The Impact of COVID-19 Pandemic on Economics, Accounting Practice, Research and Quality of Education in the Slovak Republic: Lessons Learnt

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Table of Contents

Introduction

The COVID-19 pandemic has significantly affected the entire social and economic life. The first positive case of the infection appeared in the Chinese city of Wuhan in December 2019, from where it spread very quickly around the world. In March 2020, the World Health Organization declared the disease a pandemic. The strict curfew, social distancing, closure of borders, schools, and facilities, restrictions on international transportation, and bans on mass social and sports events were among the basic measures aimed at limiting and slowing the spread of the virus and protecting the health of the population.

Closure of facilities and limitation of production have harmed the economic performance of microenvironment companies but have also had a significant negative impact on the macroeconomic environment. Some economists consider the crisis related to the COVID-19 pandemic one of the worst crises in human history, even worse than the financial crisis of 2008-2009 regarding its impact on macroeconomic indicators. The crisis, which initially appeared to be a health crisis, turned into a financial crisis. The restrictive measures introduced by national governments from all over the world in the context of the pandemic were, on the one hand, intended to protect the population's health. However, on the other hand, they had a negative impact on the development of the global economy and led to the acceleration of the global recession emergence. There has been a slowdown in economic growth, rising inflation and unemployment. This economic downturn was so severe that within a few weeks of the first confirmed cases, the economy fell to a level that took approximately two years in the case of the global financial and mortgage crisis of 2008. The pandemic caused a crisis not only on demand but also on the supply side. The global recession led to supply and demand shocks, which caused the biggest fall in world trade in modern economic history.

Several forecasts predicted that the crisis related to the COVID-19 pandemic would have a medium- and long-term impact on the potential development of the economy, through bankruptcies and indebtedness of companies, through the disruption of the global value chains, and through the reduction of investment activity due to the deterioration of the financial conditions of individual economic entities (Blahušiaková, 2021d).

The COVID-19 pandemic has significantly impacted the economic situation of companies operating in several sectors of the economy. In particular, the industries based on personal contact have experienced a deterioration in economic results, a decrease in sales, profit or loss. In the first phase of the pandemic, it was expected that the most affected sectors of the economy would be the tourism, automotive and service industries.

The COVID-19 pandemic and the restrictive measures taken by national governments have not only affected the macro- and microenvironment but have also had a significant impact on education, science, research and internationalisation. The closure of schools, the suspension of classes, and the shift from face-to-face to online teaching have brought many challenges that educational institutions had to overcome. Especially in the first phase of the pandemic, it was a challenging process as no one was prepared for the situation.

The authors of the monograph aimed to carry out an in-depth analysis of the impact of the COVID-19 pandemic on the macroeconomic environment, the economic situation of micro-level accounting entities, the field of education, science and research, and the accounting profession and practice itself in the Slovak Republic. In this context, the monograph also examines the steps taken at the supranational level, e.g., by the European Union (EU), and at the national level in the form of measures taken and their impact on the development of macroeconomic indicators and the economic situation of enterprises in selected economic sectors in the Slovak Republic.

The monograph combines scientific methods of research based on data collection and selection, analysis, comparison, induction, deduction and synthesis. The data on which the scientific methods of investigation are applied cover the period from 2017 to 2022.

The first chapter of the monograph presents the impact of the pandemic on EU countries. It also analyses the measures taken within the EU to support individual Member States, the internal measures that the Member States have applied to overcome the pandemic, and the impact of the pandemic on specific sectors of the economy. The second chapter focuses on an overview of the impact of the pandemic on the macroeconomic environment, emphasising the restrictive measures adopted by the Government of the Slovak Republic, which have significantly affected the purchasing behaviour and consumption of the population, and by that, the entrepreneurial business environment. The next analysis covers the measures taken by the Government of the Slovak Republic to avoid the negative impact of the restrictive measures on the business environment, which have also significantly affected current accounting practice. The second chapter also compares forecasts of macroeconomic indicators during the pandemic crisis with the macroeconomic indicators actually achieved. The third chapter deals with the analysis of the impact of the pandemic on companies operating in the microenvironment. It examines the impact of the pandemic on the development of sales and net profit or loss of companies in selected economic sectors in the Slovak Republic. The last chapter investigates the COVID-19 pandemic's impact on science and research and explores the quality of education in the Slovak Republic, internationalisation and international mobilities of students and employees during a global health crisis.

CHAPTER 1

COVID-19 Pandemic Implications – a European Perspective

The emergence of the global COVID-19 pandemic has caused much damage to economies worldwide to the extent that was not witnessed in the post-war era. The pandemic significantly influenced many businesses' operational and financial performance and necessitated fiscal interventions and financial support for the less resilient industries.

In December 2019, the first cases of COVID-19 were reported in Wuhan, China. After that, in January 2020, Europe recorded its first cases in France (Spiteri et al., 2020; Robert Koch Institute, 2020). At the beginning of the pandemic outbreak, due to a lack of overall EU policy, each EU Member State tried to tackle the spread of the virus in its own way (Byttebier, 2022). It is worth mentioning that the pandemic's timing and its impact varied between the Member States. The widespread disparities were also seen between particular regions within individual Member States (Eurostat, 2021a). The differences in how countries have been coping with the pandemic might be related to the following five reasons (Stiglitz, 2020, p. 17):

- 'the pre-existing state of health care and health inequalities,
- a country's preparedness and the resiliency of the economy,[1]
- the quality of public response, including reliance on science and expertise,[2]
- citizens' trust in government guidance, and
- how citizens balanced their individual "freedoms" to do as they pleased with their respect for others, recognising that their actions generated externalities.'

These reasons may also refer to (Eurostat, 2021a, p. 35):

- health status of regional populations,

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1 This may reflect the speed and severity of national and regional government measures taken in place to slow the spread of the virus.

2 That is, public awareness, vigilance and willingness to adhere to rules/restrictions.

- regional population structures,[3]
- other socioeconomic factors.[4]

Though the reactions to the pandemic crisis varied across countries, Yeyati and Filippini (2021) remarked on two common features of the responses: speed and synchronicity. The policy responses targeted two objectives. First, the actions were directed at limiting the virus spread and strengthening the healthcare systems. In this regard, quarantines, lockdowns, and social distancing policies were implemented to slow virus transmission and reduce the burden on the health system. Second, the governments made efforts to underpin households and companies that suffered from sudden losses due to supply and demand shortages and to support the financial system to prevent an increase in bad credit loans and defaults. The governments supported households with salary subsidies, granting relief from contractual obligations and debt, and conditional cash transfers. The companies were underpinned by loans, equity injections, and guarantees (Yeyati & Filippini, 2021). Apart from the fiscal policy implemented by national governments and the EU, central banks also responded to the pandemic and the economic crisis it brought along using monetary policy measures (Byttebier, 2022).

This chapter analyses the economic consequences of the COVID-19 pandemic in the EU27 and for particular industries in the EU. It also elaborates on European fiscal and monetary measures to overcome the pandemic's effects.

1.1. Economic Consequences of the COVID-19 Pandemic for EU27

The COVID-19 pandemic resulted in an unprecedented economic contraction in 2020. Seven countries, including the US, China, Japan, Germany, the UK, France, and Italy, accounting for around 65% of world manufacturing and exports, were affected most severely (Baldwin & Evenett, 2020). The real GDP in the EU in 2020 was 5.9% lower than in 2019. The drop was much more profound than during the global financial crisis, when GDP decreased in 2009 by 4.3% compared with 2008 (Eurostat, 2021b). Also, monthly data for 2020 and, to a lesser extent, 2021 reflect the real impact of the pandemic on the industrial economy in the EU. However, the most recent data for 2022 may be influenced by a broader range of other

[3] I.e., the number and share of elderly people, the proportion of persons living in care homes, the share of disadvantaged and minority ethnic groups in regional populations.

[4] I.e., the average number of people living alone and with extended families, the share of people able to work from home during the pandemic.

factors, for example, the consequences of the pandemic crisis on supply chains and the early impacts of the Russian military aggression against Ukraine and the related sanctions (Eurostat, 2022b).

This part of the chapter gives an insight into four significant indicators, picturing the changes and behaviours in the EU economy over almost the six years of 2017–2022. The time frame is an excellent comparative background for analysing the pandemic impacts.

Figure 1.1 presents the value of the **Economic Sentiment Indicator (ESI)** over the years 2017–2022. ESI is a composite indicator calculated by the Directorate General for Economic and Financial Affairs (DG ECFIN) of the EC since 1985.

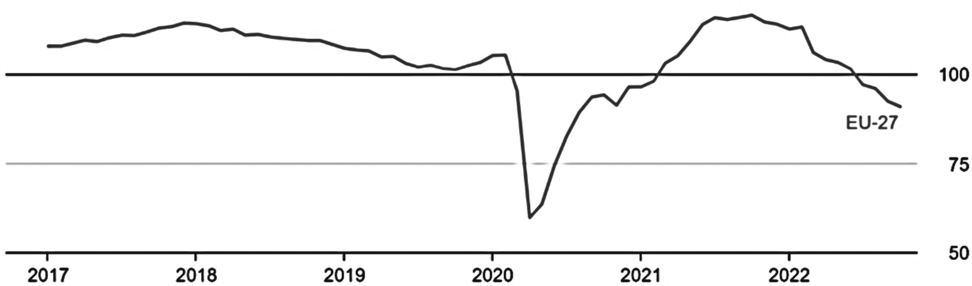

Figure 1.1. Economic sentiment indicator (EU27; Index, long-term mean = 100)

Source: (Destatis, 2022).

It is computed based on a weighted average of the balances of replies to 15 selected questions (Table 1.1) addressed to consumers and companies in the industry, service, construction and retail trade sectors within EU Business and Consumer Surveys.

Table 1.1. Component questions of the economic sentiment indicator

Weight	Name / Questions		
40%	**Industrial confidence indicator**		
Q1	**Do you consider your current overall order books to be...?**		
	more than sufficient (above normal)	sufficient (normal for the season)	not sufficient (below normal)
Q2	**Do you consider your current stock of finished products to be...?**		
	too large (above normal)	adequate (normal for the season)	too small (below normal)
Q3	**How do you expect your production to develop over the next 3 months? It will...**		
	increase	remain unchanged	decrease

Table 1.1, cont.

<table>
<tr><th>Weight</th><th colspan="6">Name / Questions</th></tr>
<tr><td>30%</td><td colspan="6">Services confidence indicator</td></tr>
<tr><td rowspan="2">Q4</td><td colspan="6">How has your business situation developed over the past 3 months? It has…</td></tr>
<tr><td colspan="2">improved</td><td colspan="2">remained unchanged</td><td colspan="2">deteriorated</td></tr>
<tr><td rowspan="2">Q5</td><td colspan="6">How has demand (turnover) for your Company's services changed over the past 3 months? It has...</td></tr>
<tr><td colspan="2">increased</td><td colspan="2">remained unchanged</td><td colspan="2">decreased</td></tr>
<tr><td rowspan="2">Q6</td><td colspan="6">How do you expect the demand (turnover) for your Company's services to change over the next 3 months? It will…</td></tr>
<tr><td colspan="2">increase</td><td colspan="2">remain unchanged</td><td colspan="2">decrease</td></tr>
<tr><td>20%</td><td colspan="6">Consumer confidence indicator</td></tr>
<tr><td rowspan="2">Q7</td><td colspan="6">How has the financial situation of your household changed over the last 12 months? It has....</td></tr>
<tr><td>got a lot better</td><td>got a little better</td><td>stayed the same</td><td>got a little worse</td><td>got a lot worse</td><td>N don't know</td></tr>
<tr><td rowspan="2">Q8</td><td colspan="6">How do you expect the financial position of your household to change over the next 12 months? It will...</td></tr>
<tr><td>got a lot better</td><td>got a little better</td><td>stayed the same</td><td>got a little worse</td><td>got a lot worse</td><td>N don't know</td></tr>
<tr><td rowspan="2">Q9</td><td colspan="6">How do you expect the general economic situation in this country to develop over the next 12 months? It will...</td></tr>
<tr><td>get a lot better</td><td>get a little better</td><td>stay the same</td><td>get a little worse</td><td>get a lot worse</td><td>N don't know</td></tr>
<tr><td rowspan="2">Q10</td><td colspan="6">Compared to the past 12 months, do you expect to spend more or less money on major purchases (furniture. electrical/electronic devices. etc.) over the next 12 months? I will spend…</td></tr>
<tr><td>much more</td><td>a little more</td><td>about the same</td><td>a little less</td><td>much less</td><td>N don't know</td></tr>
<tr><td>5%</td><td colspan="6">Retail trade confidence indicator</td></tr>
<tr><td rowspan="2">Q11</td><td colspan="6">How has (have) your business activity (sales) developed over the past 3 months? It has (They have) …</td></tr>
<tr><td colspan="2">improved (increased)</td><td colspan="2">remained unchanged</td><td colspan="2">deteriorated (decreased)</td></tr>
<tr><td rowspan="2">Q12</td><td colspan="6">Do you consider the volume of stock currently held to be...?</td></tr>
<tr><td colspan="2">too large (above normal)</td><td colspan="2">adequate
(normal for the season)</td><td colspan="2">too small (below normal)</td></tr>
<tr><td rowspan="2">Q13</td><td colspan="6">How do you expect your business activity (sales) to change over the next 3 months? It (They) will...</td></tr>
<tr><td colspan="2">improve (increase)</td><td colspan="2">remain unchanged</td><td colspan="2">deteriorate (decrease)</td></tr>
</table>

Weight	**Name / Questions**		
5%	**Construction confidence indicator**		
Q14	**Do you consider your current overall order books to be...?**		
	more than sufficient (above normal)	sufficient (normal for the season)	not sufficient (below normal)
Q15	**How do you expect your firm's total employment to change over the next 3 months? It will...**		
	increase	remain unchanged	decrease

Source: based on (Directorate-General for Economic and Financial Affairs [DG ECFIN], 2022).

Balances are established as the difference between the percentages of respondents that gave positive and negative replies. The weights are assigned according to the 'representativeness' of the sector and its tracking performance *vis-à-vis* GDP growth. ESI is scaled to a long-term mean of 100 and a standard deviation of 10.

It is worth noting that in EU27, ESI fell by 45.5 points from 105.2 in January 2020 to 59.7 in April 2020 (See Table 1.2). A value greater than 100, reflected in January 2020 by EU27, indicates an above-average economic sentiment, whereas values below 100 in April and October 2020 indicate a below-average position. The most profound drop in ESI was recorded in the case of Poland and Slovakia (over 50 points). In October 2020, these two countries had the highest rebound from the low indicator recorded in April. Interestingly, only Lithuania and Luxembourg recorded above--average economic sentiment (102.9 and 106.7, respectively) in October 2020, though the latter country had a below-average economic sentiment indicator before the pandemic outbreak in Europe (precisely 99.7 in January 2020). Another systematic ESI decline has started to appear since February 2022 in response to the effects of the war in Ukraine. In February 2022, the indicator reached 113.3 for EU27, to fall gradually to 90.9 by October 2022. In Slovakia, for instance, ESI only once achieved an above-average level after the pandemic outbreak. It was in June 2021 (101.3), but later on, the index trended downwards with small rebounds to reach 85.8 in October 2022.

Figure 1.2 indicates changes in **Consumer Confidence Indicator (CCI)** over 2017–2022. CCI reflects the arithmetic average of the balances of the answers to the questions asked in the consumer survey. The survey focuses on 'the past and expected financial situation of households, the expected general economic situation and the intentions to make major purchases over the next 12 months' (DG ECFIN, 2022, p. 16).

Interestingly, consumer sentiment in total, considering EU27, has never been positive over the last five years. However, there were some exceptions of continuous periods of positive consumer moods in particular Member States before the COVID-19 pandemic outbreak, mainly in Denmark (IV.2007–III.2020),

Table 1.2. Changes in ESI over the three quarters of 2020

	I 2020	Change	IV 2020	Change	X 2020
EU27	105.2	–45.5	59.7	34.6	94.3
Belgium	99.6	–42.0	57.6	37.5	95.1
Bulgaria	103.1	–45.4	57.7	29.2	86.9
Czechia	101.9	–39.5	62.4	26.2	88.6
Denmark	99.6	–41.1	58.5	33.6	92.1
Germany	103.2	–35.2	68.0	31.3	99.3
Estonia	95.5	–29.6	65.9	29.3	95.2
Ireland	103.6	–41.9	61.7	26.7	88.4
Greece	109.6	–12.7	96.9	–3.7	93.2
Spain	101.9	–32.6	69.3	22.2	91.5
France	106.1	–42.8	63.3	32.1	95.4
Croatia	**114.0**	–46.2	67.8	25.4	93.2
Italy	101.0	–	NA	–	94.3
Cyprus	113.6	–40.6	73.0	12.7	85.7
Latvia	102.3	–28.7	73.6	22.2	95.8
Lithuania	108.6	–31.0	77.6	25.3	**102.9**
Luxembourg	99.7	–28.2	71.5	35.2	**106.7**
Hungary	105.6	–35.2	70.4	18.7	89.1
Malta	102.9	–49.1	53.8	35.8	89.6
Netherlands	101.8	–39.5	62.3	30.5	92.8
Austria	104.6	–46.4	58.2	34.3	92.5
Poland	103.7	–52.9	50.8	38.6	89.4
Portugal	108.7	–45.8	62.9	30.8	93.7
Romania	104.8	–44.4	60.4	31.5	91.9
Slovenia	104.3	–42.2	62.1	34.7	96.8
Slovakia	101.3	–51.1	50.2	44.2	94.4
Finland	95.9	–29.5	66.4	21.6	88.0
Sweden	98.2	–34.4	63.8	33.7	97.5

Source: own presentation based on Eurostat data.

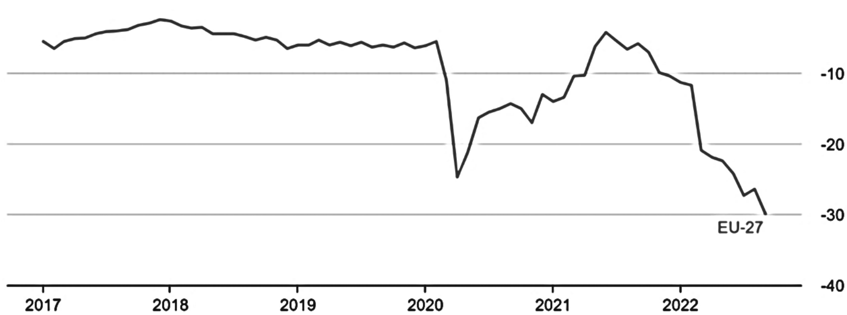

Figure 1.2. Consumer confidence indicator (EU27; Balance of positive and negative answers; + mainly positive, – mainly negative)

Source: (Destatis, 2022).

Malta (IV.2007–II.2020), Poland (IX.2017–I.2020), Lithuania (07.2018–I.2020), and Czechia (IX.2017–I.2020 but in this last case except for May 2019 (–0.1) and August 2019 (–0.3)).

According to national surveillance, the first COVID-19 cases in Europe were detected in France on 24 January 2020 and in Germany on 28 January 2020 (Spiteri et al., 2020; Robert Koch Institute, 2020). After three months, in April 2020, CCI dropped by –18.6 percentage points in EU 27 compared to January 2020. The following Member States recorded the highest declines in consumer sentiment during this period: Portugal (–33.2), Hungary (–31.9), Croatia (–31.7), Cyprus (–31.2) and Greece (–30.4) (Table 1.3).

Table 1.3. Changes in CCI since the beginning of 2020

	I 2020	Change	IV 2020	Change	VI 2021	Change	V 2022	Change	XI 2022
EU 27	–6.1	–18.6	–24.7	20.5	–4.2	–18.1	–22.3	–3.5	–25.8
Belgium	–10.5	–10.6	–21.1	23.6	2.5	–21.6	–19.1	–3	–22.1
Bulgaria	–21.7	–15.2	–36.9	18.5	–18.4	–13.8	–32.2	4.4	–27.8
Czechia	1.1	–20.3	–19.2	16.2	–3	–25.7	–28.7	–1.1	–29.8
Denmark	3.7	–11	–7.3	14.6	7.3	–22.7	–15.4	–2.4	–17.8
Germany	–3	–15.1	–18.1	18.5	0.4	–18.7	–18.3	–6.8	–25.1
Estonia	0.4	–18.4	–18	7.7	–10.3	–18.4	–28.7	–6.6	–35.3
Ireland	–1.5	–26.7	–28.2	32.2	4	–25.2	–21.2	–7.3	–28.5
Greece	–11.9	–30.4	–42.3	17.6	–24.7	–26.6	–51.3	–0.6	–51.9
Spain	–11.6	–20.8	–32.4	23.5	–8.9	–14.2	–23.1	–5.6	–28.7
France	–8.9	–12.9	–21.8	21.8	0	–18.8	–18.8	0.2	–18.6
Croatia	–0.4	–31.7	–32.1	22.2	–9.9	–14.3	–24.2	–0.6	–24.8
Italy	–11.3	–	NA	–	–2.2	–19.9	–22.1	3.6	–18.5
Cyprus	–5.5	–31.2	–36.7	26.6	–10.1	–25.3	–35.4	5.1	–30.3
Latvia	–7.2	–22.2	–29.4	26.9	–2.5	–25.6	–28.1	–3.2	–31.3
Lithuania	2.3	–18.9	–16.6	18.3	1.7	–10.2	–8.5	0.3	–8.2
Luxembourg	–3.8	–20.5	–24.3	27.2	2.9	–23.4	–20.5	–3	–23.5
Hungary	–6	–31.9	–37.9	27.9	–10	–19.4	–29.4	–18	–47.4
Malta	8.1	–30.4	–22.3	30.9	8.6	–8.6	0	–17.8	–17.8
Netherlands	–8.2	–16.8	–25	31.4	6.4	–29.2	–22.8	–6.7	–29.5
Austria	–1.5	–19	–20.5	20.3	–0.2	–23.9	–24.1	–5.7	–29.8
Poland	2	–29.1	–27.1	23.2	–3.9	–12.2	–16.1	–3	–19.1
Portugal	–8.6	–33.2	–41.8	29.1	–12.7	–17.3	–30	–8.3	–38.3
Romania	–8.5	–21.5	–30	–	nd	–	nd	–	nd
Slovenia	–12	–26.9	–38.9	19.8	–19.1	–12.6	–31.7	–5.5	–37.2
Slovakia	–11.1	–24.2	–35.3	19.1	–16.2	–11.3	–27.5	–3.3	–30.8
Finland	–4.1	–9.2	–13.3	18	4.7	–16.3	–11.6	–4.7	–16.3
Sweden	–3.6	–3.7	–7.3	15.1	7.8	–21.5	–13.7	–9.5	–23.2

Source: own presentation based on Eurostat data.

After two waves of the pandemic in 2020, the situation began slowly returning to normal in 2021 with minor fluctuations in consumer sentiments. CCI increased in EU27 by 20.5 percentage points between April 2020 and June 2021, thus reaching the highest level (–4.2), not even been recorded since May 2018. It is worth noting that some Member States recorded positive CCI in June 2021, and these were Malta (8.6), Sweden (7.8), Denmark (7.3), Netherlands (6.4), Finland (4.7), Ireland (4.0), Luxembourg (2.9), Belgium (2.5), Lithuania (1.7), Germany (0.4). A different situation was noted in Greece, where consumer sentiment, despite a slight improvement since April 2020, still remained very low (–24.7) in June 2021.

The general recovery in consumer sentiment in the EU27 did not last long, as gradual declines could already be seen in the months following June 2021, except for a slight rebound in September 2021. Following the outbreak of war in Ukraine on 24 February 2022, Europe experienced another significant drop in consumer sentiment. The CCI decline three months after the start of the war was comparably high as after the pandemic outbreak. In November 2022, consumer sentiment remained poor and, at best, resembled that of the first wave of the pandemic, as some countries recorded even much lower CCIs, which in some cases may also be linked to the high inflation rate.

Consumption expenditures of private households are classified by consumption purpose according to the COICOP classification (Classification of Individual Consumption by Purpose). In this classification, twelve major categories are distinguished: (1) Food and non-alcoholic beverages; (2) Alcoholic beverages, tobacco and narcotics; (3) Clothing and footwear; (4) Housing, water, electricity, gas and other fuels; (5) Furnishings, household equipment and routine household maintenance; (6) Health; (7) Transport; (8) Communication; (9) Recreation and culture; (10) Education; (11) Restaurants and hotels; (12) Miscellaneous goods and services (Eurostat, 2022a).

Figure 1.3 indicates a considerable drop in private consumption expenditures in the EU27 in the first two quarters of 2020 compared to the preceding quarter (–3.9% and –12.1%, respectively). A visible increase in consumption expenditures (+13.2%) was recorded in the third quarter of 2020, followed by a slight drop (–2.6%) in the last quarter of 2020 due to the second pandemic wave.

The economic performance expressed as a **percentage change in the gross domestic product (GDP)**[5] in market prices indicated a substantial drop in the EU27 in the first two quarters of 2020 compared to the preceding quarter (Figure 1.4).

5 Eurostat defines GDP in three different ways, including: (1) GDP output approach; (2) GDP expenditure approach and (3) GDP income approach. In output approach, GDP is measured as a sum of total gross value added and taxes less subsidies on products. In expenditure approach, GDP is calculated as follows: household and non-profit institutions serving households final expenditure + government final consumption expenditure + gross fixed capital formation +

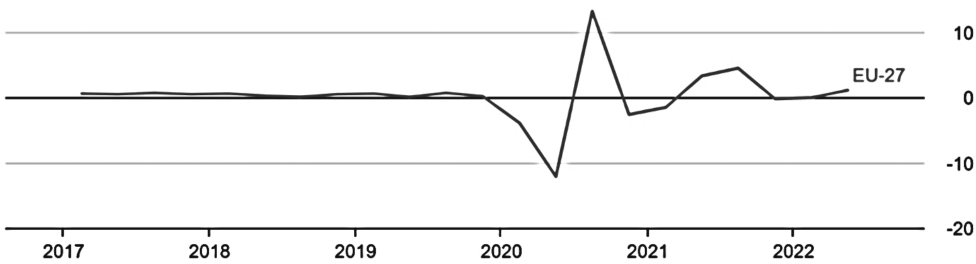

Figure 1.3. Private consumption expenditures
(EU27; Percentage change compared to the previous quarter, seasonally and calendar adjusted data)

Source: (Destatis, 2022).

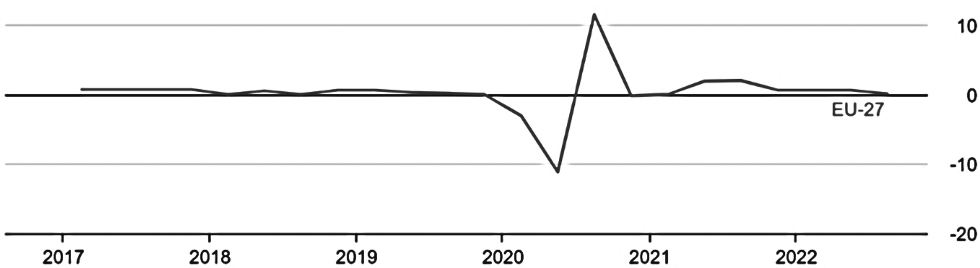

Figure 1.4. Gross domestic product at market prices
(EU27; Percentage change compared to the previous quarter, seasonally and calendar adjusted data)

Source: (Destatis, 2022).

In the third quarter of 2020, GDP increased by 11.6%, then decreased by only –0.1% in the last quarter of 2020. In the following seven quarters of 2021–2022, the increases were regular compared to the preceding quarter but not very high.

1.2. The Impact of the Pandemic on Particular Industries in EU27 and Lessons Learnt

The COVID-19 pandemic has had a significant but ambiguous and uneven impact on various sectors of the EU economy. In the first quarter of 2020 compared to the last quarter of 2019, a substantial decrease was observed in the **gross**

changes in inventories + acquisition less disposal of valuables + exports – import. In the income approach, GDP is measured as a sum of compensation of employees, gross operating surplus and mixed income and taxes less subsidies on production and imports (Eurostat, 2022a).

value added in Wholesale and retail trade, transport, accommodation and food service activities, and Arts, entertainment, recreation and other service activities. Likewise, these two sectors and Real estate activities recorded a significant drop in **employment hours worked**. Agriculture, forestry and fishing encountered the highest decline in **employment**, while Construction, Information and communications technology (ICT), Financial and insurance activities, as well as Public administration, defence, education, human health and social work activities, recorded an increase in this regard. A positive trend in **employee compensation** was visible only in the ICT, while Wholesale and retail trade, transport, accommodation, and food service activities recorded the highest drop in this regard (Eurostat, 2020).

Table 1.4 presents the structured overview of the situation in particular industries during the first and second waves of the pandemic. The most crucial questions arise in this context: How has the pandemic changed particular industries, and what was the lesson learnt?

Table 1.4. The impact of the pandemic waves on particular industries

Sector	Automotive industry
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ supply chains disruptions due to the closure of production plants in Europe and China ▪ production losses of 3.5 million vehicles ▪ reduction of the number of employees in the factories and re-employment on short--term contracts ▪ decrease in car registration in the EU in Q1 and Q2 2020, on a year-on-year comparison
The second wave of the COVID-19 pandemic Q4 2020	▪ closure of dealerships due to new lockdowns and confinement measures ▪ introduction of higher car purchasing incentives, including tax incentives and purchase subsidies from governments ▪ further decline in car registration in the EU in Q4 2020, on a year-on-year comparison
Sector	**Aerospace industry**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ drop in demand for civil aviation during the pandemic outbreak and afterwards due to the implementation of mobility and transport restrictions ▪ decrease in demand for aircraft production coupled with disruptions in the supply of raw materials ▪ supply delays and massive fallouts in production, leading to cashflow problems at all stages of the supply chain
The second wave of the COVID-19 pandemic Q4 2020	▪ further decline in aviation traffic due to the second wave of the pandemic and government restriction measures ▪ failure of many businesses in service subsectors related to the aerospace industry or engagement in restructuring processes based on costs and asset reductions, ultimately resulting in job losses
Sector	**Chemical industry**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ demand for chemicals experienced severe shocks across many end markets due to disruptions in global supply chains and a drop in consumption ▪ decrease in chemical output in the EU27 in Q1 and Q2 2020 on a year-on-year comparison ▪ growth in the production of specific products, such as disinfectants

Sector	Chemical industry
The second wave of the COVID-19 pandemic Q4 2020	▪ relative revival in consumption of chemical products in the summer season of 2020 ▪ the consumption revival did not translate into output performance in each EU Member State (some countries experienced growth, and some others featured a drop in the production output)
Sector	**Construction industry**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ the diverse situation across the EU Member States (in some countries, construction activity was possible to continue, whereas in others was limited) ▪ temporary layoffs and reduced hours ▪ labour shortages, supply chain disruptions and shortages of construction material ▪ a slowdown of construction production
The second wave of the COVID-19 pandemic Q4 2020	▪ adjustment to new security measures ▪ better protection of supply chains than in Q1-Q2 2020 ▪ stabilisation of the construction sector performance and the recovery of the construction production in Q4 2020
Sector	**Food and beverage industry**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ substantial increase in the sale of frozen and packaged foods by retailers due to a shift in consumer behaviour from outdoor eating towards food consumed at home ▪ a decline in food and beverage production was not as high as in manufacturing production ▪ a decline in employment in the food and beverage industry was not as high as in the manufacturing industry ▪ supply chains of the food industries remained relatively resilient, although some temporary bottlenecks appeared due to closed borders or panic buying and stockpiling by consumers
The second wave of the COVID-19 pandemic Q4 2020	▪ food & beverage industry has been impacted to a much lower extent in Q4 2020 than in Q1 2020 ▪ Hotellerie-Restaurant-Café (HORECA) sector is still in an adversary situation ▪ recovery of the production in the EU food & drink industry
Sector	**Textiles and apparel industry**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ drop in production and disruption in supply chains, creating spill-overs at the regional level ▪ relatively limited setback in the labour market for the textiles & apparel industry ▪ plunge in the import of textiles from China and an increase in the import of sanitary masks ▪ a substantial decrease in demand in the clothing sector ▪ change in consumer behaviour from retail purchases towards e-commerce (online channels)
The second wave of the COVID-19 pandemic Q4 2020	▪ slow pace recovery of the textiles and apparel sector ▪ a rebound of production in the textiles and clothing subsectors ▪ improvement of sales figures with an overall retail sales recovery ▪ trends in employment worsened by the end of the year 2020
Sector	**Cultural and creative industry**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ closure of cultural production sites in most EU countries at the outbreak of the pandemic ▪ high fragmentation of the cultural sector, its jobs' reliance on live events and physical venues and the lack of capacity of its employees to benefit from social protection schemes were not conducive to the cultural sector development during the pandemic period

Table 1.4, cont.

	▪ television, streaming, music and radio services have gained a solid uptake ▪ technology and logistics providers and suppliers of home-based leisure (e.g., *Netflix*) have profited
The second wave of the COVID-19 pandemic Q4 2020	▪ partial opening of cultural production places before the second wave of the pandemic ▪ reclosing of spaces benefitted from partial opening in the summer season due to an increasing number of COVID-19 cases across the EU in Q4 2020 ▪ massive decrease in revenues in music and performing arts ▪ increase in revenues of the video games subsector
Sector	**Information and communications technology (ICT)**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ substantial increase in demand for digital infrastructure due to the need for telework ▪ disruption or slowdown of supply chains in many countries ▪ about one-third of surveyed European ICT companies have been expecting layoffs, but in fact, total employment in Q2 increased in this industry, whereas hours worked per person decreased ▪ the digital industry was among the sectors which experienced the smallest drop in the gross value-added compared to the previous year
The second wave of the COVID-19 pandemic Q4 2020	▪ further increase in the total employment and growth in value-added of the digital industry in Q3 ▪ an increase in demand for Personal Computers (PCs) and tablets during the second pandemic wave ▪ growth in demand for the software market focussing on remote collaboration ▪ SMEs in the digital industry have been hit hard by the pandemic, and the confinement measures
Sector	**Healthcare industry**
The first wave of the COVID-19 pandemic Q1-Q2 2020	▪ the postponing of 'non-essential' treatments and surgeries ▪ decreased incomes of hospitals as more profitable surgeries and check-ups have been cancelled ▪ a drop in pharmaceutical retail trade due to lockdown and confinement measures ▪ shortages of pharmaceuticals and healthcare equipment due to closed factories and borders within the EU or due to the stockpiling (e.g., stockpiling of medical masks)
The second wave of the COVID-19 pandemic Q4 2020	▪ stabilisation and protection of distribution channels ▪ increase in demand and production in the innovative pharmaceutical sector due to the development of vaccines for COVID-19 ▪ the gradual recovery of the healthcare industry

Source: own presentation based on (De Vet et al., 2021).

The **automotive industry** provides employment for about 12.7 million people in Europe (6.6% of total EU employment[6]), brings in an annual trade surplus of €79.5 billion (+5%), and generates €375 billion in taxation for governments in major EU markets (ACEA, 2022). In 2021, 79 million vehicles were produced globally, of which 21% accounts for Europe.[7] The most significant share in production belongs to China, Hong Kong and Taiwan (32%). A downward

[6] It is worth mentioning that 11.5% of EU manufacturing jobs are in the automotive sector.

[7] Including Turkey and CIS countries.

trend in global car production was noticeable from 2018 onwards, with the largest decline in 2020 (–17.1%). There was a slight stabilisation in 2021, with global car production increasing by just 0.3%. The situation was slightly different in the EU, where drops in car production have also occurred since 2018, but in 2020 the decline was much more pronounced (–23.5%) than in global terms. In 2021, the downward trend in EU car production continued at –7.7% (European Automobile Manufacturers' Association [ACEA], 2022).

In January 2019, McKinsey & Company published the 'RACE 2055' report which addressed four ACES megatrends (autonomous driving, connectivity, electrification, and shared mobility) that may disrupt the automotive industry and indicated five initiatives' clusters to pave the way towards the future. The first cluster refers to the European 'mobility valley' and employment transition. There are expectations that Europe can create something akin to Silicon Valley, striving for excellence in mobility by engaging: top research institutions, innovative corporations/R&D powerhouse, government support and direction, and a vibrant start-up and venture capital scene. The second cluster calls for a synchronised approach to decarbonising transport to realise the vision of sustainable mobility with zero net-impact emissions. The third cluster emphasises the role of new forms of cooperation enabling, in particular, the development of autonomous and connected vehicles, infrastructure for them, and the production of battery cells. The fourth cluster addresses the need to create a 'future mobility regulatory forum' that will rank sustainable mobility as a top priority and find an optimal solution for the mobility customer considering the interests of additional industry stakeholders. The last cluster stresses the importance of support for cities and districts through mobility solutions. Policymakers and stakeholders should be involved in planning and implementing future target-oriented and traffic--optimised mobility and transport solutions (McKinsey & Company, 2019).

The COVID-19 pandemic started when global car production was going downward, and the automotive industry was directed into a cyclical slowdown. The changes that the automotive industry faces now due to disruptive megatrends requiring a new way of thinking, new core competencies and actions cause many automakers to be under pressure to develop new business models. As Vitale, Bowman, and Robinson (2020) remark, the pandemic's impact on the automotive industry will likely remain unclear for several months. Therefore, the need for industry stakeholders has appeared *to come together in a focused dialogue to understand exactly what actions are needed in order to tackle these incredibly complex issues and get the global automotive engine running smoothly again* (Vitale, Bowman, & Robinson, 2020, p. 7).

It is worth noting that the COVID-19 pandemic abruptly suspended global passenger air traffic, which led to many detrimental consequences for aircraft manufacturers. The **aerospace industry**, which consists of aircraft suppliers (e.g., Airbus, ATR), engine suppliers (e.g., Safran, Rolls-Royce) and original equipment manufacturers (e.g., Zodiac Aerospace, Daher), is directly related to other subsectors, including airline companies, pilot schools and cabin crew training centres, maintenance centres (MRO) and spare parts brokerage activities. Interestingly, Europe is home to a large number of global aerospace companies. During the pandemic, it was vital for them to evaluate the availability of critical components and explore alternate in-region sourcing options (Accenture, 2020). However, in the long term, the aerospace industry should step forward and direct towards digital transformation and intelligent technologies (i.e., IoT, AI, Analytics, and Virtual Reality) to obtain insight into complex and evolving situations at the local and global levels. Unfortunately, this was not feasible in the last years since the high production pace has overwhelmed aircraft manufacturers and overshadowed the digitalisation opportunities (Deloitte, 2022a). Nevertheless, there is a massive potential for aircraft manufacturers to benefit from Smart Factory technologies, whose advantages are connectivity,[8] transparency,[9] proactivity,[10] efficiency[11] and agility[12] (Deloitte, 2022a).

