

HRM challenges in Slovakia generated by the Covid-19 pandemic

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Abstract

Purpose – The article analyzes the challenges Slovak businesses and organizations are facing in relation to the Covid-19 pandemic and the resulting human resource management solutions they apply.

Design/methodology/approach – The authors present a part of their research conducted in six Central Eastern European (CEE) countries. Based on timely data, the article presents socioeconomic characteristics of Slovakia and the results of the research “HRM Challenges in Times of the Covid-19 Crisis” conducted among employers in Slovakia. The survey method encompassed 247 Slovakian organizations.

Findings – The year 2020 was an extraordinary one for businesses, governments, and individuals alike. According to the results of this research, Slovak organizations were not prepared for the Covid-19 crisis. Respondents who had a pandemic action plan at the time of the breakout were hardly found. Measures taken to preserve human health directly impacted the way how work is done and organized. This poses significant challenges for both employers and employees. In general, small organizations used cost and staff reduction tools. On the other hand, some of the respondents, mainly large organizations have been using future-oriented solutions, e.g. organizational development.

Originality/value – In this research the authors analyzed the experiences of a Central European country, namely Slovakia. However, the experiences gained and collected here can be useful in the international arena as well.

Keywords Labor market, Pandemic, V4 countries, Slovakia, Labor shortages

Paper type Research paper

1. Introduction

The year 2020 has been a challenging one for employers, governments, social enterprises, individuals and families alike (Almeida, 2021). Before 2019, people had heard about epidemics

JEL Classification — J10, J20, J50

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The research was supported by the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic [No. 1/0688/21].

Funding: Edition of that article was financed under Agreement Nr RCN/SN/0330/2021/11 with funds from the Ministry of Education and Science, allocated to the “Rozwoj czasopism naukowych” programme.



only from the news, books and films, never thinking they could pose a real threat. Research in different parts of the world (Gourinchas, Kalemli-Ozcan, Penciakova, & Sander, 2021) and in Central Europe (Römisch, 2020) showed that most companies – especially the most vulnerable ones, small- and medium-sized enterprises (SMEs) – had no scenario prepared for emergency situations, which would describe procedures to be followed in the event of a pandemic. Such plans would have reduced the time spent on planning and implementing appropriate measures in the event of an actual emergency, which would result in reduced uncertainty. Since a similar event last occurred 100 years ago, the measures introduced by governments and employers were mostly experimental in nature (Baert, 2021; Priya *et al.*, 2021). All such measures aimed at avoiding or minimizing physical contact. In doing so, the imposed measures had a direct impact on how work is organized, how we travel, how we transport people and goods and how we spend our time of leisure. Similarly, the use of virtual and online tools has also improved.

The recent downturn was the third largest global economic crisis since the Industrial Revolution. However, unlike the previous ones, the current crisis was caused not by economic developments but by a crisis of another origin that led to an economic impact. The forecasts for an economic downturn and high unemployment in the European Union (EU) published in early 2020 proved to be slightly exaggerated (OECD, 2020; Pažický & Zúdel, 2020; Baert, 2021). However, in other parts of the world, such as the USA, unemployment exceeded its earlier peak reached during the downturn in 2009 (US Bureau of Labor Statistics, 2021; Kochhar, 2020). Unlike the previous crises, the pandemic did not affect individual economic sectors in the same way (ec.europa.eu, 2021; Khan, Khan, & Shafiq, 2021; De Grauwe & Ji, 2020). The volume of industrial production and international trade declined (WTO, 2021). Besides the industry, the tourism, hospitality and entertainment sectors saw significant decreases in revenues and redundancies. While the international trade in goods and industrial production recovered in a relatively short time, the hospitality sector continues to struggle in an uncertain environment amid constant changes in pandemic precautions, and their lost labor is absorbed by more prosperous industries (Krumel, Goodrich, & Fiala, 2021). The efforts to minimize physical contact to the lowest possible level temporarily changed how people work and their free time. In jobs that can be performed without physical presence, including education, working from home and online education came to the fore. Therefore, the IT sector, virtual devices, communication applications and online services were among those that benefited from the pandemic the most. The year 2020 was successful for them all around the world in terms of sales, and the number of their employees also increased.

The pandemic and the imposed government measures to curb it have only reinforced the already prevailing labor market trends (Grencikova *et al.*, 2021; Nagurney, 2021), namely the widespread use of online tools, remote work, work from home and online education. Moreover, the new situation accelerated changes in the economic structure, namely the growing role of services in income generation and employment in terms of the emergence of automated solutions: replacing human labor with the use of artificial intelligence in such fields as customer services with learning bots, application-based services or big data. The Visegrád Group (V4) countries – Czechia, Slovakia, Hungary and Poland – have already been facing several challenges, which were further exacerbated by the Covid-19 pandemic. Catching up with other EU member states economically and maintaining sustainable economic growth are being hampered by barriers such as outbound migration of skilled and unskilled labor, negative demographic trends and growing labor shortages due to the above phenomena (Astrov *et al.*, 2021).

This article outlines the challenges Slovak businesses and organizations are facing in relation to the Covid-19 pandemic and the resulting human resource management (HRM) solutions they tend to apply.

2. Literature review

2.1 Labor market situation in the V4 countries

Over the last few decades, V4 countries' labor markets were shaped by four key trends. These include specific demographic trends, labor migration and the impact of FDI inflow on employment structure. We should also add growing digitalization to the list.

Demographic trends are not promising all around Europe. The issue has been the subject of serious debate among experts since fertility rates in Europe and North America fell below the sustainable population growth minimum (2.1 children per woman) in the second half of the 1970s (Hodgson, 1983; Teitelbaum & Winter, 1985; Leridon, 2005). The decrease in natural population growth and aging – i.e. the steady decline in the number of people between 15 and 64 years old – has proved to be a growing problem since the 1990s in Central European countries (Astrov *et al.*, 2021; European Commission, 2018). The working-age population decreased by 3.2% in Slovakia and by 6.2% in Czechia between 2000 and 2010. Eurostat figures suggest that the same trend will continue in the V4 countries in the decades to come. Between 2015 and 2040, the working-age population in Poland may decrease by 16.5%, in Slovakia and Hungary by 12–13% and in Czechia by 9%, while the proportion of those aged 15–44 years is expected to fall as the proportion of the group aged 45–64 years will increase (Káčerová & Ondačková, 2015; Eurostat, 2021). The growth of the latter group is much faster in the Central Eastern European (CEE) region than in the average OECD country, albeit the pace of growth is still a lot slower than in Japan, South Korea, Italy or Spain (Keese, 2020). Therefore, the Visegrád Group must face declining and aging populations at the dawn of the digital age.

