120 The implementation of BIM in Slovakia, May 2018. https://www.fig.net/resources/proceedings/fig_proceedings/fig2018/ppt/ts06j/TS06j_kopacik_erdelyi_et_al_9627_ppt.pdf
- 121 BIM association Slovakia, <https://en.bimas.sk/o-nas>
- 122 5th National BIM Conference in Slovakia, November 2019. <http://www.eubim.eu/5th-national-bim-conference-slovakia/>
- 123 Ministry of Transport, Construction and Regional Development, State Housing Policy Concept to 2020. https://www.employment.gov.sk/files/ksbp_en_final_version.pdf
- 124 Ministry of Transport, Construction and Regional Development, Informácia o poskytnutej podpore do oblasti bývania prostredníctvom Štátneho fondu rozvoja bývania a Programu rozvoja bývania za rok 2017. http://www.telecom.gov.sk/index/open_file.php?file=vystavba/bytovapolitika/dokumenty/informacie/info%20o%20podpore/2017.pdf
- 125 Ministry of Transport and Construction, Approved Budget for Spatial Planning for 2020. <https://www.mindop.sk/ministerstvo-1/vystavba-5/uzemne-planovanie/dotacie/rozpocet/schvaleny-rozpocet-na-rok-2020>
- 126 Ibidem.
- 127 Ministry of Transport and Construction of the Republic of Slovakia, Call no. Z5 / 2019 for the submission of applications for the contribution to the insulation of a family house. <https://www.mindop.sk/ministerstvo-1/vystavba-5/bytova-politika/zatepovanie-rodinnych-domov>
- 128 Regional View on Housing of the Marginalized Roma Population in the Slovak Republic, June 2020. <https://www.mdpi.com/2071-1050/12/14/5597/pdf>
- 129 National Reform Program of the Slovak Republic 2019, https://www.finance.gov.sk/files/en/finance/institute-financial-policy/strategic-documents/national-reform-program/npr-2019_final-en.pdf
- 130 National Reform Program of the Slovak Republic 2020, https://ec.europa.eu/info/sites/info/files/2020-european-semester-national-reform-programme-slovakia_sk.pdf
- 131 Ibidem.
- 132 State Housing Policy Concept to 2020, https://www.employment.gov.sk/files/ksbp_en_final_version.pdf
- 133 Office of the United Nations High Commissioner for Human Rights (OHCHR), Housing Financing – Slovakia. <http://www.ohchr.org/Documents/Issues/Housing/Housingfinancing/Slovakia.RTF>
- 134 See more information at <https://www.noveaspi.sk/products/lawText/1/90792/1/2/zakon-c-277-2018-zz-ktorym-sa-meni-a-doplna-zakon-slovenskej-narodnej-rady-c-310-1992-zb-o-stavebnom-sporeni-v-zneni-neskorsich-predpisov/zakon-c-277-2018-zz-ktorym-sa-meni-a-doplna-zakon-slovenskej-narodnej-rady-c-310-1992-zb-o-stavebnom-sporeni-v-zneni-neskorsich-predpisov>
- 135 Ministry of Transport, Construction and Regional Development, Informácia o poskytnutej podpore do oblasti bývania prostredníctvom Štátneho fondu rozvoja bývania a Programu rozvoja bývania za rok 2017. http://www.telecom.gov.sk/index/open_file.php?file=vystavba/bytovapolitika/dokumenty/informacie/info%20o%20podpore/2017.pdf
- 136 European Commission- European Social Policy Network (ESPN), ESPN Thematic Report on National strategies to fight homelessness and housing exclusion-Slovakia, 2019. <https://ec.europa.eu/social/BlobServlet?docId=21629&langId=en>
- 137 National strategies to fight homelessness and housing exclusion, <https://ec.europa.eu/social/BlobServlet?docId=21626&langId=en>
- 138 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 139 National strategies to fight homelessness and housing exclusion, <https://ec.europa.eu/social/BlobServlet?docId=21626&langId=en>
- 140 Renovate2Recover: How transformational are the National Recovery Plans for Buildings Renovation? – October 2021, <https://www.renovate-europe.eu/renovate2recover-how-transformational-are-the-national-recovery-plans-for-buildings-renovation/>
