



DIFFERENT IMPACT OF THE RECESSION ON THE LABOUR MARKET: LESS WORK WITHOUT INCREASING UNEMPLOYMENT IN SLOVAKIA

Karol Morvay¹ and Martin Hudcovský²

Abstract

The paper examines why the pandemic recession hit the labour market in Slovakia differently from previous recessions. Traditionally, the unemployment rose sharply during previous economic recessions. Therefore, it seemed like a novelty when the unemployment rate rose only insignificantly in a pandemic recession. We find that both the demand and supply side of the labour market played their role in it. Labour demand has been affected differently compared to the past: Instead of the usual sharp increase in unemployment during a recession, the rate of utilization of workers' time capacities fell, with expected impacts also on income differentiation. This is in line with the way more advanced European economies have responded to recessions before. In addition, a new element was also present on the labour force supply side. In previous recessions, the labour force supply had been rising; in the recent pandemic recession, it fell for the first time.

Keywords

Labour Market, Impact of Recession, Labour Force Supply, Short-Time Working

I. Introduction

After the world was hit by a pandemic in 2020, the repeated economic shutdowns, severe restrictions on operations and cautious reopening of economies had a predictable impact on the macroeconomic parameters of the economies. The economic recession, as a typical manifestation of such events, has unfolded in full across the world's economies, with

¹ University of Economics in Bratislava, Faculty of National Economy, Department of Economic Policy, Dolnozemská cesta 1, 852 35 Bratislava, Slovak Republic. E-mail: karol.morvay@euba.sk.
Institute of Economic Research, Slovak Academy of Sciences, Šancová 56, 811 05 Bratislava, Slovak Republic. E-mail: karol.morvay@savba.sk.

² University of Economics in Bratislava, Faculty of National Economy, Department of Economic Policy, Dolnozemská cesta 1, 852 35 Bratislava, Slovak Republic. E-mail: martin.hudcovsky@euba.sk.
Institute of Economic Research, Slovak Academy of Sciences, Šancová 56, 811 05 Bratislava, Slovak Republic. E-mail: martin.hudcovsky@savba.sk.

the expected impact on the performance of labour markets. However, the sharp rise in unemployment associated with a recession triggered by an external shock did not materialise in some European countries. While countries such as the US, which have a flexible labour market, have suffered a temporary but extreme rise in unemployment, countries on the European continent have not seen a similarly sharp rise. Moreover, in a number of countries, the rise in unemployment has taken place at fractional levels of the overall economic slump. A particularly unexpected moderate trend in the unemployment rate has been observed in Slovakia, where it was the labour market that was severely affected during previous recessions and usually prolonged the problems even after the recovery. However, the case of a global pandemic in 2020 and 2021 has had a different impact on the unemployment rate in Slovakia. We believe it is due to a number of factors that are worthy of further analysis. These include active measures to preserve jobs through wage compensation or reduced working hours, the confluence of the demographic development of the economically active population with its impact on labour market indicators, and the shortage of labour supply in the labour market before the outbreak of the pandemic shaping the willingness to retain the labour force even during the pandemic. Therefore, the aim of the paper is to explain how and why the impact of the pandemic recession on the Slovak labour market was fundamentally different from that of previous recessions.

II. Literature Review

Short Time Working (STW) schemes are not a new tool in the state's toolkit for dealing with shocks to the economy. Already at the beginning of the twentieth century, such a scheme was successfully applied in Germany. Later on, the German "Kurzarbeit" became the gold standard and adaptation recommendation for other countries in coping with the 2009 crisis, helping to save almost half a million jobs (OECD, 2009). Several studies confirm that STW schemes save jobs and international studies typically show a positive effect of such programs on aggregate employment (Cahuc and Carcillo, 2011; Boeri and Bruecker, 2011; Hijzen and Martin, 2013). However, these studies are based on the situation that prevailed during the 2009 economic crisis. Fournier Gabela and Sarmiento (2020) focused their work on the effectiveness of STW schemes during natural disasters as a tool to maintain income for workers and stable employment rates. They use the countries affected by the 2013 European floods to investigate the effectiveness, using the example of Germany compared to the Czech Republic, Hungary and Slovakia. They argue the STW schemes applied in Germany were able to maintain stable employment rates in the affected regions, compared to the significant increase in unemployment in the remaining countries that did not have such schemes. The global pandemic outbreak in 2020 and 2021 has thus created a new opportunity to test the effectiveness of STW schemes in countries that have not implemented them before. A study by Casey and Mayhew (2022) analyzed the impact of STW schemes in several Western economies during a coronavirus pandemic. The primary question was whether reduced working hours had a positive impact on unemployment levels. They confirm this hypothesis but underline that the main effect is in the short-term horizon when the economy slows down