Another major trend that can be observed in the V4 countries is outbound labor migration. One of the freedoms implemented as an essential element of the EU is the free movement of persons, which according to migration theorists' push and pull theory (Ravenstein, 1885) causes emigration from developing countries – typically the eight member states that joined the EU in 2004 – to developed countries, which in this case means the old 15 EU member states (Windzio, Teney, & Lenkewitz, 2021; Bachmann, Bechara, & Vonnahme, 2020; Tomaskova & Kuhnova, 2016; Niti, 2018). The factors facilitating the outflow of the qualified workforce are primarily wages, higher living standards, differences in working conditions and career prospects (Paun, 2019; Bajžíková-Bajžík, 2020; Kahaneč & Zimmermann, 2016; Godany, Machova, Mura, & Zsigmond, 2021). Labor mobility also significantly contributes to the decrease in natural population growth since it is the youngest age groups that leave the V4 countries, which has a proven impact on birth rates in the sending countries (Astrov, 2019). As a result of European integration promoting labor mobility, a significant proportion of skilled labor has left the region with the intention to be hired abroad. The mobility of the highly skilled labor force has become one of the most discussed issues in recent migration debates (Kajanova, 2017; Yabuuchi & Chaudhuri, 2007; Rievajova & Privara, 2016). The number of highly skilled immigrant labor force living in OECD countries increased from 12.4 million in 1990 to 20.4 million in 2000, while the total number of working-age immigrants increased from 42 million to 59 million over the same period (Docquier & Marfouk, 2004). Net migration from the Visegrad countries between 2005 and 2015 to the EU's developed western economies is estimated at more than 2.2 million, 74% of whom are Polish citizens (UN, 2017). Net outbound migration in Slovakia amounts to 190,000 people and 260,000 people in Hungary. The net migration balance in Poland indicates a shortfall of 500,000 individuals. Among the Visegrad Group, only Czechia has a positive migration balance (100,000 people) (Czech News Agency, 2021). The latest migration data have been significantly affected by the pandemic and Brexit since the United Kingdom used to be one of the main destinations of migrants in the EU. Table 1 shows the changes in migration figures between 2019 and 2020.

There are numerous benefits of labor migration, although outbound migration also has an undoubtedly negative impact on the economies of the sending countries in the form of labor

shortages. Shortages have already been hindering the smooth operation of businesses in many sectors of the V4 countries. At the macro level, this is a barrier to economic growth and to the development of national economies (Wolf, 2021; Mura, Zsigmond, Kovács, & Baloghová, 2020).

The third notable trend is significant globalization that started to unfold at the time of the regime change from communism to liberal democracy. Globalization has become one of the most significant features of the large-scale expansion of foreign-owned companies in some of the developing regions. The large increase in foreign direct investment (FDI) into developing countries was closely related to the growth of globalization, which considerably contributed to the successful implementation of export-led economic policies in the V4 countries (Jirasavetakul & Rahman, 2018; Mura & Hajduová, 2021). The inflow of FDI had a significant impact on the economic structure of the receiving countries as well as on human management practices in the CEE region (Lewis, 2005; Brewster, Morley, & Buciuuniene, 2010; Cranet, 2017; Morley *et al.*, 2021). Prior to the outbreak of the Covid-19 pandemic, the proportion of those employed in foreign-owned businesses was 17% in Czechia, 14.9% in Poland, 17% in Hungary and 25% in Slovakia. Accession to the EU significantly impacted foreign capital inflows, labor markets and employment regulation in the V4 countries (Vetráková-Smerek, 2019).

The fourth important trend is the development of robotization. According to Lordan (2018), 69% of jobs in Czechia, 61% in Hungary and 58% in Slovakia are at risk due to some form of automation. Nedelkoska and Quintini (2018) have similar forecasts, according to which 62% of jobs in Slovakia, 52% in Poland and 49% in Czechia are at risk for the same reasons. Nevertheless, the estimates of Kafkadesk (2018) are less gloomy. They estimate that only 11% of employees in Slovakia, 10% of them in Czechia and 7% in Poland could lose their jobs due to robotization at some point in the future (Kafkadesk, 2018).

2.2 Employment situation in Slovakia

The V4 countries share the same history. They all transitioned to a market economy in the early 1990s and became members of the EU in 2004. The inflow of FDI has been growing dynamically throughout the whole region following the economic transition, and it has significantly contributed to the economic growth of all four countries, their technical development and maintenance of high employment levels (Vojtovič, Klimavičiená, & Pilinkienė, 2019; Albuлесcu & Goyeau, 2019). Our empirical research conducted in the V4 countries and in two other Central European countries focused on the impact of the pandemic on employers. This article will present the result of the research conducted in Slovakia. The Slovak economy underwent dynamic growth and intensive broad expansion over the past 20 years. The average growth rate prior to the global economic downturn of 2008 was 5.7% (2000–2007). Although the country returned to growth in a relatively short time, economic development remained relatively modest in the decade following the crisis (2010–2019), averaging 2.6% per year (World Bank, 2021). The country has benefited from its close ties with the world economy since the beginning of the second millennium, especially thanks to its

Country	2019		2020	
	Inbound migration	Outbound migration	Inbound migration	Outbound migration
Czechia	600,000	500,000	650,000	250,000
Poland	2,000,000	2,500,000	1,800,000	1,420,000
Hungary	78,000	339,000	50,000	300,000
Slovakia	60,000	250,000	68,000	300,000

Source(s): Own elaboration

Table 1.
Outbound and inbound
migration in the V4
countries, 2019–2020

automotive industry, which generates 50% of total industrial production and 13% of Slovakia's GDP (Sario, 2020). The four car manufacturers and their suppliers employ more than 10% of the country's labor force.

The inflow of FDI and the significant demand for the skilled workforce have even caused labor shortages in some sectors. Foreign investors have requested the arrival of more immigrants to the country so as to be able to hire enough skilled labor (Kafkadesk, 2018).

The employment rate has been growing steadily over the past 10 years, reaching 73.3% in 2019, and unemployment fell below 6% in the same year (see Figure 1).

In response to the pandemic, economic growth halted in 2020 and fell by an average of 4.6% a year. The employment rate decreased by an average of 2% annually, and the total number of workers fell by more than 50,000 to 2,531,300. The largest decline in a single year was visible in services, including accommodation and catering service activities, in which employment decreased by 12.3%. Furthermore, transport, warehousing and scientific and technical activities also decreased by 7.6%. In contrast, the largest increase happened in information and communications technology, in which the number of jobs increased by almost a quarter (21.2%). Exactly 9.2% of agricultural workers lost their jobs in the same year, while the decline in construction was modest, only at 2.9% (Guzi & Fabo, 2021).