Interestingly, the **chemical industry** had already underperformed two years before the COVID-19 pandemic, thus independently of the global health crisis. McKinsey & Company (2020a) indicated three trends that may significantly affect the future of the chemical industry, including sustainability, demographics, and technology. Sustainability is driven by three main challenges: climate change, water shortage and the reduction of biodiversity. Therefore, chemical and specialty materials companies must rethink conventional strategies and create innovation towards more efficient, effective, and sustainable use of materials (Deloitte, 2022b). Demographics is related to such phenomena as an increase in life expectancy and a decline in birth rates, a shift of relative wealth from the West to the East and changes in the structure of chemical demand and supply toward a bigger share of the East. Technology may affect the chemical industry in various ways. Artificial intelligence (AI) will increase productivity gains and enhance performance transparency around equipment, employees, chemical products, management teams, individual activities and business lines. Access to real-time information will create a competitive advantage by using more robust information in decision-making. Technology will lead to process automation and

8 I.e., integrated data model between operational and business systems, assets outfitted with smart sensors.

9 I.e., data visualisation, alerts, notifications, tracking and monitoring in real-time.

10 I.e., process anomaly detection, predictive quality detection, automated replenishment, real--time safety monitoring.

11 I.e., automated workflow, assets' synchronization, optimised energy consumption.

12 I.e., quick simulation and decision making, flexible scheduling, rapid changeovers.

alter how chemical leaders think about complexity, scale, and in- and outsourcing activities (McKinsey & Company, 2020a). It must be emphasised that the pandemic also revealed the fragility of supply chains in the chemical industry. Moreover, many plants in Europe were shuttered (Deloitte, 2022b). In the face of this trend, chemical producers must re-evaluate supply chain structures and decide about their localisation to achieve decarbonisation goals (Deloitte, 2022b).

The impact of the COVID-19 pandemic has not spared the **construction sector** which seems fragile to reduced economic activity reflected in less demand for new facilities. The global pandemic caused construction sites in many countries to be periodically shut down. When they finally opened, construction companies faced disrupted supply chains and operational restrictions. It is worth noting that the construction industry has struggled with stagnant productivity, low levels of digitisation, and low profitability for years. Other problems lie in a highly individual building approach, a fragmented ecosystem, and a high share of on-site manual labour (McKinsey & Company, 2020b). The report of McKinsey & Company (2020b) indicates five long-term trends that will shape the future of the construction sector. They covered: augmented consolidation,[13] vertical integration,[14] investments in technology or digitisation and innovation of building systems,[15] increase in off--site construction,[16] and acceleration toward sustainability, including designs for healthier living.[17] In response to new trends, construction industry leaders must reformulate their strategies and operating procedures and launch new initiatives.

The **food and beverage industry** were affected by the COVID-19 pandemic visibly. Many companies in this sector worked hard to cope with regulations inducing avoidance of high-touch interactions. New and enhanced safety measures were implemented, including limiting the number of shoppers in retail stores or consumers in restaurants, installing hand sanitising stations, and introducing masks and gloves. Some firms were forced to offer catering

[13] Construction companies will be searching for consolidation opportunities in order to establish economies of scale and support investment in various areas, such as IT, talent, R&D, and technology.

[14] Construction players will start to integrate vertically to increase efficiency and strengthen standardization, control of design and execution which will ensure greater resilience.

[15] Construction companies will have to invest in digital tools, including 4D simulation, digital workflow management, real-time progress tracking, and advanced schedule optimization in order to increase productivity. They will also spend funds on development of new standardized building systems to accelerate and automate design and construction.

[16] Contractors will be expected to gradually push fabrication off-site whereas manufacturers expand their range of prefabricated subassemblies.

[17] Construction contractors will be stimulated by governments to meet carbon reduction targets by incentives applied in direct public investments. A simultaneous shift in demand toward more sustainable solutions in buildings and communities promoting healthier lifestyles will be also observable.

and delivery, which required menu changes to enable easier packaging. Veronesi and Schiavello (2023) identified four macro trends that will be crucial for the growth of food and beverage companies due to a shift in consumer behaviour caused by the COVID-19 pandemic. These are: (1) a need for ensuring transparency in the whole supply chain, (2) sustainability inducing conscious consumption, (3) authenticity reflected in appreciation of local excellence, craftsmanship and quality, and (4) digitalisation for creating new consumer experiences and optimising processes.

In the **textile and apparel industry,** two phenomena have appeared: a 'shift to thrift' (circular fashion) and a call for 'greater supply flexibility' in the post-pandemic period (Judd & Jackson, 2021). Circular fashion is based on re-selling, subscription and rental of clothes. Design, production and consumption that expand the use and reuse of apparel and strive to apply safe and renewable materials will be growing. The nearshoring strategy revealed in outsourcing apparel manufacturing processes closer to home countries may contribute to the shorter design, production cycles and shipments, thus being the response to the call for 'greater supply flexibility.' Not only nearshoring but also automation may be vital in achieving a circular value chain. McKinsey and Company (2018) emphasise that savings on freight and duties make nearshore cheaper than offshoring in China.[18] Therefore, European businesses are looking towards Romania, Turkey and Morocco as alternatives to production in Ukraine and Asia (JLL, 2022). However, as European brand representatives and industry experts state, the capacity for nearshoring in Europe or countries close to Europe is limited and has nearly been reached (Judd & Jackson, 2021).

The **cultural and creative industry (CCI)** experienced a sharp fall due to the COVID-19 pandemic. The most affected areas were music and performing arts, while the situation in the video games industry did not deteriorate. EY (2021) indicated that the whole CCI had lost about 31% of its revenues when comparing 2019 figures with 2020. This loss was even more severe considering the changes in revenue in other industries. The situation was comparably bad only in air transport, where the drop in revenue was also at 31%. The President of the European Parliament David Sassoli said: *Europe's diverse and rich cultural heritage and culture is the cement that fosters our common European sense of belonging.* […] *As such, it must be cherished and supported* (EY, 2021). It must be emphasised that it might be a challenging task. Based on in-depth research and interviews with experts, EY (2021) identified three challenges for the cultural and creative industry in the post-pandemic era. They also formulated proposals

[18] For instance, in 2016–2017, the cost of pair of jeans produced in Turkey and shipped to the EU was 3% lower than the counterpart from China. However, the production cost of pair of jeans in Germany was 144% higher than in China.

for the recovery and growth of this industry. The first challenge is related to funding. The CCI needs dedicated programmes such as EU grants, sufficient structural funds and cohesion policy support instruments to rise from the crisis. The second challenge is ensuring a solid legal framework that will enable the development of private investment in production and distribution and provide the conditions for an adequate return on investment and income for creators. The third challenge is leveraging individual and collective talents and the 'power of culture' as a significant accelerator of European social, societal and environmental transitions (EY, 2021).

The COVID-19 pandemic was a game-changer in the iCT and opened the world's eyes to the vast potential of that sector. Kim, Estrada, Jinjarak, Park, and Tian (2022) argue that ICT promoted the resilience of economies during the pandemic through various channels, including online shopping or e-commerce, digital payments, remote work, distance learning, telehealth and online entertainment, 5G IT, supply chain 4.0, 3D printing, robotics and drones, and other ICT-enabled technologies of the fourth industrial revolution. However, using these technologies can pose risks to privacy and security. Therefore, there is a need for a coordinated policy approach to digital transformation. The OECD Going Digital Integrated Policy Framework covers seven building blocks: access,[19] use,[20] innovation,[21] trust,[22] jobs,[23] society,[24] and market openness.[25] They connect the policies governments must consider creating a digital future that enhances lives and boosts economic growth and well-being (OECD, 2020).

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[19] It is crucial to identify differences in access to broadband and underserved socioeconomic groups, upgrade networks to the next evolution of fixed and wireless broadband, and improve data sharing (OECD, 2020).

[20] Governments must ensure that workers have the skills necessary to succeed in the digital economy. Moreover, they must support small- and medium-sized enterprises using new digital technologies. Those skilled in literacy, numeracy and problem-solving in ICT should use digital tools more efficiently (OECD, 2020).

[21] It is important to boost entrepreneurship and incentivise investment in R&D around digital innovations (OECD, 2020).

[22] Digital security strategies adopted by particular countries should be supplemented with autonomous budgets, evaluation tools and metrics and integrated with national digital plans to maintain trust (OECD, 2020).

[23] As decision-makers will cope with the pandemic crisis and digitalisation continues to spread across industries, there will be a need to look at labour market structures and regulations to ensure that digitalisation has not excluded too many valuable employees (OECD, 2020).

[24] Governments should address the diverse social issues that digital transformation raises, such as data-driven healthcare, disinformation, screen addiction or mental well-being (OECD, 2020).

[25] Large technology companies exert growing influence over digitalisation directions. Thus, governments must consider the implications of that situation on economic dynamics since not all business entities are ready to enter the new digitalisation path fully (OECD, 2020).

Due to the COVID-19 pandemic, many changes have taken place in the **healthcare industry** that impacted patients' lives and the work of healthcare organisations (PwC, 2023). The health crisis has become a reality check for healthcare systems in terms of their overall preparedness. The pandemic has accelerated the implementation of innovative and technology-advanced solutions in public health interventions. Jazieh and Kozlakidis (2020) listed five issues that seem likely to emerge as most affected in the post-COVID-19 era:

- shifting greater patient numbers to remote care,
- improving emphasis on surveillance systems and data analysis,
- developing legislative, political, and healthcare management systems,
- developing communication technology-based approaches,
- developing financial models supporting research, cooperation, and crisis preparedness.

Telemedicine should become the preferred channel for delivering primary healthcare. As Pagaria (2020) remarks, it will lower the pressure on the hospital infrastructure and resources and limit physical visits with doctors. This solution is cost-effective since doctors may monitor and remotely manage more patients also through wearables and remote sensors while maintaining high-quality and prompt patient-centred care. The pandemic has made it necessary for surveillance systems and data analysis. Jazieh and Kozlakidis (2020) emphasise that new technologies may be used to monitor quarantined individuals and to trace them in a timely and accurate fashion within regions or countries. However, there is still a need for the development of legislative, political, and healthcare management systems since the collection and availability of vast amounts of information regarding people make data anonymisation difficult, particularly when an individual need to be identified in order to be traced using, for instance, geolocation tools. The development of communication technology-based approaches always raises a question about the security of patients' privacy and compliance with international standards of confidentiality. Jazieh and Kozlakidis (2020) argue that technology-empowered approaches should enable privacy protection. Finally, building profitable and sustainable financial structures and unlocking extra funding will be vital to the development of new financial models to support scientific research, cooperation, and crisis preparedness (Krech, Kickbusch, Franz, & Wells, 2018; Jazieh & Kozlakidis, 2020).

1.3. Measures Developed in Europe to Overcome the Effects of the Pandemic

1.3.1. EU Fiscal Packages

The response to the COVID-19 pandemic in the EU was multifaced and robust. In April 2020, the EU earmarked an assistance package of €540 billion to complement national fiscal policies. This support covered €100 billion in loans (SURE) to protect jobs through job-retention programs, a €25 billion pan-European guarantee fund enabling the European Investment Bank to scale up its support for firms (in particular SMEs in all 27 EU Member States) up to €200 billion, and a European Stability Mechanism precautionary credit line (€240 billion) to cover healthcare costs related to COVID-19[26] (IMF, 2020, p. 7).

In July 2020, EU fiscal support was extended to the comprehensive package of **€2017.8 billion** (in current prices),[27] consisting of the Multiannual Financial Framework (MFF) and the Next Generation EU (NGEU). The MFF was established as the **€1210.9 billion** long-term budget for 2021 to 2027 with the intention to tackle the socioeconomic implications of the COVID-19 pandemic (EC, 2020a). The MFF consists of seven sections, including (1) Single market, innovation and digital, (2) Cohesion, resilience and values, (3) Natural resources and environment, (4) Migration and border management, (5) Security and defence, (6) Neighbourhood and the world, (7) European public administration. Table 1.5 presents several programs realised under each section.

The NGEU package, with a budget of **€806.9 billion**, was formed to boost the European economy by supporting green and digital transitions and building inclusive and resilient societies. The NGEU will be mobilised through several programmes,[28] including loans (€385.8 billion) and grants (€421.1 billion) (EC, 2023c).[29]

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[26] For up to 2% of GDP per state.

[27] The further data regarding that financial package will be presented in current prices (for the year of 2022).

[28] These programmes include grants and loans from Recovery and Resilience Facility (RRF), and grants from ReactEU, Horizon Europe, InvestEU, The European Agricultural Fund for Rural Development (EAFRD), Just Transition Funds (JTF) and RescEU.

[29] Legal commitments are planned to be made by 31.12.2023, whereas the related payments by 31.12.2026.

Table 1.5. The MFF 2021–2027 (in commitments) – current prices in a million € (2022)

Item	Budget	Share (%)
1	2	3
I. SINGLE MARKET, INNOVATION AND DIGITAL	149,512	12.4
1. Research and Innovation	93,720	
▪ Horizon Europe	86,123	
▪ Euratom Research and Training Programme	1,981	
▪ International Thermonuclear Experimental Reactor (ITER)	5,614	
▪ Other	2	
2. European Strategic Investments	32,978	
▪ InvestEU Fund	3,068	
▪ Connecting Europe Facility – Transport	12,830	
▪ Connecting Europe Facility – Energy	5,838	
▪ Connecting Europe Facility – Digital	2,065	
▪ Digital Europe Programme	7,588	
▪ Other	165	
▪ Decentralised agencies	1,424	
3. Single Market	6,604	
▪ Single Market Programme (incl. COSME)	4,208	
▪ EU Anti-Fraud Programme	181	
▪ Cooperation in the field of taxation (FISCALIS)	269	
▪ Cooperation in the field of customs (CUSTOMS)	950	
▪ Other	81	
▪ Decentralised agencies	915	
4. Space	15,152	
▪ European Space Programme	14,880	
▪ Decentralised agencies	272	
MARGIN	1,059	
II. COHESION, RESILIENCE AND VALUES	426,694	35.3
5. Regional Development and Cohesion	274,267	
▪ European Regional Development Fund	226,047	
▪ Cohesion Fund	48,026	
▪ Support to the Turkish-Cypriot Community	193	
6. Recovery and Resilience	21,396	
▪ Recovery and Resilience Facility (incl. Technical Support Instrument)	864	
▪ Protection of the Euro Against Counterfeiting	6	
▪ Financing and repayment – Next Generation EU	14,976	
▪ Union Civil Protection Mechanism (rescEU)	1,263	
▪ EU4Health	2,446	
▪ Other	84	
▪ Decentralised agencies	1,756	

1	2	3
7. Investing in People, Social Cohesion and Values	130,726	
▪ European Social Fund+	99,261	
▪ Erasmus+	24,574	
▪ European Solidarity Corps	1,009	
▪ Creative Europe	1,842	
▪ Justice, Rights and Values	947	
▪ Other	1,347	
▪ Decentralised agencies	1,747	
MARGIN	305	
III. NATURAL RESOURCES AND ENVIRONMENT	400,996	33.1
8. Agricultural and Maritime Policy	385,766	
▪ European Agricultural Guarantee Fund (EAGF)	291,089	
▪ European Agricultural Fund for Rural Development (EAFRD)	87,441	
▪ European Maritime, Fisheries and Aquaculture Fund	6,108	
▪ Other	1,002	
▪ Decentralised agencies	126	
9. Environment and Climate Action	14,482	
▪ Programme for Environment and Climate Action (LIFE)	5,432	
▪ Just Transition Fund	8,453	
▪ Other	250	
▪ Decentralised agencies	347	
MARGIN	748	
IV. MIGRATION AND BORDER MANAGEMENT	25,699	2.1
10. Migration	11,105	
▪ Asylum, Migration and Integration Fund	9,882	
▪ Decentralised agencies	1,223	
11. Border Management	14,368	
▪ Integrated Border Management Fund	6,248	
▪ Decentralised agencies	8,120	
MARGIN	226	
V. SECURITY AND DEFENCE	14,922	1.2
12. Security	4,597	
▪ Internal Security Fund	1,931	
▪ Nuclear Decommissioning (Lithuania)	552	
▪ Nuclear Safety and Decommissioning (incl. for Bulgaria and Slovakia)	626	
▪ Decentralised agencies	1,488	
13. Defence	9,644	
▪ European Defence Fund	7,953	
▪ Military Mobility	1,691	
MARGIN	681	

Table 1.5, cont.

1	2	3
VI. NEIGHBOURHOOD AND THE WORLD	110,597	9.1
14. External Action	95,751	
▪ Neighbourhood, Development and International Cooperation Instrument	79,462	
▪ Humanitarian Aid	11,569	
▪ Common Foreign and Security Policy (CFSP)	2,679	
▪ Overseas Countries and Territories (including Greenland)	500	
▪ Other	1,542	
15. Pre-accession assistance	14,162	
MARGIN	684	
VII. EUROPEAN PUBLIC ADMINISTRATION	82,474	6.8
▪ European Schools and Pensions	19,481	
▪ Administrative expenditure of the institutions	62,993	
TOTAL	1,210,894	100.0

Source: (EC, 2023d).

The **Recovery and Resilience Facility (RRF)** is a major programme within the NGEU with a budget of €723.8 billion (in current prices), of which 54% are loans, and 46% grants. RRF aims to help Member States tackle the socioeconomic impacts of the COVID-19 pandemic. In order to obtain support from RRF, the Member States should submit their recovery and resilience plans to the European Commission (EC) for assessment. These plans are evaluated in terms of several criteria. EC will check whether a plan is consistent with the specific recommendations of the European Semester dedicated to the Member State. The plan is also expected to reinforce the potential of growth, job creation as well as economic and social resilience of the country. The Member States are supposed to contribute to green and digital transition by allocating a considerable part of the budget to climate and biodiversity (min 37%) and digital measures (min 20%). After submission and assessment, the country waits for the green light from the EC to obtain recovery fund disbursement. If the response is positive, grant and loan agreements will be signed, and funds disbursed to the Member States. First, the country will obtain pre-financing of up to 13% of the amount provided for in their plan. However, positive evaluation of further payment requests will be contingent on sufficiently fulfilling the relevant milestones and targets.

Regarding €338 billion grants from RRF, in the years 2021 and 2022, 70% of that amount has been distributed based on the following grant allocation key: unemployment 2015–2019, inverse GDP *per capita* and population share. The rest of the budget (30%) will be fully committed by the end of 2023 by considering a decrease in real GDP over 2020, the overall decrease in real GDP 2020-2021, inverse GDP *per capita* and population share (European Commission [EC], 2022a).

Table 1.6 presents the funding allocated from RRF to each Member State. On July 13, 2022, the Council of the EU approved the assessment of the recovery and resilience plans of the first 12 Member States, including Belgium, Denmark, Germany, Greece, Spain, France, Italy, Latvia, Luxembourg, Austria, Portugal and Slovakia. Spain (€69.5 billion), Italy (€68.9 billion) and France (€39.4 billion) became the largest beneficiaries of RRF grants and had received the tranches of: 44.6, 42.0 and 31.8% (as of December 13, 2022).

Table 1.6. Allocation of funds from RRF to particular Member States (as of December 13, 2022; in current prices)

EU27 and Member States	Date of approvement by the Council	Total grants allocated (million €)	RRF grants disbursed (million €)	RRF grants disbursed (%)	Total loans allocated (million €)	RRF loans disbursed (million €)	RRF loans disbursed (%)	RRP allocation as share of GDP
1	2	3	4	5	6	7	8	9
EU27	–	335,099	91,471	27.3	165,383	45,156	27.3	–
Belgium	13.07.2021	5,924	770	13.0	–	–	–	1.17
Bulgaria	04.05.2022	6,267	–	0.0	–	–	–	9.23
Czechia	08.09.2021	7,036	915	13.0	–	–	–	2.95
Denmark	13.07.2021	1,551	202	13.0	–	–	–	0.46
Germany	13.07.2021	25,613	2,250	8.8	–	–	–	0.72
Estonia	29.10.2021	969	126	13.0	–	–	–	3.16
Ireland	08.09.2021	989	–	0.0	–	–	–	0.23
Greece	13.07.2021	17,770	4,028	22.7	12,728	3,500	27.5	9.72
Spain	13.07.2021	69,513	31,037	44.6	–	–	–	5.77
France	13.07.2021	39,368	12,518	31.8	–	–	–	1.57
Croatia	28.07.2021	6,295	1,518	24.1	–	–	–	11.01
Italy	13.07.2021	68,881	28,954	42.0	122,602	37,938	30.9	3.88
Cyprus	28.07.2021	1,006	216	21.5	200	26	13.0	4.29
Latvia	13.07.2021	1,826	438	24.0	–	–	–	5.56
Lithuania	28.07.2021	2,224	289	13.0	–	–	–	4.02
Luxembourg	13.07.2021	93	12	12.9	–	–	–	0.13
Hungary	12.12.2022	5,811	–	–	–	–	–	4.60
Malta	05.10.2021	316	41	13.0	–	–	–	2.15
Netherlands	04.10.2022	4,707	–	0.0	–	–	–	0.55

Table 1.6, cont.

1	2	3	4	5	6	7	8	9
Austria	13.07.2021	3,461	450	13.0	–	–	–	0.86
Poland	17.06.2022	23,852	–	0.0	11,507	–	0.0	4.15
Portugal	13.07.2021	13,907	2,361	17.0	2,699	960	35.6	6.58
Romania	29.10.2021	14,240	3,623	25.4	14,942	2,732	18.3	5.93
Slovenia	28.07.2021	1,777	231	13.0	705	–	–	3.42
Slovakia	13.07.2021	6,329	1,221	19.3	–	–	–	6.52
Finland	29.10.2021	2,085	271	13.0	–	–	–	0.83
Sweden	04.05.2022	3,289	–	0.0	–	–	–	0.61

Source: (EC, 2022b).

Hungary was the most delayed in the whole procedure since on November 30, 2022, the EC only endorsed its recovery and resilience plan, whereas the assessment was approved by the Council of EU as of December 12, 2022. Table 1.6 displays that apart from Hungary, on 13 December 2022, five Member States have not used the grants yet, although the Council approved them, and these are Bulgaria, Ireland, Netherlands, Poland, and Sweden. Interestingly, only seven Member States (Greece, Italy, Cyprus, Poland, Portugal, Romania, and Slovenia) have been allocated the loans, and five of them have already obtained the loans' first (or second) tranches.

RRF provides significant support for EU countries. One only has to look at what share RRF support represents of the particular Member State's GDP. In the case of Croatia, RRF allocation represents a share of 11.01% of GDP, whereas, in other seven countries, a share of financing exceeds 5% of PKB (Bulgaria – 9.23%; Greece – 9.72%; Spain – 5.77%; Latvia – 5.56%; Portugal – 6.58%; Romania – 5.93%, and Slovakia – 6.52%).

ReactEU is the second programme with a budget of €50.6 billion (in current prices). It provides support through grants, of which €39.4 billion was allocated for 2021 and €11.2 billion for 2022. The programme aims at fostering recovery from a crisis caused by the COVID-19 pandemic. The resources will be dedicated to investment in a green, digital and stable economy and available through the EU Structural Funds. The partnership principle is taken into account while allocating the funds. Local and regional authorities and relevant bodies representing civil society and social partners are involved in this process (European Parliament [EP], 2020). Figure 1.5 shows the structure of allocations per Member State under ReactEU in 2021 and 2022 and indicates two significant beneficiaries of the programme, including Spain and Italy.

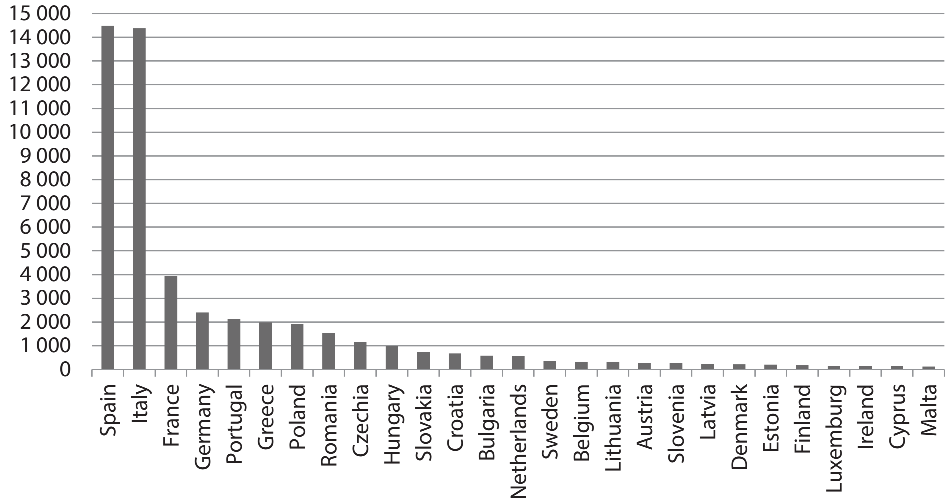

Figure 1.5. Allocations under ReactEU per Member States in 2021 and 2022 (in a million €, current prices)

Source: own presentation based on (EC, 2022c).

Horizon Europe is the next programme through which the NGEU funds will be channelled. The total budget of Horizon Europe accounts for €95.5 billion (in current prices) for 2021–2027. This includes €5.41 billion in the form of grants from the NGEU for supporting the green and digital recovery from the COVID crisis.[30] Horizon Europe is the EU programme for research and innovation. It is directed to scientists, academics, research organisations, universities, industry, small and medium-sized enterprises, and students. Horizon Europe promotes actions based on networking and coordination, research and innovation. Here are also included pilot actions, market deployment actions, training and mobility actions, and dissemination and exploitation of results. The programme aims to enable the EU industrial leadership, recovery and green and digital transitions. Therefore, high-performance computing, artificial intelligence, data and robotics, batteries, smart cities, cancer and rare diseases, carbon-neutral and circular industry, and blue economy are exciting areas to be covered by Horizon Europe (EC, 2021).

InvestEU programme, whose budget comes partly from the NGEU, is dedicated to providing financial support to SMEs in the recovery phase after the COVID-19 pandemic, provided that they were not already in crisis in state aid terms at the end of 2019. The current situation indicates that the allocation of resources on

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[30] The remaining part of Horizon Europe budget consists of €86.12 billion, €3.42 billion under MFFR Article 5, and €0.56 billion from reuse of decommitments under FR Article 15(3).

the EU market is not fully efficient, whereas the perceived risk impairs private investment flow (EU, 2023a). The total budget of InvestEU accounts for €10.28 billion (in current prices), of which €6.1 billion stems from the NGEU in the form of grants.[31] The InvestEU programme is supposed to mobilise at least €372 billion in public and private investment through a guarantee of €26.2 billion to the European Investment Bank (EIB) and other financial institutions over 2021–2027 (EU, 2023a). The EU instruments based on guarantees are based on the assumption that there is no transfer of EU funds to the financial institution but just the commitment by the EU to assume a part of the risks taken when investing in certain projects. The goal is to push the EIB to invest in risky projects, as the EU budget covers the first losses, and by doing this, to encourage further private investment in these projects (Rubio, 2020). The whole InvestEU programme supports investments in four pillars: (1) sustainable infrastructure,[32] (2) research, innovation and digitisation,[33] (3) small and medium-sized enterprises,[34] and (4) social investment and skills[35] (EU, 2023b).

The European Agricultural Fund for Rural Development (EAFRD) is dedicated to EU farmers and rural stakeholders to enable them the transition towards a fully sustainable agricultural sector. Moreover, rural development is the 'second pillar' of the common agricultural policy (CAP). The EAFRD programme is consistent with EU-wide rural objectives directed at improving agriculture competitiveness, sustainable management of natural resources and climate actions, and achieving a balanced development of rural economies and

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31 The remaining part of InvestEU budget consists of €3.07 billion, and €1.14 billion under MFFR Article 5.

32 Sustainable infrastructure covers in particular (1) clean and sustainable transport modes, multimodal transport, road safety, renewal and maintenance of rail and road infrastructure; (2) renewable energy, energy efficiency and building renovation projects focused on energy savings; (3) digital connectivity and access; (4) supply and processing of raw materials, space, oceans, water, including inland waterways, waste management and the circular economy; (5) nature and other environmental infrastructure; (6) cultural heritage and tourism; (7) equipment, mobile assets and deployment of innovative technologies that contribute to sustainability objectives of the EU.

33 Research, innovation and digitalisation area refers to (1) research, product development and innovation activities; (2) transfer of technologies and research results to the market; (3) demonstration and deployment of innovative solutions and support to scaling up of innovative companies as well as digitisation of EU industry.

34 In the area of SMEs, the programme supports access to and availability of finance, particularly for businesses with problems regarding collecting funds, i.e., start-ups, younger and smaller companies, businesses with perceived higher risk and lacking (sufficient) collateral, and innovative ones.

35 The social investment and skills pillar refers to (1) microfinance; (2) social enterprise finance and social economy; (3) the measures of promoting gender equality skills, education, training and related services; (4) social infrastructure; (5) social innovation; (6) health and long-term care; (7) inclusion and accessibility; (8) cultural and creative activities; (9) integration of vulnerable people.

communities (EC, 2023a). The total budget of the EAFRD accounts for €95.51 billion (in current prices), of which €8.07 billion is distributed under the NGEU. The budget is implemented under shared management with the Member States. Figure 1.6 indicates that Poland, Italy and France will be the biggest beneficiaries of the EAFRD.

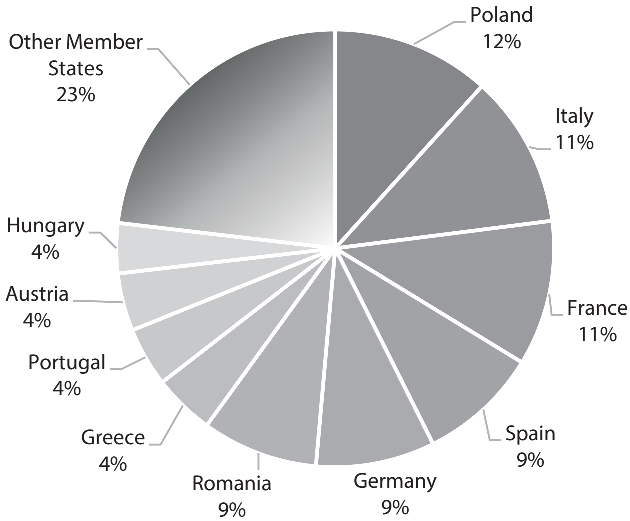

Figure 1.6. Allocation structure of the EAFRD (under NGEU) per Member State in the period of 2021–2022

Source: own presentation based on (EC, 2022d).

Interestingly, ten Member States have been allocated 77% of funds for rural development under the NGEU. EU Member States introduce EAFRD funding through rural development programmes (RDPs).[36] They are co-financed by national budgets and may be arranged on a national or regional basis. Decisions on project choice and the granting of payments are administered by national and regional managing authorities. The role of the EC is limited to the approval and monitoring of RDPs (EC, 2023b).

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[36] Each rural development programme must realise at least four of the six priorities of the EAFRD. These priorities cover: (1) fostering knowledge transfer and innovation in agriculture, forestry and rural areas; (2) enhancing the viability and competitiveness of all types of agriculture, and promoting innovative farm technologies and sustainable forest management; (3) promoting food chain organisation, animal welfare and risk management in agriculture; (4) promoting resource efficiency and supporting the shift toward a low-carbon and climate resilient economy in the agriculture, food and forestry sectors; (5) restoring, preserving and enhancing ecosystems related to agriculture and forestry; (6) promoting social inclusion, poverty reduction and economic development in rural areas (EC, 2023b).

Just Transition Fund (JTF) is a programme underpinning the **transition towards climate neutrality** by mitigating the socioeconomic impacts of the transition on the regions that are expected to be the most negatively influenced by the green transition (EC, 2021). The programme is one of the pillars of the Just Transition Mechanism, which mobilises around €55 billion in 2021–2027 to support the regions, sectors and workers (EC, 2023e).[37] The total budget of JTF accounts for €19.3 billion (in current prices), of which €10.9 billion is covered under the NGEU.[38] The EU Member States must identify the territories and sectors eligible for funding. These territories will be identified through a dialogue with the EC. Then the Member States are supposed to develop their territorial just transition plans to obtain funds from the programme. Notably, the territorial-level strategies must be formulated in public consultation with significant stakeholders, i.e., civil society. The strategies are included in a single country-wide or several region-specific plans and submitted to the EC. The approval by the EC will trigger financing not only from the JTF but also from the dedicated just transition scheme under InvestEU and the EIB public sector loan facility (EC, 2023f).

Figure 1.7 presents how the JTF was allocated between particular Member States. Poland, Germany and Romania are the biggest beneficiaries of the programme. Each of them was allocated more than 10% of the JTF. Ten EU Member States obtained more than 3% of the JTF, representing a total of 82% of the Fund.

The last programme, **RescEU**, is directed at EU public and private entities, national civil protection capacities, health organisations and businesses. The purpose of the **RescEU** is to amplify cooperation in civil protection between the EU and its Member States. The programme provides a safety net when national capacities are overwhelmed. These include firefighting planes and helicopters, protective and medical equipment, or capacities for addressing chemical, biological, radiological and nuclear incidents (EC, 2021). The EU finances the RescEU assets in the form of grants and procurements. The budget of the RescEU programme accounts for €2.06 billion (in current prices) in the form of grants. The Emergency Response Coordination Centre, which is a hub between all EU Member States, activates the protection mechanism if needed and ensures the rapid deployment of emergency support (EC, 2023g).

It is also worth remarking that EC introduced temporary flexibility in the State aid rules. The **State aid Temporary Framework** was adopted on March 19, 2020, amended seven times and expired on June 30, 2020. Its purpose was to enable the Member States to use the complete flexibility foreseen under State aid rules,

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37 The other two pillars of Just Transition Mechanism include a dedicated scheme under InvestEU (estimated at €10–15 billion) and public sector loan facility with the EiB (estimated at €18.5 billion).

38 The remaining part is covered under the MFF 2021–2027.

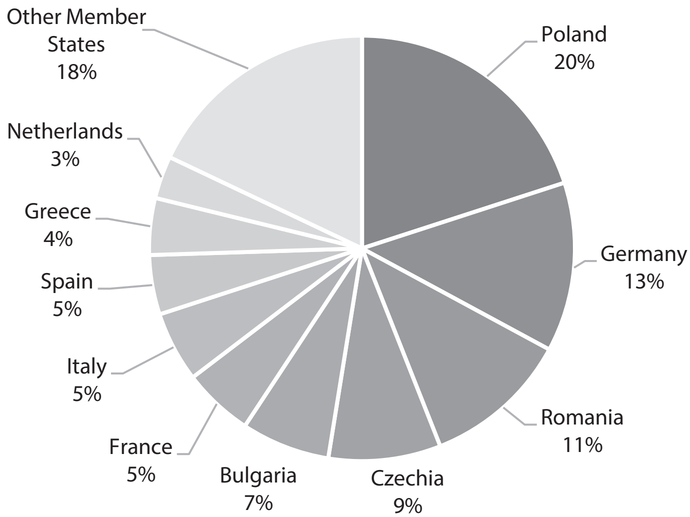

Figure 1.7. Allocation structure of the Just Transition Fund (under the NGEU) per Member State

Source: own presentation based on (EC, 2022e).

support their economies overwhelmed by the pandemic and react to the crisis in a timely, targeted and proportionate way. On the other hand, the Framework enabled the EC to establish rules applicable to all Member States, preserve the level playing field in the Single Market, and assist countries in alleviating the effects of the COVID-19 pandemic. Statistics presented by the EC evidence that all Member States used the Framework. Furthermore, 1350 decisions were adopted, 980 national measures were approved, and total State aid accounted for €3.2 trillion (EC, 2023h).

To sum up, all measures proposed by the EU aimed at kickstarting the economy and underpinning the green and digital transitions to make the Member States more resilient and fit for future challenges.

1.3.2. ECB Monetary Policies

European Central Bank (ECB) took a responsibility to prevent the European economy from the severe impacts of the COVID-19 pandemic by resorting to a vast arsenal of monetary policy measures to deal with the economic fallout (Aguilar et al., 2020; Byttebier, 2022).

The ECB mobilised two main groups of measures to counteract the COVID-19 pandemic in its early inception, including asset purchase programmes and longer-term refinancing operations. These monetary packages were intended to (Aguilar et al., 2020):

- assure that the central bank's overall monetary policy stance would remain sufficiently accommodative;[39]
- underpin the stabilisation of the financial markets to preserve the monetary policy transmission mechanism;
- provide ample liquidity, in particular, to keep the flow of bank lending.

Asset purchase programmes covered:

APP (Asset Purchase Programme) – a monetary policy measure that includes targeted long-term refinancing operations. It was triggered in mid-2014 in order to assist the monetary policy transmission mechanism and ensure the amount of policy accommodation needed for price stability (European Central Bank [ECB], 2023a). In March 2020, the ECB, as a response to the COVID-19 pandemic, increased the existing range for net purchases under the APP, with an amount of €120 billion to be used by the end of 2020, which was a solid input from the private sector purchase programmes in times of heightened uncertainty (ECB, 2020). In June 2022, the ECB's Governing Council (further named the Council) decided to cease net asset purchases under the APP as of 1 July 2022. The Council announced that reinvestments of the principal payments from maturing securities would persist, in full, for an extended period past the date the Council begins to increase the key ECB interest rates. The reinvestments will continue as long as necessary to preserve sufficient liquidity conditions and a proper monetary policy position (ECB, 2023a).