temporarily. The costs of such measures become unsustainable in the event of long-term economic slowdowns. Equally, the underlying principles of labour market functioning largely determine the success of the STW scheme. While the German labour market relies on a high degree of internal flexibility and STW is widely accepted, in the UK the labour market is characterized by external flexibility which reflected precisely in the increase in the unemployment rate. Thus, the success of STW schemes is limited and should be considered only as an emergency solution. Jurajda and Doleželová (2021) examined a similar emergency assistance scheme for enterprises, focusing on the question of which industries and enterprises were most affected by the introduction of the STW in the Czech Republic. They concluded that the enterprises operating in the manufacturing industry (especially the largest enterprises), which used the STW to cover their wage costs, benefited the most from the application of the STW. Of the total number of enterprises supported by the STW scheme, up to three quarters were in the manufacturing sector. A complementary finding is that the already pre-pandemic slowdown in demand and the resulting expected decline in manufacturing employment was offset by the pandemic aid, which thus helped to compensate for the shortfalls in demand in the sector and would have been reflected in the level of unemployment.

However, job preservation schemes have not only met with a positive response. Walkowiak (2021) argues that the STW program implemented in Australia under the name JobKeeper has not only had positive benefits for employment retention. Locking workers into their current positions potentially crowds out better candidates in the labour market and causes inefficiencies. It is this misallocation that can cause the slower recovery of the economy and creates a wedge between workers who can be covered by the STW scheme and those who cannot. It also brings into criticism the inclusion of part-time workers, which in itself is a sufficiently flexible form of employment. The identification of the determinants of appropriately set STW schemes has been addressed by Müller and Schulten (2020). For STW schemes to be successful in preventing the emergence of surplus unemployment, it is essential that they target all sectors, companies and types of workers in the economy. They should cover at least 80% of the original wage and go beyond the duration of the temporary crisis due to the time lag. Compared to Western economies, CEE countries accounted for only a marginal percentage of total workers and there was room for wider participation in STW schemes for other types of workers. Simons (2022), who in his work examined the Kurtzarbeit scheme that was introduced in Slovakia, finds that the measure had a positive impact on employment protection, the preservation of income levels and the retention of a number of private companies. However, he is critical of the asymmetric nature of the measure. It was originally intended to be generally applicable but has helped the manufacturing sector the most. Tourism or culture has benefited from this measure significantly less.

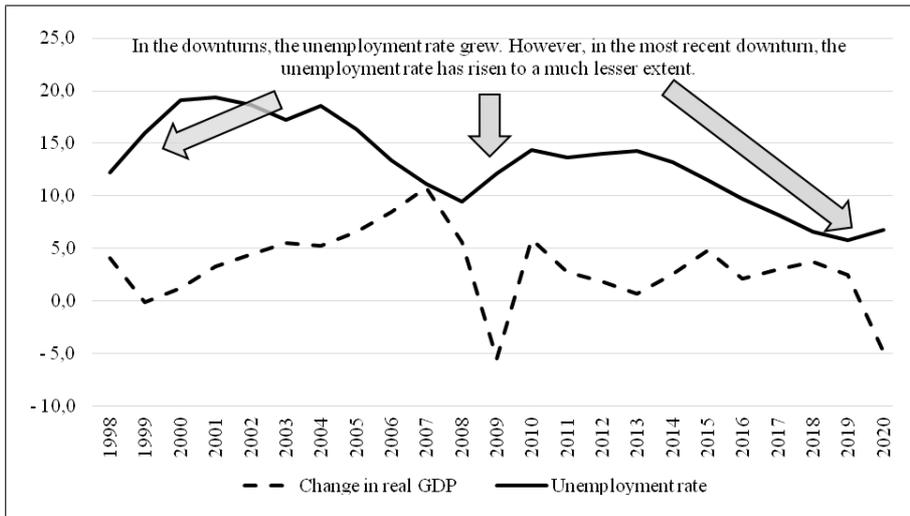
Despite the positive evaluations of the job protection schemes, it should be mentioned that the resulting unemployment rate was not determined solely by the active participation of the state and its measures. Morvay and Hudcovský (2020) have pointed out that the confluence of several factors influencing the unemployment rate is not necessarily due to active measures by the state alone. A factor that is neglected in the realities of the