There were approximately 635,000 businesses operating in Slovakia in 2020, 99.9% of which were micro-, small- or medium-sized enterprises. Most large businesses in the country are multinational or transnational corporations, which employ 26% of the workforce (Slovak Business Agency, 2021). There are four major car manufacturing plants, which along with their Tier 1 suppliers employ 177,000 people (Sario, 2020). The total automotive sector employs 275,000 people (Sario, 2020), making up more than 10% of the working-age population. The automotive and other sectors have faced growing labor shortages over the past few years, which made them increasingly hire foreign labor. In 2020, 68,400 positions were filled by foreign workers in Slovakia, and almost a third of them came from Ukraine. The second largest immigrant group comprises Serbian workers, who account for 14% of the foreign workforce. Other migrant employees come from Romania, Czechia and Hungary (Spectator, 2021). The number of businesses in Central European countries that report labor shortages as a factor limiting their production is much higher than in the EU on average, and needs in shortage occupations are gradually increasing. The proportion of Slovak businesses

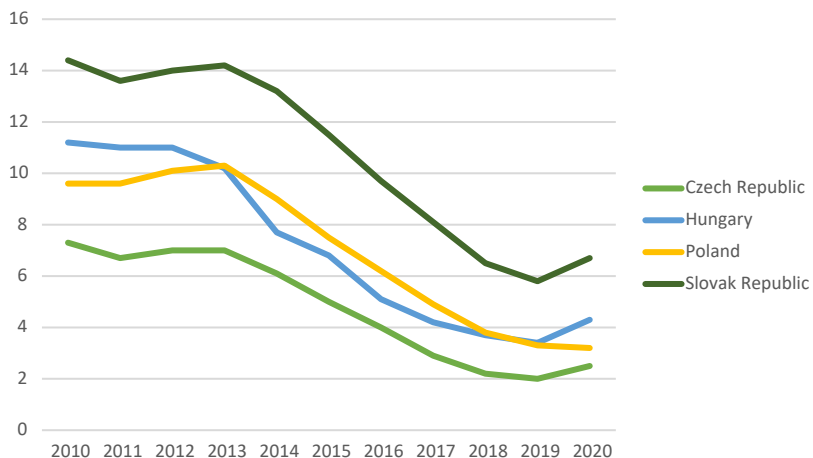


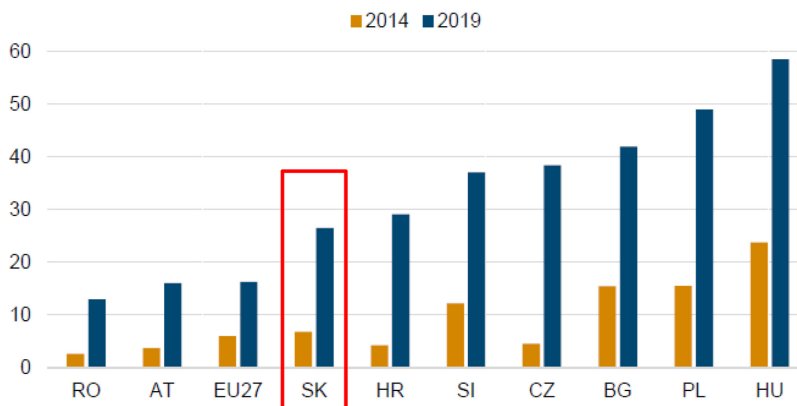
Figure 1.
Unemployment in
the V4 countries,
2010–2020 (%)

Source(s): World Bank (2021)

with labor shortages did not even reach 10% in 2014. Five years later, the same figure was nearly 30%. Figure 2 shows the proportion of industrial companies that reported labor shortages in 2014 and 2019 as a factor limiting their operations. These data are based on surveys conducted by Eurostat in the CEE region.

In 2018, the Ministry of Labor, Social Affairs and Family of the Slovak Republic prepared a strategy titled “Strategy for the Labor Mobility of Foreigners in the Slovak Republic.” The strategy preparation was necessitated by the fact that Slovakia had no complex strategy to deal with the urgent and long-term recruitment and employment of foreign labor to meet the needs of primarily foreign strategic investors (Ministry of Labour, Social Affairs and Family of the Slovak Republic, 2018).

The strategy document analyzes the current situation, assesses labor needs, articulates problems and identifies areas of focus. According to the report, the number of foreign workers is showing a dynamically developing trend, although a significant part of them intend to work in Slovakia only temporarily. Merely 0.3% of the surveyed foreigners plan to work in Slovakia for more than 12 months. Foreigners in the Slovak economy are typically unskilled workers who work in positions that local people fill reluctantly, mostly due to poor remuneration. The country has been unsuccessful in attracting a highly qualified and skilled workforce, and the Ministry’s report sets out special temporary measures to tackle the problem. The strategy aims to create an environment in which the labor market does not hinder but supports sustainable economic growth, while the availability of a highly qualified workforce enables Slovakia to attract higher added value investments. To return to dynamic growth, Slovakia must implement policies that support the shift from low-added-value industries to high-added-value ones. Otherwise, there is a danger that the economy will fall into the so-called middle-income trap, in which a country can no longer grow through the availability of cheap labor and capital, yet it cannot move toward a growth model based on high productivity and innovation either. The Slovak economy relies on manufacturing more than most other EU member states. Nevertheless, the Slovak manufacturing industry is extremely heterogeneous in terms of added value: while some factories are very modern and fully integrated into global production networks – which allows them to benefit from technological developments – many small- and medium-sized enterprises are clearly lagging in this respect. Nevertheless, the importance of high-tech activities in the Slovak economy is growing overall. The number of those employed in the Slovak high-tech sector increased from 88,000 to 117,200 between 2008 and 2019. The employment rate in the technology,



Source(s): business survey by Eurostat (2020)

Figure 2.
Proportion of
industrial companies
with labor shortages as
a factor limiting
production, 2014
and 2019

information and communications technology (ICT) and knowledge-intensive sectors is approximately the same as the EU average, but the country lags in knowledge-intensive services (Guzi & Fabo, 2021) (see Figure 3).

3. Research methodology

Our study on the impact of Covid-19 on human resources was conducted in 2020 and 2021 in several CEE countries: Austria, Bulgaria, Slovakia, Hungary, Romania and Bosnia and Herzegovina. The article presents the results obtained in Slovakia. The method of data collection was the snowball sampling seeking to facilitate easier data collection due to barriers to conducting research during the pandemic. Although the sample cannot be considered representative, we still believe that the survey can provide an overview of how organizations responded to the pandemic in terms of HRM. Let us bear in mind that the surveying process was significantly hindered by the pandemic. Thus, the respondents were mainly contacted online, and the questionnaires were also filled only online. Moreover, a pilot survey happened prior to the main sampling, with respondents indicating no problems regarding question comprehension.