PEPP (Pandemic Emergency Purchasing Programme) is a temporary programme for public and private sector purchases of assets. The initial package was established at €750 billion to be mobilised by the end of 2020 to prevent risks to monetary policy transmission caused by the COVID-19 pandemic. In the mid-year of 2020, the Council of the ECB made a decision to raise the PEPP envelope by €600 billion, to €1.35 trillion, with the extension of PEPP net purchase by at least the end of June 2021. Interestingly, at the end of 2020, the PEPP package was further extended by €500 billion to €1.85 trillion with the horizon of net purchase by at least the end of March 2022. The Eurosystem conducted €1.1 trillion in net asset purchases under the PEPP between March 2020 and May 2021 (EP, 2021).

Longer-term refinancing operations refer to:

LTROs (Longer-term refinancing operations) – instruments that the ECB uses to lend financial means, at low-interest rates, to commercial banks operating in

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[39] An accommodative monetary policy (termed a loose credit policy or easy monetary policy) is a strategy implemented by a central bank to stimulate and encourage economic growth by decreasing short-term interest rates, which makes money less expensive for consumers and businesses to borrow (US Legal, n.d.).

the euro area. The Council decided to issue LTROs, temporarily, in a full allotment procedure and at a fixed rate (equalled the average deposit facility rate) on 12 March 2020 in response to the pandemic outbreak. Between March, 18 and June, 10 2020, 13 LTRO operations were carried out, delivering €388.9 billion to the financial system of the euro area (EP, 2021).

TLTROs (Targeted Longer Term Refinancing Operations) – operations that deliver long-term financial support to credit institutions. Byttebier (2022) indicates the three-dimensional logic of these operations. First, they provide banks with long-term funding at attractive conditions. Second, they pledge favourable borrowing conditions to commercial banks. Third, they stimulate banks to lend money to the real economy. It must be emphasised that the ECB has mobilised TLTROs as a non-standard measure since 2014. So far, three series of TLTROs have been launched. The conditions of TLTRO III were eased as a result of the pandemic outbreak. Applicable interest rates were decreased to –0.75% for all operations between June 2020 and June 2021. Then, at the end of April 2020, the Council further mitigated TLTRO III conditions for operations by postponing by one month the start of the credit benchmark assessment period. Furthermore, the Council again reduced the applicable interest rate to –1% for all operations between June 2020 and June 2021. In December 2020, the Council prolonged support and extended the period during which banks may obtain the maximum rate reduction for one year by June 2022 (EP, 2021).

PELTROs (Pandemic emergency longer-term refinancing operations) – additional seven non-targeted refinancing operations issued between May and December 2020, with the maturity established between July and September 2021. These operations were against a fixed rate set at 25 basis points below the rate of the main refinancing operation, and they were to be fully allocated (EP, 2021). Byttebier (2022) emphasises that PELTROs aimed at delivering liquidity support to the financial system of the euro area and securing the functioning of money markets after the expiry of the bridge LTROs.

Apart from asset purchase programmes and longer-term refinancing operations, there were other monetary policy responses. It must be stressed that following the European System of Central Banks (ESCB) and the ECB statute (Article 18), credits accorded to credit institutions may be mobilised only against adequate collateral. The Eurosystem collateral framework was implemented in 1999 when the euro was created. It aimed to underpin the smooth conduct of monetary policy and prevent the Eurosystem from losses in case of counterparty default (Bindseil, Corsi, Sahel, & Visser, 2017, p. 19). Additional credit claims (ACC) are examples of the types of assets temporarily eligible as collateral. At the end of 2011, it was announced that the national central banks in the euro area would be allowed to temporarily accept such ACCs as collateral. **In March 2020, the Council**

decided to include claims related to the financing of the corporate sector in the ACC framework in response to the COVID-19 pandemic crisis. Then, in April 2020, the Council informed on the **broad package of temporary collateral easing** measures, which were substantial and went beyond only the ACC framework (EP, 2021).[40]

In June 2020, the ECB set up the Eurosystem repo facility for central banks (EUREP) using temporary bilateral repo and swap lines.[41] Due to this instrument, the ECB could provide euro liquidity to central banks in the non-euro area against collateral. In December 2020, the Council decided to extend EUREP and all other temporary swap and repo lines by March 2022 (Byttebier, 2022).

Central banks' monetary policy during the pandemic revealed the nature of modern capitalism. As Byttebier (2022, p. 243) argues, central bank programmes signalled that *when a crisis hits, the corporate world will be bailed out*. Blakeley (2020, p. xiv) adds that *the risks of running an investment-grade business have been socialised, while the gains have remained private*. However, there are severe consequences of quantitative easing. Blakeley (2020) states that such policy increases asset prices, and whereas investors are protected, the public incurs the costs which further deepen wealth inequality.

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40 *These include a permanent collateral haircut reduction of 20 percent for non-marketable assets, and temporary measures for the duration of the PEPP (with a view to re-assess their effectiveness before the end of 2020) such as a reduction of collateral haircuts by 20 percent, an expansion of collateral eligibility to include Greek sovereign bonds as well as an expansion of the scope of so--called additional credit claims framework so that it may also include public sector-guaranteed loans to SMEs, self-employed individuals, and households* (International Monetary Fund [IMF], 2023). In April 2020, the Council endorsed a further measure to insulate collateral availability against possible rating downgrades (EP, 2021).

41 In currency swap agreements, *the ECB provides euro against foreign currencies, which are accepted as collateral. Under reciprocal swap lines, the ECB may also receive foreign currency by providing euro as collateral*. In repo lines, *the ECB provides euro against adequate euro-denominated collateral accepted by the ECB* (ECB, 2023b).

CHAPTER 2

Development of the Pandemic on the Macro Level in the Slovak Republic

The pandemic of the disease caused by the spread of the SARS-CoV-2 virus has introduced a new concept in the form of a pandemic economic downturn in all countries of the world, including the Slovak Republic. The impact of the instruments chosen to prevent the spread of this dangerously contagious disease was reflected in the development of macroeconomic indicators, as well as in the individual results of business activity in various sectors of the national economy. The fact that the period from March 2020 to the beginning of 2022 was a pandemic downturn managed by the Government of the Slovak Republic severely affected the business environment. Many entities did not aim to grow but to survive in the set conditions.

2.1. Characteristics of the Slovak Republic and the Beginning of the Pandemic Caused by the Spread of the SARS-CoV-2 Virus

The establishment of the Slovak Republic as an independent state with Bratislava as its capital dates back to January 1, 1993. With an area of 49 035 km^2 and a population of 5 434 712 as of December 31, 2021 (Statistical Office of the Slovak Republic [SO SR], 2022), the Slovak Republic is one of the medium-sized states in Europe in terms of area and one of the small ones in terms of the total population. Territorially, the Slovak Republic is divided into eight regions and 79 districts within them.

The level of achieved macroeconomic indicators is assessed not only in the scope of the national economy but is also the subject of analyses by the EC. The Slovak Republic has been a legal member of the EU since May 1, 2004 and has to fulfil the obligations to which it has contractually committed itself upon accession.

Name in English	Name in Slovak	Administrative seat	Population (2021)
Bratislava Region	*Bratislavský kraj*	Bratislava	723 714
Trnava Region	*Trnavský kraj*	Trnava	565 296
Nitra Region	*Nitriansky kraj*	Nitra	673 547
Trenčín Region	*Trenčiansky kraj*	Trenčín	573 699
Žilina Region	*Žilinský kraj*	Žilina	689 525
Banská Bystrica Region	*Banskobystrický kraj*	Banská Bystrica	620 986
Prešov Region	*Prešovský kraj*	Prešov	807 657
Košice Region	*Košický kraj*	Košice	780 288

Figure 2.1. Territorial division of the Slovak Republic and population

Source: based on (SO SR, 2022).

When the first cases of disease caused by the newly identified and rapidly spreading SARS-CoV-2 virus (causing the COVID-19 disease) were officially confirmed by China in late December 2019 (European Centre for Disease Prevention and Control [ECDC], 2020a; World Health Organization Regional Office for Europe [WHO/Europe], 2020), it was only a matter of incubation time before the virus appeared on other continents of the world. At that time, no one could have imagined this virus's consequences for the global population, global economy and even individual economies in the form of a crisis. Modern history has seen a global economic crisis followed by a mortgage crisis, but neither was accompanied or triggered by a global pandemic of the disease.

The phenomenon of the modern pandemic crisis has begun to be likened with concern by scientists and health professionals to the crisis caused by the spread of the H1N1 influenza virus (Vana & Westover, 2008), known as the Spanish flu. The Spanish flu spread between 1918 and 1920 (Erkoreka, 2010) against the backdrop of the waning First World War. What the two disease pandemics have in common so far is the division of their development into waves. The course of the Spanish flu was divided into three waves (Chowell, Erkoreka, Viboud, & Echeverri-Davila, 2014; Grabowski, Kosińska, Knap, & Brydak, 2017). The COVID-19 pandemic is currently in its fourth wave, beginning to be obscured by the energy crisis triggered by the armed conflict between Ukraine and Russia, which broke out in February 2022.

The sequence of features of the pandemic crisis can also be observed in the Slovak Republic. To understand them, it is also important to note the developments in the political arena since the beginning of the spread of the disease caused by the newly identified and rapidly spreading SARS-CoV-2 virus.

The Government of the Slovak Republic from March 22 ,2018 to March 20, 2020 was the 13th Government of the Slovak Republic, chaired by Peter Pellegrini of the SMER-Social Democracy (SMER-SD) party. SMER-SD, as a left-wing party, has ruled the Slovak Republic since 2006, with the exception of a 20-month period in various coalition groupings. After the regular elections to the National Council of the Slovak Republic, a new government was elected – the government of Igor Matovič of the Obyčajní ľudia a nezávislé osobnosti (OĽANO) movement. Igor Matovič was Prime Minister from March 21, 2020 until March 30, 2021, when he resigned. From April 1, 2021, by mutual agreement, Eduard Heger, also from OĽANO, became the Prime Minister. The government headed by OĽANO representatives was predominantly right-wing. However, now Eduard Heger is also the only Prime Minister in charge since December 16, 2022, who was to ensure that the National Council of the Slovak Republic adopted all the necessary steps for the early parliamentary elections by the end of January 2023 at the latest. The political situation in the Slovak Republic itself demonstrates the complexity of the period that the pandemic has created. However, as this is a pandemic crisis, the decisions being taken are not only at the national level but also at the EU level, and it is not only business entities that are affected but all entities and persons in the national territory.

As this crisis is caused by the spread of a highly contagious viral disease, the Public Health Authority of the Slovak Republic[1] was the first to address this information. It issued a press release on January 10, 2020 that it had been informed by the European authorities of the spread of the virus (Public Health Authority of the Slovak Republic [PHA SR], 2020a). At that time, the Slovak Republic, like other European countries, remained in a state of monitoring the epidemiological situation. Since only three European capitals – Paris, London and Rome – had direct air links to Wuhan, the monitoring focused on passengers using one of the direct routes. At that time, only screening of passengers arriving from China was in place at the airports in those cities. The winter months in Southeast Asia are characterised by high influenza activity, which spreads rapidly as an infectious respiratory disease. In Europe, the risk of spreading a novel respiratory disease at that time was assessed as low. Travel to/from China, as well as to/from Wuhan, was not restricted in Europe. The EU has issued the following advice for travellers to China, which was also communicated by the Public Health Authority of the Slovak Republic on 10 January 2020 (PHA SR, 2020a):

- influenza vaccination before travelling to China,
- avoiding local markets selling fish and live animals,

[1] The Public Health Authority is a budgetary organization of the state with competence on the territory of the Slovak Republic with the registered office in Bratislava, linked with the financial relations to the budget of the Ministry of Health. The Public Health Authority is managed and its activity falls under the responsibility of the Chief Hygienist of the Slovak Republic who is also the director of the office. The Public Health Authority is the supreme office for the regional public health authorities. It manages, controls and coordinates the execution of state administration carried out by regional public health offices (PHA SR, 2023).

- avoiding direct contact with animals when possibly visiting local markets,
- maintaining strict food hygiene,
- monitoring health during the visit and after their return,
- in case of clinical symptoms such as fever, chest pain or difficulty in breathing after the return, contact and inform the doctor of the travel history.

When the first case of COVID-19 in Europe was officially confirmed on January 24, 2020 in France, on January 28, 2020 in Germany (ECDC, 2020b) and on February 20, 2020 in Italy, the health status of all passengers arriving in Bratislava started to be monitored from February 25, 2020. The situation with the spread of the new virus has become irreversible, which is why a meeting of the Security Council of the Slovak Republic[2] was held on February 27, 2020 (Government Office of the Slovak Republic [GO SR], 2022).

As a result of its meeting on February 27, 2020, several necessary measures were taken. They included the establishment of the Central Crisis Staff at the Ministry of Health of the Slovak Republic under the leadership of the Minister of the Interior of the Slovak Republic and with the participation of the Chief Hygienist of the Slovak Republic, representatives of the Ministry of Health of the Slovak Republic, the Ministry of Defence of the Slovak Republic, the Ministry of Transport of the Slovak Republic, the Ministry of Foreign and European Affairs of the Slovak Republic, and the Ministry of Finance of the Slovak Republic. The Central Crisis Staff of the Slovak Republic has acquired the power to declare a state of emergency if necessary. As of February 28, 2020, full body temperature control for passengers has been introduced at Bratislava, Košice and Poprad airports. The Ministry of Health of the Slovak Republic, the Public Health Authority of the Slovak Republic and the public media have been tasked with preparing a media campaign for Slovak citizens aimed at effective prevention and comprehensive information related to COVID-19. The Ministry of Foreign and European Affairs of the Slovak Republic was to temporarily restrict consular activities in regions affected by the new coronavirus.

The Ministry of the Interior of the Slovak Republic should have sent a mobile text message with practical recommendations and information on effective prevention to Slovak citizens abroad in regions with COVID-19. As of February 29, 2020, the Ministry of the Interior of the Slovak Republic introduced vehicle checks at the entry border crossing points, especially with Austria. The state was

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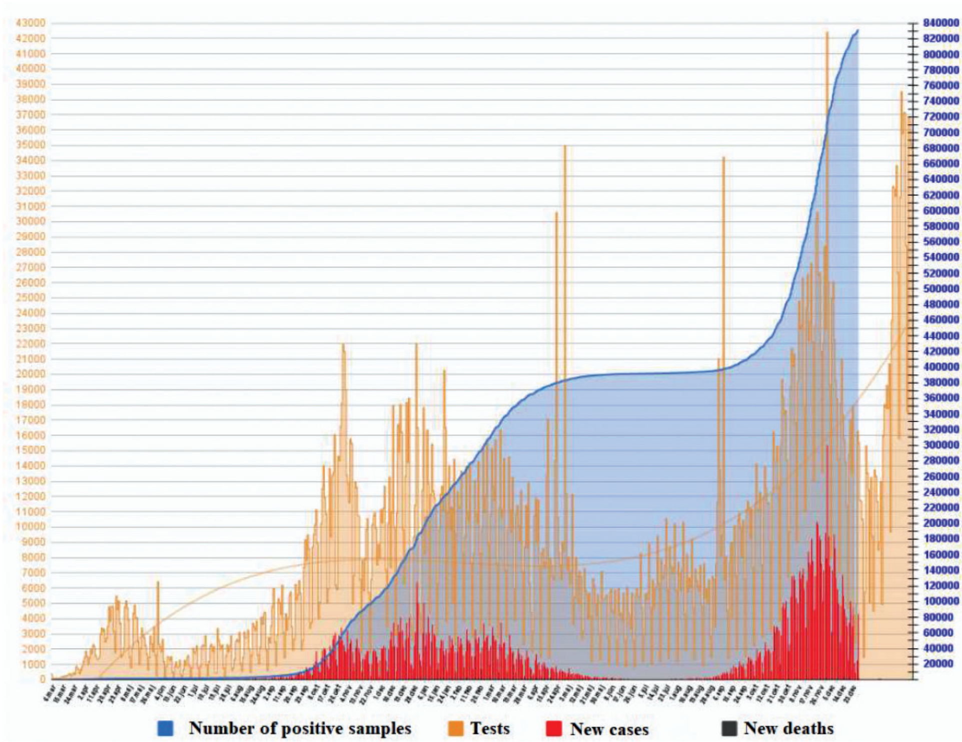
[2] The Security Council of the Slovak Republic in Peace, as an advisory body to the Government of the Slovak Republic, participates in the creation and implementation of the security system of the Slovak Republic, the fulfilment of international obligations in the field of security, assesses the security situation in the Slovak Republic and in the world; prepares proposals for the Government for measures to maintain the security of the Slovak Republic, to prevent crisis situations, as well as proposals for the resolution of a crisis situation (GO SR, 2022).

to allocate millions of euros to purchase and increase the number of personal protective equipment and disinfectants in health facilities. The conclusions of the Slovak Security Council meeting did not specify the exact amount that the State was to allocate for the purchase of equipment for health facilities. At the same time, it was estimated that the State would be able to reprofile 7,700 beds in the event of a major outbreak. At that time, the Ministry of Defence of the Slovak Republic had already drawn up a project for an isolated town in Lešť – with a capacity of 2,500 people. Subsequently, a quarantine plan was to be drawn up. A penalty notice has been issued for health facilities if they are found to be mismanaging patients (PHA SR, 2020b).

At the turn of 2019 and 2020, detailed information about the novel viral disease was not known. Nor was the origin of the new coronavirus clear.



The yellow numbers on the axis y represent the daily number of tests + new cases + deaths. The blue numbers on the axis y represent the total number of positive cases.

Figure 2.2. Number of COVID-19 positives and deaths in the Slovak Republic from March 6, 2020 to December 24, 2021

Source: (Plocháň, 2022).

The Public Health Authority of the Slovak Republic (2020a) reported that the disease was likely spread in Wuhan by contact with animals in local markets selling fish and other live animals, especially poultry. Subsequently, reports began to indicate that the disease was spread in local markets by contact with bats (Cerri, Mori, Ancillotto, Russo, & Bertolino, 2022). What has been confirmed over time, however, is the staged duration of the disease. By increasing the number of infected persons in certain periods of time, tightening restrictions by legislators, and thus disrupting the national economy, these spikes are divided into waves of a sinusoidal nature by the third year. These are also identifiable in Figure 2.2 which shows the number of both COVID-19 positive samples and deaths in the Slovak Republic from the first case to December 2021.

The Slovak Republic is currently in the fourth wave of a pandemic crisis (information valid as of June 2022). The downswing of the waves is usually during the summer months. The weakening of the spread of COVID-19 is traced in the results from the summer months of 2020, 2021, and 2022.

2.2. First Wave of the Pandemic Caused by the Spread of the SARS-CoV-2 Virus in Slovakia

Laboratory diagnostics of the novel coronavirus has been carried out since February 3, 2020 at the National Reference Centre for Influenza at the Public Health Authority of the Slovak Republic. As of the date of the extraordinary meeting of the Security Council of the Slovak Republic on February 27, 2020, 113 samples have been laboratory tested in Slovakia (PHA SR, 2020b). These were samples from persons with a history of travel and clinical symptoms and with suspicion of illness caused by the novel coronavirus. The results were negative in all cases. A week later, however, a completely new situation occurred. On March 6, 2020, the first positive case for COVID-19 was officially confirmed by the Public Health Authority also in the Slovak Republic (PHA SR, 2020c). This moment was a turning point for dating the beginning of the first pandemic wave in Slovakia (Figure 2.2).

2.2.1. Measures Taken by the Government of the Slovak Republic Restricting the Movement of the Population and the Operation of Establishments

As of March 6, 2020, the Central Crisis Staff of the Slovak Republic has announced a ban on visits to hospitals, social service homes, and prisons. At the same time, the Central Crisis Staff of the Slovak Republic issued a recommendation to citizens to undergo a voluntary quarantine and not attend public events, shopping centres or religious services and suggested staying at home in the interest of their own health (GO SR, 2020). The Government of the Slovak Republic's response to the World Health Organization's declaration of the COVID-19 pandemic on March 11, 2020 (World Health Organization [WHO], 2020) was to declare a **Level II public health emergency situation** on **March 12, 2020** from 6:00 a.m.

The Government of the Slovak Republic also ordered the Public Health Authority of the Slovak Republic to issue measures *in the endangerment to the public health* (as legal regulation), which will prohibit or restrict the operation of the establishments listed in the binding part of the measure and order the isolation of persons returning in groups from the affected areas abroad in facilities designated by the Ministry of Interior of the Slovak Republic. The Slovak Government considered these measures as one of the important tools to prevent the spread of the COVID-19 virus in the Slovak Republic.

On March 12, 2020, the Chief Hygienist of the Slovak Republic issued measure OLP/2567/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020d) in the endangerment to the public health emergency, effective from March 13, 2020, ordering mandatory 14-day quarantine isolation for all persons returning to the Slovak Republic from abroad. Violating this measure was considered an offence punishable by a fine of up to €1,659.

The second measure, issued by the Chief Hygienist of the Slovak Republic on March 12, 2020, with effect from March 13, 2020 until further notice, restricted the activities of a wide range of establishments. Measure OLP/2576/2020 of the Public Health Authority of the Slovak Republic in the endangerment to the public health banned the operation of natural and artificial swimming pools, physical education and sports facilities, facilities for children and young people, including facilities for the care of children up to 3 years of age, except for social services facilities, facilities for social protection of children and social guardianship, public catering establishments such as pastry shops, bistros, cafés, bars and similar public catering establishments (except restaurants and fast-food stands), wellness centres including swimming pools in accommodation establishments; entertainment establishments such as casinos, cinemas and other leisure establishments such as ski resorts; convalescent stays. Restaurants and fast food outlets could only be open between 6:00 a.m. and 8:00 p.m. (PHA SR, 2020e). Violation of this measure could have resulted in a fine of up to €20,000 for the administrative offence. Compliance with the measures by the operators was monitored during the emergency by the Public Health Authority of the Slovak Republic, which, within the scope of its competence, fulfilled its reporting obligation to the competent authorities in the case of detection of breaches of the measures taken.

The third measure, issued on March 15, 2020 by the Chief Hygienist of the Slovak Republic as Measure OLP/2595/2020 of the Public Health Authority of the Slovak Republic in the endangerment to the public health, significantly affected business activity (PHA SR, 2020f). Its wording was divided into four parts.

A) Effective from 6:00 a.m. on March 16, 2020, all retail establishments and all service establishments shall close for a period of 14 days except for:

- grocery stores, meat, bread and pastry, fruit and vegetable, food stores for special nutritional purposes for infants and young children, and food stores for special medical purposes,
- pharmacies, medical stores and dispensaries,
- drugstores,
- petrol and fuel filling stations,
- newspaper and newsagents,
- animal feed stores and veterinary surgeries,
- telecommunications operators' premises,
- public catering establishments and fast food outlets,
- postal, banking and insurance services establishments,
- Internet shops (e-shops) and delivery services.

B) With effect from March 16, 2020 at 6:00 a.m., the public shall be banned from public catering establishments and fast food outlets for a period of 14 days. This prohibition does not apply to sales outside food service establishments (e.g., fast food establishments with a dispensing window or the sale of takeaway food without entering the establishment).

C) With effect from March 16, 2020 from 6:00 a.m., the operators of a department store pursuant to Section 2(4)(k) of Act No. 377/2004 Coll. (Zákon č. 377/2004) are hereby ordered not to close the establishments listed in subparagraph A).

D) All persons returning in groups from the affected areas abroad from March 16, 2020 since 6 a.m. are ordered to be isolated in facilities designated by the Ministry of Interior of the Slovak Republic for a period of 14 days (PHA SR, 2020f).

Also, non-compliance with the third point-by-point measure was classified at the level of an administrative offence (for points A) and B)) or an infringement (point D)), for which the regional public health authorities could impose a fine. The fine for an administrative offence (non-compliance with the measure under points A) and B)) could be up to €20,000. For an infringement (failure to comply with the measure in point D)), a fine of up to €1,659 could be imposed. At the time, these measures were identified as some of the most effective measures to prevent an epidemic and also as important tools for preventing the spread of COVID-19 diseases caused by the coronavirus (SARS-CoV-2). Since the adoption of the second and third measures closed all establishments (except for those exempted by the measures) without any preparation on the part of the entrepreneurs, the Public Health Authority of the Slovak Republic stressed that the main objective was the protection of health and the prevention of deaths, which was above the economic benefit. At the same time, on **March 16, 2020**, the Government of the Slovak Republic, by its Resolution No. 114/2020, declared a **state of emergency**, imposing a work obligation to ensure the performance of health care on the employees of inpatient healthcare providers and a ban on the exercise of the right to strike by workers who have been imposed a work obligation (Government of the Slovak Republic [GSR], 2020a).

On March 18, 2020, Measure OLP/2640/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020g) in the endangerment to the public health was issued, which repealed the first of the compulsory quarantine isolation measures and introduced new quarantine requirements. However, even this measure did not remain in force for long and was followed by a sequence of five other measures issued until May 20, 2020, which regulated the obligations when crossing the Slovak borders, either for travel or for persons employed abroad. The measures issued since April 29, 2020 were already less stringent and phased out the bans.

With effect from March 24, 2020 until further notice, all mass events of any nature have been banned by Measure OLP/2731/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020h) in the endangerment to the public health. Violation of this prohibition could be classified as an infringement with a fine of up to €1,659 or a delict with a fine of up to €20,000.

Three further measures to prevent the spread of COVID-19 and ensure the population’s civil protection were issued by the Public Health Authority of the Slovak Republic on 24 March 2020 in response to the conclusions of the meeting of the Central Crisis Staff on 23 March 2020. The first measure, OLP/2775/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020i) in the endangerment to the public health, suspended the activities of all social service providers in social service establishments with an outpatient form of social service. With the second measure, OLP/2773/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020j) in the endangerment to the public health taking effect from March 25, 2020, all basic stores were also mandatorily closed on Sundays. Sunday was declared a sanitation day when it was compulsory to disinfect the premises in the basic establishments. Basic stores (or establishments) included grocery stores, meat, bread and bakery, fruit and vegetable stores, food stores for special nutritional purposes for infants and young children and food stores for special medical purposes, pharmacies, medical supply stores and dispensaries, drug stores, newspaper and newsstands, and pet food and veterinary clinics. The Chief Hygienist of the Slovak Republic, by the third measure OLP/2732/2020 of the Public Health Authority of the Slovak Republic in the endangerment to the public health, prohibited all persons from going out and moving in public without covering the upper respiratory tract from March 25, 2020 from 00:00 and urged persons over 65 years of age to limit outdoor movement to unavoidable cases (e.g., for the purpose of making purchases, visiting a medical facility) between the hours of 9:00 a.m. and 12:00 p.m. (PHA SR, 2020k). However, this measure was shortly repealed by the new measure OLP/3355/2020 of 20 April 2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020l) in the endangerment to the public health, which provided exemptions from the obligation to cover the upper respiratory tract in public, e.g., for children under 2 years of age, or persons with autism spectrum disorders. The measures announced by the Chief Hygienist of the Slovak Republic in connection with the outbreak of the pandemic on the territory of the Slovak Republic belonged to the category of compulsory quarantine, the category of restriction of the activities of establishments and the movement of the population, or the category of the obligation to cover the upper respiratory tract when staying outdoors or indoors. The measures undertaken initially closed all retail and service establishments, including school establishments, facilities for children and young people, social service establishments, night establishments, cultural establishments, sports facilities, and artificial or natural swimming pools.

The phased release began with the effectiveness of the Public Health Authority's measure OLP/2777/2020 in the endangerment to the public health on 29 March 2020 (PHA SR, 2020m). This measure extended the range of establishments that could be open to the public. It was the duty of the open establishments to ensure compliance with all hygiene measures to prevent the spread of COVID-19. In case of non-compliance with the set obligations, the establishments were threatened with a fine of up to €20,000. The measure was divided into five parts.

A) With effect from March 30, 2020 since 6:00 a.m. until further notice, all retail establishments and all service establishments shall close except for:

- grocery, meat, bread and bakery, fruit and vegetable, infant and young children's special dietary needs food outlets, and special medical food outlets,
- drugstores,
- pharmacies, stores and dispensaries of medical devices and opticians,
- newspaper and newsagents,
- animal feed stores and veterinary surgeries,
- telecommunications operators' premises,
- public catering establishments and fast food outlets,
- postal, banking, insurance and leasing services establishments,
- establishments of internet shops (e-shops) with the possibility of picking up goods on the premises and delivery services,
- laundries and dry cleaners,
- petrol and fuel filling stations,

- funeral, burial and crematorium services,
- auto repair, tire and towing services,
- Slovak technical inspection and emission control services,
- services of computer and telecommunication equipment,
- taxi services carrying out the transport of goods and goods,
- lawyers, notaries, bailiffs, insolvency administrators, mediators, auctioneers, arbitrators, experts, interpreters and translators,
- key service establishments,
- salvage yards,
- textile and haberdashery outlets,
- bicycle shops and repair shops,
- horticulture and garden equipment establishments, if the total internal sales area of the establishment does not exceed 2000 m^2,
- establishments of building, plumbing and electrical materials, ironmongery, paints and varnishes, if the total internal sales area of the establishment does not exceed 2000 m^2.

B) With effect from March 30, 2020 since 6:00 a.m. until further notice, the presence of the public in public catering establishments and fast food outlets shall be prohibited; this prohibition does not apply to off-premises food service sales (e.g., fast food establishments with a dispensing window or the sale of takeaway food without entering the establishment).

C) Effective from March 30, 2020, until further notice, the operators of the retail and service establishments listed in subparagraph A) of this measure are directed to comply with the following hygiene measures for shoppers (clients) and employees:

- only allow entry and stay in the establishment with the upper respiratory tract covered,
- apply hand sanitiser or provide disposable gloves when entering the premises,
- ensure a minimum distance of 2 metres in shoppers' queues,
- the number of shoppers in the establishment at any one time must not exceed a concentration of one shopper per 25 m^2 of the sales area of the establishment,
- a notice shall be prominently displayed at all entrances to the establishment stating the obligation to comply with the above hygiene measures and stating the maximum number of customers at any one time.

D) Effective from 30 March 2020, until further notice, the operators of the establishments listed in subparagraphs A) point 1 and A) point 2 are directed to allow only persons over 65 years of age to enter the premises between the hours of 9:00 and 12:00 from Monday to Saturday.

E) Effective from 6:00 a.m. on 30 March 2020, until further notice, mall operators are ordered to close all retail establishments and all service establishments except those listed in subparagraphs A) points 1 to 10 (PHA SR, 2020m).

The positive news came in the form of the conclusions of the meeting of the Central Crisis Staff on April 21, 2020, where, on the basis of an assessment of the epidemiological situation, it was decided to issue measures to support the easing of restrictions, including in the form of the opening of a greater number of establishments that were not classified as essential. The easing of restrictions had an impact on the economy in the form of looser fiscal policy. The easing was to take place in four phases. In the first phase, with effect from April 22, 2020, measure OLP/3461/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020n) in the endangerment to the public health made 33 types of establishments open to the public and expanded the number of establishments that could be opened in department stores. Restaurants, pastry shops, bars, and cafes could only make window sales. Consuming food was not even allowed on the terraces of these establishments. Natural healing baths and health spas were opened for patients based on a doctor's suggestion; outdoor sports grounds for non-contact sports, without open changing rooms, swimming pools and sanitary facilities, without the presence of an audience; and social service facilities, social--legal child protection facilities, and facilities for social guardianship. Wellness centres, including swimming pools in accommodation facilities; entertainment establishments such as casinos, cinemas and other leisure and convalescent establishments remained closed. Hygiene measures for customers and employees of the premises were extended to include the obligation to ventilate the premises frequently and to regularly disinfect touch surfaces, handles, shopping trolleys and baskets while ensuring that floors were wet-washed every day. The number of establishments that had to have a sanitary day on Sundays and therefore had to be closed was also reduced. Breaches of this regulation were again classified as an administrative offence with fines of up to €20,000.

In the second phase, the measure OLP/3795/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020o) in the endangerment to the public health proceeded to release the activities of the establishments further. With effect from May 6, 2020, the outdoor terraces of the restaurants were opened to the public. However, for the placement of the tables, it was stipulated that their edges had to be at least two metres apart and that no more than two people, or parents with children, were to be seated at a table. The touch surfaces on the terrace and in the toilets had to be disinfected every hour. The measure allowed for the operation of hairdressers, barbers, beauticians, pedicures and manicures. Outdoor tourist attractions (castles, chateaux, zoos, etc.) were also opened to the public. Since the beginning of the pandemic, short-term accommodation in rooms in guesthouses and hotels has also been possible without other services such as wellness. The room was to have its own bathroom. The room had to be vacant for at least 24 hours after the guest left. Meals for short-term accommodation were only possible in the room or on the terrace of the respective restaurant in the guesthouse or hotel. At the same time, shops and services were opened regardless of their size, respecting the hygiene measures already in force in open shops (PHA SR, 2020h).

The third phase of stimulating the economy was dated by the effectiveness of the measure OLP/4083/2020 of the Public Health Authority of the Slovak Republic (PHA SR, 2020p) in the endangerment to the public health on 20 May 2020, which closed only natural and artificial swimming pools, physical education and sports facilities, facilities for children and youth, including facilities for children under 3 years of age, facilities providing wellness services (saunas, whirlpools, spas, wraps), hydro-massages and other wet treatments, salt caves, CRYO chambers, fitness centres, indoor public areas of zoological and botanical gardens. Casinos and nightclubs also remained closed. However, gambling halls and other gambling establishments were allowed to operate, provided that all hygiene measures were complied with. Two other measures were also in force on May 20, 2020. The first of these liberalized the obligation for covering the upper respiratory tract indoors and outdoors, and the second allowed the holding of mass events of a sporting, cultural, social or other nature with a number of over 100 persons. In connection with the fourth phase of stimulating the Slovak economy, the Slovak Public Health Office issued a new measure, OLP/4592/2020 (PHA SR, 2020r), with effect from June 3, 2020, which closed only selected facilities for children and young people and nightclubs. This was the most significant measure in terms of opening the establishments to the public and thus also stimulating the Slovak economy. By the Resolution 366 of June 10, 2020 (GSR, 2020b), the Government of the Slovak Republic ended the state of emergency regarding coronavirus on June 14, 2020, but the emergency situation remained in force. In particular, the lifting of the state of emergency has reduced the risk of serious interference with citizens' fundamental rights.

2.2.2. Measures Taken by the Government of the Slovak Republic to Mitigate the Economic Impact of Restrictions – Accounting Practice

The State restrictions that have been adopted through individual measures to prevent the spread of the SARS-CoV-2 virus in the public interest have severely restricted the conditions for companies from most sectors and industries of the national economy to do business. For this reason, the Government of the Slovak Republic has decided to help entrepreneurs who have been negatively affected by the situation caused by the pandemic and the mandatory anti-pandemic measures.

Along with measures to prevent the spread of COVID-19, the Government of the Slovak Republic has gradually started to issue measures to mitigate the impact on the economic performance of businesses. On the basis of the restrictive measures adopted since the declaration of the emergency situation, a significant drop in sales was expected for most economic entities and, consequently, the threat of redundancies or going out of business. The initially identified impacts of the restrictive measures on the population, and entrepreneurs were also reflected in the Slovak Republic's macroeconomic performance. Measures issued to entrepreneurs can be classified according to different classifications: by the area they regulate (e.g., accounting, taxation), by the form in which they are provided (financial, non-financial), by the Ministry responsible for them, by the type of sector or the form of business.

The first of the measures designed to minimise the impact of the adverse effects of the COVID-19 pandemic on entrepreneurs was issued by the new government that took over its mandate on March 21, 2020. It was Act No 67/2020 Coll. on certain emergency financial measures in relation to the spread of the dangerous COVID-19 virus, which entered into force on April 4, 2020 (Zákon č. 67/2020). The measures provided for in this law shall apply during the period from the declaration of the emergency situation, i.e., from March 12, 2020, until the end of the calendar month in which the emergency situation is lifted. This law has been amended 18 times since its enactment, including five times during the first wave of the COVID-19 pandemic. Its main content is the regulation of the tax, customs and accounting area, the financial market area, the area of budgetary rules, the area of internal audit, government audit and internal control, and the area of public property and the management of housing and non-residential premises.

In the Slovak Republic, natural persons and legal entities are obliged to file income tax returns for the previous calendar year by March 31, or, in the case of a postponement, by June 30, of the following year. The declaration of the emergency situation was just in time for preparing and submitting financial statements and filing income tax returns for 2019. Therefore, some entities were able to file their income tax returns for 2019, and some did not, for objective reasons. The fact that many establishments were banned and therefore closed, citizens had restricted movement, and work was moved to the home where possible constituted objective technical and personnel reasons why the related deadlines had to be postponed in the area of taxation and accounting. This has been a very challenging period for both accountants and auditors. The accountants had to maintain bookkeeping from home, prepare the 2019 financial statements or annual report and file it in the register of financial statements, process accounting documents and also communicate with the auditors. The auditors have also moved their verification activities in relation to the financial statements or annual reports to an online environment.

Also, for these reasons, the Government of the Slovak Republic, initially in Act No 67/2020 Coll. on certain emergency financial measures in relation to the spread of the dangerous COVID-19 virus, proceeded to postpone the filing of the income tax return for the 2019 tax period. The deadline for filing income tax returns has been set at the end of the calendar month following the end of the pandemic period, i.e., the lifting of the emergency situation. However, the income tax return is based on the financial statements. According to the Article 17 of Act No 431/2002 Coll. on Accounting (Zákon č. 431/2002), as amended, the financial statements must be prepared within six months of the balance sheet date unless Act No 595/2003 Coll. on Income Tax, as amended, stipulates otherwise (Zákon č. 595/2003). However, in the case of accounting and, therefore, also the tax period, which is a calendar year, Act No 595/2003 Coll. stipulates the obligation to prepare financial statements and file them in the register of financial statements within three months of the end of the calendar period. If the taxpayer gives notice of a prolongation of time to file the tax return, the deadline may be extended by a further three months. Act No 67/2020 Coll. has therefore also extended the deadline for preparation and filing the financial statements or the annual report in the register of financial statements until the end of the third calendar month following the end of the pandemic period or until the deadline for filing the income tax return, if earlier. The prolongation of the deadlines concerned all the obligations laid down in the Act on Accounting, including the deadline for the audit of the financial statements and the annual report. Article 19 of the Act No 431/2002 on Accounting requires the financial statements to be audited within one year of the end of the accounting period for which they are prepared. The annual report is prepared by the accounting entity subject to the audit obligation, and the annual report must be audited within one year of the end of the accounting period for which it is prepared. That is, if the accounting period was a calendar year, the entity must have had its 2019 financial statements and annual report audited by December 31, 2020.