Slovak labour market is the unfavourable demographic development, where the working age population has been shrinking since 2017. Thus, while the demand for labour has been declining during the pandemic, the supply of labour has been declining at the same time. Similarly, Michálek (2021) in his work stated that the pandemic affected the Slovak labour market unevenly not only in terms of sectoral breakdown but also geographically. The region of Eastern Slovakia was the most affected, which again puts the wedge between the west and the east of Slovakia and worsens the prospects for gradual internal convergence of the country. Before the outbreak of the pandemic, a number of employers had already reported that they were unable to find suitable labour in the domestic labour market and were therefore forced to hire workers from abroad. This is also evidenced by the increasing proportion of foreign workers in the country, which was rising until the pandemic. However, this trend reversed when the pandemic broke out. This is also confirmed by Auer (2022), who used the example of the German economy to investigate how firms dealt with the possibility of laying off employees due to the economic slowdown caused by the pandemic. He comes to the finding that the first group to be laid off are immigrant workers. For native workers, companies tend to use STW schemes to protect the core of their workforce. Migrant workers were up to three times more likely to be laid off than native workers. The problem of a shortage of suitable labour for the needs of employers operating in Slovakia has not disappeared even with the passing of the pandemic. Přívara (2021) pointed out that Slovakia is losing its position as an attractive country for labour immigration and, on the contrary, it is losing its labour force by emigrating to other EU countries. Especially to the Czech Republic, because of the linguistic and cultural proximity. Thus, there is a shortage of labour on the labour market, which is only partly compensated by labour immigration. However, the migration balance remains in an unfavourable trend. To some extent, this has also determined the willingness of employers to lay off employees during the pandemic, as the possibility of finding an adequate substitute would not be easy.

III. Overview: Some Basic Facts

Adverse developments in labour market parameters during economic downturns are almost taken for granted. If we take a look at the phases of economic downturns in the Slovak economy in the last two decades, we observe a gradually weaker and weaker impact on the unemployment rate. The response of the unemployment rate to the most recent economic downturn (2020) was significantly milder than in previous downturns (Figure 1). In the relatively mild economic downturn of 1999/2000, the unemployment rate rose sharply by 4 pp (to 16%); in the 2009 recession, the unemployment rate rose by 2.6 pp (to 12.0%); and in the 2020 recession, the unemployment rate rose by only 1 pp (to 6.7%). Thus, it is clear that changes in the unemployment rate over time are already less dependent on fluctuations in the performance of the economy.

Figure 1: Economic downturns and the change in unemployment rate within them
(y-o-y change in real GDP in % and unemployment rate in %)



Notes: Unemployment rate based on LFS.

Source: Eurostat database, author's design (2022)

We divide the problem of the differential response of the unemployment rate in recessions into two parts: changes on the labour market demand side and changes on the supply side.

IV. Fewer Hours Worked, but Not Fewer Workers

Looking at *the labour demand side*³, it is noticeable that the decline in the number of employed persons has gradually (from recession to recession) eased in three consecutive recessions: the least significant decline in real GDP in 1999/2000 was associated with a decline in employment of 71 thousand persons. The much deeper economic downturn in 2009 was associated with a reduction in employment of 67 thousand persons. A similarly deep economic downturn in 2020 brought a drop in employment of “only” 53 thousand.⁴ The decline in the number of people employed depends not only on the depth of the downturn, but also on changes in the structure of the economy, public policies supporting employment or prevailing corporate strategies. For example, the massive decline in employment during the mild recession of 1999/2000 was related to the concentration of major structural changes in the corporate sector at the time (redundancies from declining unviable activities were faster than hiring in new ones).