The responding organizations were based all over Slovakia, albeit most have seats in Bratislava. Slovakian regions are represented in approximately equal proportions in the sample. Local trade and business associations and organizations also assisted in the survey. The questions were filled in voluntarily and anonymously by the respondents. In all, 247 Slovakian organizations partook in the survey. The questionnaire primarily consisted of close-ended survey questions, and we typically used nominal variables.

The structure of the questionnaire is shown in Table 2.

Several research aims were set during the project. These included (1) Which tools do organizations see as effective in response to the pandemic in the short term? (2) How effective can these tools be in the long run? (3) What do businesses think about their own future during and after the pandemic? and (4) What government measures have the respondents encountered and how efficient do they think the measures are?

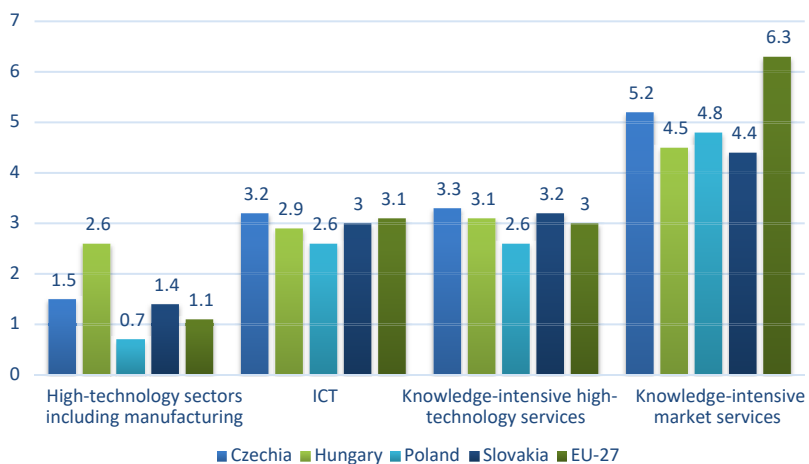


Figure 3. Employment rate in the technological and knowledge-intensive sectors, 2019

Source(s): Eurostat, 2020

The research aims were incorporated into the system of research objectives shown on Figure 4.

The study analyzed the impact of government measures on corporate plans. These measures generated both short- and long-term solution options for organizations. These actions impacted each other, and they still do and will influence each other in the future. Corporate actions are influenced by the structural and demographic characteristics of each business. Then, corporate decisions also influence the structural characteristics of businesses. Dashed lines indicate that short- and long-term corporate solutions affect labor market changes, which may thus indirectly generate new government decisions or possibly cause the modification or withdrawal of the existing ones.

Several hypotheses were tested during the research project. This article presents two of them:

H1. Due to the pandemic, the responding organizations' plans and the growth of their employee number are related to their turnover, employee number and ownership structure.

H2. The surveyed organizations actively develop measures to tackle the impact of the pandemic, which are closely related to the state-initiated measures.

4. Research results

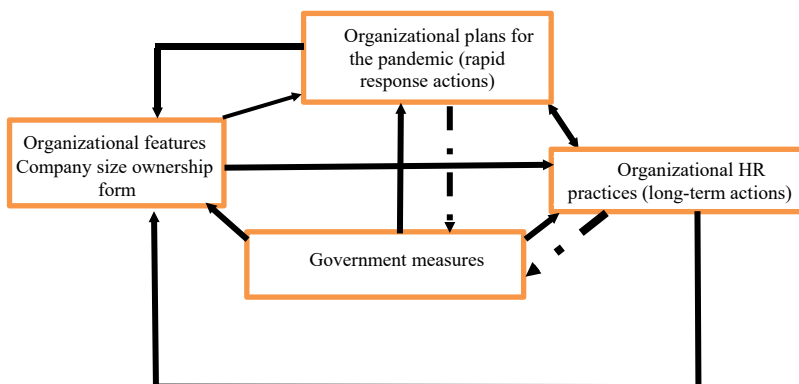
Research sample specifications are presented in Table 3.

Of all factors, this article analyzes three, including ownership structure, employee number and turnover. Regarding the first two factors, we may claim that the organizations employing

Organizational features	Corporate plans to tackle the pandemic	Characteristics of employment during the pandemic
1. Company size	1. Features of the plans	1. Employment practices
2. Field of business activity	2. The labor market effects and the duration of the recession	2. Government measures
3. Company ownership form	3. Development of the number of those employed	3. Peculiarities of crisis management
4. Number and characteristics of staff at the organization	4. Impacts of the pandemic on different positions	4. HR practices and challenges during the pandemic

Table 2. Questionnaire structure

Source(s): Own elaboration



Source(s): Own elaboration

Figure 4. System of research objectives

Specification	%
The organization is a part of a bigger corporation	31.2% yes 68.8% no
Field of activity	6.9% agriculture 7.3% food industry 2% metal industry 2% electrical engineering 7% building industry 14.6% wholesale and retail 6.1% transport and warehousing 6.5% accommodation 4.9% finance and insurance etc.
Ownership form	12.6% state-owned 65.1% domestic private ownership 17.2% foreign-owned 2.9% non-profit organization 2.1% other
Number of staff in 2020	9 or fewer 50.4% 10–49 25.6% 50–250 11.8% more than 250 12.2%
Turnover in 2020	Lower than 16,000 EUR 18.9% 16,000–120,000 EUR 30.9% 120,000–8 million EUR 11.8% 8 million–400 million EUR 15.6% higher than 400 million EUR 11.8%
Source(s): Own elaboration	

Table 3.
Research sample
specifications

up to nine people had the largest proportion in the sample in all ownership categories. The proportions were the following: the percentage of state-owned businesses that employed nine or fewer people was 66.7%, in foreign-owned companies – 39.0%, in non-profit organizations – 60% and in other ownership categories – 75%. As for turnover categories, the highest proportion of state-owned companies belonged to the group of those with a turnover from 120 thousand to eight million EUR (50%); 32% of those in Slovak ownership had a turnover ranging between 16 and 120 thousand EUR; 46.3% of foreign-owned respondents indicated a turnover between eight and 400 million EUR, most non-profit organizations fell in the 16–120 thousand EUR category, while the remaining 40% of respondents had a turnover between eight and 400 million EUR. The turnover breakdown by headcount in the sample was as follows: most respondents employing nine or fewer people had a turnover between 16 and 120 thousand EUR. Most businesses with a staff of 10–49 reported annual turnovers between 120 thousand and 8 million EUR (55.2%). A large proportion of those employing 50–250 people generated sales between eight and 400 million EUR (66.7%), while the majority of those hiring a workforce of more than 250 persons were in the same turnover category (66.7%).