The declaration of an emergency situation and the adoption of the above measures for accounting and income taxes divided natural persons and legal entities into two groups. In the case of tax arrears that fell due during the pandemic period, Act No 67/2020 provided that the taxpayer could pay or remit them by the end of the calendar month following the end of the pandemic period. The refund of the tax overpayment to those entities that managed to file their tax returns by March 12, 2020 or before the legally extended deadline in connection with the pandemic period has not been legislated. The issue of the refund of income tax overpayments was thus initially associated with interpretative ambiguities. The specific regulation of the refund of income tax overpayments appeared in Act No 67/2020 only by its fourth amendment. The amendment to Act No 67/2020, which supplemented Section 10a, provided that a tax subject who filed an income tax return by 12 March 2020 and was entitled to a refund of the overpayment would be reimbursed by the tax administrator within 40 days of March 31, 2020, i.e., by May 10, 2020. Refunds of income tax overpayments to taxpayers who filed tax returns during the pandemic period were made by the tax administrator within 40 days of the end of the calendar month in which the tax return was filed.

This amendment, which was adopted while the first wave of the pandemic was still ongoing, also brought relief for the payment of corporate and personal income tax advances and allowed for an alternative method of deducting tax losses. Taxpayers who fulfilled two defined conditions did not have to pay income tax advances due during the pandemic period in the relevant month or quarter. The necessary condition was a decrease in sales of at least 40% in the previous month or quarter compared to the sales of the same month or quarter of the previous calendar year. The second follow-up condition was the filing of a declaration that the necessary condition was met that must be submitted to the tax administrator no later than 15 days before the expiry of the time limit for payment of the advance payment. For the first time, a taxpayer had the option to opt out of paying advance income tax on payments due in May 2020. Income tax advances that should have been paid during the pandemic period did not have to be paid up after the end of the pandemic. For the deduction of unused tax losses from the income tax base, it has been determined that tax subjects, both natural and legal persons, may opt for the deduction of unused tax losses reported for tax periods ending in the years 2015 to 2018 with a total value of no more than €1,000,000. However, the last day of the deadline for filing income tax returns was due between the beginning and the end of 2020. At the same time, the unused tax losses were to be deducted consecutively from the earliest to the last reported tax loss. This was an alternative way of deducting unused tax losses, as it was not compulsory for taxpayers, and the tax loss deduction proposed in this way could be used by the taxpayer if it was more advantageous compared to the standard way provided for in Section 30 of Act No 595/2003 Coll. on Income Tax, as amended.

Another tax for which relief has been granted to businesses is the motor vehicle tax. Also, for this tax, the deadline for filing the tax return and its due date have been postponed if the deadline for filing the tax return did not expire before the start of the pandemic period or started during the pandemic period. The filing and payment of the motor vehicle tax were hereby postponed until the end of the calendar month following the end of the pandemic period. The amendment to Act No 67/2020 Coll., which granted relief for the payment of advance payments of income tax, also introduced the possibility of not paying advance payments of motor vehicle tax from April 2020 until the end of the pandemic period.

The above-mentioned tax and accounting measures could have been used by most businesses to mitigate the negative effects of the pandemic. They also had a significant impact on the cash flow in relation to the State budget. However, Act No 67/2020 Coll. also mentions other tax measures that were intended to mitigate the negative effects of the pandemic, such as the suspension of tax audits or tax proceedings at the request of tax subjects during the pandemic period, the postponement of all tax executions, the forgiveness of missed selected deadlines, the non-assessment of interest on late payments for income tax already due, or the possibility for recipients of a share of income tax paid to use this share during the pandemic period until the end of 2021 also to help mitigate the negative consequences of the pandemic. For other taxes, such as value-added tax, the deadline for filing the tax return has not been extended, nor has the deadline for paying it. Forgiveness for missing the deadline could be granted for compelling reasons after the tax authority had approved the VAT payer's application.

Table 2.1. Tax and accounting measures during an emergency in the Slovak Republic

Issue	Initial measure	Pandemic measure
Preparation and filing of the financial statements for 2019	Deadline March 31, 2020 or June 30, 2020	The deadline was extended to November 2, 2020
Filing an income tax return for 2019	Deadline March 31, 2020 or June 30, 2020	The deadline was extended to November 2, 2020
Advance income tax payments for 2020	Monthly or quarterly during the 2020	Option of not paying advance payments
Advance payment of motor vehicle tax for 2020	Monthly or quarterly during the 2020	Option not to pay advance payments for the period from April to September 2020
Deduction of unused tax losses	Standard method	Alternative method
Interest on late payments for income tax already due	Interest is charged for each day of delay from the day after the income tax is due up to and including the date of payment	Interest not charged
Payment of other tax obligations	Mandatory	Remission of failure to comply with the time limit for serious reasons

Source: own processing according to accounting and tax measures of the Slovak Republic.

Even though the Slovak Government tried to cover most of the critical areas at the beginning of the pandemic, some tax and accounting issues remained unresolved for entrepreneurs. These were mainly the deadlines relating to the end of the accounting period, which is the financial year, the deadline for a physical count and confirmation procedures performance, or the deadline if the general meeting had approved the financial statements shortly before the declaration of the emergency situation. Some accounting entities were interested in compliance with the obligation to keep their accounts on a continuous basis during the period of the emergency.

It was evident that if the emergency situation lasted for a longer period, postponing the deadlines for selected types of taxes, the payment of their advances or the preparation and filing of the financial statements or the annual report in the register of financial statements would not help to improve the economic conditions created by the adoption of the pandemic measures to which many businesses had been subjected. The Government of the Slovak Republic has transferred competencies aimed at assisting selected target groups of entrepreneurs directly to individual ministries.

On March 31, 2020, the Ministry of Labour, Social Affairs and Family of the Slovak Republic approved a scheme of assistance in the form of payment of financial contributions for businesses affected by the pandemic and related pandemic measures. The compensatory project has been named *First aid to employees, entrepreneurs and self-employed persons in connection with COVID-19* (hereinafter referred to as First Aid). It is a national project to support the maintenance of employment in times of a declared emergency situation, state of emergency or state of siege and the elimination of their consequences. This project was financed by the European Social Fund and the State Budget of the Slovak Republic in the amount of €1,382,500,000, with a funding ratio of 85:15%. The First Aid scheme was divided into four measures which are defined in the Communication on the possibility of submitting applications for financial aid under the First Aid project (hereinafter referred to as the Communication). Employers and self-employed persons were able to apply for financial aid from March 13, 2020 for the duration of the emergency situation and beyond but no later than December 31, 2020, which was subsequently extended by one year. Together with the Application for Financial Contribution, they had to submit a Statement for the Grant and a Declaration by the employer or self-employed person that he/she meets all the requirements laid down in the Communication. The contributions were not subject to income tax. The individual First Aid measures were for the identified target groups. Under Measure 1, employers, including self-employed persons, who had to close their establishments or reduce their activities on the basis of a decision of the Public Health Authority of the Slovak Republic could apply for a financial contribution from April 6, 2020. The employer's obtaining of the contribution was conditional on the requirement to maintain the job position even in the case of interruption or limitation of its operating activities on the basis of a decision of the Public Health Authority of the Slovak Republic in the time of a declared emergency situation, state of emergency or state of siege. Public administration bodies and limited liability companies without employees could not apply for this contribution. The financial contributions were granted to employees to whom the employer was unable to assign work due to an obstacle on the employer's side and who were in employment on March 1, 2020 at the latest. The amount of the contribution under Measure 1 for the employee's wage replacement was 80% of average earnings, up to a maximum of €1,100, considering the collective agreement. Under Measure 2, only self-employed persons who had to close their establishments on the basis of a decision of the Public Health Authority of the Slovak Republic or whose sales had fallen by at least 20% at the time of a declared emergency situation, state of emergency or state of the siege were eligible to apply for a financial contribution. The allowance to compensate for the loss of earned income was based on the fall in sales. The fall in sales was divided into categories, and the amount of the financial contribution was determined for each category. March 2020 was categorised separately, which also included a category of sales decline of at least 10%. A further categorisation of the sales decline was for the period from April 2020 to September 2020, with the amount of the financial contribution determined from a minimum sales decline of 20%.

The eligible expenditure in March 2020 was considered to be the contribution to cover the loss of income from self-employment for the self-employed following a fall in sales compared to the same period in 2019, alternatively to the average for 2019. Where the applicant did not operate the business in that period, he/she documented the comparable period for February 2020 up to the maximum amount allowed by the measure (Table 2.2). The contribution to cover the loss of earned income for the self-employed following a fall in sales compared to the same period in 2019, or alternatively to the 2019 average, was deemed to be an eligible expenditure in the months from April to September 2020. If the applicant did not operate the business in that period, he/she documented the comparable period for February 2020 up to the maximum amount allowed by the measure (Table 2.2) (MLSAF SR, 2020a).

Self-employed persons, therefore, had to prove a fall in sales, whereby the percentage fall in sales and the subsequent amount of the contribution could be established by the applicant by one of the following alternative methods of calculation set out in the measure.

- By comparing the sales for the reporting month with the sales for the same month of the previous year (e.g., for the reporting period March 2020, the previous month was March 2019). For the month of March 2020, only those self-employed individuals who have been self-employed since at least March 2019 could apply.

- By comparing the average of sales in 2019 (i.e., 1/12 of 2019 sales) with the sales for the reporting month. Only those who carried out professional or trade activity for the whole of 2019 were eligible to apply this method.
- Comparing the sales for February 2020 with the sales for the reporting month. This method could have been used by those self-employed persons who were self-employed for only part of 2019, i.e., later than March 2019, and started self-employment on February 1, 2020 at the latest.

The Communication did not provide for the constant application of one of the chosen methods. Self-employed persons could change the methods of proving the amount of sales if they fulfilled the other conditions. If an applicant had more than one establishment, the sales were considered for all of his establishments in the aggregate, regardless of whether the applicant was claiming a contribution for all of them because of sales decrease.

Under Measure 3, employers, including self-employed persons, who, in the case of interruption or limitation of their operating activities or a fall in sales during a declared emergency situation, have not dismissed employees but kept their jobs thanks to the financial assistance provided by the State, were eligible for a financial contribution. The employer was only entitled to claim the contribution if there were operational or other obstacles to the performance of the work and if he had an employment contract with the employee that lasted from March 1, 2020 at the latest. For the part of the eligible expenditure and the quantification of the amount of the contribution, Measure 3 contains two different alternatives, labelled 3A and 3B.

Part 3A of the measure provides for a financial contribution in the form of payment of salary compensation to an employee who is unable to carry out his/her work due to obstacles on the employer's side. The financial contribution could be up to a maximum of 80% of the employee's average earnings, up to a maximum of €880 and in accordance with the collective agreement.

Part 3B of the measure is based on the decline in sales and adjusts the flat-rate contribution to cover part of the wage costs. The flat rate contribution was calculated separately for March 2020, for which the eligible expenditure was the contribution towards part of the wage costs for each employee following the fall in sales compared to the same period in 2019, alternatively to the average sales for 2019. If the applicant did not operate in that period, he/she should document a comparable period for February 2020, up to the maximum amount allowed in the Part 3B measure (Table 2.2).

For the period from April 2020 to September 2020, the financial contribution to cover part of the wage costs for each employee was calculated following the decrease in sales compared to the same period in 2019, alternatively compared to the average sales for 2019. If the applicant did not operate in the period April–

–September 2020, then he/she shall document a comparable period for February 2020, up to the maximum amount allowed in the Part 3B measure (Table 2.2). For both March 2020 and the period April–September 2020, the monthly contribution under Measure 3B was 80% of the employee's gross monthly wage, up to a maximum of a fixed flat-rate contribution based on the decline in sales, as shown in Table 2.2.

For the method of calculating the decline in sales, employers could use three alternatives identical to Measure 2, i.e., comparing sales for the reporting month to sales for the same month of the previous year, comparing the average of 2019

Table 2.2. First Aid measures and associated financial contributions during the first wave of the pandemic in the Slovak Republic for the period from March to September 2020

First Aid measure	Applicant	Financial contribution	
1	2	3	
Measure 1	Employers, including self--employed persons, who had to close their establishments or reduce their activities	March 2020 – September 2020	
		80% of the employee's average earnings, up to a maximum of €880 to €1,100, in accordance with the collective agreement	
Measure 2	Self-employed persons who had to close their establishments or reduce their activities or whose sales had fallen	Decrease in sales if there was no comparable previous period	March 2020
		10–19.99%	€90
		20–29.99%	€150
		30–39.99%	€210
		40% and above	€270
		Decrease in sales if there was no comparable previous period	April 2020 – September 2020
		20–39.99%	€180
		40–59.99%	€300
		60–79.99%	€420
		80% and above	€540
Measure 3A		March 2020 – September 2020	
		A maximum of 80% of the employee's average earnings, up to a maximum of €880, in accordance with the collective agreement	
		Decrease in sales if there was no comparable previous period	March 2020

Table 2.2, cont.

<table>
<tr><td>1</td><td>2</td><td colspan="2">3</td></tr>
<tr><td rowspan="9">Measure 3B</td><td rowspan="9">Employers, including self--employed persons, who are employers and retain jobs</td><td>10–19.99%</td><td>€90</td></tr>
<tr><td>20–29.99%</td><td>€150</td></tr>
<tr><td>30–39.99%</td><td>€210</td></tr>
<tr><td>40 and above</td><td>€270</td></tr>
<tr><td>Decrease in sales if there was no comparable previous period</td><td>April 2020 – September 2020</td></tr>
<tr><td>20–39.99%</td><td>€180</td></tr>
<tr><td>40–59.99%</td><td>€300</td></tr>
<tr><td>60–79.99%</td><td>€420</td></tr>
<tr><td>80% and above</td><td>€540</td></tr>
<tr><td rowspan="4">Measure 4</td><td rowspan="4">Self-employed persons and one-person LLCs with no other income</td><td colspan="2">March 2020</td></tr>
<tr><td colspan="2">€105</td></tr>
<tr><td colspan="2">April 2020 – September 2020</td></tr>
<tr><td colspan="2">€210</td></tr>
</table>

Source: own processing based on (MLSAF SR, 2020a).

sales (1/12 of 2019 sales) to sales for the reporting month; or comparing sales for February 2020 to sales for the reporting month. Compared to the payment of salary compensation in 3A, the lump-sum contribution in 3B is provided for both the employee to whom the employer assigns work and the employee to whom the employer cannot assign work because of an impediment by the employer. The lump sum contribution under 3B could only be claimed if the employee did not have more than 50% of his pool of monthly working time prevented by an obstacle on his part or did not take leave.

For Measures 1, 2 and 3, it was the case that the contribution could only be claimed in respect of an employee with whom an employment contract had been concluded. This means that the contribution could not be claimed for an employee working under an agreement for work performed outside the employment relationship, a managing director who did not have an employment contract, a partner who worked for his limited liability company without an employment contract, collaborators – spouse, children, parents – who may not have an employment contract, or a volunteer. If the employer has increased the number of its employees during the period of the contribution, the contribution has not been approved for those employees. The contribution could not be granted to employees who were at the same time receiving social security benefits for sickness or nursing a family member, or taking leave.

Measure 4 regulated the situation of self-employed persons who, on the declaration of the emergency situation, had no income from entrepreneurial, non-entrepreneurial or gainful employment and who had suspended the pursuit or operation of their activity and had not suspended or revoked their authorisation to pursue or operate it. Self-employed persons applying for a financial contribution under this measure could not be obliged to pay sickness and pension insurance and could not benefit from an insurance holiday. A natural person who was the sole shareholder, managing director, and at the same time not an employee of a limited liability company, a so-called one-person limited liability company (LLC), could also apply for a financial contribution under this measure. The flat-rate contribution was intended to compensate such persons for income losses. The eligible expenditure was €105 for March 2020 and €210 for the months of April to September 2020 if the entities in this category met all the conditions set out in the Communication.

Despite the launch of the First Aid project, there remained subjects who had a job, business income or were self-employed before the outbreak of the coronavirus pandemic and were currently without income and did not belong to any of the groups of eligible applicants for financial support. On April 30, 2020, the Ministry of Labour, Social Affairs and Family of the Slovak Republic introduced a new so-called SOS subsidy following the approval of the Government of the Slovak Republic. The SOS subsidy could be applied for from May 1, 2020 and was paid in the amount of €105 for the month of March 2020 and €210 for the following months from April 2020 until the end of the crisis situation or until the applicant started working or running a business again (MLSAF SR, 2020b).

On April 30, 2020, the Ministry of Labour, Social Affairs and Family of the Slovak Republic also published a report on the number of processed applications and the paid contributions by the Labour, Social Affairs and Family Offices in the First Aid project. As of that date, more than 87,000 people had been supported, including 25,000 self-employed persons, for a total amount of €11,623,672.65 (Table 2.3).

Table 2.3. Agreements processed and contributions paid in the First Aid project as of April 30, 2020

Measure	Agreements processed	Number of payments	Contributions paid in EUR	Number of employees covered
Measure 1 (from 6 April 2020)	8,822	5,870	7,065,735.19	41,550
Measure 2 (from 9 April 2020)	23,040	14,878	3,777,745.92	23,781
Measure 3A (from 17 April 2020)	489	97	180,837.26	4,336
Measure 3B (from 17 April 2020)	1,683	279	598,184.28	16,461
Measure 4 (from 23 April 2020)	30	5	1,170.00	1,231
Total	34,064	21,129	11,623,672.65	87,359

Source: (MLSAF SR, 2020b, 2020c).

Another form of financial assistance was the so-called rent subsidy, the disbursement of which was provided by the Ministry of Economy of the Slovak Republic. In practice, the rent subsidy was intended to compensate the existing fixed costs of all establishments such as restaurants, cinemas, theatres, taxi services, garden centres, non-essential shops or other establishments that had to close or severely curtail their business activities due to the declared emergency situation, but had to continue to pay rent. They could rent a room or part of a room or a set of rooms designated by a building authority decision for purposes other than housing, and in which the tenant sold goods or provided services to final consumers, including related service areas and storage areas, or a market place (Ministry of Economy of the Slovak Republic [ME SR], 2020a).

Rent subsidies were provided under two schemes, the COVID-19 Outbreak Support Scheme Rent Subsidy (hereafter referred to as the Temporary Framework – Rent Subsidy) and the COVID-19 Outbreak Support Scheme *De Minimis* Rent Subsidy, as amended by Appendix 1 (hereafter referred to as the *De Minimis* Rent Subsidy). The first period of restricted use was from March 10, 2020 to June 30, 2020 on the basis of measures issued by the Public Health Authority of the Slovak Republic (ME SR, 2020b). During the first wave of the coronavirus pandemic, a further period of restricted use has been declared, e.g., for mass events, from August 1, 2020 to September 30, 2020. In addition to helping tenants, the aim of introducing this subsidy was to prevent landlords from deliberately increasing rents. The landlord had the option to participate in this subsidy by voluntarily forgiving part of the rent. The State then provided a subsidy to the tenant in the same percentage as the landlord's rent rebate, up to a maximum of 50% of the rent. If the tenant and the landlord did not agree on a rent rebate, the tenant was given a postponed period to pay the rent. The tenant's rent was spread over 48 equal monthly instalments, payable on the 15th day of the relevant calendar month, commencing on the 15th day of the calendar month following the calendar month in which the emergency situation in relation to the spread of the dangerous contagious human disease COVID-19 has ended, but no later than April 1, 2021. If the rent included the cost of related services (e.g., cleaning services, utilities, marketing), these were not subject to the subsidy and the subsidy was reduced by 5%. For the calculation of the amount of the subsidy, the period during which the use was hampered was considered. If the tenancy did not last for the entire hampered period of use, then only the proportionate part. Cumulative rent subsidy limits have been set for each scheme. Maximum cumulative subsidy limits under the COVID-19 Outbreak-related State Aid Scheme:

- for an undertaking active in primary agricultural production, €100,000;
- for an undertaking active in the fisheries and aquaculture sector, €120,000;
- for a company operating in other sectors, €800,000.

Maximum cumulative subsidy limits under the COVID-19 (*de minimis*) Minimum Aid Scheme for Economic Support in Relation to Outbreaks of COVID-19:

- an undertaking performing road freight haulage services for hire or reward €100,000;
- undertakings in other sectors €200,000.

They could apply for a rent subsidy once all conditions were met:

- micro and small enterprises, irrespective of whether they were enterprises in difficulty on 31 December 2019: the temporary framework – rent subsidy – was applied,
- medium and large enterprises that were not enterprises in difficulty on 31 December 2019: the temporary framework – rent subsidy – applied,
- medium and large enterprises that were enterprises in difficulty as of 31 December 2019: *de minimis* – rent subsidy applied (ME SR, 2020a).

The application for the rent subsidy was submitted by the landlord on behalf of the tenant, and the subsidy was paid into the landlord's account once the application was approved. During the first wave, one of the conditions for obtaining the subsidy was the establishment of a tenancy before February 1, 2020.

The Government of the Slovak Republic transferred to the Ministry of Transport of the Slovak Republic[3] another financial assistance, which, however, was earmarked for selected sectors of the economy. The Ministry of Transport of the Slovak Republic thus became the announcer, provider and implementer of financial assistance for entities doing business in the tourism sector. The State aid was announced in three schemes. These were the *de minimis* aid scheme, the minimum aid scheme for road transport – BUS – and the state aid scheme (Grand Scheme) for road transport.

The *de minimis* aid scheme was intended to cover part of the fixed costs incurred by eligible tourism applicants at the time of their forced closure and at the time of their reopening after the negative effects of the COVID-19 pandemic had become apparent. The first phase of the scheme was from April 1, 2020 to October 30, 2020. An available budget of €220,250,000 has been earmarked for the scheme. In order for applications to be approved, eligible applicants had to meet certain conditions. The basic ones included the condition that the decrease in their net turnover must be higher than 40% compared to the same months in 2019 and the amount of aid granted by all *de minimis* providers (ministries) must not exceed €200,000 in aggregate for the current and two previous accounting periods. The minimum amount of financial aid per undertaking was between

[3] The Ministry of Transport of the Slovak Republic is the new name of the Ministry as of January 1, 2023. The previous name was the Ministry of Transport and Construction of the Slovak Republic.

1.44% and 10% of the net turnover in the eligible period and was determined as follows for each category of undertaking:

- tour operators: 3.6%,
- travel agencies: 6%,
- other activities, e.g., restaurants, hotels: 10%.

The minimum aid scheme for road transport was intended for operators of international regular and occasional bus services to compensate them for the decline in revenue due to the COVID-19 disease and the declaration of an emergency situation. The eligible period was broken down by type of operator as follows:

- the eligible period for driving school operators was from April 1, 2020 to March 31, 2021;
- the eligible period for operators of international regular bus services was the period from April 1, 2020 to May 31, 2021 and the period from September 1, 2021 to December 31, 2021;
- the eligible period for operators of occasional services was the period from January 1, 2021 to May 31, 2021 and the period from September 1, 2021 to December 31, 2021 (Ministry of Transport of the Slovak Republic [MT SR], 2020).

The estimated total budget of the aid scheme was €19,409,100 from the state budget. The amount of aid granted is set at a maximum of €200,000 per undertaking during the period of the current and the two preceding accounting periods. The limit of €200,000 is the cumulative value of the total amount of aid received from all providers in the de minimis regime on the territory of the Slovak Republic. The aid limit was also considered when calculating the amount of the financial contribution. The aid limit was based on the beneficiary's technical base, which is made up of the number of motor vehicles used by the beneficiary to carry out its activities and the rate of the financial contribution per beneficiary motor vehicle and per calendar month. The categorization of motor vehicles and the rates are specified in the communication (MT SR, 2020).

In April 2020, the Ministry of Finance of the Slovak Republic launched assistance in the form of a loan guarantee and in the form of payment of interest on the loan, the so-called interest subsidy (MF SR, 2020). Self-employed persons and small and medium-sized enterprises could apply for preferential loans from the Slovak Guarantee and Development Bank (SGDB). A special project to help entrepreneurs in this area has also been launched from April 2020 by Eximbank under the name Maintenance of Operations Support Loan or COVID Loan. The COVID Loan was granted on the basis of Act No 67/2020 Coll. on certain emergency financial measures in relation to the spread of the dangerous COVID-19 virus and under the terms of the *De Minimis* Aid Scheme to Support the Maintenance of Operations and Employment of Small and Medium-Sized Enterprises for the Purposes of Overcoming the Adverse Period Caused by the COVID-19 Pandemic (ME SR, 2020c). The aim of the aid in the form of an interest-free loan was to provide small and medium-sized enterprises with funds in the case of a fall in their sales during the emergency situation. However, the loan was exclusively intended to cover operating and investment costs related to the maintenance of operations and employment, and repayment of liabilities to the Social Insurance Institution and health insurance companies. In the first stages, applications were approved mainly for businesses that had to close down because of emergency measures. Both banks had stipulated that the loan amount must not exceed 50% of the 2019 turnover. The small or medium-sized enterprises must have been active for at least one or two accounting periods before applying for the loan. The repayment period of the loan was three years. The principal and interest grace period were 12 months following the month in which the first drawdown of the loan commenced, and repayments are made in regular equal monthly instalments over a period of 24 months following the expiry of the 12-month principal and interest grace period. The amount of the guarantee by the Ministry of Finance of the Slovak Republic is 80% of the principal balance of the operating loan (EXIMBANKA SR, 2020). SGDB and Eximbank provided loans from €10,000 to €350,000 and €100,000 to €500,000, respectively, for a maximum loan amount of 50% of 2019 turnover. The interest rate on the loan was 4% *per annum*, fixed for the maturity of the loan. The entire interest rate could be subsidised throughout the maturity of the COVID loan if, within 12 months of the date of the first drawdown of the loan, the entrepreneur maintains the level of the average number of employees compared to the average number of employees in the 12 months preceding the month in which the application for the loan was made. The interest subsidy started to be paid only after the expiry of the one-year grace period of the loan if the small or medium enterprise had no overdue social and health tax liabilities for more than one month, in addition to maintaining employment. Both banks planned to provide loans totalling approximately €50 million.

In connection with the adopted pandemic measures, Act No 68/2020 Coll. on Social Insurance, as amended, was amended in April 2020 (Zákon č. 68/2020). With this amendment, the Government of the Slovak Republic made it possible for self-employed persons and employers to postpone the due date of social insurance premiums. In connection with this amendment, Government Regulation No 131/2020 (GSR, 2020c) on the payment of social insurance premiums in times of an emergency situation, state of emergency or state of siege declared in connection with the COVID-19 disease was also adopted, which entered into force in May 2020. If, because of the emergency situation, the self-employed person or the employer had to close for more than 15 days, they had the option of deferring their own social security contributions. Thus, the deferral of social security contributions did not apply to the part of the insurance premiums that the employer had to pay on behalf of the employee. Deferral of social security contributions was only possible if the employer's or self-employed person's net turnover or business income fell by 40% or more during the pandemic (Social Insurance Institution, 2022a). The employer or self-employed person has compared sales/receipts for March 2020 to March 2019 to demonstrate a decrease in sales/receipts. If the employer or self-employed person was not in business in March 2019, the sales/receipts for March 2020 were compared with the sales/receipts for February 2020. The period when it was possible to apply for a deferral of social insurance payments was from March to July 2020 (Social Insurance Institution, 2022b). The deferral of premium payments during the first wave of the pandemic is shown in Table 2.4.

Table 2.4. Deferral of social security contributions during the first wave of the pandemic

Maturity of premiums for	Original deferred due date	New deferred due date
May 2020	to December 31, 2021	to March 31, 2022
June 2020	to March 31, 2022	to June 30, 2022
July 2020	to June 30, 2022	to September 30, 2022

Source: own processing based on (MLSAF SR, 2023).

The Government of the Slovak Republic has also introduced temporary protection for entrepreneurs. The legal framework was adopted by the National Council of the Slovak Republic on March 25, 2020 as the Law on Extraordinary Measures in the Judiciary in the Context of the Spread of the Coronavirus. Protection was granted to entrepreneurs (natural and legal persons) operating a business who had their registered office or place of business in the Slovak Republic and were affected by the negative economic impact of the spread of the contagious disease COVID-19. The temporary protection measures included:

- suspension of the proceedings on the creditors' petition for bankruptcy of the entrepreneur's assets,
- the abolition of the entrepreneur's obligation to file for bankruptcy of his assets,
- suspension of enforcement proceedings against an entrepreneur for the satisfaction of a claim arising from his/her business activity
- a prohibition on the enforcement of a lien against the entrepreneur on an undertaking, a thing or a right belonging to the undertaking,
- the prohibition to terminate or withdraw from a contract concluded with an entrepreneur,

- interruption of time limits for asserting a right against an entrepreneur under protection (Zákon č. 92/2020).

The entrepreneur who applied for protection had a duty to use his best efforts to satisfy his creditors. The entrepreneur under protection had to put the interests of his creditors ahead of his own interests and was obliged to pay debts incurred during the protection before debts incurred before the protection. The protection of entrepreneurs was originally supposed to be valid until 1 October 2020 (Ministry of Justice of the Slovak Republic [MJ SR], 2022).

Most of the economic measures designed to help and support entrepreneurs and the self-employed that was adopted by the government in response to the COVID-19 epidemic were initiated or endorsed by the EC. Some of the measures postponed deadlines that delayed cash receipts to the state budget, and others drew funds from the state budget in combination with the release of resources that had been earmarked from the EU.

2.2.3. Development of Macroeconomic Indicators – Forecast

At the end of 2019, forecasts for macroeconomic indicators were mainly driven by European risks. The EU was recovering from a possible no-deal Brexit, the situation in German industry began to deteriorate, which was to be reflected in the service sector, and the anticipated slowdown in the economy was to begin to create a production gap, especially for the V4 countries. The external risks factored into the forecast at the end of 2019 were overall weakening global demand, trade disputes and deteriorating economic sentiment.

The Ministry of Finance's forecast for 2020 estimated that the economy would further moderate its growth rate to 2.3%, the unemployment rate would stagnate, and wage increases would slow down. In February 2020, the Ministry of Finance of the Slovak Republic published a forecast in which it assumed that the Slovak economy would continue to perform at a slower pace but would still make progress. Growth in 2020 was estimated at 2.2%, comparable to 2.3% in 2019. The cooling should have been felt mainly in export-oriented industries, but the labour market was still resilient. Unemployment should have remained close to historical lows; wage growth should have been more in line with labour productivity growth. Trade disputes, the persistent weak performance of the euro area and a hard no-deal Brexit from 2021, but also a more pronounced pass-through of the industrial downturn into the labour market, were to be risks to developments.

The February forecast was prepared without considering the risk of a coronavirus that has started to spread from China. The declaration of an emergency situation due to the coronavirus pandemic and the closure of the economy have also rewritten the Ministry of Finance's macroeconomic forecast which was issued in April 2020. The Ministry of Finance of the Slovak Republic assumed that the pandemic situation would last two to three months and prepared corresponding scenarios. Both scenarios resulted in the assumption that the Slovak economy would fall into recession and GDP would decrease by 7.2%.

A decline in output was projected for services, industry and construction, and recovery to pre-crisis levels was expected by the end of 2021. The economic slowdown was also expected to be caused by pro-cyclical investment, a lack of foreign demand and limited domestic consumption. The emergence of a pandemic situation was expected to result in a marked change in the consumption behaviour of the population. Households' savings were to increase due to fears about future developments, even though declining disposable income was to be partly offset by measures taken by the Slovak government. Unemployment was expected to increase significantly, especially in the tourism, food services, retail and transport sectors, but also in industry and construction. 88,000 jobs were forecast to be lost, and if the government had not intervened to allow short-time working (so-called *kurzarbeit*), the forecast would have risen to 108,000 job losses. Average nominal wages were to increase by only 1.6%, and inflation was to slow down to 1.7%.

As inflation appeared to be stable over the medium term, there was no expectation of price increases for goods and services in the following year, 2021. However, the risk to the economic projection in 2020 was high. The length of the pandemic was uncertain, as was the re-emergence of the disease; international trade could be completely subdued. Even economic surveys suggested that the recession would be deeper than the financial crisis in 2008. The March 2020 composite PMI index in the euro area fell to an all-time low. ESIs in the euro area also signalled a comparable scale of damage to that in 2008.

Another forecast by the Ministry of Finance was issued in June 2020, according to which GDP was expected to fall by 9.8% in 2020 as a result of the global pandemic. Domestic consumption was to be lower, and foreign trade and business investment were to be reduced to a minimum. Unemployment was to rise. Only government consumption was supposed to support the economy. GDP growth to 7.6% was expected only in 2021, and the assumption of reaching pre-crisis levels was revised towards the end of 2022. The June forecast was based on the budgetary targets presented in the Stability Programme and on the expected allocations under the new EU Recovery and Resilience Mechanism (RRM). However, the main downside risk to the forecast – a resurgence of contagion that would deepen the recession – still remained.

The Ministry of Finance's September forecast for 2020, with its optimistic predictions about the change in economic indicators, followed the end of the first wave of the pandemic (Table 2.5). In the end, GDP was expected to fall by only 6.7%. At the time of this forecast, the figures for the first half of 2020 were already known, showing that the slump in the economy was due to weak domestic and foreign demand. Despite the recession, better results were predicted for 2020 in September 2020 as pandemic measures were relaxed and car production, the strongest industry in the Slovak Republic, recovered. Tourism also began to strengthen as restaurants and accommodation services were allowed. The forecast considered that if the economic downturn was milder than expected, then the recovery in economic activity would also be milder in 2021, and GDP could grow by 5.5%. GDP at the end of 2020 should support the drawdown of EU funds. The unemployment rate in 2020 was projected at 6.8%. Average nominal wages were forecast to increase slightly by only 2.6% in 2020, according to the September forecast. The fall in oil prices was expected to slow inflation to 1.9%. Low oil prices should have reduced regulated energy prices, and price growth should have fallen to 1.1% in 2021.

Table 2.5. Ministry of Finance's September 2020 forecast of key economic indicators

Indicator	Forecast			
	2020	2021	2022	2023
GDP, real (%)	–6.7	5.5	2.4	3.3
GDP, nominal (bn. €)	89.6	95.7	99.9	105.3
Private consumption, real (%)	–1.2	3.0	1.8	2.3
Private consumption, nominal (%)	1.0	4.1	3.7	4.1
Government spending (%)	–1.7	0.0	0.2	1.6
Fixed investment (%)	–9.9	7.6	3.3	6.5
Export (%)	–9.3	9.7	4.0	3.6
Import (%)	–7.9	8.3	2.8	3.4
Registered employment (%)	–1.6	0.5	0.5	0.2
Wages, nominal (%)	2.6	4.1	3.9	4.8
Wages, real (%)	0.6	2.9	1.9	2.9
Unemployment rate (%)	6.8	6.8	6.2	5.7
CPI (%)	1.9	1.1	1.9	1.8

Source: (Ministry of Finance of the Slovak Republic [MF SR], 2022a).

Both positive and negative risks have been identified in relation to this forecast. The upside risk was an improvement in reality compared to the forecast through the use of EU funding based on the Recovery and Resilience Plan to support the economy from 2022 onwards. The second positive risk was the invention of an effective vaccine against coronavirus. The downside risk to the forecast was the start of a second wave as early as 2020, the re-closure of economies and austerity measures. However, based on the experience of the first wave, it was expected that if there are restrictions, these may already be more targeted and, therefore, more effective with less impact on the economy (MF SR, 2022a).

2.3. Second Wave of the Pandemic Caused by the Spread of the SARS-CoV-2 Virus in the Slovak Republic

The second wave of the pandemic began to occur in Slovakia in August 2020. After a summer period of released measures, this development was anticipated. The spread of coronavirus in neighbouring countries, with the exception of Hungary, was faster than in the Slovak Republic at this time. The Government of the Slovak Republic has set itself the goal of catching this wave of the pandemic in time. However, the strict measures of the first wave, involving the closure of borders and shops, should not have been repeated.

2.3.1. Measures Taken by the Government of the Slovak Republic Restricting the Movement of the Population and the Operation of Establishments

On August 11, 2020, the Pandemic Commission of the Slovak Government approved a new Pandemic Plan. Its aim was to eliminate the health and economic burden on the population, ensure the functioning of the economy, and determine the tasks of state and local government bodies and professional bodies that manage, ensure and carry out activities related to the protection of public health.

The pandemic plan has been revised based on lessons learned from the first wave of the COVID-19 pandemic and is intended to be a starting point for acute respiratory diseases in the future. Compared to the previous pandemic plan, the new pandemic plan does not use the information on the rolling median. The new pandemic plan is divided into four phases of acute respiratory disease development. In the third phase, a state of emergency is to be declared, and the fourth phase is the phase of return to the inter-pandemic period. A 'traffic light' has been set in the pandemic plan for social service facilities, primary health care facilities and hospitals (PHA SR, 2020s). According to the 14 indicators, the colour was set from green to orange and to grey in each category of facilities, and the regional public health offices took measures for each county and, where appropriate, district.

The COVID-19 epidemiological situation in green meant the situation was under control, orange indicated a worsened situation, critical was in red and grey represented the pre-pandemic situation (PHA SR, 2020t). The colour scale of the COVID traffic light represented the level of risk, and measures were applied accordingly. As the risk increased, the measures became more stringent. This grading was called the 'COVID Automat' Traffic Light System. According to the Pandemic Plan, the Ministry of Finance of the Slovak Republic should have a special-purpose reserve in the budget chapter General Treasury Administration to deal with crisis situations and their consequences. At this time, large companies were advised to prepare or revise their crisis plans and set up rules in case of dealing with an epidemic in the workplace and the necessity to close parts or whole establishments due to a lack of staff (Krajčí, 2020).

As a record number of infections was observed in September 2020, a state of emergency was declared throughout the Slovak Republic on October 1, 2020 in connection with the second wave of the pandemic (Blahušiaková, 2022b). Along with the state of emergency, strict new measures have been introduced, including a curfew with exceptions, such as buying basic foodstuffs, visiting the doctor or post office or going to work with a certificate of employment. In Slovakia, widespread testing has also been launched. Measures were released between November and December.