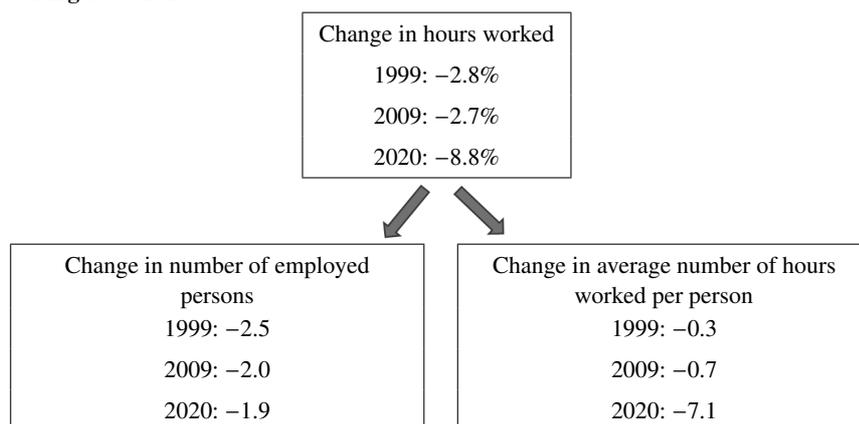
³ As a proxy for labour demand, albeit an imperfect proxy, we use here an indicator of the number of workers (employment).

⁴ These are declines in the number of workers in the 15–64 age cohort. More details in Frank, Morvay et al. (2021).

The data in Scheme 1 reflect employment changes in the three recessions that the economy experienced after the formation of the SR. In the first two cases (1999/2000 and 2009 recessions), there was an almost identical decline in the amount of work performed: the number of hours worked fell by 2.8% and 2.7% respectively. The number of hours worked is useful as an indicator of the volume of work performed. It is dependent on the number of employed persons and the average number of hours worked by a person. In the first two recessions, the decline in the volume of work performed (= total hours worked in the economy) was almost fully reflected in a decline in the number of employed persons. The average number of hours worked per person has decreased only slightly. Almost all of the decline in hours worked was associated with a decline in the number of employed persons and an increase in unemployment. At that time, STW schemes were not applied to a significant extent. In addition, the working-age population grew during these periods. Thus the demographic factor contributed to the rise in unemployment at these critical moments.

During the 2020 recession, we see a very different picture: The volume of work, as measured by the number of hours worked, has fallen very sharply (the rate of decline is more than triple that of previous recessions). But it has translated into a decline in the number employed persons only to a small extent – even slightly less than in previous recessions (see Scheme 1, or the international dimension in Table 1). The 8.8% fall in hours worked was associated with a fall in the number of employed persons of only 1.9%. This is explained by the significant decrease in the average number of hours worked per employed person (7.1%). Rather than removing a significant part of the labour force from the labour market (as we have seen in the past), the recession has resulted in a lower average workload of employed persons.

Scheme 1: Decomposition of the change in the volume of hours worked in the Slovak economy during recessions



Source: Eurostat database, author's calculations and design (2022)

In this way, the Slovak economy imitated similar solutions, which we have already seen in some advanced economies, but also in other countries of the V4 group. Tables 1a, b, c show the same breakdown as in scheme 1, but in an international comparison. We primarily note the comparison in the V4 group, but we also add a few selected more advanced European economies. They were chosen to create a relatively heterogeneous group of European economies (the group includes Germany as a country known for promoting the STW policy, France as a representative of a large European social economy, Austria as a representative of a small, highly developed economy and Sweden as a representative of the Scandinavian model of the economy). Added to this are data for the EU 27. Each of the three tables focuses on one of the three recessions that the Slovak economy has gone through. Comparisons in the case of the 2020 and 2009 recessions are easier to make because all affected countries went through a recession at the same time. The Slovak economy also went through a weak recession in 1999, with a strong impact on the labour market. But here is the problem with international comparisons. In this case, it was not a global economic shock that would affect many economies at the same time. It was a phenomenon specific to Slovakia and several other transitional economies. To be able to compare the investigated phenomena at least partially, we select from the interval of 1999 to 2002 moments in which the volume of hours worked in selected economies decreased. Therefore, in Table 1c, the year to which the observation is linked is attached to the name of the country. These comparisons show:

- * In all four countries of V4 group, the decline in hours worked was more pronounced in the 2020 recession than in the earlier recessions. The case of Poland is specific, with minimal declines in cases 2009 and 2020. The decline in hours worked was most pronounced (of all cases shown) in Slovakia during the 2020 recession.
- * Although the 2020 recession had a stronger negative impact on the volume of hours worked across the V4, it did not have a significant impact on the number of employed persons.
- * Slovakia's reaction to the shock on the labour market came closer to what we can observe in advanced economies, but also in the V4 countries already in earlier recessions: The decrease in the volume of hours worked (amount of work) is only partially translated into a decrease in the number of workers. A significant part of the decrease in the volume of work spills over into a decrease in the average number of hours worked by the worker. Such a phenomenon can be seen in the data for Slovakia as late as the pandemic recession of 2020. In several countries, the decline in the number of workers in economic recessions was completely avoided in this way (Germany even managed to achieve growth in the number of employed persons in the 2009 recession; similarly in Sweden, Poland, and Hungary, during the economic upheavals about a decade earlier).

Two factors can be identified behind the above change in the impact of the recession on employment:

- 1) Prior to the pandemic recession, employers were confronted with an increasingly scarce workforce. Some regions and occupations were already experiencing labour shortages (see, e.g., Morvay, 2020). Output growth and business activity in some industries was already being constrained due to worker shortages. After such an experience, the willingness of employers to lay off labour force at the onset of a recession is lower. Employers prefer to choose the path of underutilisation of the capacity of employees while retaining them in employment. If they lay them off, they would run the risk of not being able to rehire them once the recession is over.
- 2) Economic and social policy during the 2020 recession promoted labour cost sharing while limiting the use of employee labour capacity (STW schemes). Keeping employees in employment while reducing the use of their work capacity was one of the innovative policy approaches of the government. After the recession ended in 2021, the average worker capacity utilization rate did not return to its original higher level (helped by the fact that the policies in place persisted).

Table 1: Decomposition of the change in the volume of hours worked

a) during the pandemic economic recession of 2020

	<i>Change in hours worked</i>	=	<i>Change in number of employed persons</i>	X	<i>Change in average number of hours worked per person</i>
Slovakia	0.91155	=	0.98114	X	0.92908
Czechia	0.93800	=	0.98340	X	0.95384
Hungary	0.95177	=	0.98920	X	0.96218
Poland	0.99220	=	0.99998	X	0.99222
Germany	0.95061	=	0.99183	X	0.95851
Austria	0.91349	=	0.98389	X	0.92845
France	0.91820	=	0.99056	X	0.92695
Sweden	0.96800	=	0.98651	X	0.98124
EU 27	0.93443	=	0.98568	X	0.94801

b) during the 2009 global economic recession

	<i>Change in hours worked</i>	=	<i>Change in number of employed persons</i>	X	<i>Change in average number of hours worked per person</i>
Slovakia	0.97331	=	0.98043	X	0.99274
Czechia	0.97601	=	0.98194	X	0.99396
Hungary	0.96299	=	0.98104	X	0.98160
Poland	0.99609	=	1.00366	X	0.99246
Germany	0.97234	=	1.00159	X	0.97079
Austria	0.96915	=	0.99471	X	0.97431
France	0.98130	=	0.98857	X	0.99265
Sweden	0.97027	=	0.97915	X	0.99093
EU 27	0.96829	=	0.98207	X	0.98597