At the time of the survey, 56.9% of respondents believed that the recession caused by the pandemic would last only a few months, 22% estimated that the downturn would last until 2025 and 6.5% were even more pessimistic: they believed the impact could be felt even after 2025; 14.6% were unable to make any estimates.

Exactly 17.2% of the respondents believed that the pandemic would lead to a slight decrease in unemployment compared to 2020, 15.6% said that the rate would not change, 41.8% forecasted a slight increase, 19.7% said that the increase in unemployment would be significant compared to 2020, while 5.7% refrained from prognosticating.

Respondents were also asked whether they had made any plans to tackle the impact of the pandemic: 8.5% claimed that they had a plan, and they were taking measures in accordance with it; 12.6% also had a plan prepared, but they had to change it as a result of the developments; 32% had no plan prior to the pandemic, but they had to elaborate one during the pandemic; 13.8% had no plan but were planning to prepare one and 33.2% did not think it was necessary and were not planning to prepare any plan whatsoever.

Most state-owned businesses (53.2%) had to develop crisis plans, 41.3% of organizations in Slovak private ownership thought it is unnecessary to have an action plan and 36.6% of foreign-owned businesses elaborated their own action plan. As for nonprofit organizations, they were using either existing plans without any modifications (28.6%) or their modified versions (28.6%). Most businesses in the “other” category were not considering any planning at all (32.8%). We analyzed whether there is a significant relationship between elaborating plans and the respondents’ ownership form. The data from the χ^2 test were the following: χ^2 : 51,721 df: 16 sign.; 0.001 $p = 0.05$. However, the test did not prove to be reliable since the expected value was lower than 5 in 60% of the cells.

More than a third of respondents with a lower turnover than eight million EUR did not consider it necessary to prepare an action plan. Those with higher revenues were more cautious. The majority were using their existing plans, or they had developed and modified them. The data from the χ^2 test were the following: χ^2 : 36,213 df: 16 sign.; 0.003 $p = 0.05$. However, the test did not prove to be reliable since the expected value was lower than 5 in 60% of the cells.

The analysis based on headcount categories showed that most respondents in all groups have developed their existing crisis management plans. The data from the χ^2 test were the following: χ^2 : 43,386 df: 16 sign.; 0.001 $p = 0.05$. However, the test did not prove to be reliable since the expected value was lower than 5 in 60% of the cells.

Respondents also had to indicate how the number of their employees changed compared to 2020: 6.1% had to make a significant number of employees redundant; 15.4% released a few people and 67.9% dismissed no one. As for increases in the number of employees, 6.5% reported only slight growth, while 0.4% of respondents indicated an increase of more than 20% in the workforce; 3.7% could not answer the question. Based on the χ^2 tests, no significant relationships could be found between the change in employee number, ownership form or turnover. Thus, based on the above test results, our first hypothesis (H1) was rejected.

Our study also sought to discover what crisis management measures were taken by the surveyed organizations to reduce the impacts of the pandemic. Table 4 shows to what extent some measures are typical of an organization.

The data in Table 4 show that the most typical measures were those aimed at increasing organizational efficiency, cutting costs and strengthening marketing. The least typical measures were redundancies and instructing employees to take their leaves. The responding organizations were thinking of quick solutions. In turn, solutions efficient in the long run were relatively rare as respondents needed quick responses when the pandemic started. Table 5 shows what the most common measures are in individual turnover, headcount and ownership categories.

The data in Table 5 clearly show that it was the organizations with high turnover that considered and introduced different measures. The conclusions are similar in the category of employee number, in which it is large organizations that mostly plan and introduce measures to decrease the impact of the pandemic. As for ownership form, the respondents in Slovak ownership were mostly working on different solutions.

The government also sought to help businesses by offering them different options, which also affected decision-making in organizations: 33.2% of respondents took advantage of the wage subsidy scheme, 8.1% asked for a rent freeze, 4.9% utilized the credit moratorium and 6.1% used soft loans. We analyzed whether there was any relationship between government measures and the solutions used by the respondents. Table 6 shows the solutions among which we found significant relationships. The strength of the relationship is also indicated in Table 6.

Table 4.
Measures to tackle the
impact of the
pandemic (%)

Measure	Not typical at all	Not very typical	Typical to some extent	Very typical
Renewal of strategy	40.4	31.4	20.6	7.6
Improvement of organizational efficiency	20.1	31.5	28.3	20.1
Postponing of purchases	35.9	29.1	19.1	15.9
General cost cutting	29.5	28.6	21.9	20.1
Redundancies	76.4	12.5	7.4	3.7
Instructing employees to take annual leave	46.8	29.7	14.0	9.5
Instructing employees to take unpaid leave	73.6	18.1	4.6	3.7
Cancellation of strategic investments	52.3	20.6	16.4	10.7
Freezing innovation projects	55.8	20.5	14.9	8.8
Cutting communication costs	65.4	19.6	8.9	6.1
Targeting new markets	44.9	27.1	17.3	10.7
Outsourcing some business areas	68.0	19.4	8.6	4.1
Reorganization of some business areas	61.4	22	10.3	6.3
More efficient, renewed marketing	39.9	25.2	22.0	12.8
Strengthening of the supply chain	53.8	27.1	12.7	6.3

Source(s): Own elaboration**Table 5.**
Most common
measures in individual
turnover, headcount
and ownership
categories

Measure	Turnover	Headcount	Ownership
Renewal of strategy	Higher than 400 million EUR	More than 250 people	Slovak
Improvement of organizational efficiency	8–400 million EUR	More than 250 people	Slovak
Postponing purchases	Higher than 400 million EUR	50–250 persons	State-owned
General cost cutting	8–400 million EUR	More than 250 people	Foreign-owned
Redundancies	Higher than 400 million EUR	More than 250 people	Slovak
Instructing employees to take annual leave	Higher than 400 million EUR	50–250 persons	Slovak
Instructing employees to take unpaid leave	8–400 million EUR	More than 250 people	State-owned
Cancellation of strategic investments	8–400 million EUR	10–49 persons	Slovak
Freezing innovation projects	16,000–120,000 EUR	10–49 persons	Foreign-owned
Cutting communication costs	8–400 million EUR	More than 250 people	State-owned
Targeting new markets	Higher than 400 million EUR	More than 250 people	Slovak
Outsourcing some business areas	Higher than 400 million EUR	More than 250 people	Slovak
Reorganizing some business areas	Below 16,000 EUR	5–250 persons	Slovak
More efficient, renewed marketing	8–400 million EUR	More than 250 people	Slovak
Strengthening the supply chain	Below 16,000 EUR	50–250 persons	Foreign-owned

Source(s): Own elaboration

Relationships appeared only in relation to wage subsidies. The strength of relationships proved to be only weak. Significant relationships could not be found in the case of other government measures. Based on the above data, hypothesis H2 was only partially confirmed.