On December 26, 2020, Slovakia received the first 10,000 doses of Pfizer's coronavirus vaccine, and vaccination of healthcare workers, social services staff and critical infrastructure personnel started immediately. However, the number of infected people was increasing, and so another state of emergency was declared on December 29, 2020 as part of the second wave, for which the measures were extended by a government resolution on December 31, 2020.

On February 8, 2021, the 'COVID Automat' Traffic Light System was tightened. On the last day of February 2021, the government adopted new measures to reduce mobility from 1st to 21st March 2021, thereby slowing the spread of infection and preventing the importation of new variants of the virus. At that time, the Delta variant was already spreading from India *via* the UK, which indeed proved that air travel was contributing significantly to the enormously rapid spread of outbreaks (Kosečeková, 2022). Despite reduced mobility, the exemption for nature walks outside the district has been lifted. The curfew from 8 p.m. to 1 a.m. has been maintained, except for travel for essential work and medical treatment.

The purchase of the Sputnik V vaccine and its first delivery in early March 2021 triggered a government crisis that resulted in the dismissal of the then Prime Minister Igor Matovič and the reconstruction of the government cabinet headed by the Prime Minister Eduard Heger. The loosening of the strict measures began on April 19, 2021. Subject to the 15 m^2 per person requirement, all shops and services, botanical and zoological gardens, museums, libraries, hotels and guesthouses could be open, except restaurants. The state of emergency was extended until May 14, 2021, when it was ended by the government. Until July 19, 2021, all districts were in the green according to the 'COVID Automat' Traffic Light System.

2.3.2. Measures Taken by the Government of the Slovak Republic to Mitigate the Economic Impact of Restrictive Measures – Accounting Practice

Measures under the competence of individual ministries that concerned business entities were extended, modified, supplemented or replaced in relation to the settings from the first wave of the pandemic. Act No 67/2020 Coll. on certain emergency financial measures in relation to the spread of the dangerous COVID-19 virus, which came into force on April 4, 2020, was amended seven times during the second wave of the pandemic, indicating a critical situation during this recorded wave of the disease. The deadline for filing the income tax return and paying the income tax, the deadline for the preparation and filing of the financial statements or the annual report in the register of financial statements as well as the deadline for the auditing of the financial statements and the annual report for the 2019 accounting period has been postponed to November 2, 2020. Amendment of Act No 67/2020, approved on September 22, 2020, set the end of the pandemic for tax purposes at September 30, 2020. Under that law, compliance with the legal obligations was set at the end of the month following the end of the pandemic period. However, this day fell on a Saturday and therefore, compliance was postponed to November 2, 2020 (Table 2.1).

Tax overpayments for the 2019 tax year were refunded within 40 days of the end of the calendar month in which the tax return was filed to taxpayers who chose to postpone the deadline for filing their tax return for the pandemic period until November 2, 2020.

The filing of the tax return and payment of the motor vehicle tax has also been postponed to October 31, 2020, respectively, to November 2, 2020. The period for non-payment of motor vehicle tax advances, which started in April 2020, ended in September 2020 (Table 2.1). From October 2020, the taxpayer was obliged to pay advance payments at the same rate as before the pandemic period. The deadline for filing the 2020 motor vehicle tax return was set on March 31, 2021. In 2021, despite the approved amendments to Act No 67/2020, neither the deadlines for filing tax returns nor the deadlines for not paying tax advances were changed (Financial Administration of the Slovak Republic, 2021).

Due to the persistence of the pandemic, the Government has decided to extend the payment of financial contributions to businesses through the Ministry of Labour, Social Affairs and Family of the Slovak Republic. The aid scheme was provided under a project with the modified project name 'First Aid+' which came into force on November 1, 2020. Under the new scheme, October 2020 was the first month for which a financial contribution could be claimed. There were changes in the conditions, the possibility to submit applications and statements, as well as in the actual amount of the individual contributions under each measure (Table 2.6).

Table 2.6. Overview of 'First Aid+' measures and associated financial contributions during the second pandemic wave in the Slovak Republic for the period from October 2020 to January 2021

'First Aid+' measure	Applicant	Financial contribution October 2020 – January 2021	
Measure 1	Employers, including self-employed persons, who had to close their establishments or reduce their activities	80% of the total employee's salary, up to a maximum of €1,100	
Measure 2	Self-employed persons who had to close their establishments or reduce their activities or whose sales had fallen by at least 20%	Decrease in sales if there was no comparable previous period	
		20–39.99%	€270
		40–59.99%	€450
		60–79.99%	€630
		80% and above	€810
Measure 3A	Employers, including self-employed persons, who are employers and retain jobs despite an obstacle on the part of the employer or a decline in sales of at least 20%	A maximum of 80% of the total employee's salary, up to a maximum of €1,100	
Measure 3B		Decrease in sales if there was no comparable previous period	
		20–39.99%	€270
		40–59.99%	€450
		60–79.99%	€630
		80% and above	€810
Measure 4A/4B	Self-employed persons and one-person LLCs with no other income	€315	

Source: own processing based on (GO SR, 2021).

On February 2, 2021, the Government of the Slovak Republic approved a modification of the support scheme and issued an updated version of the employment support project called 'First Aid++' (Table 2.7). As of February 3, 2021, there has been a change in the conditions related to the disbursement of financial contributions for the periods from January 2021 onwards, the project implementation period has been extended, and the range of eligible applicants has been expanded.

Table 2.7. Overview of 'First Aid++' measures and associated financial contributions during the second pandemic wave in the Slovak Republic for the period from February 2021 to April 2022

<table>
<tr><th>'First Aid++' measure</th><th>Applicant</th><th colspan="2">Financial contribution
February 2021 – April 2022</th></tr>
<tr><td>Measure 1</td><td>Employers, including self-
-employed persons, who had to close their establishments or reduce their activities</td><td colspan="2">100% of the total employee's salary, up to a maximum of €1,100</td></tr>
<tr><td rowspan="8">Measure 2</td><td rowspan="8">Self-employed persons who had to close their establishments or reduce their activities or whose sales had fallen by at least 20%</td><td colspan="2">Decrease in sales if there was no comparable previous period</td></tr>
<tr><td>20–29.99%</td><td>€330</td></tr>
<tr><td>30–39.99%</td><td>€420</td></tr>
<tr><td>40–49.99%</td><td>€510</td></tr>
<tr><td>50–59.99%</td><td>€600</td></tr>
<tr><td>60–69.99%</td><td>€690</td></tr>
<tr><td>70–79.99%</td><td>€790</td></tr>
<tr><td>80% and above</td><td>€870</td></tr>
<tr><td>Measure 3A</td><td rowspan="9">Employers, including self-
-employed persons, who are employers and retain jobs despite an obstacle on the part of the employer or a decline in sales of at least 20%</td><td colspan="2">A maximum of 100% of the total employee's salary, up to a maximum of €1,100</td></tr>
<tr><td rowspan="8">Measure 3B</td><td colspan="2">Decrease in sales if there was no comparable previous period</td></tr>
<tr><td>20–29.99%</td><td>€330</td></tr>
<tr><td>30–39.99%</td><td>€420</td></tr>
<tr><td>40–49.99%</td><td>€510</td></tr>
<tr><td>50–59.99%</td><td>€600</td></tr>
<tr><td>60–69.99%</td><td>€690</td></tr>
<tr><td>70–79.99%</td><td>€790</td></tr>
<tr><td>80% and above</td><td>€870</td></tr>
<tr><td>Measure 4A/4B</td><td>Self-employed persons and one-
-person LLCs with no other income</td><td colspan="2">€360</td></tr>
</table>

Source: own processing based on (GO SR, 2021).

At the beginning of June 2021, the Ministry of Labour, Social Affairs and Family announced the extension of the period of financial contributions to employers and self-employed persons and the linking of the contributions to the 'COVID Automat' Traffic Light System. The amount of the subsidy provided from June 2021 onwards, therefore, depends on the current epidemiological situation. According to the status of the COVID Automat, the conditions of the aid scheme were divided into 4 phases:

Phase 0 represented a situation where the aid scheme did not apply, and therefore no financial contributions were due. According to the COVID Automat, none of the districts was in the Warning I to IV Traffic Light phase and at least 40 districts were in the monitoring stage at the same time.

In Phase 1, financial contributions were disbursed according to the aid scheme of the original 'First Aid' project (Table 2.2). The COVID Automat could not be nationally declared at Warning I to IV, and at the same time, no more than 39 districts could be in the Monitoring Traffic Light phase. In Phase 2, financial contributions were disbursed according to the aid scheme of the modified 'First Aid+' project (Table 2.6). For the application of this phase, the COVID Automat Traffic Light system was to be declared at Warning I and II national level.

In Phase 3, financial contributions were disbursed according to the aid scheme of the modified 'First Aid++' project (Table 2.7). The nationwide COVID Automat for this phase was to indicate an unfavourable epidemiological situation, Warning III and IV. The SOS subsidy for persons with no income who were active before the emergency situation and whose activities were suspended by government measures remained unchanged at €300 per month per applicant.

The rent subsidy provided by the Ministry of Economy of the Slovak Republic covered the period of the first wave and also covered the period of the second wave of the pandemic until April 2021. During the second wave of the pandemic, the Ministry of Transport of the Slovak Republic continued to accept applications for *de minimis* aid. For the *de minimis* aid scheme for road transport, which was intended for operators of international regular bus services and occasional services, the period was based on the eligible period, which varied according to the type of operator. In May 2021, the Grand Road Transport Aid Scheme (Grand Aid Scheme) was approved for all sizes of businesses. It was also a scheme that was initiated by the EC. To be eligible, an applicant had to have a decline in sales of at least 40% in a given month compared to the previous year and also meet the other legal conditions for the subsidy to be awarded (MT SR, 2021). The subsidy under the Grand Aid Scheme could be no more than 10% of the nominal decrease in net turnover for a particular month compared with the same month of the previous year. For the calculation of the nominal decrease, the ratio of the net turnover for the month concerned to the net turnover for the same month of the previous year was used. The percentage decrease was then multiplied by the amount of net sales for the same month of the previous year. In the case of large enterprises, the subsidy was capped at a maximum of 70% of uncovered fixed costs; in the case of micro and small enterprises, the cap was capped at a maximum of 90% of uncovered fixed costs. However, the amount per undertaking could not exceed €1,000,000 (MT SR, 2021). If the amount of aid granted exceeded €200,000, the entrepreneur was required to submit audited monthly income statements for the preceding period, as well as monthly profit and loss accounts for the period in which the aid was claimed (MT SR, 2021). Applicants could apply for a subsidy for the period from April 1, 2020 to May 31, 2021 (Podnikateľské centrum, 2021).

During the second wave of the pandemic, the Government of the Slovak Republic also allowed self-employed persons and employers to defer the payment of social insurance premiums (Table 2.8). The period when it was possible to apply for the postponement was December 2020 to May 2021 (Social Insurance Institution, 2022b).

Table 2.8. Deferral of social security contributions during the second wave of the pandemic

Maturity of premiums for	Original deferred due date	New deferred due date
December 2020	to September 30, 2021	to December 31, 2022
January 2021	to December 31, 2022	to March 31, 2023
February 2021	to March 31, 2023	to June 30, 2023
March 2021	to June 30, 2023	to September 30, 2023
April 2021	to September 30, 2023	to December 31, 2023
May 2021	to December 31, 2023	to March 31, 2024

Source: own processing based on (MLSAF SR, 2023).

The Government of the Slovak Republic has extended the temporary protection of entrepreneurs, originally valid until October 1, 2020 until December 31, 2020. Finally, the protection of entrepreneurs and its effects were extended until January 31, 2021. The extension of the protection did not apply to entrepreneurs who had entered or were in liquidation by December 31, 2020. Subsequently, the temporary protection was also extended for the period from January 1, 2021 to July 16, 2021 (MJ SR, 2022).

2.3.3. Development of Macroeconomic Indicators – Forecast

The first forecast of macroeconomic indicators for 2021 was published by the Ministry of Finance of the Slovak Republic in February 2021. The forecast was influenced by a faster restart of the economy after the first wave and a more pronounced recession during the second wave. The fall in the economy for 2020 was eventually 5.8%, which was, however, a better result than the forecasts of the Ministry of Finance of the Slovak Republic published during 2020. The decline in household consumption moderated, and car exports recovered. GDP growth was projected at 4.3% for 2021. This forecast could have been met if the pandemic restrictions had remained set at the level of the first quarter of 2021 and eased over the course of the year to the level of September 2020. The growth of the Slovak economy is also influenced by external demand, which, however, was expected to be weak according to the state of the economies of trading partners. The decline in employment was expected to be moderate, at only 0.2%. The growth of the Slovak economy was to be supported by the billion COVID reserve and, from the second half of 2021, by the drawdown of the Recovery Fund under the EU Recovery and Resilience Plan, totalling €5.8 billion for the whole planning period (Table 2.9).

Table 2.9. February 2021 preliminary plan of allocating RPR resources (€mil., excl. VAT, ESA2010)

Preliminary plan	2021	2022	2023	2024	2025	2026	Total
RRP total	440	1,001	1,230	1,221	1,146	802	5,840
Public investment	394	789	1,008	1,030	982	639	4,838
Compensations	19	96	104	93	82	79	473
Intermediate consumption	27	120	119	98	82	85	531

Source: (MF SR, 2022b).

The risk of the February forecast was the uncertainty in the evolution of the epidemiological situation. In March 2021, the Ministry of Finance of the Slovak Republic published another forecast of macroeconomic indicators, as the February forecast did not consider the final version of the Slovak Recovery and Resilience Plan. The GDP growth assumption for 2021 has been lowered to 3.3%. Exports and the labour market were expected to stabilise. The unemployment rate in 2021 was expected to rise slightly to 7.1%. Average nominal wages were to increase by 4.9% in 2021. Household consumption was expected to decline, as signalled by reduced retail sales in the first quarter of 2021. The reduction in administered energy prices from January 2021 and the base effect of the year-on-year decline in food prices were expected to slow inflation, which was estimated at 1.1% in 2021. In the forecast period, automobile production was booming. However, services and construction were in decline due to pandemic restrictions. The upside risk to the forecast was the massive fiscal stimulus in the US and the rebound in activity thanks to the EU stimulus in the form of the drawdown of the Recovery Fund. The Recovery Fund under the EU Recovery and Resilience Plan has been increased to €6,148 billion for the whole planning period (Table 2.10). However, severe lockdowns and logistical problems in vaccine production and distribution remained a threat.

Table 2.10. March 2021 preliminary plan of allocating RPR resources (€mil., excl. VAT, ESA2010)

Preliminary plan	2021	2022	2023	2024	2025	2026	Total
RRP total	177	1,156	1,374	1,490	1,186	765	6,148
Public investment	114	978	1,161	1,280	1,035	688	5,256
Compensations	34	112	125	125	95	58	548
Intermediate consumption	29	66	88	85	56	19	344

Source: (MF SR, 2022b).

COVID-19 spending was €236 million in 2020 and a prediction of €14 million in 2021, not including the stimulus to the domestic economy. The June forecast for 2021 returned to a more favourable GDP figure, which was expected to grow to 4.6% and even to its pre-crisis level in the second half of 2021. With the end of the second wave of the pandemic and thus the loosening of pandemic measures, household consumption, in particular, was set to recover, shifting from services to goods. However, shortages of components and production shortfalls began to show up in rising inflation. In 2021, the recovery in world trade was expected to boost Slovak exports and industrial production. On a sales comparison basis, retail sales recovered after a slump in early 2021. However, restaurants and hotels were still in decline, and their sales were expected to grow only after the anti--pandemic measures were released during the summer season. The Recovery Fund allocations under the EU Recovery and Resilience Plan, in aggregate for the whole planning period, were unchanged (Table 2.10). The June forecast may have been positively influenced by the fact that households will start spending more savings. However, a third wave of the pandemic remained a risk, in which radical restrictions would have to be reimposed. Vaccination was assumed to reduce the negative effects of a third pandemic wave by half, and thus the economy would only be temporarily slowed by 0.5 percentage points in 2021. Employment was to be stabilised. The unemployment rate should have risen to 7% in 2021. Average nominal wages were to increase by 6.2% in 2021. The growth in prices of goods and services was to accelerate, and therefore the inflation estimate was increased to 2%. The last forecast of macroeconomic indicators for 2021 was made in September 2021. With the onset of the third wave of the pandemic, the assumption of stronger GDP growth has been downgraded again, and the estimate was at 3.7%. The softer measures, set in line with the current COVID Automat Traffic Light System, were expected to provide better macroeconomic outcomes compared to the end of 2020. The shortage of components has started to show up strongly in reduced industrial production outputs. As the EC assessed that the Slovak economy was more resilient than expected during the pandemic, less funding was planned for it (Table 2.11). Consequently, the forecast allocation of EU Recovery Plan funds has been reduced.

Table 2.11. 2021 preliminary plan of allocating RPR resources (€mil., excl. VAT, ESA2010)

Preliminary plan	2021	2022	2023	2024	2025	2026	Total
RRP total	114	1,298	1,337	1,352	987	520	5,608
Public investment	74	809	871	893	614	331	3,592
Compensations	27	107	109	110	101	58	512
Intermediate consumption	11	84	61	61	48	36	301
Social transfers in kind	0	2	2	3	4	2	13
Social transfers	0	9	14	21	14	7	65
GFCG firms	1	224	185	166	108	15	699
GFCG households	0	62	96	98	98	71	425

Source: (MF SR, 2022b).

The unemployment rate in 2021 was expected to be only slightly above 7%. The average nominal wage was expected to increase by only 5.4% in 2021. The number of sickness benefit recipients increased significantly compared to the previous forecast. The increase in the prices of goods and services was expected to accelerate, and therefore the inflation estimate was increased to 2.5%. In particular, the price of construction materials and oil increased.

Table 2.12. Ministry of Finance's September 2021 forecast of key economic indicators

Indicator	Forecast			
	2021	2022	2023	2024
GDP, real (%)	3.7	4.2	5.0	0.7
GDP, nominal (bn. €)	96.9	104.9	113.2	116.5
Private consumption, real (%)	0.2	2.4	3.6	3.9
Private consumption, nominal (%)	2.5	6.9	6.8	5.6
Government spending (%)	4.9	4.1	1.8	–0.4
Fixed investment (%)	–0.3	16.7	15.2	–12.2
Export (%)	10.5	3.1	6.0	4.0
Import (%)	10.9	3.9	6.5	2.4
Registered employment (%)	–0.8	0.6	1.0	0.4
Wages, nominal (%)	5.4	5.5	5.1	4.8
Wages, real (%)	2.8	1.3	1.9	3.2
Unemployment rate (%)	7.0	6.7	5.7	5.2
CPI (%)	2.5	4.2	3.1	1.5

Source: (MF SR, 2022a).

The risks to this forecast (Table 2.12) were a third lockdown in the second half of 2021, a shortage of input materials in industrial production for an extended period of time, and a change in consumer behaviour towards faster savings spending.

2.4. Third Wave of the Pandemic Caused by the Spread of the SARS-CoV-2 Virus in Slovakia

Following the again reduced incidence of positive cases of COVID-19 over the summer period and the broadening of the population groups that could be vaccinated with the vaccine, the Delta variant, which originated in India but spread to Europe via the UK, has started to spread in Slovakia since June 2021. At that time, however, the Alpha variant was still dominant in Slovakia.

2.4.1. Measures Taken by the Government of the Slovak Republic Restricting the Movement of the Population and the Operation of Establishments

In August 2021, the government approved the new COVID Automat Traffic Light System. The national approach was abandoned, and the government opted for district-by-district monitoring. The COVID Automat Traffic Light System was divided into five colour-coded phases. Green colour represented the Monitoring phase; orange colour meant the Watch phase; red colour was the Warning I phase; burgundy colour indicated the Warning II phase; and black colour was the Warning III phase (Ministry of Interior of the SR [MI SR], 2021). The new COVID Automat considered the vaccination rates of at-risk groups.

The epidemiological situation worsened in September 2021, and at the end of September, the third wave of the epidemic in the Slovak Republic was officially declared. On November 3, 2021, the peak of infected persons compared to the second wave of the pandemic was surpassed. Under legislative changes introduced on November 3, 2021, employees were required to show the COVID-19 vaccination certificate, proof of recovery from the disease or a negative test result when entering the workplace. The same conditions have been set for visiting the facilities. Persons who refused to show proof of vaccination, overcoming or testing for COVID-19 were not allowed into the establishments or mass events.

In November 2021, there was a health crisis. Based on this situation, the Government of the Slovak Republic was forced to declare a state of emergency on November 24, 2021, and a lockdown was imposed from November 25, 2021 until December 9, 2021. Unvaccinated people were allowed to go to work but had to get tested twice a week. The epidemiological situation became critical and reached the level of a humanitarian crisis. During this period, a new variant of the coronavirus, Omicron, which originated in South Africa, began to spread uncontrollably. The Public Health Authority of the Slovak Republic began to refer to the period of its spread as the Omicron wave. In December 2021, all schools were closed again, and the lockdown was extended. The health sector transitioned from the third wave of the pandemic to the fourth wave, but economically this period is considered the third wave of the pandemic.

From December 10, 2021, shops were only open to vaccinated people and those who had passed COVID-19. The government decided to lighten the measures, and from December 17, 2021, the curfew was only in place from 8 p.m. to 5 a.m. However, as of December 17, 2021, service and retail establishments have been closed again, with some exceptions for those who have passed COVID-19 or have been vaccinated (Vestník vlády SR, 2021a).

From January 3, 2022, all public catering establishments have also been closed. Exceptions were establishments that only provided takeaway or delivery service, allowed entry only when vaccinated or passed COVID-19, with occupancy at no more than 50% of the establishment's capacity (Vestník vlády SR, 2022b).

As of January 10, 2022, the number of service and retail establishments that have received an exemption from the operating ban has been expanded. Hotels could use 75% of their capacity for visitors who were vaccinated or had passed COVID-19 if they could also prove themselves by PCR test, LAMP test or antigen test (Vestník vlády SR, 2022a). At the same time, the night curfew was lifted, thus lifting the lockdown and allowing pupils to return to school.

From January 19, 2022, employees could only enter employer premises if they had been vaccinated, passed COVID-19 or tested, and the antigen test could not be more than 7 days old (Vestník vlády SR, 2022b). As of the same date, the list of service and retail establishments that have been granted an exemption from the mandatory closure has been expanded again. Both hotels and restaurants were allowed to start using 100% of their capacity, subject to other anti-epidemiological conditions and by allowing only vaccinated customers or customers who have passed COVID-19 to enter (Vestník vlády SR, 2022c).

At the end of January 2022, the Omikron wave peaked in Slovakia. On February 23, 2022, the state of emergency was also lifted. From February 26, 2022, there was a further easing of restrictions on establishments. As of March 14, 2022, all measures that would restrict the operation of establishments and the provision of services have been lifted. From that date, the establishments could be open without capacity restrictions or limitations on opening hours (Vestník vlády SR, 2022d). The districts did not appear in the monitoring phase until May

2022. Despite vaccination, this wave was judged catastrophic by the number of infected and dead. The government has been criticized for the fact that the harsh lockdown during the third wave of the pandemic came too late and that it was not united in its support for vaccination.

2.4.2. Measures Taken by the Government of the Slovak Republic to Mitigate the Economic Impact of Restrictive Measures – Accounting Practice

Measures within the competence of individual ministries for business entities were repeatedly extended, modified, supplemented or replaced in connection with the settings from the second wave of the pandemic. Act No 67/2020 Coll. on certain emergency financial measures in relation to the spread of the dangerous COVID-19 virus, which entered into force on April 4, 2020, has been amended five times during the third wave of the pandemic, with the last amendment in force as of May 20, 2022. No tax or accounting deadlines related to the third wave of the pandemic have shifted. The disbursement of financial contributions to businesses through the Ministry of Labour, Social Affairs and Family of the Slovak Republic continued under the aid scheme under the project with the modified name 'First Aid++'. If the employer or self-employed person was affected by the level of restrictions that were in place in its region according to the automatic measures under the COVID Automat, they could apply for financial contribution until the end of 2021, when the act on support during a short-time working (the so-called *Kurzarbeit*) was due to come into force (MLSAF SR, 2021). In September 2021, the linking of aid schemes to the nationwide COVID Automat was removed, and allowances were paid according to the scheme currently in force (Table 2.7). Financial contributions from the first aid scheme were eventually available until April 30, 2022. This was the largest-ever employment protection grant. In total, the Government has praised more than €2.65 billion for the First Aid project from March 2020 to February 2022 (MLSAF SR, 2022). The first aid project supported about a third of the jobs. During the period, the pandemic situation was assessed as favourable, and as employers were able to continue operating without restrictions, there was no longer a need to provide financial assistance for job protection purposes. Since March 2022, 'First Aid' has been replaced by support during short-time working (the so-called permanent *Kurzarbeit*), which constitutes financial assistance on the basis of Act No 215/2021 Coll. on support during short-time working (Zákon č. 92/2020).

The rent subsidy provided by the Ministry of Economy of the Slovak Republic also covered the period of the third wave of the pandemic (ME SR, 2023). In addition to the rent subsidy, the Ministry of Economy of the Slovak Republic also disbursed subsidies to entities in the special regular and occasional transport segment and subsidies to entities in the cultural and creative industries segment.

The Ministry of Transport of the Slovak Republic continued to provide financial contributions under the *de minimis* scheme to establishments that had to be closed due to epidemiological measures, and after their restart, the negative effects of the pandemic became apparent. The decrease in revenue was still compared to the same months in 2019. The total budget for this scheme was increased to €220,250,000 at the beginning of 2022 (MT SR, 2022). Applicants could also apply for funding from the Grand Scheme for Road Transport from September 1, 2021 to December 31, 2021, with an allocation of €37,250,000 (Podnikateľské centrum, 2021).

The next period when it was possible to apply for a postponement of social insurance payments by the self-employed and employers was from October 2021 to February 2022 (Table 2.13) (Social Insurance Institution, 2022b).

Table 2.13. Deferral of social security contributions during the third wave of the pandemic

Maturity of premiums for	Original deferred due date	New deferred due date
October 2021	to November 8, 2021	to June 30, 2024
November 2021	to December 8, 2021	to September 30, 2024
December 2021	to January 8, 2022	to December 31, 2024
January 2022	to February 8, 2022	to March 31, 2025
February 2022	to March 8, 2022	to June 30, 2025

Source: own processing based on (MLSAF SR, 2023).

Entrepreneurs could apply for temporary protection from the Ministry of Justice of the Slovak Republic, which was a time-limited framework for protection from creditors and an instrument to support entrepreneurs in financial difficulties until December 31, 2022 (MJ SR, 2022). It has been used extensively by entrepreneurs as it has allowed them to continue in business, prevented the loss of jobs and know-how and brought a higher rate of satisfaction with creditors' claims.

2.4.3 Development of Macroeconomic Indicators – Forecast

The Ministry of Finance's forecast for 2022 in February 2022 assumed no further lockdown, but even so, GDP was not expected to grow significantly due to the incapacity of a large proportion of the population due to the uncontrollable spread of the COVID-19 variant of Delta and Omicron. GDP growth was projected at 3.5%. The reason for this low GDP growth rate was not only population morbidity but also rising inflation and shortages of inputs for industrial production. The price growth estimate was set at 6%, mainly due to the rise in energy prices. The unemployment rate was expected to fall to 6.2% in 2022. If reforms were implemented, the absorption of EU Recovery Plan funds and the drawdown of EU structural funds could have contributed to economic growth from the second half of 2022 onwards. The March forecast of macroeconomic results of the Ministry of Finance of the Slovak Republic lowered the GDP growth estimate to 2.1%. The reason was the loss of markets in Russia, Ukraine and Belarus due to the armed conflict between Russia and Ukraine. Inflation was forecast to rise to 8% due to the reduction in energy withdrawals and imports of other key commodities from Russia. The labour market was not expected to have a very strong recovery, and employment growth was still expected to be positive, but due to the new geopolitical situation, it was not expected to reach the numbers projected in the previous forecast. Nominal wages were set to increase by 7% in line with inflation, but real wages were set to fall. This forecast foresaw a number of negative risks of deviations, the main ones being the ongoing conflict between Russia and Ukraine, the uncontrollable spread of the Omicron variant, the threat of the spread of other new coronavirus subvariants, and more significant gas supply disruptions. On the positive side, the placement of refugees from Ukraine in the Slovak labour market could have changed this forecast in favour of economic growth.

In the June forecast of macroeconomic results issued by the Ministry of Finance of the Slovak Republic for 2022, the GDP growth estimate dropped by 1.9%. Such a low GDP growth estimate was the result of the current situation of the ongoing armed conflict between Russia and Ukraine, weakening foreign trade, rising inflation, and reduced consumption of the population due to rising prices. The EU Recovery and Resilience Plan funding was also not expected to be as much as originally estimated due to the delay in launching calls. The inflation estimate has been increased to 11.6%. The price of electricity has been stabilised for two years based on Memorandum with Slovak Power Plants. The price of gas and heat was not capped during the period. The unemployment rate was expected to fall to 6% in 2022. Nominal wages were set to rise, but real wages were set to fall, given the situation. The consequences of the armed conflict between Russia and Ukraine and new dangerously spreading variants of the coronavirus may have had a negative impact on this forecast.

In September 2022, the latest forecast for 2022 was issued by the Ministry of Finance of the Slovak Republic. The GDP growth estimate of 1.9% remained unchanged from the June forecast. Companies' costs were mainly driven up by high energy prices, which was not just a Slovak phenomenon. The inflation estimate has been increased to 12.4% compared with the previous forecast.

Again, the rise in gas, agricultural commodities, and construction materials prices contributed to the increase in this estimate. Despite a recovering labour market, mainly due to the post-COVID recovery in the services sector, it was assumed that due to rising energy prices, industrial activity and hence employment would start to moderate. The forecast for the unemployment rate for 2022 also remained at 6%. Despite the rise in nominal wages, real wages were expected to fall by more than 6%. The risks to this forecast (Table 2.14) also remained the threat of the spread of new mutations of the coronavirus, which would require restrictive measures, a downturn in foreign trade and a rise in energy prices due to the still ongoing armed conflict between Russia and Ukraine.

Table 2.14. Ministry of Finance's September 2022 forecast of key economic indicators

Indicator	Forecast			
	2022	2023	2024	2025
GDP, real (%)	1.9	0.6	1.7	2.3
GDP, nominal (bn. €)	107.0	120.6	128.3	136.8
Private consumption, real (%)	4.6	–3.7	2.0	1.5
Private consumption, nominal (%)	19.0	9.5	5.7	5.8
Government spending (%)	–1.5	–0.7	0.0	–0.7
Fixed investment (%)	5.4	16.3	–6.4	1.7
Export (%)	–1.6	1.7	7.6	5.8
Import (%)	–0.9	2.4	5.5	4.8
Registered employment (%)	2.1	0.2	0.7	0.8
Wages, nominal (%)	8.3	10.4	7.5	6.0
Wages, real (%)	–3.6	–2.7	3.9	2.1
Unemployment rate (%)	6.1	6.1	5.6	4.8
CPI (%)	12.4	13.5	3.4	3.8

Source: (MF SR, 2022a).

The Ministry of Finance's forecast for 2023 foresees GDP growth of 1.3%. Inflation is expected to start declining gradually. The Slovak economy is expected to be boosted by domestic demand and the drawdown of funds from the EU Recovery and Resilience Plan and the EU structural funds. Employment is set to stagnate.

2.5. Impact of Restrictive Measures on Macroeconomic Performance and the Microenvironment in the Slovak Republic

Real macroeconomic indicators for the period 2019 to 2021 are presented in Table 2.15. Macroeconomic indicators for 2022 are not yet published.

Table 2.15. Key economic indicators of the Slovak Republic in the period 2019–2021

Indicator	2019	2020	2021
GDP, real (%)	2.4	–4.8	3.0
GDP, nominal (bn. €)	94.2	91.6	97.1
Private consumption, real (%)	2.1	–1.0	1.2
Private consumption, nominal (%)	4.9	1.1	4.5
Government spending (%)	4.6	0.3	1.9
Fixed investment (%)	6.8	–12.0	0.6
Export (%)	1.7	–7.5	10.2
Import (%)	2.6	–8.3	11.2
Registered employment (%)	1.0	–1.8	–0.7
Wages, nominal (%)	7.8	3.8	6.9
Wages, real (%)	5.0	1.8	3.6
Unemployment rate (%)	5.8	6.7	6.9
CPI (%)	2.7	1.9	3.2

Source: (SO SR, 2023).

Comparing the latest forecast for 2020 with the real macroeconomic results for 2020, higher GDP has been achieved, both in growth rates and in current prices. Both private consumption and government consumption were higher. Fixed investment and imports of goods and services recorded a smaller fall than forecast. However, exports of goods and services fell short of expectations. The unemployment rate was lower, and employment increased. Both nominal and real wages were higher than estimated. The inflation rate was accurately estimated.

Comparing the latest forecast for 2021 with the actual macroeconomic indicators for 2021, the GDP growth rate in constant prices was lower. However, a better result was achieved for GDP at current prices. Private consumption was higher than forecast. Government consumption was lower. Fixed investment increased. Imports of goods and services were again higher than forecast, and exports were lower. The unemployment rate was higher than forecast, and therefore employment was lower than expected. Nominal and real wages were again higher in real terms than forecast. The inflation rate was higher than forecast.

We present macroeconomic indicators for 2019 to compare pre-pandemic and pandemic results. Compared to 2019, 2020 represented a decline in all macroeconomic indicators. The scale and stringency of measures to prevent the spread of the coronavirus were reflected in the results. In 2021, the macroeconomic results achieved improved compared to 2020. In 2021, despite the ongoing pandemic situation, measures restricting the movement of people were taken in a controlled manner. A method was set up to assist entrepreneurs who could not or were restricted in their business activities due to the measures taken. However, apart from GDP, other values did not reach 2019 status.

The years 2020, 2021 and 2022 represent a period of economic downturn accompanied by government intervention to boost revenues and maintain employment. The Slovak Government responded relatively quickly to the emergence of the crisis situation and, in addition to measures to protect public health, simultaneously issued measures to minimise the negative economic impact. Not all businesses have been negatively affected by the COVID-19 pandemic. Some sectors, where the rapid response of management and the ability of the company to adapt to new conditions, did not feel the pandemic crisis at all or their economic performance improved. In the following tables, we present the numbers of legal entities and self-employed persons by region of the Slovak Republic from 2019 to 2021 (Tables 2.16 and 2.17). The Statistical Office of the Slovak Republic has not yet published the following data by region for 2022.

Table 2.16. Total number of legal entities by regions of the Slovak Republic in the period 2019–2021

Region	Legal entities		
	2019	2020	2021
Bratislava	89,361	94,827	94,862
Trnava	25,445	26,954	26,726
Trenčín	22,783	23,508	23,750
Nitra	29,983	31,430	32,054
Žilina	30,194	31,795	32,341
Banská Bystrica	27,240	27,660	28,233
Prešov	27,520	28,802	28,792
Košice	30,076	31,900	32,219
Total	282,602	296,876	298,977

Source: (SO SR, 2023).

Table 2.17. Total number of self-employed persons in individual regions of the Slovak Republic in the period 2019–2021

Region	Self-employed persons		
	2019	2020	2021
Bratislava	43,162	42,996	53,221
Trnava	34,001	32,980	37,654
Trenčín	34,423	32,800	35,893
Nitra	42,698	40,964	43,521
Žilina	52,940	50,601	56,050
Banská Bystrica	32,971	31,044	32,813
Prešov	52,118	50,551	56,920
Košice	31,583	30,333	34,164
Total	323,896	312,269	350,236

Source: (SO SR, 2023).

While comparing the number of legal entities in different periods and regions (Table 2.16), between 2019 and 2020, an increase in the number of legal entities was registered in all regions. Comparing the years 2020 and 2021, the growth in the number of legal entities was minimal, and in Trnava and Prešov regions, there was a decrease in the number of legal entities. There was a drop in the number of self-employed persons when comparing 2019 and 2020 in all regions of the Slovak Republic (Table 2.17). In 2021, there was an increase in the number of registered self-employed persons compared to 2020, and except for the Banská Bystrica region, in all other regions, the number of self-employed persons also exceeded the number of self-employed persons in 2019.

Despite the approved programmes of subsidies and financial assistance intended for entrepreneurs negatively affected by the pandemic measures approved by the Government of the Slovak Republic, entrepreneurs did not always meet the conditions for obtaining them. As the pandemic progressed, the legislation, the adopted measures and the aid schemes changed, which made it difficult for entrepreneurs to understand the conditions set. Many of the measures were even liquidating for the entrepreneurs, as according to the set conditions for subsidies, the entrepreneurs could not use the state subsidies. The most common reasons for not providing subsidies to overcome the negative impacts of the COVID-19 pandemic in tourism operators were withdrawal of the application, duplicate submission of the application, an invalid or unverifiable signature of the applicant, inconsistency of the reported net turnover in the application compared to the relevant financial statements, the absence of an undertaking's object which justified the aid, failure to submit the requested accounting documents, powers of attorney, proof of activity, illegal employment, or submission of an application exceeding the maximum permitted limit. In some cases where financial assistance has been granted, it has had to be recovered as it was found to have been undue after subsequent controls (MT SR, 2022).

The pandemic situation and the associated crisis have affected macroeconomic development, which has been influenced by government decisions, consumer behaviour and the economic conditions set for businesses. The pandemic waves in medical terms are identified according to the spread of the different variants of COVID-19 – Alpha, Beta, Gamma, Delta, Omicron and their sub-variants. The waves of pandemic developments under state-led measures that have resulted in set lockdowns not only within the country but also between countries have also been reflected in the response of the business community. Some entrepreneurs used the situation as an opportunity to change their business settings and find new markets, some were minimally affected by the crisis, and others, unfortunately, had to close their businesses altogether. The current pandemic crisis has turned into an energy crisis which is accompanied by high inflation. Slovak households do not limit their consumption. Government transfers artificially increase households' disposable income, and energy prices are capped for households until the end of 2023. Entrepreneurs, on the other hand, face additional challenges in sustaining their businesses.