- 141 Renovate2Recover: How transformational are the National Recovery Plans for Buildings Renovation? – October 2021, <https://www.renovate-europe.eu/renovate2recover-how-transformational-are-the-national-recovery-plans-for-buildings-renovation/>
- 142 Renovate2Recover: How transformational are the National Recovery Plans for Buildings Renovation? – October 2021, <https://www.renovate-europe.eu/renovate2recover-how-transformational-are-the-national-recovery-plans-for-buildings-renovation/>
- 143 Renovate2Recover: How transformational are the National Recovery Plans for Buildings Renovation? – October 2021, <https://www.renovate-europe.eu/renovate2recover-how-transformational-are-the-national-recovery-plans-for-buildings-renovation/>
- 144 Slovakia's recovery and resilience plan – June 2021, https://ec.europa.eu/info/system/files/slovakia-recovery-resilience-factsheet_en.pdf
- 145 DLA Piper, General construction law, October 2019. <https://www.dlapiperrealworld.com/law/index.html?t=construction&s=legal-framework&c=SK>
- 146 Euractiv, New Building Act: Over 2,700 comments received but with the ambition to approve it this year, July 2019. <https://euractiv.sk/section/digitalizacia/news/novy-stavebny-zakon-vyse-2-700-privomienok-no-s-ambiciou-schvalit-ho-tento-rok/>
- 147 Euractiv, New Building Act: Over 2,700 comments received but with the ambition to approve it this year, July 2019. <https://euractiv.sk/section/digitalizacia/news/novy-stavebny-zakon-vyse-2-700-privomienok-no-s-ambiciou-schvalit-ho-tento-rok/>
- 148 National Reform Program of the Slovak Republic 2020, https://ec.europa.eu/info/sites/info/files/2020-european-semester-national-reform-programme-slovakia_sk.pdf
- 149 Stability Programme of the Slovak Republic for 2020 to 2023, May 2020. https://ec.europa.eu/info/sites/info/files/2020-european-semester-stability-programme-slovakia_en.pdf
- 150 Ibidem.
- 151 DLA Piper, Insurances. <http://www.dlapiperrealworld.com/law/index.html?t=construction&s=forms-of-contract-procurement-methods&q=insurances&c=SK>
- 152 Slovenská komora stavebných inžinierov, Povinnosť autorizovaných inžinierov mať uzavreté poistenie zodpovednosti za škodu podľa zákona č.. http://www.sksi.sk/buxus/generate_page.php?page_id=307

- 153 ELIOS, Liability and insurance regimes in the construction sector: national schemes and guidelines to stimulate innovation and sustainability. April 2010. <http://www.elios-ec.eu/sites/default/files/pdf/Eliospecialreporton27MemberStates.pdf>
- 154 DLA Piper, Limitation period. <http://www.dlapiperrealworld.com/law/index.html?t=construction&s=liability&q=limitation-period&c=SK>
- 155 Socialna Poistovna, Social Insurance System in Slovakia. <https://www.socpoist.sk/social-insurance-system-in-slovakia/24533s>
- 156 This includes total investment by the construction and real estate sub-sectors, defined as gross fixed capital formation, i.e. acquisitions minus disposal, of total fixed assets (e.g. machinery and equipment, vehicles, dwellings and other buildings).
- 157 This includes total investment (i.e. gross fixed capital formation) in dwellings and non-residential construction and civil engineering by investors in the general economy (e.g. industry, financial and non-financial services, households, agricultural sector, etc.).
- 158 Inland infrastructure includes motorways, railways and inland waterways. For more information, please visit the following link: https://ec.europa.eu/eurostat/statistics-explained/index.php/Inland_transport_infrastructure_at_regional_level
- 159 No data available for subsequent years.
- 160 No data available for subsequent years.
- 161 No data available for subsequent years.