5. Conclusions and recommendations

The article has analyzed the challenges Slovak businesses and organizations faced in relation to Covid-19 and the human resource solutions they used. The survey revealed that the surveyed Slovak organizations were not prepared for the pandemic as only 4% of respondents had a pandemic action plan at its onset. However, the respondents were prepared to handle the impacts of an economic crisis thanks to their experience of the economic downturn in 2008. The existence of a pandemic action plan was much more often present in large domestic and foreign corporations than in smaller companies in which it was considered less important as the number of employees decreased. The most common measures taken by respondents to deal with the impacts of the pandemic were cutting costs, increasing organizational efficiency and strengthening marketing; renewing organizational strategy was a measure typical only of the largest companies. Respondents did not look for redundancies as a solution as layoffs appeared in only 3% of the surveyed organizations. Employers tried to survive the pandemic with their existing workforce. Typically, the largest proportion of responding organizations considered it necessary to cut costs and increase marketing efficiency. Investment and innovation projects were stopped by less than 10% of all respondents, while most of them were organizations that employed fewer than 50 people. Typically, organizations with a large workforce planned and implemented measures to tackle the influence of the pandemic. As for the ownership form of businesses, those in Slovak ownership were typically working on different solutions.

The government also sought to help businesses by offering different solutions, which also affected decision-making in organizations. In the first year of the pandemic, state subsidies were aimed at supporting labor retention. However, not all businesses applied for these subsidies; it was mostly corporations with more than 250 employees that asked for wage subsidies. More than a third of respondents took advantage of the wage subsidy scheme, 8% asked for a rent freeze, 5% utilized the credit moratorium and 6% used soft loan borrows.

The data obtained through our survey in the Slovak corporate and institutional sector in many respects reflect the data from research conducted in the neighboring countries. A phenomenon observed in Central Europe during the first year of the pandemic was that employers sought to avoid redundancies, and governments supported employers in this endeavor. One of the two main reasons for this is that there has been growing pressure of labor shortages in the CEE region. The other reason was the lesson businesses learnt in the economic crisis of 2008, when the organizations that recovered from the negative situation quickly were those that invested instead of laying off staff.

Government measure	Corporate measure	Relationship
Wage subsidies	Postponing purchases	χ^2 : 23,224 df: 0.3 sign.: 0.001 Cramer's V: 0.325
Wage subsidies	General cost cutting	χ^2 : 17,002 df: 0.3 sign.: 0.001 Cramer's V: 0.276
Wage subsidies	Instructing employees to take their annual leave	χ^2 : 10,505 df: 0.3 sign.: 0.015 Cramer's V: 0.218
Wage subsidies	Freezing innovation projects	χ^2 : 7.841 df: 0.3 sign.: 0.049 Cramer's V: 0.191

Source(s): Own elaboration

Table 6.
Relationships between government and corporate measures ($p = 0.05$)

6. Research limitations and future research

The crisis caused by the pandemic has not ended yet, and we do not know for how long it will continue. However, the year 2020 revealed the crisis factors that affect the corporate sector. Businesses and governments are trying to reduce the negative consequences of the pandemic by minimizing physical contact and reorganizing work. They are increasingly relying on online tools and solutions, while some of the temporary measures that have proved efficient have remained and continue to be widely used.

Experience from the past shows that – in an emergency – businesses and institutions develop solutions that can be used successfully as a means of increasing efficiency even after the emergency ends. The current crisis has also engendered changes in the external and internal communication of the surveyed organizations, in how they work and in the management of their operations. Many of these would not have happened or would have been introduced much slower if not for the pandemic crisis.

We are fully aware that this article does not provide a full picture of what HR solutions Slovak organizations use. Our sample is not representative, but the several companies and institutions included in it are key players in the Slovak economy.

Future research should focus on how businesses find ways to recover from the crisis. The subject of our future research will be the analysis of temporary and long-term solutions, along with surveying the tools leading to more efficient HR management. We will continue our current research under the VEGA research grant 1/0688/21.

References

- Albulescu, C. T., & Goyeau, D. (2019). The interaction between trade and FDI? The CEECs experience. *International Economics and Economic Policy*, 16(3), 485–509. doi: [10.1007/s10368-019-00438-1](https://doi.org/10.1007/s10368-019-00438-1).
- Almeida, F. (2021). Open data's role in social innovation initiatives to fight COVID-19. *Central European Management Journal*, 29(3), 2–19. doi: [10.7206/cemj.2658-0845.51](https://doi.org/10.7206/cemj.2658-0845.51).
- Astrov, V. (2019). *Labour market trends in Visegrád countries: Implications for Austria, policy notes and reports*, No. 33. Vienna: The Vienna Institute for International Economic Studies.
- Astrov, V., Leitner, S., Grievesonr, Hanzl-Weiss, D., Mara, I., & Vidovic, H. (2021). How do economies in EU-CEE cope with labour shortages?. *Research Report 452*. Vienna: The Vienna Institute for International Economic Studies.
- Bachmann, R., Bechara, P., & Vonnahme, Ch. (2020). Occupational mobility in Europe: Extent, determinants and consequences. *De Economist*, 168, 79–108. doi: [10.1007/s10645-019-09355-9](https://doi.org/10.1007/s10645-019-09355-9).
- Baert, S. (2021). *What shifts did COVID-19 Year 2020 bring to the labour market in Europe?*. IZA Policy Article No. 177. Ghent: IZA – Institute of Labor Economics.
- Bajžíková, Ľ., & Bajžík, P. (2020). Mobility and working opportunities in the EU and Slovakia. *Management*, 25(1), 103–115.
- Brewster, C., Morley, M., & Buciniene, I. (2010). The reality of human resource management in Central and Eastern Europe. *Baltic Journal of Management*, 5, 145–155. doi: [10.1108/17465261011045098](https://doi.org/10.1108/17465261011045098).
- Cranet (2017). *International executive report 2017. Cranet survey on comparative human resource management*. Cranfield: Cranet-Cranfield University.
- Czech News Agency (2021). New data reveals which industries in the Czech Republic employ the most foreigners. Available from: <https://www.expats.cz/czech-news/article/new-data-reveals-the-number-of-foreign-workers-in-the-czech-republic> (accessed 11 November 2021).
- De Grauwe, P., & Ji, Y. (2020). A tale of three depressions. VOX EU-CEPR Research-based policy analysis and commentary from leading economists. Available from: <https://voxeu.org/article/tale-three-depressions> (accessed 20 November 2021).
- Docquier, F., & Marfouk, A. (2004). *Measuring the international mobility of skilled workers – Release 1.0. Policy research working article* (Vol. 3382). Washington: World Bank.