CHAPTER 3

Impact of the Pandemic on the Micro Level in the Slovak Republic

In March 2020, when the first positive case of SARS-CoV-2 virus infection was confirmed in the Slovak Republic, the Government of the Slovak Republic, following the example of other countries affected by the pandemic (Al-Rabiaah et al., 2020; Blahušiaková & Mokošová, 2021; Cohen, 2020; Leite, Hodgkinson, & Gruber, 2020; Łakomiak, 2022; Shafi, Liu, & Ren, 2020), proceeded to restrictive measures, which were among the most stringent in the world, despite the low number of infections. Curfews, closure of schools and retail outlets, restriction or cessation of production, cancellation of leisure time activities, mass events, border closures, and travel bans (Berger, Evans, Phelan, & Silverman, 2020; Fraccascia & Alvarado, 2020; Gallego, Nishiura, Sah, & Rodriguez-Morales, 2020) are just a few of the many measures that have led to an overall restriction of economic and social life.

According to Fairlie (2020), the widespread closure of stores and businesses all around the world due to the coronavirus was unprecedented. As Al-Fadly (2020) states, the public was banned from meeting in restaurants, cafes, and commercial centres. Stores, factories, and many other businesses have closed by policy mandates, downward demand shifts, health concerns, or other factors. Restaurants were only allowed to offer takeaway food (Łakomiak, 2022), and sports centres, fitness clubs, swimming pools, wellness centres, dance clubs, museums, cinemas, theatres, and libraries were closed. According to Leite et al. (2020), the impact of the pandemic on society and the economy has been witnessed due to the lockdown of cities all over the world, labour mobility restrictions, travel bans, airline suspensions, and most importantly, the slowdown of the economy which was seriously influencing the sustainability of supply chains in many businesses around the globe. Trade relations changed globally (Jindřichovská & Uğurlu, 2021).

Some countries that have had previous experience with pandemics of this type have adopted very strict and uncompromising curfew measures to limit the spread of the virus with a view to an early release of measures and economic recovery. On the one hand, these measures were intended to protect the health of the population, but on the other hand, they had a negative impact on the overall development of the economy, which subsequently led to the outbreak of the crisis known as the COVID-19 pandemic crisis or the corona crisis. Thus, COVID-19 has moved from a health crisis to an economic crisis.

3.1. The Evolution of the Pandemic in the Slovak Republic

The pandemic occurred in waves, with the most stringent measures taken during the first wave. In addition to the measures mentioned above, there were closures of international airports, border controls, restrictions on train and bus transport, closures of ski resorts, wellness centres, amusement parks, aquaparks, swimming pools, bars and discos, and cultural facilities. Apart from essential shops such as grocery stores, drugstores, pharmacies, and petrol stations, all retail outlets were closed. In those that remained open, reserved shopping hours for citizens over 65 years were introduced. A so-called sanitation day was also introduced, which meant that commercial facilities were closed on Sundays. On March 16, 2020, a state of emergency was declared in Slovakia for the first time, which was accompanied by a curfew.

Since the second half of April 2020, due to the improving epidemiological situation, a gradual release of the measures in the Slovak Republic began, which was divided into four phases (Gulisová, 2020). The first phase began on April 22, 2020, with further phases to continue at two-week intervals. Eventually, due to the favourable epidemiological situation, the third and fourth phases were combined (Table 3.1). During June 2020, kindergartens and schools were opened, shopping hours for seniors were cancelled, retail outlets were opened with strict adherence to hygiene conditions, etc. The state of emergency ended, and the crisis staff ceased its activities (Blahušiaková, 2022b).

During the summer of 2020, the number of infections declined, but on August 11, 2020, a second wave of the pandemic was declared in Slovakia, and a pandemic commission was established. Due to the huge increase in the number of infections and the rising number of deaths, a state of emergency was declared with effect from October 1, 2020, which was extended several times during the second wave of the pandemic until May 14, 2021, when it was cancelled by the amendment of Act No. 179/2011 on economic mobilisation and amending Act No 387/2002 Coll. on the management of the state in crisis situations outside times of war and martial law, as amended, which allowed the government to manage the pandemic without the state of emergency (Zákon č. 179/2011; Zákon č. 387/2002). As part of the state of emergency, curfews were declared, and retail outlets, hotels, restaurants, churches, theatres, cinemas, sports centres,

Table 3.1. Phases of the release of measures

1 PHASE	▪ stores up to 300 m^2 ▪ services up to 300 m^2 ▪ public catering (takeaway only) ▪ outdoor sports grounds (non-contact sport, without dressing rooms, without an audience, without WC) ▪ accommodation (only long-term, without meals) ▪ outdoor marketplaces (according to conditions) ▪ sale of cars, vehicles, including car dealers
2 PHASE	▪ accommodation (short-term, without shared meals, food per room, with toilet and bathroom, without other services) ▪ hairdressers, pedicures, manicures (according to conditions) ▪ outdoor tourist attractions ▪ taxi services (according to conditions) ▪ children's clubs for children up to 10 years (according to conditions) ▪ religious services and weddings (according to conditions)
3 PHASE	▪ stores up to 1 000 m^2 ▪ services up to 1 000 m^2 ▪ public catering (outdoor 'terraces') ▪ massages, sports rehabilitation (dry treatments only) ▪ museums, galleries, libraries and exhibition halls (according to conditions)
4 PHASE	▪ cinemas, theatres ▪ swimming pools ▪ mass events ▪ shopping centres ▪ kindergartens, schools ▪ indoor sports grounds ▪ sports events ▪ accommodation

Source: (Gulisová, 2020).

swimming pools, wellness facilities, etc., were closed again. Before Christmas 2020, there was a slight release of measures; ski resorts were opened, and hotels were allowed to operate in a limited mode. On December 26, 2020, the first person in Slovakia was vaccinated against COVID-19. However, as of January 1, 2021, everything returned to the previous regime. Hotels were banned from accepting new guests; guests could only pick up food from restaurants and take it home. From February 8, a new COVID automat was introduced, which divided the districts of Slovakia into colours depending on the number of positive cases. The second wave of the pandemic ended at the end of May 2021.

The third wave of the pandemic started in July 2021 but broke out in full force in October and November 2021. In the context of vaccination, several regimes have been introduced, such as the VTO regime (vaccinated-tested-overcoming) and VO regime (vaccinated-overcoming). Based on the percentage of the population vaccinated in each district, it was possible to obtain exemptions under the COVID automat for the implemented measures. Several facilities had limited activities again, restaurants were only allowed to offer takeaway food, and the provision of accommodation services was prohibited with a few exceptions. From November 25, 2021, another state of emergency associated with the curfew entered into force. Only essential retail outlets and shops were open again. From December 10, 2021, there was a slight release of the measures; retail outlets were open for the VO regime. Hotels and guesthouses were also allowed to operate under this regime, but only family members or members of one household with a negative test were allowed to stay without restaurant catering. The food was distributed directly to guests in hotel rooms.

The third wave of the pandemic gradually evolved into a fourth wave in January 2022. The fourth wave was associated with the highly infectious Omicron virus. However, the latter proved to be less dangerous and hence the gradual release of measures, and opening of facilities, first for the VTO and VO and then gradually for all citizens in the basic mode.

3.2. The Impact of the Pandemic on the Financial Health of Entities in the Slovak Republic

Shortly after the introduction of the first restrictive measures aimed at slowing the spread of the virus, economic analyses predicted the expected negative impacts of these measures on the economies of individual countries as well as on the businesses themselves (Al-Fadly, 2020; Bartik et al., 2020; Fairlie, 2020; Finstat, 2020; Maital & Barzani, 2020). Fairlie (2020) expected many of these closures to be permanent because of the inability of owners to pay ongoing expenses and survive the shutdown. COVID-19, besides its impact on public health, has caused a major economic shock. The lockdown enforced in various countries globally and the operational impacts of COVID-19 have had negative impacts on economies and severely impacted the sustainability of businesses (Telukdarie, Munsamy, & Mohlala, 2020). This is supported by Hobbs (2020), who draws attention to the fact that restriction of movement and closure of markets have a significant impact on smallholder producers who do not have the finance and resources of larger producers. According to Zyznarska-Dworczak (2022), uncertainty and unpredictability are the main characteristics of the COVID-19 pandemic.

The pandemic has caused a substantial drop in the demand for travelling that affected mainly the tourism sector. Due to mass trip cancellations, suspension of national and international flights or postponing of events, the COVID-19 crisis has significantly changed the tourism industry (Al-Fadly, 2020; Cohen, 2020;

Fraccascia, & Alvarado, 2020; Gallego et al., 2020). In order to cope with the unprecedented crisis (Sharma, Shin, Santa-María, & Nicolau, 2020), hotels have had to devise a number of impromptu innovations to safeguard the health and safety of all parties involved and, in the process, restore the consumer process in the lodging industry. According to Li, Farmanesh, Krikkaleli, and Itani (2022), the economic and monetary policies were experiencing effects and swings that were similar or exceeding in nature to the major crisis before. Dinh Hoang, Nguyen, & Vo Khac (2022), who analysed the impact of the COVID-19 pandemic on Vietnam's hotel industry, state that Vietnam has stopped accepting international visitors, leaving only domestic tourism activities, but the domestic tourism market has also been affected by social distancing measures during the outbreak.

A Finstat analysis in April 2020 predicted that the COVID-19 crisis would threaten nearly 15,660 companies generating annual revenues of around €8.8 billion (Finstat, 2020). They also predicted that out of these firms, most would be providing restaurant services and would have a seat in the capital city districts. As a result of the economic slowdown, which was caused by severe restrictive measures, the production activities in the main drag on the economy (Bečka, 2020), which is the production of automobiles, were suspended in Slovakia in all its plants (Volkswagen Slovakia, Groupe PSA Slovakia, Kia Motors Slovakia, Jaguar Land Rover Slovakia). Some companies started to report mass redundancies to the labour authorities in the first weeks of the lockdown. In the Bratislava region alone, 13 mass redundancies were reported in March and five mass redundancies in April (Michalková, 2020). Redundancies were also announced by, e.g. Decodom from Topoľčany (903 people), a company engaged in the production of railway locomotives from Martin (later the layoffs were cancelled), a manufacturer of electric lamps from Topoľčany (450 people), a company engaged in road maintenance from Banská Bystrica (16 people), Podpolianske strojárne (727 people), a company producing parts for cars from Malacky (164 people), an advertising agency from Bratislava (81 people), a hotel accommodation company from Pezinok (44 people), a healthcare company (114 people), a shoe manufacturer from Prievidza (52 people), a handbag manufacturer from Košice (200 people), etc.

Between March 17, 2020, and March 23, 2020, the Association of Young Entrepreneurs of Slovakia carried out a survey (Podnikajte, 2020), which showed that up to 30% of entrepreneurs lost their only source of income by closing their business, up to 59% of entrepreneurs expected that they would be able to pay wages and invoices within a month at most, and up to 37% of entrepreneurs expected to have to make redundancies or shorten staff. The survey of 591 respondents further revealed the following:

- Almost up to 32% of respondents reported that they had to stop providing almost all services; up to 30% of respondents reported that they had closed their facilities as their only source of income, which resulted in a decrease in sales.

- Entrepreneurs in the accommodation and catering sector (82% of entrepreneurs), other services (73% of entrepreneurs) and trade (66% of entrepreneurs) had to interrupt their operations to the greatest extent. But at the same time, around 20% of industrial enterprises and up to 18.2% of construction companies reported that they had to suspend activities because they lacked inputs (e.g., materials and raw materials from suppliers).
- In order to reduce the losses caused by the crisis, up to 41% of respondents said that they were investing their own reserves from the past to keep the company running, up to 22% of respondents said that they would have to dismiss some employees or terminate contracts with cooperating self-employed persons in the near future, up to 15% of respondents have made contract arrangements with employees to work part-time, up to 23% of respondents said employees were working from home, up to 10% of respondents have negotiated with suppliers to extend invoice due dates, up to 10% of respondents have begun to adapt their production schedule to new market needs, and up to 9% of respondents have begun to seek new customers and new markets.
- When asked what temporary measures from the government would help entrepreneurs the most to bridge the difficult period, up to 51% of respondents would welcome a reduction in payments to the Social Insurance Company and health insurance companies, deferment of tax payments, and contribution to salary costs. Up to 26% of respondents would welcome interest-free loans from the state to bridge income shortfalls and the impending economic crisis.

In the area of state and local government, there has been a decrease in the amount of share taxes going to local government and a decrease in capital and current transfers as important sources of financing (Kordošová, 2021).

Between May 11, 2020, and May 31, 2020, Blahušiaková conducted her own questionnaire survey to determine the impact of the COVID-19 pandemic crisis and the economic lockdown declared to slow the spread of the virus on the economic situation of citizens in the Slovak Republic (Blahušiaková, 2020). The survey, which was responded to by 426 respondents, revealed that:

- Up to 46% of respondents switched to the home office, up to 41% of respondents continued to work while maintaining strict hygiene measures; in the case of 10% of respondents, the employer has completely closed the facility; up to 3% of respondents reported that employees stayed at home and received a wage of 60% of average earnings.
- Most respondents who remained working from home during the lockdown in a so-called home office were in the service sector.
- Up to 56% of respondents in this survey, which was carried out in the first few weeks of the pandemic, reported that the economic shutdown had not

affected their financial situation, but 44% reported that the pandemic and the economic shutdown had affected their households' financial situation. Up to 17% of respondents experienced more than a 31% drop in income already during this period.

According to Kullová (2020), the restrictive measures related to the COVID-19 pandemic in Slovakia have significantly affected the so-called HoReCa segment which includes hotels, restaurants and cafes. The legislative measures caused a rapid decrease in sales from March 2020 to June 2020 by a quarter in this segment in Slovakia. According to data from Bisnode Company, the first wave of the pandemic has swept away about a thousand restaurants, fast food and pubs. The most vulnerable were smaller accounting entities. Entities that managed the first wave successfully have recorded an average decrease in sales of 40% to 50%. Up to 60% of companies in the gastronomy sector reported a decrease in sales in 2020 compared to 2019 (Kekely, 2020). According to Nortjé (2020), the varying levels of lockdown have seen a shift in consumer behaviour to home-cooked meals rather than eating out. This fact affected the food and beverages industry. Many restaurants and pubs shifted to delivery services of food (Blahušiaková, 2022c).

At the beginning of the second wave of the pandemic (after the end of the summer season), the first sector to experience a catastrophic drop in sales was travel agencies, followed by hotels and restaurants (Ižip, 2020). Up to 60% of companies in the gastronomy sector reported a decrease in sales in comparison with 2019, while only 32% of companies reported attendance comparable to the summer of 2019. The estimated decrease in sales in accommodation facilities was up to 40% compared to the summer season of 2019. In the hotel and catering sector, more than 20,000 employees were dismissed in Slovakia in 2020. According to data from the Ministry of Transport and Construction of the Slovak Republic (hereafter referred to as MTC SR), which covers tourism, the number of foreign visitors fell by more than half in 2020, and the number of nights the foreigners spent in the Slovak hotels was lower than in 2019. The summer season mitigated the decline in visits, when the number of domestic visitors increased significantly, mainly due to the fear and ban of travelling abroad. However, they could not completely make up for the missing foreign clientele. The worst situation was in city hotels, where the average occupancy did not reach even 20% of their capacity, and the decrease in overnight stays declined by up to 70% compared to 2019 (Kekely, 2020). Already in the early days of the pandemic, the tourism sector was identified as the sector that would be most negatively affected by the lockdown implemented as part of the pandemic (Ižip, 2020; Kekely, 2020; Kullova, 2020).

Blahušiaková (2021a) analysed the impact of measures related to the COVID-19 pandemic on accommodation service providers. The results of the research showed that this category of accounting entities experienced a year-on-year decrease in sales of more than 35%. Out of the 773 accounting entities, as many as 74% of respondents reported lower sales in the 2020 accounting period compared to the 2019 accounting period. Most accounting entities with decreased sales were located in the Bratislava region (20%). Up to 83% of companies providing accommodation services within the Bratislava region reported a decrease in sales in the 2020 accounting period compared to the 2019 accounting period. Up to 62% of the accounting entities providing hotel accommodation reported a decrease in profit or loss in the 2020 accounting period compared to the 2019 accounting period. A similar survey was also conducted by Blahušiaková (2021b) among 1,367 accounting entities providing catering services. Her research showed that these accounting entities reported almost a 24% decrease in sales in the 2020 accounting period compared to the previous accounting period. Up to 69% of the accounting entities providing catering services reported a decrease in sales, while up to 26.6% of the accounting entities that recorded a decrease in sales had a seat in the Bratislava region. The largest share of accounting entities with a decrease in sales was in the Nitra region, where almost 73% of accounting entities providing catering services in this region recorded a decrease in sales.

The situation in the gastro sector, the so-called HoReCa (hotels, restaurants, cafes) sector, was very critical indeed. According to a survey of the #StaleMame--Chut platform (Slašt'anová, 2021), which brings together 14 organisations and initiatives united to support the gastro sector in Slovakia (e.g., the Association of Hotels and Restaurants in Slovakia, the Association of Small Independent Breweries in Slovakia, the 'Let's Save Gastro' Initiative, 'Help for Gastro', the Slovak Food Chamber, the Slovak Chefs Association, the Slovak Association of Meat Processors), which took place in February 2021, more than 80% of the gastro respondents had applied for aid from the tourism scheme under the Ministry of Transport and Construction of the Slovak Republic for the period from April to October 2020. However, almost two-thirds of these had not had a response on approval of aid at the time of the survey (February 12, 2021 – February 18, 2021), and up to 78% of applicants in the respondent group had still not been paid.

In the first period of assistance, the greatest interest was in the 'First Aid+' for employment support from the Ministry of Labour, Social Affairs and Family of the Slovak Republic, which was applied for by 87% of the respondents of the above-mentioned survey. Only about 43.7% of the respondents applied for assistance from the Ministry of Economy of the Slovak Republic to reimburse part of the rent in the form of a subsidy. However, up to 20% of the facilities were operating in their own premises and could not benefit from this aid, and up to 15% of the facilities did not reach an agreement with the renter. The closure of facilities, the ban on outdoor terraces, and the impossibility of operating other than through delivery and takeaway made the gastro sector the most affected area of the Slovak economy (Slašťanová, 2021).

According to a survey conducted in early July 2021 by the signatories of the 'Help for Gastro' initiative on a sample of 500 restaurants (Press Agency of the Slovak Republic [PASR], 2021), up to 52% of gastro businesses would not survive the next wave of the coronary crisis if the government aid was the same as in the previous crisis period. The survey results showed that up to 9% of businesses did not reopen after the second wave of the pandemic, over 60% of entrepreneurs in the gastro sector had already made redundancies in the first wave of the pandemic, up to 80% of entrepreneurs were in debt and had to apply for a bank loan, up to 60% of businesses lacked qualified staff and up to 45% of gastro facilities reported fewer guests than before the pandemic. For more than 40% of businesses, the lunch menu was the basis for sales. The survey results also showed that businesses would benefit from boosting consumption in the form of food vouchers.

According to Magdaléna Koreny, the spokesperson for the 'Help for Gastro' initiative (HFG, 2021), the summer of 2021 was even worse than the summer of 2020, in which there was not as much travel outside Slovakia as in 2021. Thus, not only domestic tourists were missing in the businesses, but also foreign tourists, mainly due to border restrictions, which discouraged foreign tourists. Reduced tourist interest resulted in a decline in occupancy and sales in the hotel industry and, consequently, in employment decline and deteriorating living conditions in local communities.

The negative impacts of the pandemic were also significantly reflected in the financial results of travel agencies and tour operators, where there was a year-on-year decline in sales of almost 82% in the 2020 accounting period compared to the 2019 accounting period (Blahušiaková, 2021c). Up to 91% of accounting entities providing travel agency and tour operator services reported a decline in sales, with almost 80% of them experiencing a decline in sales of more than 50%.

3.3. The Impact of the Pandemic on Selected Economic Sectors in the Slovak Republic

In 2022, Blahušiaková examined the impact of the consequences of the COVID-19 pandemic and the restrictive measures on eighteen sectors of the Slovak economy.

3.3.1. Impact of the COVID-19 Pandemic on Sales of Accounting Entities in Selected Economic Sectors

The above research showed that the COVID-19 pandemic and the restrictive measures adopted by the Slovak government have mainly affected the level of sales of companies in individual sectors (Table 3.2).

Table 3.2. Overview of sales development in the analysed accounting periods

Economic sector	Sales in euros			
	2018	2019	2020	2021
Tourism and gastronomy	975,130,815	1,014,542,426	590,237,554	567,144,281
Chemistry and plastics	2,366,639,836	2,380,283,410	2,326,848,676	2,658,152,954
Sale and maintenance of vehicles	3,449,030,131	3,711,734,837	3,086,378,841	3,399,885,853
Media, publishing houses, and culture	408,397,768	420,302,019	376,123,469	403,520,606
Metalworking and metallurgy	6,628,126,234	6,052,861,270	5,242,773,446	7,895,993,899
Electrical engineering	3,117,524,925	2,794,485,515	2,440,929,582	2,948,226,229
Automotive industry	4,931,649,560	5,064,338,026	4,494,611,111	4,855,082,797
Clothing and footwear	932,916,656	916,919,151	851,189,970	869,096,701
Engineering	2,154,850,240	2,242,643,003	1,965,809,355	2,147,381,985
Transport and logistics	4,807,942,878	5,314,919,038	4,978,644,875	5,238,320,896
Telecommunications	205,249,388	212,074,571	215,852,240	210,733,821
Information technology	1,833,045,744	2,138,845,977	1,952,694,285	2,033,844,547
Law, consulting and accounting	912,104,819	945,322,203	921,507,609	900,246,247
Advertising	468,895,314	498,681,162	456,997,443	500,456,557
Real estate	1,299,104,537	1,345,268,690	1,206,619,641	1,174,875,127
Other services	761,843,495	812,208,943	814,995,724	826,562,276
Retail trade	4,522,618,003	4,782,427,019	4,912,585,753	5,181,258,640
Hazard	780,054,707	801,554,653	809,509,237	1,077,347,634

Source: own processing based on own research.

As shown in Table 3.2, the largest decrease in sales in the 2020 accounting period compared to the previous accounting period was recorded in the Tourism and gastronomy sector, where sales decreased by 42.82%, Sale and maintenance of vehicles (–16.85%) and Metalworking and metallurgy (–13.38%). On the other hand, there were industries that recorded an increase in sales despite the tough pandemic times and severe restrictive measures, such as Retail trade (2.72%), Telecommunications (1.78%), Hazard (0.99%), and Other services (0.34%). In the 2021 accounting period, most industries have already experienced an increase in sales, mainly due to the very low economic performance in the previous accounting period. However, there were also economic sectors where sales continued to decline, such as Tourism and gastronomy (–3.91%), Real estate (–2.63%), Telecommunications (–2.37%), and Law, consulting, and accounting (–2.31%).

In the 2020 accounting period, as a result of the pandemic, almost all economic sectors, except Telecommunications, were dominated by accounting entities with a decline in sales (Table 3.3). In the Telecommunications sector, the accounting entities with an increase in sales prevailed. In the 2021 accounting period, the share of accounting entities with a decrease in sales compared to the previous accounting period was already less than 50.00% in almost all sectors of the economy of the Slovak Republic. The exceptions were the Hazard, Tourism and gastronomy and Telecommunications sectors (Table 3.3), where accounting entities with a decrease in sales prevailed, representing more than 50.00% of all accounting entities in these analysed sectors of the economy.

Table 3.3. Overview of the share of accounting entities with a decrease in sales

Economic sector	Percentage of accounting entities with a decrease in sales (%)		
	2019 vs 2018	2020 vs 2019	2021 vs 2020
Tourism and gastronomy	41.17	71.72	55.96
Chemistry and plastics	47.87	58.15	31.58
Sale and maintenance of vehicles	39.96	62.87	36.76
Media, publishing and culture	48.26	67.13	39.70
Metal manufacturing and metallurgy	47.99	67.76	29.62
Electrical engineering	42.73	61.45	40.00
Automotive industry	42.86	80.22	28.57
Clothing and footwear	48.16	57.53	48.83
Engineering	46.55	64.93	38.98
Transport and logistics	46.57	63.54	36.95
Telecommunications	43.89	48.33	51.67
Information technology	38.55	50.48	42.31
Law, consulting, and accounting	40.53	52.94	46.11
Advertisement	44.43	61.55	45.89
Real estate	40.01	55.33	45.42
Other services	42.19	56.90	46.95
Retail trade	41.66	55.78	46.02
Hazard	61.11	81.48	79.63

Source: own processing based on own research.

The largest share of accounting entities with a decrease in sales in the 2020 accounting period compared to the 2019 accounting period was located in the Bratislava region across almost all sectors analysed. The exceptions were the Chemistry and plastics (Nitra region), Metal manufacturing and metallurgy, Clothing and footwear, and Engineering (Trenčín region) sectors.

With regard to the decline in sales in the **Tourism and gastronomy** sector in the 2020 accounting period, we can state that the largest share of accounting entities with a decrease in sales in this accounting period was in the Trenčín region, where up to 75.44% of accounting entities operating in this sector in this region recorded a decline in sales; in the Bratislava region (74.88%) and in the Žilina region (72.43%). In all regions, the share of accounting entities with a decrease in sales was more than 63.50%. The analysis of the development of sales depending on the main activity of the accounting entities in this sector revealed that the most affected accounting entities were accounting entities engaged in the Travel agency, tour operator reservation services and related activities, out of which up to 78.35% recorded a decrease in sales in the 2020 accounting period compared to the 2019 accounting period. This was followed by accounting entities engaged in Accommodation (75.79%) and accounting entities engaged in Organisation of congresses and business exhibitions (75.36%). In all divisions of this sector, accounting entities with a decrease in sales were prevalent in the 2020 accounting period. In the 2021 accounting period, the largest share of accounting entities with a decrease in sales was accounted for by accounting entities providing Food and beverage service activities (58.53%). However, in the 2021 accounting period, all divisions of the Tourism and gastronomy sector were dominated by accounting entities with a decrease in sales, with the exception of accounting entities engaged in the Organisation of congresses and business exhibitions, out of which only 47.83% reported a decrease in sales in the 2021 accounting period compared to the previous accounting period.

In the **Chemistry and plastics** sector in the 2020 accounting period, the largest share of accounting entities with a decrease in sales was in the Trenčín region, where up to 67.24% of accounting entities operating in this sector in this region recorded a decrease in sales, in the Žilina region (65.31%) and in the Trnava region (64.29%). In all regions except Banská Bystrica, accounting entities with a decrease in sales prevailed in the 2020 accounting period. In the Banská Bystrica region, accounting entities with a decrease in sales represented only 40.00% of the accounting entities operating in this sector in this region. The most affected accounting entities in this sector in the 2020 accounting period were accounting entities engaged in Manufacture of rubber and plastic products, out of which up to 61.97% recorded a decrease in sales compared to the previous accounting period. This was followed by accounting entities engaged in Manufacture of chemicals and chemical products, out of which up to 50.53% reported a decrease in sales, and accounting entities engaged in Manufacture of coke and refined petroleum products (50.00%). Within the accounting entities engaged in Manufacture of basic pharmaceutical products and pharmaceutical preparations, only 38.89% recorded a decrease in sales in the 2020 accounting period. In the 2021 accounting period, the largest share of accounting entities with a decrease in sales was among accounting entities engaged in Manufacture of coke and refined petroleum products, out of which 50.00% recorded a decrease in sales compared to the previous accounting period. Interestingly, in the pre-pandemic period, the largest share of accounting entities with a decline in sales in the 2019 accounting period compared to the previous accounting period was accounting entities engaged in the Manufacture of basic pharmaceutical products and pharmaceutical preparations, out of which up to 61.11% reported a decrease in sales in the 2019 accounting period compared to the previous accounting period.

In the sector **Sale and maintenance of vehicles**, the largest share of accounting entities with a decrease in sales in the 2020 accounting period compared to the previous accounting period was among accounting entities with their registered office in the Banská Bystrica region, out of which up to 74.19% recorded a decrease in sales, in the Košice region (66.67%) and in the Bratislava region (65.58%). In all regions, accounting entities with a decrease in sales prevailed in the 2020 accounting period. Their share in individual regions ranged from 53.33 to 74.19%. In the 2020 accounting period, up to 70.71% of accounting entities engaged in Sale of cars and light motor vehicles, up to 68.18% of accounting entities operating in Wholesale trade of motor vehicle parts and accessories, and up to 60.61% of accounting entities engaged in Maintenance and repair of motor vehicles recorded a decrease in sales compared to the previous accounting period. In all subclasses of the Sale and maintenance of vehicles sector, accounting entities with a decrease in sales prevailed in the 2020 accounting period. The exception was the accounting entities engaged in Sale, maintenance and repair of motorcycles and related parts and accessories, out of which only 43.75% reported a decrease in sales. In the 2021 accounting period, in all subclasses of this sector, accounting entities with a decrease in sales represented less than 50.00%.

Out of the accounting entities operating in the **Media, publishing houses and culture** sector in the Trnava region, up to 73.77% recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. This was followed by accounting entities operating in the Žilina region (70.49%) and the Košice region (68.63%). In all regions, the predominant share of accounting entities with a decrease in sales in the 2020 accounting period ranged from 50.00 to 73.77%. Within this economic sector, up to 71.23% of the accounting entities in Printing and reproduction of recorded media division recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. This was followed by accounting entities in Motion picture, video and television programme production, sound recording production and publishing (67.82%) and accounting entities in Creative, arts and entertainment activities division (65.95%). In all divisions of this sector in the 2020 accounting period, accounting entities with a decrease in sales prevailed, with the exception of accounting entities performing Information service activities and accounting entities performing activities of Libraries, archives, museums and other cultural activities, where, despite the pandemics and the stringent restrictive measures in place, accounting entities with an increase in sales prevailed. In the 2021 accounting period, accounting entities with a decrease in sales prevailed only in two divisions, namely in the Creative, arts and entertainment activities and the Libraries, archives, museums and other cultural activities divisions.

In the **Metal manufacturing and metallurgy** sector, the largest share of accounting entities with a decrease in sales in the 2020 accounting period was among accounting entities located in the Žilina region, out of which up to 70.94% recorded a decrease in sales, in the Trenčín Region (70.10%) and in the Trnava Region (70.00%). In all regions in the 2020 accounting period, the predominant accounting entities were those with a decrease in sales. Their share in individual regions ranged from 62.25 to 70.94%. The largest share of accounting entities with a decrease in sales in this accounting period compared to the previous accounting period was accounted for by accounting entities engaged in Manufacture of abrasive products and non-metallic mineral products n.e.c., out of which 100.00% recorded a decrease in sales. This is followed by accounting entities engaged in Forging, pressing, stamping and roll-forming of metal; powder metallurgy, out of which up to 85,71% recorded a decrease in sales, and accounting entities engaged in Manufacture of basic metals (76,79%). In all groups of the Metal manufacturing and metallurgy sector, accounting entities with a decrease in sales prevailed in the 2020 accounting period. In the 2021 accounting period, the share of accounting entities with a decrease in sales was less than 50.00% in each group of this sector.

Up to 69.12% of the accounting entities operating in the **Electrical engineering** sector in the Trenčín region recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. This is followed by accounting entities operating in the Banská Bystrica region (67.44%) and in the Bratislava region (64.52%). In all regions, accounting entities with a decrease in sales prevailed in the 2020 accounting period. Their share ranged from 51.85 to 69.12%. Out of the accounting entities engaged in Repair and installation of machinery and equipment, up to 64.41% reported lower sales in the 2020 accounting period compared to the previous accounting period. This is followed by accounting entities engaged in Manufacture of electrical equipment, out of which up to 62.56% recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period, accounting entities engaged in Manufacture of computer, electronic and optical products (59.15%) and accounting entities engaged in Repair of computers, personal and household goods (56.10%). In the 2021 accounting period, all divisions of the Electrical engineering sector were dominated by accounting entities with an increase in sales.

In the **Automotive industry**, up to 100% of the accounting entities located in the Košice region recorded a decrease in sales in the 2020 accounting period in comparison with the previous accounting period. This is followed by the Žilina region, where up to 94.12% of accounting entities recorded a decrease in sales, and the Nitra region, where up to 90.91% of accounting entities in this sector recorded a decrease in sales. In the 2020 accounting period, the predominant share of accounting entities with a decrease in sales was from 50.00% to 100.00% in each region. In the 2020 accounting period, up to 85.71% of accounting entities engaged in Manufacture of electrical and electronic equipment for motor vehicles, up to 83.33% of accounting entities engaged in Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers, up to 79.37% of accounting entities engaged in Manufacture of other parts and accessories for motor vehicles, and up to 77.78% of accounting entities engaged in Manufacture of motor vehicles recorded a decrease in sales compared to the previous accounting period. In the 2021 accounting period, the share of accounting entities in all subclasses of the Automotive industry was less than 50.00%, i.e., accounting entities with an increase in sales were predominant.

Within the **Clothing and footwear** sector, the accounting entities most affected by the pandemic were the accounting entities in the Trenčín region, out of which up to 66.13% recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. This was followed by accounting entities operating in the Nitra region (64.00%) and the Banská Bystrica region (63.64%). In the 2020 accounting period, accounting entities with a decrease in sales prevailed in all regions except the Žilina region. All accounting entities engaged in the Repair of footwear and leather goods reported a decrease in sales in the 2020 accounting period. This is followed by accounting entities engaged in Manufacture of leather and related products, out of which up to 61.22% reported a decrease in sales, accounting entities engaged in Manufacture of wearing apparel (56.77%) and accounting entities engaged in Manufacture of textiles (56.38%). In the 2021 accounting period, the accounting entities with a decrease in sales were prevalent only among accounting entities engaged in the Manufacture of wearing apparel and accounting entities engaged in Repair of footwear and leather goods.

Accounting entities with a decrease in sales in the 2020 accounting period in comparison with the previous accounting period prevailed in all regions in the **Engineering** sector. Their share ranged from 62.26 to 70.45% in individual regions. The most affected accounting entities were accounting entities located in the Trenčín region, out of which up to 70.45% reported lower sales in the 2020 accounting period compared to the previous accounting period. This was followed by accounting entities located in the Trnava region (65.71%) and the Banská Bystrica region (65.33%). In the 2020 accounting period, up to 71.43% of accounting entities engaged in Manufacture of general-purpose machinery and Manufacture of metal forming machinery and machine tools, up to 70.00% of accounting entities engaged in Installation of industrial machinery and equipment, up to 69.23% of accounting entities engaged in Manufacture of agricultural and forestry machinery, and up to 67.15% of accounting entities engaged in Manufacture of other general-purpose machinery recorded a decrease in sales. Across all groups in this sector, accounting entities with a decrease in sales were predominant in the 2020 accounting period. In the 2021 accounting period, within each group of the Engineering sector, accounting entities with an increase in sales prevailed. The exception was the accounting entities engaged in Manufacture of other transport equipment, out of which more than 50,00% (namely 57,89%) recorded a decrease in sales in the 2021 accounting period.

The largest share of accounting entities in the **Transport and logistics** sector with a decrease in sales in the 2020 accounting period compared to the previous accounting period was in the Košice region, where up to 65.87% of accounting entities operating in the Transport and logistics sector recorded a decrease in sales, in the Bratislava region (64.13%) and in the Nitra region (63.86%). In all regions, the share of accounting entities with a decrease in sales in the 2020 accounting period was more than 60.00%. In the 2020 accounting period, up to 86.96% of accounting entities engaged in Air transport, up to 65.17% of accounting entities engaged in Land transport and transport via pipeline, up to 62.98% of accounting entities engaged in Warehousing and support activities for transport reported lower sales compared to the previous accounting period. In all divisions, except the Postal and courier activities division, the accounting entities with a decrease in sales were predominant in the 2020 accounting period. In the 2021 accounting period, all groups were dominated by accounting entities, with an increase in sales. The exceptions were the Air transport and Packaging activities, which were dominated by accounting entities with a decrease in sales.

The largest share of accounting entities from the **Telecommunications** sector with a decrease in sales in the 2020 accounting period compared to the previous accounting period was located in the Prešov region, where up to 60.00% of accounting entities in this sector reported a decrease in sales, in the Bratislava region (58.14%) and in the Košice region (55.17%). In the 2020 accounting period, despite strict restrictive measures, in five regions (Banská Bystrica, Nitra, Trenčín, Trnava and Žilina), the prevailing accounting entities were accounting entities with an increase in sales. In the 2020 accounting period, up to 57.14% of accounting entities engaged in Wireless telecommunications activities, up to 50% of accounting entities engaged in Wired telecommunications activities, and up to 50% of accounting entities engaged in Satellite telecommunications activities reported a decrease in sales compared to the previous accounting period. Within the accounting entities engaged in Other telecommunications activities and accounting entities engaged in Repair of communication equipment accounting entities, accounting entities with an increase in sales were predominant. Paradoxically, in the 2021 accounting period, only three groups of accounting entities, namely accounting entities engaged in Wired telecommunications activities, Satellite telecommunications activities and Other telecommunications activities, accounting entities with a decrease in sales prevailed.

In the **Information technology** sector, up to 55.87% of accounting entities in this sector located in the Trenčín region, up to 52.98% of accounting entities located in the Nitra region, and up to 51.67% of accounting entities located in the Žilina region recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. The other regions in which accounting entities with a decrease in sales prevailed were the Košice region and the Prešov region. On the other hand, in the 2020 accounting period, the Banská Bystrica region, the Bratislava region and the Trnava region were dominated by accounting entities with sales growth. The largest share of accounting entities with a decrease in sales in the 2020 accounting period was accounted for by accounting entities engaged in Other software publishing, out of which up to 64.71% reported a decrease in sales, Repair of computers and peripheral equipment (57.14%) and Computer facilities management activities (56.34%). In all subclasses of the **Information technology** sector, accounting entities with a decrease in sales were prevalent in the 2020 accounting period. In the 2021 accounting period, all subclasses of this sector were dominated by accounting entities with an increase in sales. The exception was Repair of computers and peripheral equipment, out of which up to 54.76% reported a decrease in sales in the 2021 accounting period compared to the previous accounting period.