- 162 No data available for subsequent years.
- 163 Ministry of Transport, Construction and Regional Development of the Slovak Republic, Strategic Transport Development Plan of the Slovak Republic up to 2030 – Phase II. December 2016. [https://www.opii.gov.sk/download/d/sk_transport_masterplan_\(en_version\).pdf](https://www.opii.gov.sk/download/d/sk_transport_masterplan_(en_version).pdf)
- 164 Fitch Solution Infrastructure Report 2021 - Slovakia, <https://store.fitchsolutions.com/all-products/slovakia-infrastructure-report>
- 165 Analysis of recovery and resilience plan of Slovakia – June 2021, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0161&from=EN>
- 166 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 167 Fitch Solution Infrastructure Report 2021 - Slovakia, <https://store.fitchsolutions.com/all-products/slovakia-infrastructure-report>
- 168 Slovakia and the EIB, <https://www.eib.org/en/projects/regions/european-union/slovakia/index.htm>
- 169 Investment Plan: Slovakia – December 2020, https://ec.europa.eu/info/strategy/priorities-2019-2024/economy-works-people/jobs-growth-and-investment/investment-plan-europe/investment-plan-results/investment-plan-slovakia_en
- 170 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 171 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 172 European Commission, Education and Training Monitor 2020-Slovakia, <https://op.europa.eu/en/publication-detail/-/publication/0b2aea5e-2499-11eb-9d7e-01aa75ed71a1/language-en/format-PDF/source-171316001>
- 173 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 174 The latest data available.
- 175 No data available for subsequent years.
- 176 Ibidem.
- 177 European Commission, Education and Training Monitor 2020-Slovakia, <https://op.europa.eu/en/publication-detail/-/publication/0b2aea5e-2499-11eb-9d7e-01aa75ed71a1/language-en/format-PDF/source-171316001>
- 178 European Commission, Education and Training Monitor 2019-Slovakia, https://ec.europa.eu/education/sites/education/files/document-library-docs/et-monitor-report-2019-slovakia_en.pdf
- 179 Ibidem.
- 180 European Commission, Education and Training Monitor 2020-Slovakia, <https://op.europa.eu/en/publication-detail/-/publication/0b2aea5e-2499-11eb-9d7e-01aa75ed71a1/language-en/format-PDF/source-171316001>
- 181 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 182 Ministry of Education, Science, Research and Sport, Mladí remeselníci zabojujú v súťaži Skills Slovakia v Nitre. April 2016. <https://www.minedu.sk/mladi-remeselnici-zabuju-v-sutazi-skills-slovakia-v-nitre/>
- 183 Inclusive vocational education and training for low energy construction, February 2019, <https://www.efbww.eu/stream/324d1502-ac15-4f1e-8b20-12a611bd3a75>
- Slovakia Catching-Up Regions- Energy efficiency of public buildings in the Prešov region, May 2019. <http://documents1.worldbank.org/curated/en/421401560921535234/pdf/Slovakia-Catching-Up-Regions-Energy-Efficiency-of-Public-Buildings-in-the-Prešov-Region-Strategic-Planning-for-Scaling-Up-EE-in-PSK-Building.pdf>
- 185 European Commission, Country Report Slovakia 2019 - February 2019, https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-slovakia_en_0.pdf
- 186 Ibidem.