- European Commission (2018). The 2018 ageing report, European Economy Institutional article 065. ISSN 2443–8014 (online) Available from: https://ec.europa.eu/info/sites/default/files/economy-finance/ip065_en.pdf (accessed 10 November 2021).
- Eurostat (2021). Unemployment statistics. Available from: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Unemployment_statistics (accessed 2 November 2021).
- Godany, Z., Machova, R., Mura, L., & Zsigmond, T. (2021). Entrepreneurship motivation in the 21st century in terms of pull and push factors. *TEM Journal-Technology Education Management Informatics*, 10(1), 342–334. doi: 10.18421/TEM101-42.
- Gourinchas, P. O., Kalemli-Özcan, S., Penciakova, V., & Sander, N. (2021). COVID-19 and small- and medium-sized enterprises: A 2021 “time bomb?”. *AEA Articles and Proceedings*, 111, 282–86. doi: 10.1257/pandp.20211109.
- Grencikova, A., Kordoš, M., Bartek, J., & Berkovič, V. (2021). The impact of the industry 4.0 concept on Slovak business sustainability within the issue of the pandemic outbreak. *Sustainability*, 13(9), 1–14. doi:10.3390/su13094975.
- Guzi, M., & Fabo, B. (2021). Employ Slovakia – geography of new employment dynamics in Slovakia, Case study report. Available from: <https://www.espon.eu/sites/default/files/attachments/EMPLOY-Slovakia.pdf> (accessed 2 November 2021).
- Hodgson, D. (1983). Demography as social science and policy science. *Population and Development Review*, 9(1), 1–34. doi: 10.2307/1972893.
- Jirasavetakul, L. B. F., & Rahman, J. (2018). *Foreign direct investment in new member states of the EU and Western Balkans: Taking stock and assessing prospects*. Washington D.C.: International Monetary Fund.
- Káčerová, M., & Ondačková, J. (2015). The process of population ageing in countries of Visegrad Group. *Erdkunde*, 69(1), 49–68. doi: 10.3112/erdkunde.2015.01.04.
- Kafkadesk, P. O. (2018). Slovakia most at risk of automation, warns OECD. Available from: <https://kafkadesk.org/2018/09/22/slovakia-most-at-risk-of-automation-warns-oecd/#comments> (accessed 1 March 2019).
- Kahanec, M., & Zimmermann, K. F. (2016). EU post-enlargement migration and the great recession: Lessons and policy implications. In M. Kahanec, & K. Zimmermann (Eds.), *Labor Migration, EU Enlargement, and the Great Recession*. Springer. doi: 10.1007/978-3-662-45320-9_17.
- Kajanova, H. (2017). Highly skilled labour migration and the digital skills. In *Proceedings Article. Knowledge for market use 2017: People in Economics – Decisions, Behaviour and Normative Models. International Scientific Conference on Knowledge for market use: People in Economics – Decisions, Behaviour and Normative Models* Czech Republic: Olomouc.
- Keese, M. (2020). The future of work in the Visegrad group of countries. *Society and Economy*, 42(2), 125–145. doi: 10.1556/204.2020.00011.
- Khan, A., Khan, N., & Shafiq, M. (2021). The economic impact of covid-19 form a global perspective. *Contemporary Economics*, 15(1). doi: 10.5709/ce.1897-9254.436.
- Kochhar, R. (2020). Unemployment rose higher in three months of COVID-19 than it did in two years of the Great Recession. Available from: <https://www.pewresearch.org/fact-tank/2020/06/11/unemployment-rose-higher-in-three-months-of-covid-19-than-it-did-in-two-years-of-the-great-recession/> (accessed 15 November 2021).
- Krumel, T. P., Goodrich, C., & Fiala, N. (2021). Labor demand in the time of post-Covid-19. *Applied Economics Letters*, 31(3), 343–348. doi:10.1080/13504851.2021.1985067.
- Leridon, H. (2005). Reproduction and demography in Europe. In *Proceedings Article. International Congress Series – 15th Congress of Gynaecology, Obstetrics and Reproductive Medicine* (pp. 68–74). doi: 10.1016/j.ics.2004.12.055.
- Lewis, Ch. P. (2005). *How the east was won east*. New York: Palgrave Macmillan.
- Lordan, G. (2018). *Robots at work A report on automatable and non-automatable employment shares in Europe*. Luxembourg: European Commission.