In the **Law, consulting and accounting** sector, up to 54.91% of accounting entities are located in the Bratislava region, up to 54.33% of accounting entities are located in the Banská Bystrica region, and up to 53.03% of accounting entities are located in the Trenčín region recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. More than 50.00% share of accounting entities with a decrease in sales in the 2020 accounting period was also in the Prešov and Žilina regions. On the contrary, in the Košice, Trnava and Nitra regions, accounting entities with sales growth prevailed. The largest share of accounting entities reporting lower sales in the 2020 accounting period compared to the previous accounting period was accounted for by accounting entities providing Business and other management consultancy activities, out of which up to 55.50% reported a decrease in sales, accounting entities providing Legal activities (53.09%) and accounting entities performing Accounting, bookkeeping, and auditing activities; tax consultancy (50.21%). Within the accounting entities engaged in Regulation of and contribution to more efficient operation businesses, accounting entities with sales growth prevailed in the 2020 accounting period. In the 2021 accounting period, in all subclasses of the Law, consulting and accounting sector, accounting entities with an increase in sales were prevalent.

In the **Advertising** sector, up to 62.82% of accounting entities in this sector located in the Trnava region, and up to 62.64% of accounting entities located in the Žilina region recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. In other regions, the share of accounting entities with a decrease in sales was approximately the same, at the level of around 61.00%. The largest share of accounting entities with a decrease in sales in the 2020 accounting period was accounted for by accounting entities engaged in Media representation, out of which up to 70.00% reported lower sales in the 2020 accounting period compared to the previous accounting period, accounting entities engaged in the activities of Advertising agencies (62.86%) and accounting entities engaged in Photographic activities, out of which up to 60.34% reported a decrease in sales in the 2020 accounting period. In all sub-classes of the Advertising sector, accounting entities with a decrease in sales prevailed in the 2020 accounting period. In the 2021 accounting period, in all subclasses of the Advertising sector, accounting entities with sales growth prevailed. The exception was Public relations and communication activities sector,which was dominated by accounting entities with a decrease in sales in this accounting period, too.

In the **Real estate** sector, up to 59.50% of accounting entities located in the Nitra region, up to 57.83% of accounting entities with headquarters in the Banská Bystrica region, and up to 55.93% of accounting entities with headquarters in the Bratislava region recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. In all regions, in the 2020 accounting period, accounting entities with a decrease in sales prevailed. Their share ranged from 51.27 to 59.50%. The largest share of accounting entities with a decrease in sales in the 2020 accounting period was among entities engaged in the Buying and selling of own real estate, out of which up to 57.41% reported a decrease in sales in the 2020 accounting period. This was followed by accounting entities engaged in the Renting and operating of own or leased real estate (56.58%) and accounting entities providing activities of Real estate agencies (56.08%). Only among accounting entities engaged in the Management of real estate on a fee or contract basis were those with an increase in sales in the 2020 accounting period. In the 2021 accounting period, only within accounting entities engaged in the Buying and selling of own real estate were the accounting entities with a decrease in sales prevalent. In the other subclasses of the Real estate sector, accounting entities with sales growth predominated.

In the **Other services** sector, the share of accounting entities with a decrease in sales was more than 50.00% in all regions in the 2020 accounting period. The decrease in sales in the 2020 accounting period compared to the previous accounting period was reported by the largest number, namely 59.21% of accounting entities with headquarters in the Trnava region, 58.22% of accounting entities located in the Trenčín region and 57.96% of accounting entities with headquarter in the Bratislava region. The largest share of accounting entities with a decrease in sales in the 2020 accounting period was among accounting entities providing Other personal service activities, out of which up to 65.19% reported a decrease in sales in the 2020 accounting period compared to the 2019 accounting period. This is followed by accounting entities performing Translation and interpretation activities (63.76%) and accounting entities engaged in Repair of personal and household goods (62.50%). Within almost all divisions of the Other services sector, accounting entities with a decline in sales in the 2020 accounting period were predominant. The exceptions were two divisions, namely, accounting entities performing Undifferentiated household activities, where only 25.00% of the accounting entities reported a decrease in sales, and accounting entities performing Activities of extraterritorial organizations and bodies, out of which only 20.00% reported a decrease in sales in the 2020 accounting period compared to the previous accounting period. In the 2021 accounting period, within almost all divisions of the Other services sector, accounting entities with sales growth were prevalent. The exceptions were the Office administrative, office support and other business support activities and Other personal service activities divisions, in which accounting entities with a decrease in sales in the 2021 accounting period were predominant.

In the **Retail trade** sector, the share of accounting entities with a decrease in sales in the 2020 accounting period was more than 50.00% in all regions. Up to 58.62% of accounting entities located in the Žilina region, up to 57.36% of accounting entities located in the Nitra region and up to 57.33% of accounting entities located in the Bratislava region reported a decrease in sales in the 2020 accounting period. The largest share of accounting entities with a decrease in sales in the 2020 accounting period compared to the previous accounting period was among accounting entities engaged in Retail sale of automotive fuel in specialised stores, where up to 79.80% reported a decrease in sales in this accounting period. This is followed by accounting entities engaged in Retail trade via stalls and markets (62.16%) and accounting entities engaged in Retail sale in other goods in specialised stores (59.76%). These are, for example, accounting entities selling clothing and footwear. In all groups of the Retail trade sector, the share of accounting entities with a decrease in sales was more than 50.00% in the 2020 accounting period. In the 2021 accounting period, all groups of this sector were dominated by accounting entities with sales growth. The exceptions were accounting entities engaged in Retail sale of food, beverages and tobacco in specialised stores and units engaged in Retail sale of other household goods in specialised stores (which include, e.g. stores selling carpets, textiles, ironmongery, electrical household appliances, furniture, lighting fittings, etc.), which were dominated by accounting entities with a decrease in sales in the 2021 accounting period, too.

In the **Hazard** sector, in every region of the Slovak Republic, the prevalence of accounting entities with a decrease in sales was more than 66.67%. The largest share was in the Banská Bystrica region, where all accounting entities operating in this sector in this region recorded a decrease in sales. This was followed by accounting entities with headquarters in the Bratislava region, the Nitra region and the Trenčín region, where up to 85.71% of accounting entities operating in these regions reported a decrease in sales. Within the Hazard sector, all accounting entities were engaged in Gaming and betting activities, out of which 81.48% recorded a decrease in sales in the 2020 accounting period compared to the previous accounting period. In the 2021 accounting period, the share of accounting entities with a decrease in sales within this sector was 79.63%.

3.3.2. The Impact of the COVID-19 Pandemic on the Profit or Loss of Accounting Entities in Selected Economic Sectors

The COVID-19 pandemic also affected the net profit or loss (earnings after tax) achieved by the accounting entities in the analysed accounting periods (Table 3.4). Several sectors of the economy experienced a decrease in profit or loss in the 2020 accounting period, despite the fact that, in addition to falling sales, costs were also falling, and many companies sought to cover low sales with government aid provided for this purpose. However, some sectors recorded an increase in profit or loss despite the decrease in sales (Chemistry and plastics, Media, publishing houses and culture, Electrical engineering, Law, consulting and accounting, Real estate). In one sector, despite growth in sales, the profit or loss fell. Even the total profit or loss for the sector was negative (Hazard).

Table 3.4. Overview of the development of the net profit or loss for the accounting periods analysed

Economic sector	Net profit or loss in euros			
	2018	2019	2020	2021
Tourism and gastronomy	34,840,650	30,878,222	–32,504,188	–15,024,568
Chemistry and plastics	61,655,697	75,631,610	103,703,925	110,065,296
Sale and maintenance of vehicles	59,589,495	64,462,895	58,197,797	76,691,346
Media, publishing houses and culture	22,342,726	19,998,692	22,786,415	27,267,312
Metal manufacturing and metallurgy	143,691,111	144,813,034	136,406,108	172,909,146
Electrical engineering	201,037	165,390	265,599	357,287
Automotive industry	4,026,052,436	68,216,343	26,754,587	86,869,875
Clothing and footwear	34,443,394	29,153,445	27,489,625	36,016,092
Engineering	100,400,220	77,768,585	71,256,568	121,304,015
Transport and logistics	386,338,640	505,455,082	471,151,029	409,478,035
Telecommunications	11,791,279	21,138,234	28,032,304	16,178,680
Information technology	173,819,882	209,814,396	203,124,570	227,336,600
Law, consulting and accounting	121,996,287	120,993,208	153,824,632	376,768,134
Advertising	28,475,315	27,822,216	24,922,383	31,236,610
Real estate	141,049,499	164,872,471	226,467,352	47,336,037
Other services	37,872,387	43,822,620	62,993,846	65,621,268
Retail trade	105,284,759	102,082,086	119,342,703	139,183,247
Hazard	18,592,589	4,631,703	–1,204,789	11,271,095

Source: own processing based on own research.

The largest decrease in profit or loss in the 2020 accounting period was in the Tourism and gastronomy sector, where accounting entities recorded a decrease in the profit or loss by 205.27% compared to the previous accounting period. This was followed by the Hazard which saw a decrease in the profit of loss of 126.01%, and the Automotive industry, where the profit or loss decreased by 60.78% in the 2020 accounting period. Conversely, the largest increase in the profit or loss was recorded by accounting entities in the Electrical engineering sector, where the profit or loss in the 2020 accounting period was 60.59% higher than the profit or loss in the previous accounting period, accounting entities in the Other services sector (43.75%), entities in the Real estate sector (37.36%) and in the Telecommunications sector (32.61%).

In the 2021 accounting period, there was a gradual release of restrictive measures, and several sectors of the economy experienced growth due to low performance in the 2020 accounting period. However, there were still sectors where the profit or loss continued to decline compared to the 2020 accounting period. Specifically, this was in the Real estate sector, where, despite the growth in the profit or loss in the 2020 accounting period, there was a 79.10% decline in the profit or loss in the 2021 accounting period compared to the previous accounting period. It is followed by accounting entities from the Telecommunications sector, where also, despite the 32.61% growth in the profit or loss in the 2020 accounting period, there was a 42.29% decline in the profit or loss in the 2021 accounting period compared to the previous accounting period. In the Transport and logistics sector, the downward trend continued in the 2021 accounting period. In the 2020 accounting period, the profit or loss in this sector decreased by 6,79 % and in the 2021 accounting period, the profit or loss decreased by 13,09 % compared to the profit or loss in the previous accounting period.

The largest share of accounting entities with a decrease in profit or loss in the 2020 accounting period compared to the previous accounting period was in the **Hazard** sector, where up to 72.22% of accounting entities recorded a decrease in profit or loss in the 2020 accounting period compared to the 2019 accounting period, in the Automotive industry (65.93%), and in the Tourism and gastronomy sectors (62.22%). The region where the largest share of accounting entities with a decrease in profit or loss was located, was the Bratislava region in almost every sector of the economy. The exceptions are the Chemistry and plastics sector, where most accounting entities were located in the Nitra region, the Metal manufacturing and metallurgy sector (Trenčín region), and the Clothing and footwear sector (Prešov region).

In the **Tourism and gastronomy** sector, the share of accounting entities with a decrease in profit or loss prevailed in all regions in the 2020 accounting period. Their share was more than 55.56% in all regions of the Slovak Republic. The largest share was in the Bratislava region, where up to 67.20% of the accounting entities of this sector located in this region recorded a decrease in the profit or loss, in the Nitra region (64.55%) and in the Trnava region (63.64%). In the 2021 accounting period, the largest share of accounting entities with a decrease in profit or loss was in the Žilina region (52.49%) and in the Prešov region (50.40%). In the other regions, the percentage of accounting entities with a decrease in profit or loss was lower than 47.50%. In all divisions of the Tourism and gastronomy sector, the percentage of accounting entities with a decrease in profit or loss in the 2020 accounting period was more than 50.00%. The largest share was within the accounting entities engaged in Travel agency, tour operator reservation services and related activities, out of which up to 71.65% recorded a decrease in the profit or loss in the 2020 accounting period; accounting entities engaged in Organisation of congresses and business exhibitions (66.67%), and accounting entities providing Accommodation (63.37%). In the 2021 accounting period, the largest share of accounting entities with a decrease in the profit or loss compared to the previous accounting period was accounted for by accounting entities providing Other personal service activities, out of which up to 48.73% recorded a decrease in the profit or loss.

In the **Chemistry and plastics** sector, only two regions in the 2020 accounting period had a predominance of accounting entities with a decrease in profit or loss. The largest share was in the Žilina region, where up to 61.22% of accounting entities reported a decrease in profit or loss in the 2020 accounting period compared to the previous accounting period. In the 2021 accounting period, the largest share of accounting entities with a decrease in the profit or loss was in the Banská Bystrica region, where up to 64.00% of accounting entities in this sector located in this region recorded a decrease in the profit or loss. In the Chemistry and plastics sector, only within the accounting entities engaged in Manufacture of rubber and plastic products, the accounting entities with a decrease in the profit or loss prevailed in the 2020 accounting period. In the other divisions of this sector, the accounting entities with an increase in profit or loss were predominant. In the 2021 accounting period, only within the accounting entities engaged in the Manufacture of basic pharmaceutical products and pharmaceutical preparations, the accounting entities with a decrease in the profit or loss prevailed. As many as 66.67% of them reported a lower profit or loss in the 2021 accounting period in comparison with the previous accounting period.

In the **Sale and maintenance of vehicles** sector, all but two regions in the 2020 accounting period were dominated by accounting entities with a decrease in profit or loss. The exceptions were the Nitra region and the Trnava region, where accounting entities with an increase in profit or loss prevailed. The largest share of accounting entities with a decrease in the profit or loss in the 2020 accounting period was in the Banská Bystrica region, where up to 59.68% of accounting entities in this sector recorded a decrease in the profit or loss, in the Prešov region (55.75%) and in the Bratislava region (55.35%). In the 2021 accounting period, all regions were dominated by accounting entities with an increase in profit or loss. In the 2020 accounting period, only within the three subclasses of the Sale and maintenance of vehicles sector, the accounting entities with a decrease in profit or loss were predominant. The largest share was within the Maintenance and repair of motor vehicles, out of which up to 57.77% reported a decrease in the profit or loss in the 2020 accounting period, Sale of cars and light motor vehicles (54.81%), and Sale of other motor vehicles (51.28%) subclasses. In the 2021 accounting period, the share of accounting entities with a decrease in the profit or loss in all subclasses of this sector was less than 50.00%.

In the **Media, publishing house and culture** sector, the largest share of accounting entities with a decrease in the profit or loss in the 2020 accounting period compared to the previous accounting period was in the Košice region, where up to 70.59% of accounting entities in this sector recorded a decrease in the profit or loss, in the Bratislava region (58.33%), and in the Nitra region (51.67%). In the Banská Bystrica region, the Prešov region, the Trenčín region, the Trnava region, and the Žilina region, the 2020 accounting period was dominated by accounting entities with an increase in profit or loss. In the 2021 accounting period, all regions were dominated by accounting entities with a higher profit or loss in this accounting period compared to the previous accounting period. In the 2020 accounting period, up to 57.84% of the accounting entities engaged in Creative, arts and entertainment activities, up to 54.55% of the accounting entities engaged in Publishing activities, up to 54.33% of the accounting entities engaged in Motion picture, video and television programme production, sound recording and music publishing activities recorded a decrease in the profit or loss. Only within the three divisions of the Media, publishing houses and culture sector, namely Information service activities, Libraries, archives, museums and other cultural activities, and Programming and broadcasting activities, accounting entities with an increase in the profit or loss in the 2020 accounting period were predominant. In the 2021 accounting period, all accounting entities providing Information service activities reported a decrease in profit or loss. In the other divisions of the sector, the predominant accounting entities were those with an increase in profit or loss.

In the **Metal manufacturing and metallurgy** sector in the 2020 accounting period, in all regions except the Banská Bystrica region and the Prešov region, accounting entities with a decrease in profit or loss prevailed. The largest share was in the Žilina region, where up to 57.69% of accounting entities recorded a decrease in the profit or loss compared to the previous accounting period, in the Bratislava region (56.67%), and in the Trnava region (56.47%). In the 2021 accounting period, only in the Bratislava region, the accounting entities with a decrease in the profit or loss were predominant, where up to 52.50% of the accounting entities operating in this sector reported a decrease in the profit or loss compared to the previous accounting period. In the other regions, the share of accounting entities with a decrease in the profit or loss was less than 50.00%. In the 2020 accounting period, the largest share of accounting entities with a decrease in profit or loss was among accounting entities engaged in the Manufacture of weapons and ammunition, out of which up to 80,00% recorded a decrease in profit or loss. This was followed by accounting entities engaged in Treatment and coating of metals; machining (57.28%), and accounting entities engaged in Manufacture of structural metal products (55.17%). Within the accounting entities engaged in Manufacture of abrasive products and non--metallic mineral products n.e.c., Manufacture of basic metals, Manufacture of tanks, reservoirs and containers of metal, and Manufacture of cutlery, tools and general hardware, where an increase in the profit or loss prevailed in the 2020 accounting period. In the 2021 accounting period, only among the accounting entities engaged in Manufacture of abrasive products and non-metallic mineral products n.e.c. and the accounting entities engaged in Manufacture of weapons and ammunition, the accounting entities with a decrease in the profit or loss were predominant.

In the **Electrical engineering** sector in the 2020 accounting period, the Prešov region and the Trnava region were dominated by accounting entities with an increase in the profit or loss in this accounting period compared to the previous accounting period. In the other regions, accounting entities with a decrease in profit or loss were predominant. Their largest share was in the Banská Bystrica region (65.12%), in the Trenčín region (58.82%), and in the Žilina region (51.81%). In the 2021 accounting period, the share of accounting entities with a decrease in the profit or loss in all regions was less than 50.00%. The largest share of accounting entities with a decrease in the profit or loss in the 2020 accounting period was within the accounting entities engaged in the Manufacture of computer, electronic and optical products, out of which up to 53.05% reported a lower profit or loss compared to the previous accounting period. This was followed by accounting entities engaged in Manufacture of electrical equipment (52.86%), and accounting entities engaged in Repair and installation of machinery and equipment (51.69%). Within the accounting entities engaged in Repair of computers and personal and household goods, the accounting entities with an increase in profit or loss prevailed. In the 2021 accounting period, all divisions of the Electrical engineering sector were dominated by accounting entities with an increase in profit or loss.

In the **Automotive industry**, all regions except the Banská Bystrica region and the Prešov region were dominated by accounting entities with a decrease in the profit or loss in the 2020 accounting period compared to the previous accounting period. The largest share of accounting entities with a decrease in the profit or loss was in the Žilina region, where up to 76.47% of accounting entities reported a decrease in the profit or loss, in the Bratislava region and in the Košice region (75.00% each). In the 2021 accounting period, only within the Trenčín region, accounting entities with a decrease in profit or loss prevailed (56.25%). In other regions, their share was 50.00% or less. In the 2020 accounting period, within all subclasses of the Automotive industry, accounting entities with a decrease in profit or loss prevailed. As many as 85.71% of the accounting entities engaged in Manufacture of electrical and electronic equipment for motor vehicles recorded a decrease in sales in this accounting period. This was followed by accounting entities engaged in Manufacture of motor vehicles (77.78%), Manufacture of bodies for motor vehicles; manufacture of trailers and semi-trailers (66.67%), and accounting entities engaged in Manufacture of other parts and accessories for motor vehicles (65.00%). In the 2021 accounting period, in all subclasses of the Automotive industry, the share of accounting entities with a decrease in profit or loss was equal to 50.00% or less.

In the **Clothing and footwear** sector, only in three regions, the Banská Bystrica region (54.55%), the Bratislava region (58.06%), and the Nitra region (60.00%), accounting entities with a decrease in profit or loss prevailed. In other regions, their share was less than 50.00%. In the 2021 accounting period, the share of accounting entities with a decrease in the profit or loss was the highest in the Prešov region, where up to 56.25% of accounting entities reported a decrease in the profit or loss, in the Trnava region (55.88%) and in the Bratislava region (54.84%). In the other regions, the share of accounting entities with a decrease in the profit or loss was equal to or less than 50.00%. Regarding the main activity, in all divisions of the Clothing and footwear sector in the 2020 accounting period, the predominant accounting entities were those with an increase in profit or loss. In the 2021 accounting period, the only division where accounting entities with a decrease in the profit or loss were predominant, where accounting entities engaged in the Manufacture of wearing apparel, where up to 56.77% of the accounting entities recorded a decrease in the profit or loss. Within the other divisions of this sector, the accounting entities with an increase in the profit or loss in the 2021 accounting period were predominant.

In the **Engineering** sector in the 2020 accounting period, in the Bratislava region (50.70%), in the Prešov region (57.58%), in the Trenčín region (54.55%), and in the Žilina region (65.05%) accounting entities with a decrease in the profit or loss were predominant. In other regions, their share was less than 50.00%. In the 2021 accounting period, the share of accounting entities with a decrease in the profit or loss was less than 50.00%. In the 2020 accounting period, the largest share of accounting entities with a decrease in the profit or loss was among accounting entities engaged in the Installation of industrial machinery and equipment, out of which up to 54.55% recorded a decrease in the profit or loss. This was followed by accounting entities engaged in Repair of fabricated metal products, machinery and equipment (54.18%), and accounting entities engaged in Manufacture of other transport equipment (52.63%). Within the other groups of the Engineering sector, the accounting entities with growth in profit or loss prevailed. In the 2021 accounting period, in all groups of the Engineering sector, the predominant accounting entities where those with a decrease in profit or loss.

In the **Transport and logistics** sector, only in the Košice region, the accounting entities with a decrease in profit or loss in the 2020 accounting period were predominant. In the 2021 accounting period, accounting entities with a decrease in the profit or loss prevailed in three regions, namely in the Banská Bystrica region

(55.02%), the Trenčín region (52.94%), and the Prešov region (52.15%). In the 2020 accounting period, up to 73.91% of accounting entities providing Air transport services, up to 55.10% of accounting entities performing Packing activities, and up to 50.00% of accounting entities providing Water transport services recorded a decrease in profit or loss. Within the other divisions of this sector, the accounting entities with an increase in profit or loss prevailed. In the 2021 accounting period, up to 55.10% of accounting entities performing Packing activities, up to 52.17% of accounting entities performing Air transport, and up to 51.70% of accounting entities performing Land transport and transport *via* pipelines reported a decrease in the profit or loss.

In the **Telecommunications** sector in the 2020 accounting period, only in the Nitra region (59.26%), the Trenčín region (55.00%), the Trnava region (57.14%), and the Žilina region (53.33%) accounting entities that reported a lower profit or loss in comparison with the previous accounting period were predominant. In the 2021 accounting period, in five regions, namely Košice, Nitra, Prešov, Trenčín, and Trnava regions, accounting entities with a decrease in profit or loss prevailed. In the 2020 accounting period, up to 54.55% of accounting entities performing Wired telecommunications activities, up to 52.88% of accounting entities performing Other telecommunications activities, and up to 50.00% of accounting entities engaged in Repair of communication equipment recorded a decrease in the profit or loss compared to the previous accounting period. Within the other subclasses of the Telecommunications sector, the accounting entities reporting an increase in the profit or loss in the 2020 accounting period compared to the previous accounting period were predominant. In the 2021 accounting period, the accounting entities with a decrease in profit or loss were predominant in these divisions of the Telecommunications sector: accounting entities performing Wired telecommunications activities, accounting entities performing Wireless telecommunications activities, Other telecommunications activities, and Satellite telecommunications activities.

In the **Information technology** sector, the share of accounting entities with a decrease in profit or loss was less than 50.00% in all regions in the 2020 accounting period. In the 2021 accounting period, only in two regions did the share of accounting entities with a decrease in profit or loss prevail. Namely, it was in the Trenčín region (51.01%) and in the Košice region (50.16%). In the 2020 accounting period, only within the accounting entities engaged in Other software publishing, the accounting entities with a decrease in profit or loss prevailed. Their share was 52.94%. In the 2021 accounting period, up to 64.71% of the accounting entities engaged in Other software publishing, up to 59.52% of the accounting entities engaged in Repair of computers and peripheral equipment, up to 54.93% of the accounting entities engaged in Computer facilities management activities and up to 50.39% of the accounting entities engaged in Other information service activities n.e.c. recorded a decrease in the profit or loss. Within the other subclasses of the Information technology sector, the share of accounting entities with a decrease in profit or loss was less than 50.00%.

The **Law, consulting and accounting** sector was dominated by accounting entities with an increase in profit or loss in the 2020 accounting period in comparison with the previous accounting period in all regions of the Slovak Republic. The largest share of accounting entities with a decrease in profit or loss was in the Prešov region, where up to 47.59% of accounting entities reported a lower profit or loss in the 2020 accounting period compared to the 2019 accounting period. In the 2021 accounting period, paradoxically, up to four regions, namely the Banská Bystrica region (54.33%), the Bratislava region (51.20%), the Nitra region (51.91%), and the Trenčín region (51.21%) were dominated by accounting entities with a decrease in the profit or loss. In the 2020 accounting period, within all subclasses of the Law, consulting and accounting sector, the accounting entities with an increase in profit or loss were predominant. Conversely, in the 2021 accounting period, only within the Business and other management consultancy activities did the accounting entities with an increase in profit or loss prevail. In the other subclasses of this sector, accounting entities with a decrease in profit or loss were predominant. The largest share was accounted for by accounting entities engaged in Regulation of and contribution to more efficient operation of businesses, out of which up to 80.00% recorded a decrease in the profit or loss in the 2021 accounting period. This was followed by accounting entities engaged in Activities of head offices (65.63%), accounting entities engaged in Accounting, bookkeeping and auditing activities, tax consultancy (51.59%), and accounting entities engaged in Legal activities, out of which up to 50.17% reported a decrease in the profit or loss compared to the previous accounting period.

In the **Advertising** sector, the Bratislava, Košice, Nitra, Trnava, and Žilina regions were dominated by accounting entities with a decrease in the profit or loss in the accounting period 2020 compared to the 2019 accounting period. The largest share of these accounting entities was in the Trnava region, where up to 56.41% of accounting entities reported a decrease in profit or loss, and in the Košice region (52.78%). In the 2021 accounting period, the majority of accounting entities with a decrease in profit or loss were in the Banská Bystrica region, the Prešov region, the Trenčín region, the Trnava region and the Žilina region. The largest share was in the Prešov region, where up to 62.50% of the accounting entities in this sector reported the profit or loss in the 2021 accounting period lower than in the previous accounting period and in the Trenčín region (54.10%). In the 2020 accounting period, up to 70.00% of accounting entities engaged in the Media representation, up to 55.46% of accounting entities engaged in the Market research and public opinion polling, and up to 51.31% of accounting entities engaged in the activities of Advertising agencies recorded a decrease in the profit or loss. In the other two sub-classes of the Advertising sector, namely, among the accounting entities performing Photographic activities, and the accounting entities providing Public relations and communication activities, the accounting entities with a growth in the profit or loss prevailed. In the 2021 accounting period, only among the accounting entities providing Public relations and communication activities (56.63%), and the accounting entities performing Photographic activities (52.59%) did the accounting entities with a decrease in profit or loss prevail.

In the **Real estate** sector in the 2020 accounting period, all regions except the Banská Bystrica region and the Žilina region were dominated by accounting entities with a decrease in the profit or loss in this accounting period compared to the previous accounting period. The largest share of these entities was in the Košice region, where up to 56.20% of accounting entities operating in this sector recorded a decrease in the profit or loss, in the Nitra region (55.31%), and in the Prešov region (54.44%). In the 2021 accounting period, only in two regions, in the Prešov region (52.07%) and in the Trenčín region (50.31%), the accounting entities with a decrease in the profit or loss prevailed. In the 2020 accounting period, the largest share of accounting entities that recorded a decrease in profit or loss compared to the previous accounting period was within accounting entities engaged in the Renting and operating of own or leased real estate, out of which up to 53.84% reported a profit or loss in this accounting period lower than in the 2019 accounting period, and accounting entities engaged in the Buying and selling of own real estate (50.62%). Within the other subclasses of the Real estate sector, the accounting entities that reported an increase in the profit or loss in the 2020 accounting period prevailed. In the 2021 accounting period, only within the accounting entities engaged in the Buying and selling of own real estate, accounting entities with a decrease in profit or loss were prevalent. Up to 58.02% of these accounting entities reported a decrease in profit or loss in the 2021 accounting period.

In the **Other services** sector, the accounting entities with a decrease in the profit or loss in the 2020 accounting period prevailed in the Bratislava region (50.42%), the Nitra region (54.12%), and the Trnava region (51.62%). In the other regions, the accounting entities with an increase in profit or loss were predominant. Paradoxically, the situation was worse in the 2021 accounting period, as in five regions, namely Banská Bystrica, Košice, Nitra, Prešov, and Žilina, the accounting entities with a decrease in the profit or loss prevailed. The largest share of these accounting entities was in the Prešov region, where up to 53.85% of accounting entities reported a lower profit or loss in the 2021 accounting period compared to the 2020 accounting period, in the Banská Bystrica region (52.50%) and in the Košice region (51.96%). The largest share of accounting entities with a decrease in the profit or loss in the 2020 accounting period was in the division Activities of extraterritorial organisations and bodies, where up to 60.00% of accounting entities reported a decrease in the profit or loss. This was followed by accounting entities providing Other personal service activities (53.22%), and accounting entities providing Translation and interpretation activities (53.21%). Even among accounting entities providing Security and investigation activities, Fire service activities, accounting entities performing Activities of membership organisations, and accounting entities engaged in Repair of personal and household goods, accounting entities with a decrease in profit or loss in the 2020 accounting period were predominant. The largest share of accounting entities with a decrease in profit or loss in the 2021 accounting period compared to the 2020 accounting period was in the Undifferentiated household activities division, where up to 75.00% of accounting entities reported a decrease in profit or loss. This is followed by accounting entities engaged in Repair of personal and household goods (52.50%), accounting entities engaged in Security and investigation activities (52.29%), and accounting entities engaged in Office administrative, office support and other business support activities (50.30%). Within the other divisions of the Other services sector, the share of accounting entities with a decrease in profit or loss in the 2021 accounting period was less than 50.00%.

In the **Retail trade** sector, only two regions were dominated by accounting entities that reported a decrease in profit or loss in the 2020 accounting period compared to the 2019 accounting period. Specifically, this was in the Bratislava region (50.89%) and in the Nitra region (50.32%). In the other regions, the accounting entities with an increase in the profit or loss prevailed. The situation was similar in the 2021 accounting period. Only in two regions, the Trenčín region (52.03%) and the Nitra region (50.32%), accounting entities with a decrease in profit or loss prevailed. Despite the fact that within the Retail trade sector, both in the 2020 accounting period and in the 2021 accounting period, the accounting entities with an increase in the profit or loss prevailed, a closer analysis according to main activities showed severe differences. In the 2020 accounting period, the largest share of accounting entities with a decrease in profit or loss was within the accounting entities engaged in the Renting and leasing of personal and household goods, where all accounting entities reported a decrease in profit or loss. This was followed by accounting entities engaged in Retail sale of information and communication equipment in specialised stores (54.24%), accounting entities engaged in Retail sale of automotive fuel in specialised stores (52.53%), and accounting entities engaged in Retail sale of other goods in specialised stores (50.38%). In the other groups of the Retail trade sector, the share of accounting entities with a decrease in the profit or loss was less than 50.00%. In the 2021 accounting period, only the accounting entities engaged in Retail sale of information and communication equipment in specialised stores (54.24%), and the accounting entities engaged in Retail sale of cultural and recreation goods in specialised stores (50.34%) were dominated by accounting entities with a decrease in profit or loss.

In the **Hazard** sector, all regions except the Košice region were dominated by accounting entities, with a decrease in profit or loss in the 2020 accounting period compared to the previous accounting period. The largest share of accounting entities with a decrease in profit or loss was in the Banská Bystrica region and the Žilina region, where all accounting entities in this sector recorded a decrease in profit or loss. In the 2021 accounting period, the accounting entities with a decrease in the profit or loss were predominant in the Banská Bystrica region (75.00%), in the Košice region and in the Nitra region (57.14% each).

3.3.3. The Impact of the COVID-19 Pandemic on Selected Financial Analysis Ratios

In addition to the analysis of the net profit or loss in terms of its trend, we were interested in how many accounting entities in the individual sectors reported a loss in the accounting periods analysed.

The largest share of accounting entities that reported a loss in the 2020 accounting period (Figure 3.1) was in the Tourism and gastronomy sector, where up to 49.60% of accounting entities operating in this sector reported a loss. It is followed by Hazard (33.33%), and Media, publishing houses and culture (28.94%). As this analysis has shown, in no sector of the economy in either the 2020 or 2021 accounting period was the share of accounting entities with a loss of more than 50.00%. In all sectors of the economy, accounting entities that reported a profit in the pandemic years were prevalent.

The COVID-19 pandemic has also affected key financial health indicators such as profitability, liquidity, and indebtedness. There was a decline in average return on equity ratios in all the economic sectors analysed, with the exception of the Telecommunications and Retail trade sectors, where there was an increase in the average ROE value in the 2020 accounting period (Table 3.5). Several sectors even showed a negative average value of ROE (Tourism and gastronomy, Transport and logistics).

The average total liquidity ratios showed very high values in each analysed accounting period (Table 3.5). The trend of this ratio is fluctuating. There were some sectors where the average total liquidity ratio in the 2020 accounting

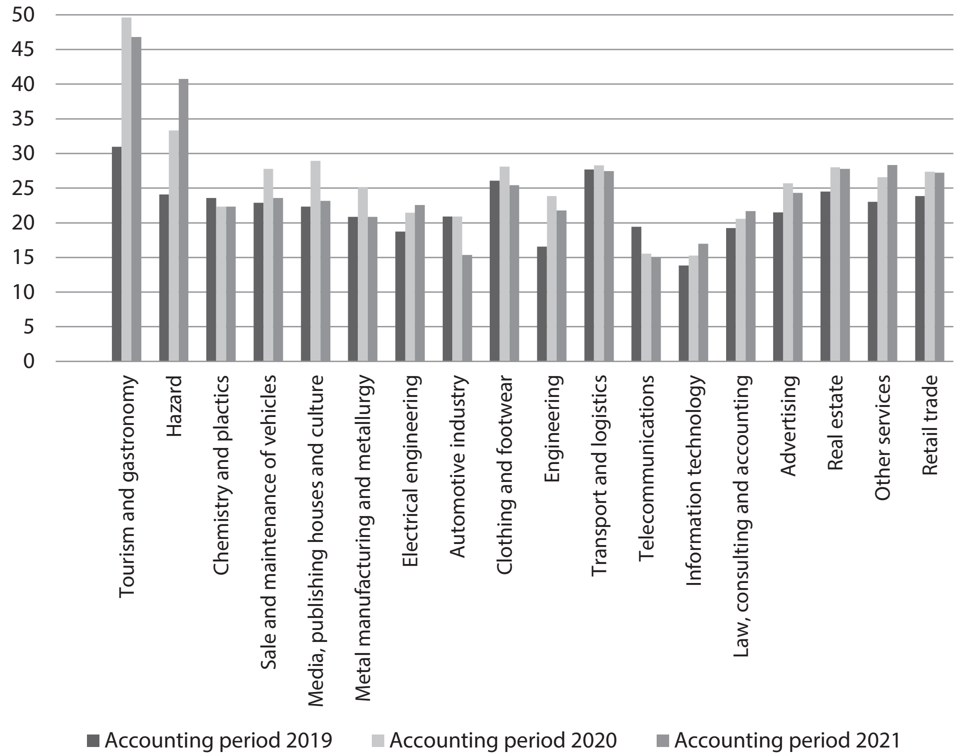


Figure 3.1. Percentage of entities with a loss

Source: own processing based on own research.

Table 3.5. Return on equity (%) and liquidity ratios across economy sectors

Sectors	Return on equity in %			Total liquidity		
	2019	2020	2021	2019	2020	2021
1	2	3	4	5	6	7
Tourism and gastronomy	–23.88	–48.21	–78.56	18.66	44.45	25.66
Hazard	14.65	0.71	–2.30	18.52	27.7	32.99
Chemistry and plastics	4.74	3.89	2.91	9.17	14.11	25.06
Sale and maintenance of vehicles	–4.76	0.23	1.40	14.33	13.01	10.45
Media, publishing houses and culture	15.31	8.08	15.71	12.66	14.64	10.49
Metal manufacturing and metallurgy	14.12	6.20	10.93	5.90	8.95	10.81
Electrical engineering	19.99	11.44	6.90	9.74	7.69	7.88
Automotive industry	7.89	–2.18	15.99	3.62	3.30	4.78
Clothing and footwear	12.85	2.20	8.17	16.31	17.27	5.36

Table 3.5, cont.

1	2	3	4	5	6	7
Engineering	17.85	10.91	9.87	7.11	8.28	12.17
Transport and logistics	–1.29	–7.19	–26.35	23.64	19.43	11.73
Telecommunications	17.12	21.09	15.66	10.67	10.89	11.88
Information technology	30.38	27.01	21.57	28.87	38.73	29.34
Law, consulting, and accounting	19.30	17.47	13.05	30.58	27.04	35.84
Advertising	15.85	12.99	13.65	16.20	88.74	401.82
Real estate	9.90	4.54	5.20	26.42	25.83	37.25
Other services	10.30	5.86	2.84	20.52	20.65	26.38
Retail trade	0.51	1.17	–1.32	14.99	12.83	14.80

Source: own processing based on own research.

period was even at its highest level compared to the values in the other accounting periods analysed (Tourism and gastronomy, Media, publishing houses and culture, Clothing and footwear, Information technology).

Several sectors of the economy also experienced an increase in indebtedness (Tourism and gastronomy, Advertising, Automotive industry). However, despite the pandemic, in other analysed sectors, the level of indebtedness decreased (Table 3.6). The values of debt ratio are low because within the selection process, we had excluded accounting entities with negative equity. Only three sectors of the economy – Sale and maintenance of vehicles, Automotive industry, and Transport and logistics, reported a high level of indebtedness above 50%.