- 187 Renovate2Recover: How transformational are the National Recovery Plans for Buildings Renovation? – October 2021, <https://www.renovate-europe.eu/renovate2recover-how-transformational-are-the-national-recovery-plans-for-buildings-renovation/>
- 188 Renovate2Recover: How transformational are the National Recovery Plans for Buildings Renovation? – October 2021, <https://www.renovate-europe.eu/renovate2recover-how-transformational-are-the-national-recovery-plans-for-buildings-renovation/>
- 189 Ministry of Transport, Construction and Regional Development, Podpora zatepšovania. <https://www.zatepluj.sk/podpora-zatepšovania/ucel-a-forma-podpory>
- 190 Central Government Portal, Štátny fond rozvoja bývania. https://www.slovensko.sk/sk/agendy/agenda/_statny-fond-rozvoja-byvania

Country Fact Sheet Slovakia

- 191 European Commission, Country Report Slovakia 2019. February 2019. https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-slovakia_en_0.pdf
- 192 Implementing the EPBD 2018, Country reports - Slovak Republic, <https://epbd-ca.eu/wp-content/uploads/2019/09/CA-EPBD-2018-BOOK-VOLUME-I.pdf>
- 193 Implementing the EPBD 2018, Country reports - Slovak Republic, <https://epbd-ca.eu/wp-content/uploads/2019/09/CA-EPBD-2018-BOOK-VOLUME-I.pdf>
- 194 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 195 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose.
- 196 EU 2020 Single Market Scoreboard. https://ec.europa.eu/internal_market/scoreboard/performance_overview/index_en.htm
- 197 As the EU-27 average data was not available, the EU-28 average was used for comparative purpose
- 198 EU 2020 Single Market Scoreboard. https://ec.europa.eu/internal_market/scoreboard/performance_overview/index_en.htm
- 199 EU 2020 Single Market Scoreboard - Public procurement. https://ec.europa.eu/internal_market/scoreboard/performance_per_policy_area/public_procurement/index_en.htm
- 200 European Commission, Country Report Slovakia 2020. February 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0524&from=EN>
- 201 Slovakia Corruption Report, <https://www.ganintegrity.com/portal/country-profiles/slovakia/>
- 202 Analysis of recovery and resilience plan of Slovakia – June 2021, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0161&from=EN>
- 203 European Commission, 2018 SBA Fact Sheet Slovakia. <https://ec.europa.eu/attachments/translations/renditions/native>
- 204 Ministry of Transport, Construction and Regional Development, Kontaktné miesto pre stavebné výrobky. <http://www.telecom.gov.sk/index/index.php?ids=135285>
- 205 European Commission, Country Report Slovakia 2019. February 2019. https://ec.europa.eu/info/sites/info/files/file_import/2019-european-semester-country-report-slovakia_en_0.pdf
- 206 JRC Report EUR 27511 EN, State of implementation of the Eurocodes in the European Union. 2015. <http://eurocodes.jrc.ec.europa.eu/showpublication.php?id=537>
- 207 Ibidem.
- 208 World Bank Doing Business Report 2020 – Slovakia, https://www.doingbusiness.org/en/data/exploreconomies/italy#DB_tab
- 209 Inward FATS describe the overall activity of foreign affiliates resident in the compiling economy. A foreign affiliate within the terms of inward FATS is an enterprise resident in the compiling country over which an institutional unit not resident in the compiling country has control.
- 210 Data for subsequent years unavailable.
- 211 Outward FATS describe the activity of foreign affiliates abroad controlled by the compiling country. Foreign affiliate within the terms of outward FATS is an enterprise not resident in the compiling country over which an institutional unit resident in the compiling country has control.
- 212 European Commission, 2018 SBA Fact Sheet Slovakia. <https://ec.europa.eu/attachments/translations/renditions/native>
- 213 SBA Fact Sheet 2019- Slovakia, <https://ec.europa.eu/docsroom/documents/38662/attachments/25/translations/en/renditions/native>
- 214 Slovak Investment and Trade Development Agency, Služby SARIO. <http://www.sario.sk/sk/exportujte-do-zahranicia/sluzby-sario>
- 215 SARIO, SARIO Business Link — CONECO 2017. <http://www.sario.sk/sk/projekty-podujatia/sario-business-link-coneco-2017>
- 216 Slovak Investment and Trade Development Agency, Kazakhstan is interested in innovations from Slovakia. <http://www.sario.sk/en/news/kazakhstan-interested-innovations-slovakia>
- 217 Slovak Investment and Trade Development Agency, Slovak companies show interest in Sochi construction projects. <http://www.sario.sk/en/news/slovak-companies-show-interest-sochi-construction-projects>