- Ministry of Labour, Social Affairs and Family of the Slovak Republic (2018). Strategy of labor mobility for foreigners of the Slovak republic. Available from: <https://www.employment.gov.sk/files/slovensky/uvod/informacie-cudzinci/strategy.pdf> (accessed 22 November 2021).
- Morley, J. M., Kohont, A., Poor, J., Kazlauskaitė, R., Kabalina, V., & Blštáková, J. (2021). Human resource management in the Postsocialist Region of Central and Eastern Europe. In E. Parry, J. M. Morley, & Ch. Brewster (Eds.), *The Oxford Handbook of Contextual Approaches to Human Resource Management*. Oxford: Oxford University Press.
- Mura, L., & Hajduová, Z. (2021). Measuring efficiency by using selected determinants in regional SMEs. *Entrepreneurship and Sustainability Issues*, 8(3), 487–503. doi: [10.9770/jesi.2021.8.3\(31\)](https://doi.org/10.9770/jesi.2021.8.3(31)).
- Mura, L., Zsigmond, T., Kovács, A., & Baloghová, É. (2020). Unemployment and GDP relationship analysis in the Visegrad four countries. *Online Journal Modelling the New Europe*, 34, 118–134. doi: [10.24193/OJMNE.2020.34.06](https://doi.org/10.24193/OJMNE.2020.34.06).
- Nagurney, A. (2021). Optimization of supply chain networks with inclusion of labor: Applications to COVID-19 pandemic disruptions. *International Journal of Production Economics*, 235. doi: [10.1016/j.ijpe.2021.108080](https://doi.org/10.1016/j.ijpe.2021.108080).
- Nedelkoska, J., & Quintini, G. (2018). Automation, skills use and training. *OECD Social, Employment and Migration Working Articles*, 202, 1–120.
- Niti, A. (2018). Temporary labor migration within the EU as structural injustice. *Ethics&International Affairs*, 32(2), 203–225. doi: [10.1017/S089267941800031X](https://doi.org/10.1017/S089267941800031X).
- OECD (2020). *Turning hope into reality*. December 2020. OECD Economic Outlook. Available from: <https://www.oecd.org/economic-outlook/december-2020/> (accessed 11 November 2021).
- Paun, D. (2019). Tax competition and factors influencing the gross domestic product and foreign direct investments of CEE countries. *Economic Research-Ekonomska Istraživanja*, 32(1), 876–893. doi: [10.1080/1331677X.2019.1585896](https://doi.org/10.1080/1331677X.2019.1585896).
- Pažický, M., & Žúdel, B. (2020). *Coronavirus, “infects” the Slovak economy. Policy brief 2020/3 Ministry of Finance SR*. Bratislava: Institute for Financial Policy.
- Priya, S. S., Priya, M. S., Jain, V., & Dixit, S. K. (2021). An assessment of government measures in combatting Covid-19 using ISM and DEMATEL modelling. *Benchmarking an International Journal*, 29(5), 1429–1451. doi:[10.1108/BIJ-05-2021-0244](https://doi.org/10.1108/BIJ-05-2021-0244).
- Ravenstein, E. (1885). The Laws of migration. *Journal of Statistical Society*, 48(2), 167–235.
- Rievajova, E., & Privara, A. (2016). Labour market and migration of skilled workers abroad. In *Proceedings Article. Globalization and its Socio-Economic Consequences, 16th International scientific conference proceedings, PTS I-V* (pp. 1856–1863) Slovak Republic: Rajecke Teplice.
- Römisch, R. (2020). *Covid-19 effects on central Europe*. Vienna: WIIW-European Union Regional Development Fund.
- Sario (2020). *Automotive Sector in Slovakia*. Available from: <https://www.sario.sk/sites/default/files/data/sario-automotive-sector-in-slovakia-2020-02-07.pdf> (accessed 12 November 2021).
- Slovak Business Agency (2021). Atlas MSP na Slovensku, Mapovanie vývoja MPS v priestore a čase. Available from: <http://monitoringmsp.sk/wp-content/uploads/2021/01/Atlas-MSP.pdf> (accessed 11 November 2021).
- Spectator (2021). Number of foreigners working in Slovakia continues to grow - most foreign workers come from Ukraine. Available from: <https://spectator.sme.sk/c/22726647/number-of-foreigners-working-in-slovakia-continues-to-grow.html> (accessed 12 November 2021).
- Teitelbaum, M. S., & Winter, J. M. (1985). *The fear of population decline*. New York: Academic.
- Tomaskova, H., & Kuhnova, J. (2016). Migration in EU. In *Proceedings Article. Innovation Management and Education Excellence Vision 2020, from Regional Development sustainability to Global Economic Growth* (Vol. I-II, pp. 2038–2044), 27th International Business Information Management Association Conference, Milan, Italy.

-
- UN (2017). International migration report 2017. Available from: https://www.un.org/en/development/desa/population/migration/publications/migrationreport/docs/MigrationReport2017_Highlights.pdf (accessed 19 November 2021).
- US Bureau of Labor Statistics (2021). Civilian unemployment rate. Available from: <https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm> (accessed 22 November 2021).
- Vetráková, M., & Smerek, L. (2019). Competitiveness of Slovak enterprises in central and Eastern European region. *E+M Ekonomie a Management*, 22(4), 36–51. doi: 10.15240/TUL/001/2019-4-003.
- Vojtovič, S., Klimavičienė, A., & Pilinkienė, V. (2019). The linkages between economic growth and FDI in CEE countries. *Ekonomický časopis: časopis pre ekonomickú teóriu, hospodársku politiku, spoločensko-ekonomické prognózovanie*, 67(3), 264–279.
- Windzio, M., Teney, C., & Lenkewitz, S. (2021). A network analysis of intra-EU migration flows: How regulatory policies, economic inequalities and the network-topology shape the intra-EU migration space. *Journal of Ethnic and Migration Studies*, 47(5), 951–969. doi: 10.1080/1369183X.2019.1643229.
- Wolf, M. (2021). The global labor shortage – how COVID-19 has changed the labor market. Available from: <https://www2.deloitte.com/xe/en/insights/economy/global-labor-shortage.html> (accessed 11 November 2021).
- World Bank (2021). Unemployment, total (% of total labor force) (modeled ILO estimate). Available from: <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS> (accessed 10 March 2023).
- WTO (2021). Highlights of world trade in 2020 and the impact of COVID-19. *World Trade Statistics Review*. Available from: https://www.wto.org/english/res_e/statis_e/wts2021_e/wts2021chapter02_e.pdf (accessed 16 November 2021).
- Yabuuchi, S., & Chaudhuri, S. (2007). International migration of labour and skilled-unskilled wage inequality in a developing economy. *Economic Modelling*, 24(1), 128–137. doi: 10.1016/j.econmod.2006.06.006.

Further reading

- Boeri, T., Brücker, H., Peter, Iara, A., Huber, P., Kaczmarczyk, P., Upward, R. & Vidovic, H. (2007). Labour mobility within the EU in the context of enlargement and the functioning of the transitional arrangements. *Literature Review*. Available from: <https://wiiw.ac.at/labour-mobility-background-analyses-literature-review-dlp-662.pdf> (accessed 12 November 2021).
- Eren, M., & Zhuang, H. (2015). Mergers and acquisitions vs greenfield investment, absorptive capacity, and economic growth: Evidence from 12 new member states of the European Union. *Eastern European Economics*, 53(2), 99–123. doi: 10.1080/00128775.2015.1033240.
- Lu, L., Peng, J., Wu, J., & Lu, Y. (2021). Perceived impact of the Covid-19 crisis on SMEs in different industry sectors: Evidence from Sichuan, China. *International Journal of Disaster Risk Reduction*, 55. doi:10.1006/j.ijdr.2021.102085.
- Szombathelyi, M., & Vasa, L. (2020). The concept of labour migration from the perspective of Central and Eastern Europe. *Economics & Sociology*, 13(1), 197–216. doi: 10.14254/2071-789X.2020/13-1/13.
- Tvaronavičienė, M., & Grybaite, V. (2007). Impact of FDI on Lithuanian economy: Insight into development of main economic activities. *Journal of Business Economics and Management*, 8(4), 285–290. doi: 10.1080/16111699.2007.9636181.

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