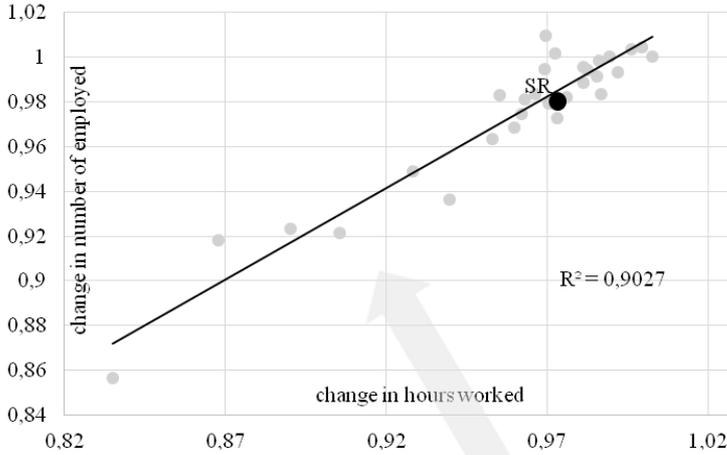
c) during recessions in the period 1999–2002

	<i>Change in hours worked</i>	=	<i>Change in number of employed persons</i>	X	<i>Change in average number of hours worked per person</i>
Slovakia (1999)	0.97166	=	0.97467	X	0.99692
Czechia (2001)	0.95696	=	0.99734	X	0.95951
Hungary (2001)	0.98400	=	1.00196	X	0.98208
Poland (2000)	0.96864	=	0.97731	X	0.99113
Germany (2002)	0.98885	=	0.99516	X	0.99366
France (2002)	0.98267	=	1.004929	X	0.97785
Sweden (2002)	0.98611	=	1.00023	X	0.98588
EU 27 (2002)	0.99111	=	0.99805	X	0.99305

Note: Austria not included in the Table 1c – no evidence of hours worked decrease in this period.
Source: Eurostat database, author's calculations (2022)

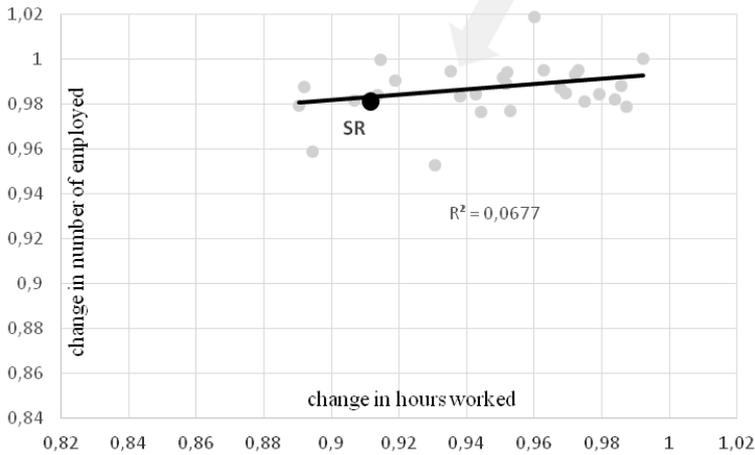
Figure 2: Relationship between changes in the volume of work and changes in the number of employed persons during recessions

a) In the 2009 recession



The relationship between the change in volume of work and the number of employed persons has weakened significantly. The fall in the volume of work in 2020 has not affected the number of employed persons as hard.

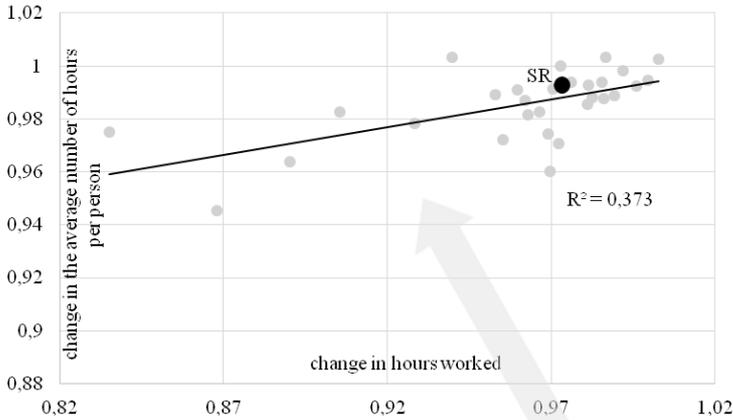
b) In the 2020 recession



Source: Eurostat database, author's calculations and design (2022)