Table 3.6. Debt ratio

Sectors	Debt ratio in %		
	2019	2020	2021
1	2	3	4
Tourism and gastronomy	40.05	40.87	41.17
Hazard	32.77	26.55	25.17
Chemistry and plastics	47.46	45.80	46.80
Sale and maintenance of vehicles	52.08	50.75	50.58
Media, publishing houses and culture	39.08	38.27	38.04
Metal manufacturing and metallurgy	48.64	47.41	48.42
Electrical engineering	41.20	39.48	39.74
Automotive industry	53.78	53.94	52.46
Clothing and footwear	47.23	44.97	45.17

1	2	3	4
Engineering	43.66	42.66	43.01
Transport and logistics	53.27	51.34	50.72
Telecommunications	37.92	35.70	35.61
Information technology	32.56	30.59	30.83
Law, consulting, and accounting	34.92	33.37	32.91
Advertising	25.00	37.12	36.80
Real estate	47.92	46.16	44.94
Other services	39.13	38.01	38.08
Retail trade	49.28	47.97	48.30

Source: own processing based on own research.

On the basis of the analysis of accounting entities operating in the analysed sectors of the economy in the Slovak Republic, we can conclude that the COVID-19 pandemic and the crisis related to the pandemic have had an impact on the financial health of accounting entities operating in these sectors. This impact has been negative in most sectors, i.e., there has been a decrease in sales, a decrease in the net profit or loss and an increase in the number of accounting entities reporting a loss. The negative impact of the pandemic was also reflected in the deterioration of key ratio indicators that characterise financial health. Nevertheless, there are also sectors where the impact of the pandemic was not so dramatic. Even during the pandemic, there was an increase in sales, profit, or an improvement in some of the ratio indicators of the financial analysis.

CHAPTER 4

The Impact of the Pandemic on Quality of Education, Research and Internationalization

After the first positive case of Sars-CoV-2 infection in the Slovak Republic, the Slovak government took strict security measures which, in addition to those already mentioned, included, as in the rest of the world (Garcia-Peñalvo et al., 2020; Łakomiak, 2022), the closure of schools and the interruption of the educational process. The COVID-19 pandemic forced universities to switch their entire instructional apparatus to one online delivery overnight (Blahušiaková, Mokošová, & Šoltés, 2021).

According to the guidelines of the Ministry of Education, Science, Research and Sport of the Slovak Republic (2020a) of March 12, 2020, all pre-school and school facilities, leisure time centres or other organised leisure time activities for children were closed with effect from March 16, 2020. There was also a postponement of the graduation exams, which were finally cancelled altogether. It was recommended to postpone the university entrance examinations or use the possibility of conditional admission, which eventually led to several universities and colleges waiving entrance examinations altogether. At the same time, public lectures and other university events, including habilitation and inauguration procedures, were also banned in connection with the ban on holding mass events.

Universities have adopted various measures in order to limit the spread of the virus. Crisis staffs have been established within the network of higher education institutions to take decisions concerning the operation of universities, the organisation of higher education, science and research in response to government measures. Universities first implemented protocols for enhanced cleaning across campuses (Liguori & Winkler, 2020), disseminated messaging to remind, and encouraged behaviours such as frequently washing one's hands and not touching one's face while advising students and faculty and staff to stay home if they feel ill. According to Ratten (2020), the COVID-19 pandemic affected education communities, particularly in terms of the massive shift towards online learning. According to UNESCO, on April 1, 2020, schools and higher education institutions were closed in 185 countries, affecting 1,542,412,000 learners; on May 7, 2020, schools and higher education institutions were still closed in 177 countries, having an impact on 1,268,164,088 learners (Marinoni, Van't Land, & Jensen, 2020).

4.1. The Quality of Education During the COVID-19 Pandemic

The University of Economics in Bratislava (UE in Bratislava), one of the largest universities in Slovakia, has adopted the same approach as other colleges and universities. On March 8, 2020, the UE in Bratislava held a meeting of the UE in Bratislava Crisis Staff, at which it was decided, among other things (Blahušiaková et al., 2021), that from March 9, 2020 to March 21, 2020, education in the summer semester of the academic year 19/20 in both regular and external studies at the first and second level of study at all pedagogical workplaces would be interrupted and the teaching process would be carried out in the form of self-study or in another appropriate form.

Subsequently, on March 11, 2020, the Rector of the UE in Bratislava issued Measure No. 3 on the current situation (Rector's Measure No. 3) which specified, modified and supplemented the Rector's Measure issued on March 8, 2020. In addition to the interruption of regular and external study at the first and second level, teaching at the University of the Third Age was also suspended, consulting hours for study departments, officers and teaching staff were cancelled, all planned admissions of foreign partners and students were banned, and all foreign business trips were cancelled until further notice.

The Government of the Slovak Republic declared a state of emergency in relation to the risk of the spread of a new coronavirus throughout the country, which had been in force since March 12, 2020, from 6:00 a.m. The aim was to create conditions for adopting necessary measures to prevent and mitigate the consequences of the public health emergency due to the COVID-19 disease caused by the SARS-CoV-2 coronavirus on the territory of the Slovak Republic. Based on that, and on the recommendations of the Crisis Staff of the University of Economics in Bratislava for monitoring, assessing the situation and taking measures in connection with the occurrence and spread of the COVID-19 coronavirus, the Rector's Measure No. 4 was issued on March 12, 2020, which extended the interruption of teaching and all of the above matters until March 28, 2020 (inclusive). This Rector's Measure No. 4 also cancelled, among other things, the meetings of all self-governing bodies and advisory bodies of the University and its faculties, and cancelled the state exams, dissertation, habilitation and inauguration procedures. On March 24, 2020, The Rector's Measure No. 5 was issued, which specified, modified and supplemented the provisions of Rector's Measure No. 4. At the same time, the suspension of attendance form of study was extended until May 30, 2020 (inclusive) for all levels of regular and external study.

In this context, it is very important to mention that the declaration of a state of emergency by the government took many by surprise, not least the teachers at the University of Economics in Bratislava. Faculties, students, administrative staff, support staff, and university management everyone was stretched beyond their comfort zone by the switch to online-only (Sangster, Stoner, & Flood, 2020). Sahu (2020) states that the main challenges universities across the world have been facing due to the COVID-19 outbreak were: shifting from face-to-face to online classes; assessment and evaluation; international students; travel restrictions; mental health; support services from the universities.

While Rector's Measures No. 3 and No. 4 stipulated the interruption of teaching and the realisation of the pedagogical process in the form of self-study, Rector's Measure No. 5 defined for the first time the interruption of the face-to-face form of teaching and the implementation of the pedagogical process in the form of online teaching using online platforms designed for teaching, such as moodle, Microsoft Teams (MS Teams), Google Hangout Meet, etc., followed by a form of self-study. At the same time, the timetable for the end of the academic year has been adjusted, the dates for the beginning of the examination period for each year of study have been postponed, the dates for the submission of final theses at the 1st and 2nd level of studies to the Academic Information System have been postponed, the dates for state examinations have been postponed, the dates for the submission of applications for the 1st level of studies have been postponed, and all applicants for studies were exempted from the entrance examination for the first level of studies, etc.

Despite the fact that the Rector's Measures No. 3 and No. 4 interrupted the teaching process, many teachers remained in contact with their students and tried to facilitate their self-study by sending materials, checking assignments, or looking for other platforms through which they could connect with students, convey knowledge and insights and not leave everything to self-study. It was a very challenging process. Everybody was in a new situation for which nobody was prepared, neither the students nor the teachers. Many universities (Dill, Fischer, McMurtrie, & Supiano, 2020) did not have enough infrastructure or resources to facilitate online teaching with immediate effect. According to the research of Reimers and Schleicher (2020), who investigated the government or network of schools supporting the ongoing academic instruction of students in various countries in the world, a large percentage of respondents indicated 'nothing', followed by providing encouragement to schools to use online resources. Some schools had been able to rely on online platforms to continue instruction, and in some countries, governments were relying on educational television to broadcast content. According to Allen, Rowan, and Singh (2020), in many schools, the move to the online environment presented considerable hardship as teachers struggled to adapt to what might well be the 'new normal' for quite a period of time. Despite the fact that information and communication technologies education in various forms has become an obligatory part of the curriculum (Eger, Tomczyk, Klement, Pisoňová, & Petrová, 2020), there are still students who do not have access to adequate technologies needed for online study in the world, including Slovakia. Furthermore, computers and other IT equipment at home were especially during online education in heavy demand from parents, children, and other relatives who have to work online from home. The transition to the online mode has raised questions for the universities and faculties about their capability to deal with the existing technology, and working from home has been a difficult task for the universities (Dill et al., 2020; Sahu, 2020).

After the interruption of teaching at the UE in Bratislava, communication between teachers and students was mainly *via* e-mails, or *via* MS Teams, Zoom, Google Meet or Moodle, or e-learning, depending on the preferences of individual teachers. The examination period of the summer semester 19/20 was also carried out by various forms of knowledge testing through the submission of assignments to the teachers *via* e-mail communication, oral examinations *via* MS Teams, Zoom, Google Meet, written examinations *via* MS Teams or Moodle, etc.

Although teaching in the summer semester 19/20 was mainly based on distance learning, thanks to the gradual improvement of the pandemic situation and the gradual releasing measures, the state examinations at the UE in Bratislava at both levels of study were held in face-to-face form with a strict schedule and in compliance with strict anti-pandemic and hygiene precautions. This form of graduation from the UE in Bratislava was very dignified, and the students also appreciated the fact that they could directly demonstrate their knowledge acquired during their studies at the University and defend their final theses with honour.

Although the pandemic situation in the summer indicated an improvement in the current situation and a possible retreat of the pandemic, the release of anti--pandemic measures at that time triggered a new wave of the pandemic in the autumn of 2020. Although primary and secondary schools opened their doors to pupils and students on September 1, 2020, already at the end of October 2020, by government decision, secondary schools and the second level of primary schools switched to distance learning.

The University of Economics in Bratislava and all its faculties were preparing for both possible variants of teaching – attendance form and online form. Although everyone believed that teaching would start in attendance form, even the start of the winter semester was postponed by two weeks, teaching in the winter semester of the academic year started and was conducted entirely by distance learning.

University members, not only in Slovakia, got training to use online learning platforms either as the only delivery mode or as an add-on to face--to-face teaching (Lim, 2020). Given that the possibility of distance learning in the winter semester 20/21 was foreseen, a single platform for online teaching has been established for teachers at the UE in Bratislava – namely MS Teams. Before the beginning of the semester, teachers were provided with several webinars and training sessions where they could learn and acquire basic but also advanced knowledge and skills in the use of the MS Teams platform, which was subsequently reflected in the growing quality of the teaching process. The second platform that teachers could use for online teaching was Moodle. Lectures and exercises were conducted through MS Teams in exactly-defined timetable windows, and a uniform, systematic procedure was established in the teaching process. All consultations, including online meetings of the governing bodies of the faculties and the university (meetings of the dean's colleges, rector's colleges, scientific councils of the faculties, the scientific council of university, meetings of the academic senates of faculties, the academic senate of the university, etc.) were also carried out through MS Teams. The examination period of the winter semester was also conducted online. As the recommended forms of teaching in the winter semester were the MS Teams and Moodle platforms, the examinations were also recommended to be conducted through these two platforms.

The education in summer semester 20/21 was carried out in a similar way, i.e., by distance learning. The state examinations were carried out in attendance form, following all anti-pandemic and epidemiological measures. However, the entrance examinations for both the first and the second levels of study were conducted online.

The education process in winter semester 21/22 was also still carried out in online mode. The summer semester 21/22 started in online mode, but in the 4th week of the semester, the education process switched to a hybrid mode of teaching. Hybrid mode means that lectures were carried out in online mode, and exercises and seminars were carried out in face-to-face mode.

In the spring of 2021, Blahušiaková and Mokošová (2021) conducted a questionnaire survey, the aim of which was to analyse the perception of the transition from a face-to-face form of teaching to online teaching in the summer semester 19/20, as well as the realisation of the teaching and examination itself in the online environment, not only from the students' perspective but also from the teachers' perspective. The results of the survey showed that the first semester of online teaching was very chaotic, as initially, the Rector of the UE in Bratislava had decided to interrupt the face-to-face form of teaching and to use the form of self-study, which was by many students and teachers interpreted in their own way. It was only later that the issued measures stipulated the obligation to carry out the pedagogical process online using e-learning platforms for teaching, such as Moodle, Microsoft Teams, Google Hangout Meet, etc., followed by a form of self-study. Teachers communicated with students through emails, some connecting with students through Zoom, Skype, Google Meet, or Moodle communication platforms. Some teachers did not communicate with students at all, and the pedagogical process took place exclusively in the form of self--study. From the students' point of view, the realisation of the first semester in the online environment was evaluated very negatively because students had to have multiple communication platforms installed on their computers, as almost every teacher used a different way of communication in the pedagogical process.

Other great challenges in the online system of education, besides the online form of teaching itself, were and still are assessment and evaluation. According to Sahu (2020), the switch from an attendance form of teaching to online teaching has a serious impact on assessment and evaluation. Timmis, Broadfoot, Sutherland, and Oldfield (2016) argue that although technology has been used earlier to support teaching and learning, the assessment aspect was often underdeveloped. Applying assessments online, especially in those courses designed for face-to-face learning, was a challenging task. Watson and Sottile (2010) state that it is difficult to monitor how students are taking in online classes and to ensure that they are not cheating during the online examination. Lim (2020) draws attention to the students' worries about the fact that the outbreak would affect their exam performance. They needed to be provided with clear directions regarding the procedures for administering exams, assignments, and projects. Bothwell (2020) suggests framing a flexible assessment guideline to keep in mind that students are not at a disadvantage. If some students were not able to attend a course online due to illness or any disturbance, universities should have remained as flexible as possible to ensure that they would not get any negative impacts in terms of grading (Sahu, 2020).

The examination period of the summer semester 19/20 was, like the teaching in this semester, carried out in online mode. Teachers again used several ways of testing knowledge, from drawing up assignments and their subsequent sending to the teacher by e-mail, oral examinations *via* communication platforms, written tests *via* communication platforms, or Moodle, etc., which was again evaluated very negatively by students. Students complained about too little time to prepare for the predominantly test-based forms of examination; teachers, on the other hand, feared that giving more time would lead to cheating in the examination.

Due to the negative evaluations of the pedagogical process, which resulted from the questionnaire survey of students' opinions on the subject and the teacher (the survey), which takes place regularly in each semester of the academic year at the UE in Bratislava, the organization of the education process in winter semester 20/21 was planned, as we have already mentioned, in two variants – in the attendance form, and in the online form as well. Before the beginning of the semester, teachers were offered training in MS Teams, which, together with Moodle, became the two recommended teaching platforms for distance learning. The start of the winter semester was postponed by two weeks, continuing the online mode, which was organised in regular timetable windows *via* the MS Teams platform, with possible Moodle support. The quality of the education process in the winter semester 20/21 was evaluated very positively by the students in the aforementioned questionnaire survey (Blahušiaková & Mokošová, 2021), especially in comparison with the previous semester. This trend and the level of teaching continued in the summer semester 20/21, as well as in the winter semester 21/22. Students were imparted with relevant, adequate knowledge that was highly comparable in quality to the knowledge imparted during the attendance form of teaching.

The following advantages and disadvantages of online education resulted from the questionnaire survey conducted among students (Blahušiaková & Mokošová, 2021), as well as from regularly organized surveys, which are presented in Table 4.1.

Social distancing was among the most frequently cited negatives and disadvantages of online education. It is necessary to point out that physical distancing as one of the government measures does not mean social distancing. There are many platforms the students can communicate through. Reimers and Schleicher (2020) explain in their paper why the necessary social isolation measures would disrupt school-based education for several months in most countries around the world. Absent an intentional and effective strategy to protect the opportunity to learn during this period, this disruption will cause severe learning losses for students. In the context of the COVID-19 pandemic, it appears likely (Galea, Merchant, & Lurie, 2020) that there will be substantial increases in anxiety and depression, substance use, loneliness, and domestic violence. Browning et al. (2021) researched the psychological impacts of COVID-19 among university students in seven states in the USA. Their research demonstrates there is a broad array of impacts from COVID-19 on students' feelings and behaviours. The most common changes in how students felt compared to before the pandemic were

Table 4.1. Advantages and disadvantages of online learning

Benefits	Disadvantages
Saving time (usually spent travelling to and from school and work)	Lack of direct contact with teachers, lack of non--verbal communication, slower feedback
A more flexible and modern form of teaching	Lack of socialization, personal contact with classmates
More interesting lectures supported by visual presentations, the possibility to record lectures and exercises	Technical problems (inadequate hardware and software equipment, Internet connection and electricity outages, both on the teachers' and students' sides)
Protecting the health of loved ones	
Higher comfort when studying from home	Less space for questions
Higher attendance of students at lectures	Problems with licenses on private computers
Developing digital skills	Health problems (eyes, spine, etc.)
Ecological aspect – saving paper	Cheating on exams and credits written exam
Modern ways of testing knowledge, with students knowing the results instantly	Lack of access to study literature (due to the closure of libraries during the first wave of the pandemic)

Source: (Blahušiaková & Mokošová, 2021).

increased lack of motivation, anxiety, stress and isolation. Smaller numbers of students, on the other hand, reported positive changes from the COVID-19 pandemic, such as optimism, productivity, adaptation, and empathy.

The main problems the teachers and students had to face in online education were: the access to the digital world, the missing quiet place to study in students' homes, shortage of suitable information technologies for learning or teaching, Internet access issues, including affordability, the lack of time for teachers to prepare for this new form of teaching (many teachers had to improvise), problems with the availability of literature for students (due to closed libraries), etc. (Daniel, 2020; Reimers & Schleicher, 2020; Thomas & Rogers, 2020). According to Thomas and Rogers (2020), students with fewer resources and fewer opportunities for parental support were disadvantaged in comparison with students of well-off parents, who often live in bigger houses with their own bedrooms with better access to technology, books and other learning resources.

Another problem resulting from online education was the acceptance of graduates by their future employers. The students expressed worries about how employers would assess graduates studying mainly online (Blahušiaková et al., 2021). A similar stance was taken by Sahu (2020), who states that there is a concern that the COVID-19 pandemic may have a serious impact on the careers of university graduates studying online.

The results of the survey conducted by Blahušiaková and Mokošová (2021) showed that despite several advantages of online learning, only 29% of respondents (students) prefer this form of learning. In contrast, the face-to-face form of learning is preferred by up to 46% of the respondents who took part in the questionnaire survey (Figure 4.1).

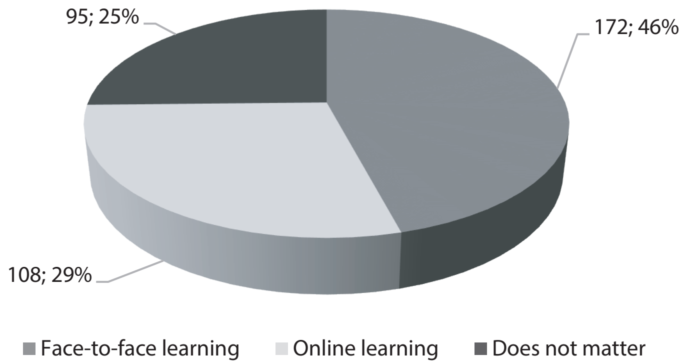


Figure 4.1. The preferred form of learning

Source: (Blahušiaková & Mokošová, 2021).

Based on an assessment of the positives and negatives of online education, Blahušiaková et al. (2021) developed a SWOT analysis of online education in relation to its strengths and weaknesses, as well as potential opportunities and threats (Table 4.2).

Sahu (2020) considered the time of the pandemic as the right time for universities, students, and administrators to learn from this critical situation and overcome the challenges online teaching brings. Students are young and energetic, and they are capable of learning through online platforms. He argued that university authorities had encouraged students and faculties to stay connected online or on any social media platform and move forward together during the extremely difficult time. Safety and well-being were the highest priorities. Stress caused by the rapid increase of infected cases, uncertainty and anxiety about what would going to happen led to unfavourable effects on the learning and psychological health of students. Many universities placed emphasis on mental health support by updating the health guidelines and providing online guidance and lectures to offer strategies for managing stress when coping with the pandemic. Students were provided with proper psychological support well in time (Al-Rabiaah et al., 2020).

Table 4.2. SWOT analysis of distance learning

	Helpful to achieve the objective	**Harmful to achieve the objective**
Internal origin	Strengths ▪ Work/study from home comfort ▪ Time-saving ▪ More concentration on the study at home ▪ Higher participation of students at lectures ▪ Recording of lectures, seminars, and their providing to students ▪ Lower study costs ▪ Digital skills improvement ▪ New modern education methods	Weaknesses ▪ Missing socialization and contact with schoolmates ▪ Missing interaction and direct contact with teachers, personal approach ▪ Technical problems (internet and electricity outages) ▪ Software licenses, programs used in the educational process ▪ Insufficient digital skills of teachers ▪ More stressful assessment (time limits) ▪ Anonymity of participants ▪ Cheating at exams ▪ False participation in lectures
External origin	Opportunities ▪ A modern way of assessment ▪ Assessment oriented on practice ▪ Ecological aspect (paper savings) ▪ Opportunity to work alongside the study (thanks to time savings)	Threats ▪ Inadequate study for exams (opportunity to cheat) ▪ Health problems (back pain, problems with eyes) ▪ Question of employers' attitude towards graduates who studied mainly online ▪ Availability of study literature (closed libraries) ▪ Missing 'student's life'

Source: (Blahušiaková et al., 2021).

The COVID-19 pandemic tested the readiness and flexibility of schools to respond to new situations. Despite the many negatives associated with teaching in an online environment, it is important to note that the shift of the performance of the educational process to the online environment has also brought with it a number of positives, which can also be taken advantage of in the face-to--face form of teaching. The increase in computer literacy, the growing use of information and communication technologies in face-to-face teaching, and many others belong to the positive consequences of the COVID-19 pandemic.

4.2. The Impact of the COVID-19 Pandemic on Science and Research Area

As a result of the COVID-19 pandemic, there have been border closures, travel restrictions, and bans on mass events, which in turn have affected the field of science and research. As reported by Harper et al. (2020), travel, social and financial restrictions have affected scientific research worldwide. A similar view is presented by Nurhasan, Prahani, Suprapto, and Al Ardha (2022), who state that the COVID-19 pandemic has caused problems in various sectors, including education, health and social life, as well as has an impact on the field of research, including the field of Artificial Intelligence which has become an interesting issue in the era of the Industrial Revolution 4.0. According to Tang, Tse, Leung, and Fotis (2022), researchers have had to think of ways to deliver and continue their studies. That is why they illustrate how the strategies and elements of online learning can be adopted for the conducting of research.

In the first waves of the pandemic, many scientific events, conferences, and seminars were cancelled and moved to the next year, or they were moved to the online environment and were held through the communication platforms MS Teams, Webex, Zoom, etc. Later, after the release of the measures, several scientific events were held in hybrid mode, i.e., a part of the presenters, whose health condition or measures taken in the country allowed it, attended the scientific events in person, while the others were allowed to participate as virtual participants. At the very beginning of the pandemic, due to the ban on the organisation of mass events, meetings of scientific councils of faculties and universities were also banned, and habilitation and inauguration procedures were suspended. Gradually, these events were carried out through the online environment.

Omary et al. (2020) investigated the challenges that the COVID-19 pandemic brought to research-intensive institutions. They explored the options researchers have in times of pandemic constraints if they want to maintain a certain level of research activity while keeping all safety precautions in place. According to the research of D'Anna and Grace-McCaskey (2022), it is impossible or difficult to perform field work and establish new research contacts when only digital solutions were available during the pandemic. Staniscuaski et al. (2020) investigated the impact of the pandemic on female mothers who, in the early days of the pandemic, had to stay at home with their children instead of continuing their research activities, putting them at a disadvantage compared to their male research colleagues. In this context, they recommend the introduction of a more flexible policy to make science more equitable and accessible to everyone affected by the pandemic.

Keen, Lomeli-Rodriguez, and Joffe (2022) point out in their research the opportunities which researchers had during the pandemic in terms of collecting data for their research. Several used virtual interviewing options, which may confer unique advantages: supporting researchers and participants with mobility challenges; enhancing international research where researcher presence or travel may be problematic. According to their research conclusion, the opportunities for virtual innovation should not be overlooked.

Regarding the submission of applications for new projects from the grant agencies of the Ministry of Education, Science, Research and Sport of the Slovak Republic in the first wave of the pandemic, the deadlines for the submission of new scientific projects VEGA and KEGA have been postponed by two months due to the declaration of a state of emergency (MESRS, 2020b, 2020c). The period for projects that were due to end on December 31, 2020, has also been extended. The completion of these projects and the submission of the final report for the entire research period could have been submitted up to March 31, 2021. The assessment of VEGA and KEGA projects submitted in the new call was carried out depending on the current epidemiological situation by using the possibilities of electronic voting and online meetings.

4.3. The Impact of the COVID-19 Pandemic on Internationalization

The COVID-19 pandemic also significantly impacted international relations and activities related to international education and research. It has also had a major impact on the Erasmus+ mobility programme. The global pandemic brought with it a number of restrictions on travel and mobility realisation. For many months of 2020, it prevented the implementation of planned mobilities and the creation of new mobilities under the Erasmus+ and CEEPUS programmes. Several groups of students, trainees or teaching staff who were abroad at the time of the pandemic outbreak returned early, and several Erasmus+ mobilities were interrupted or cancelled due to travel restrictions (University of Economics in Bratislava [UEBA], 2020).

Students who were studying abroad at the time of the outbreak had a choice: they could cancel their mobility and return home; they could return home and continue their mobility virtually (online if the foreign university allowed it); they could stay abroad and study online; or they could stay abroad and continue their studies in attendance form (if the foreign university allowed it). Depending on the alternative chosen, students' grant funding was subsequently reduced. However, the return home was not easy, mainly due to international transport restrictions.

Students were subsequently reimbursed for the costs they incurred in returning home. According to UEBA (2020), the International Mobility Department at the University of Economics in Bratislava processed 15 applications from Erasmus+ students for studies and internships for reimbursement of the grant from the summer semester of the academic year 19/20, 38 applications for reimbursement of costs due to COVID-19, four applications for reimbursement of costs to participants of the Joint International Week 2020 due to COVID-19, etc.

In 2020, 223 students were sent abroad (293 in the previous calendar year, up to 320 in 2018). In 2021, the number of students sent abroad increased (Table 4.3) to 276 (UEBA, 2021). The impact of the COVID-19 pandemic was also reflected in the number of students admitted. In 2020, the University of Economics in Bratislava admitted only 152 students; in 2019, it was up to 287 students, and in 2018 up to 343 students. In 2021, there was again a slight increase in the number of students admitted, namely up to 158.

Table 4.3. Overview of incoming and outgoing students through mobility programmes

Year	2015	2016	2017	2018	2019	2020	2021
Outgoing	515	297	292	320	293	223	276
Incoming	440	399	342	343	287	152	158

Source: (UEBA, 2021).

Despite the fact that Slovak students of the UE in Bratislava had to move out of their rooms at dormitories after the outbreak of the COVID-19 pandemic, international students were allowed to stay in the dormitories. Classes in foreign languages for international students were taught online during the first year of the pandemic, and this trend continued for other following 4 semesters.

In the summer semester of the academic year 19/20, an online questionnaire survey was carried out among foreign exchange students as well as among international students studying foreign language programmes to evaluate the online teaching in this semester. The international students were satisfied with the online teaching, although they missed the online seminars and lectures in most of the courses. According to this survey's respondents, teaching was mainly done by sending materials, assigning (redundant) tasks, assignments, and seminary works. Some lecturers also conducted online seminars and lectures, but not at the standard length. The interim assessment exams were connected into one final exam, and instead of written exams, students worked on projects, essays and term papers. Communication with teachers varied; some teachers did not communicate with students at all. Some teachers did not even respond to emails from students. A similar questionnaire was carried out in the winter and summer semesters of the academic year 20/21 when the education in foreign languages was already positively evaluated by the students.

In order to unify the approach of teachers to the realisation of teaching foreign language courses for foreign exchange students and in order to provide quality teaching, a *Handbook for lecturers on online teaching of foreign language courses in the winter semester of the academic year 2020/2021* (hereinafter Handbook) was prepared before the beginning of the winter semester of the academic year 20/21. This Handbook contained information on the administration of the courses, teaching instructions, the recording of assessments, including communication with students.

The COVID-19 pandemic has also had a major impact on teacher and staff mobility. Due to the aforementioned measures of the Rector of the UE in Bratislava, 33 planned Erasmus+ mobilities for teaching and staff mobility were cancelled. In 2020, only 22 teaching and non-teaching staff members travelled abroad on Erasmus+ mobility, which represents a huge decrease compared to 2019, when 117 teaching and non-teaching staff members travelled abroad (Table 4.4).

Table 4.4. Overview of the number of outgoing teachers and staff within programmes of Erasmus+ and CEEPUS

Year	2016	2017	2018	2019	2020	2021
Outgoing staff	83	99	107	117	22	27

Source: (UEBA, 2021).

Similarly, the COVID-19 pandemic also affected the number of incoming foreign teaching and non-teaching staff when foreign visits were banned due to anti-pandemic measures, especially during the pandemic's first and second waves and a number of planned and agreed mobilities of foreign researchers did not take place.

The year 2021 has already seen an increased interest in mobility programmes, although not quite comparable to the pre-pandemic period, both from students and teaching and non-teaching staff. There has also been a gradual increase in interest in the implementation of faculty and staff mobility at the University of Economics in Bratislava.

A similar situation was also at other universities in the Slovak Republic, from which we have chosen two that are considered to be the biggest universities in the Slovak Republic – Comenius University Bratislava and Slovak University of Technology in Bratislava. At these two universities, the number of incoming and outgoing students and staff decreased rapidly during two pandemic years (Figures 4.2 and 4.3). Especially at the Slovak University of Technology

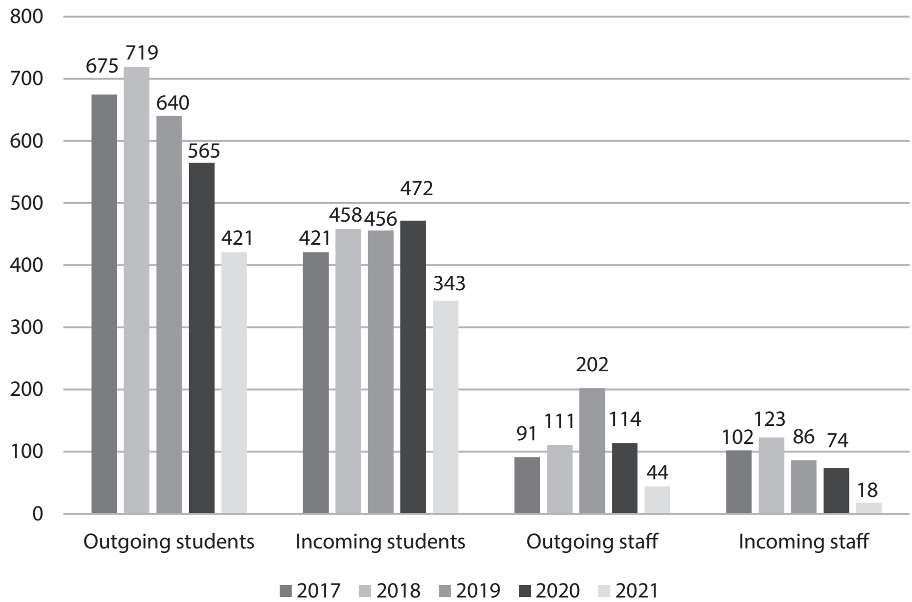


Figure 4.2. Incoming and outgoing students and staff at Comenius University in Bratislava

Source: (Univerzita Komenského v Bratislave [UNIBA], 2021).

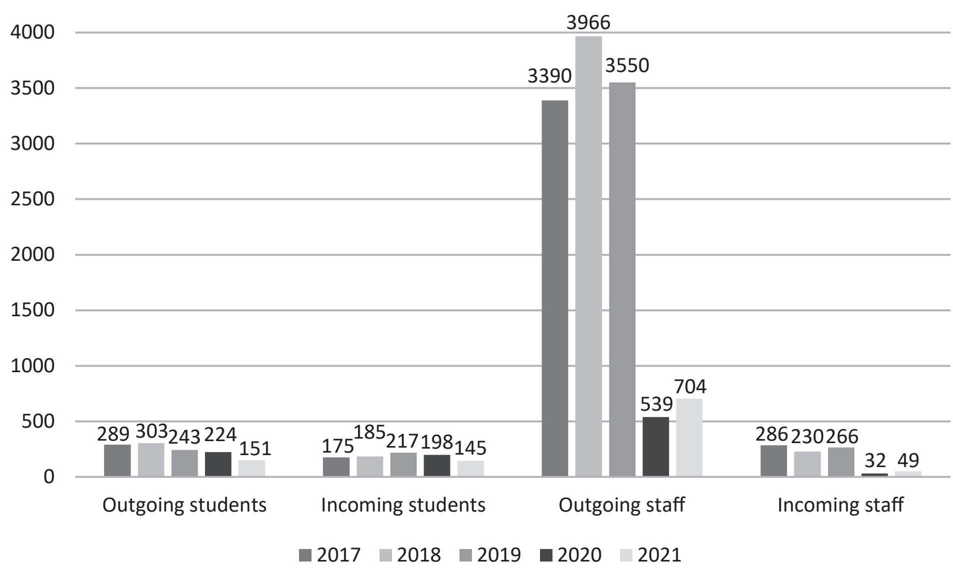


Figure 4.3. Incoming and outgoing students and staff at Slovak University of Technology in Bratislava

Source: (STUBA, 2021).

in Bratislava, we can see a rapid drop in the number of outgoing teachers and employees during two pandemic years, 2020 and 2021.

As our research has shown, the COVID-19 pandemic has significantly affected not only the economic situation at the macro and micro level but also the quality of education, science and research, as well as the area of internationalisation. Although the impact has been rather negative, the pandemic has also brought several positives that can help improve the quality of education, science and research in the post-pandemic era.

Conclusions

When information about a new virus that could cause a global pandemic began to circulate at the turn of 2019 and 2020, this information was taken as a hoax rather than a reality that could occur. With the first cases of COVID-19 in China beginning to spread massively around the world, there was still hope that the disease would not be long-lasting. As there was no effective antiviral at the time, and based on observation of the situation in China, it was evident that if the population was contaminated right from the start, it would result in a collapse of the health system and many deaths. For this reason, various measures have been taken by both states and international organisations to try to influence the pandemic.

The monograph is the result of an examination of measures taken by the EU in the form of fiscal and financial measures, as well as by the Slovak Republic, as a Member State of the EU, which were primarily intended to prevent the spread of the COVID-19 disease among the population, and subsequently support and assist economic entities in overcoming the impact of the pandemic. The aim of this monograph was an in-depth analysis of the impact of the COVID-19 pandemic on the macroeconomic environment with respect to the predictions, on the economic situation of entities at the micro level and, in the context of the measures taken, also an analysis of the impact on the accounting practice and the field of education, science and research in the Slovak Republic.

The monograph analyses the Economic Sentiment Indicator, Consumer Confidence Indicator, Consumption Expenditures of private households and the percentage change in the Gross Domestic Product in aggregate for all Member States of the EU from 2017 to 2022. By analysing the evolution of these indicators, it is possible to conclude that the period of four waves of the pandemic from the beginning of 2020 to the end of 2022 has been reflected in changes in economic indicators and consumer behaviour in the EU economy. Since March 2022, the indicators have also evolved in light of the newly emerging geopolitical situation in Europe. Synthesising the results of various surveys presented in the monograph: the situation of selected industries (automotive industry, aerospace industry, chemical industry, construction industry, food and beverage industry, textiles and apparel industry, cultural and creative industry, information, communication and technology industry, and healthcare industry) during the first and second waves of the pandemic was examined in terms of changes and lessons learned. The EU has responded swiftly to the COVID-19 pandemic with an effort to cover as many of the negatively affected areas as possible. To reinforce the fiscal policies of EU Member States, the EU provided an aid package as early as April 2020, with aid divided between job-retention programmes, the Pan-European Guarantee Fund and the European Stability Mechanism (ESM). Other significant support from the EU included a financial package that was divided between programmes under the Multiannual Financial Framework and the Next Generation EU. The budget allocated to these programmes is being drawn down for the period 2021 to 2027. The largest programme is the Recovery and Resilience Facility, also the Slovak Republic was initially allocated a grant of €6,329 million from this programme, which was eventually reduced to €5,608 million.

In this context, the monograph analysed the process and course of taking individual measures by the Government of the Slovak Republic in the division into individual waves of pandemic development recorded in the conditions of the Slovak Republic. The analysis of the measures was divided into an impact analysis of the restrictions on the movement of the population and on the operations of establishments in connection with the declaration of emergency situations and lockdowns during the individual waves of the pandemic and an analysis of the measures, which were intended to reduce the negative economic impact of the restrictions and which, at the same time, had an impact on accounting practice. However, the measures taken have been reflected in the macroeconomic forecast as well as in the real macroeconomic performance. When comparing the macroeconomic forecasts for 2020 and 2021 with the actual outcomes, better results were eventually achieved for both the GDP at current prices and private consumption. When comparing the real macroeconomic indicators of 2019 with 2020, there was a decline in all macroeconomic indicators. In 2021, it was already possible to draw grants from the EU, so an improvement in macroeconomic indicators was registered for this year, but at the same time, higher inflation.

However, from the perspective of entrepreneurs, the support provided by the Slovak government was chaotic, did not always include all affected groups and was also delayed. For this reason, an analysis of the impact of the Slovak Government's restrictive and supportive measures on the financial health of companies operating in the selected 18 economic sectors was carried out.

Sales, profit and loss and financial analysis ratios for the accounting periods 2019, 2020 and 2021 were analysed and compared. This analysis and subsequent comparison confirmed that some economic sectors showed negative values in all indicators, such as real estate. However, the investigation also confirmed that some economic sectors, such as information technology, electrical engineering, advertising, chemistry and plastics in the examined indicators, improved results compared to the period before the pandemic.

Restrictive measures in the context of the COVID-19 pandemic have also impacted the quality of education, research and internationalisation. Education, research and internationalisation were transferred to the online environment using MS Teams, Zoom, Google Meet or Moodle.

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List of Figures

List of Tables