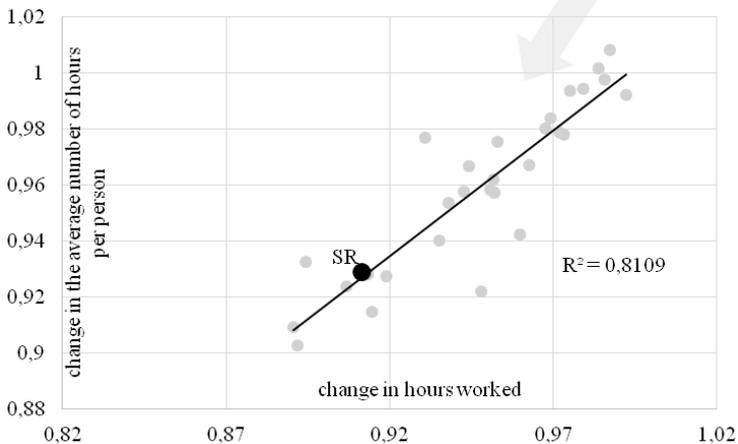
Figure 3: The relationship between changes in the volume of work and changes in the working time utilization in recessions

a) In the 2009 recession



On the contrary, the relationship between the change in the volume of work and the capacity utilisation of workers has strengthened considerably. The decline in the volume of work in 2020 is primarily reflected here. This has been helped by policy measures (support of STW).

b) In the 2020 recession



Source: Eurostat database, author's calculations and design (2022)

The indicated change in the impact of the recession on the labour market, supported by deliberate public policies, is part of an economic policy manoeuvre on a pan-European scale. In Table 1, we observed that there was a change in the response to the recession in the group of advanced economies. Already during the 2009 recession, the policy of reducing the use of time capacities was visible in Germany and Austria. In the recession of 2020, it is already reflected in the data for the aggregated EU 27. Although the decrease in the volume of work used (hours worked) in 2020 was more dramatic than in the recession of 2009, nevertheless, the declines in the number of employed persons in the group of advanced economies were only moderate (table 1a, b)⁵. A comparison of Figures 2a, b and 3a, b highlights clearly a change in the impact of recessions onto European labour markets:

- * In the earlier recession of 2009, we see a strong correlation between the decline in the volume of work (as measured by the volume of hours worked in the economy) and the decline in the number of employed persons.
- * In a later recession in 2020, the relationship between the change in the volume of work and the change in the number of employed persons is already weak. However, the relationship between the change in the volume of work and the average number of hours worked per person is very strong.

The picture varies by industry and sector. In various economic activities, there was a different scope of labour amount decrease during the recession, as well as a different possibility to correct the use of workers' time capacity. Due to the nature of the pandemic restrictions, there was an extraordinary need to apply public policies to maintain employment, e.g., in accommodation services and catering services. It was possible to reduce the utilization of time capacities of workers in manufacturing sector to a relatively lesser extent (Table 2). One of the consequences of such a reaction to the recession are more significant differences between the dynamics of hourly labour productivity (value added per hour worked) and the labour productivity of a working person (value added per employed person). The decline in the labour productivity of working persons, typical for recession phases (since the product declines more significantly than employment), meets here with a more favourable development of hourly labour productivity (Table 2). This is a factor that can bring about changes in income distribution. Underutilization of workers' capacities in part of economic activities helps maintain the number of recipients of labour income at the cost of their lower level for the individual. This impact on income formation and income inequality will still be an interesting subject of investigation over time.

⁵ For example, France and Austria, both countries affected by more than an 8% decrease in the volume of work used, corrected this decrease by adjusting the time pool of workers used so that the decrease in the number of workers reached only 1% and 1.6%, respectively.

Table 2: Indicators of employment and productivity dynamics in selected sectors of the Slovak economy

	Volume of hour worked	Number of employed persons	Average amount of hours worked by one employed person	Labour productivity (value added per employed person)	Hourly labour productivity (value added per hour worked)
Total economy					
Y-o-y change in %	-8.8	-1.9	-7.1	-2.5	4.9
Manufacturing					
Y-o-y change in %	-10.8	-4.3	-6.9	-12.3	-5.9
Construction					
Y-o-y change in %	-8.0	-0.7	-7.3	-7.0	0.3
Wholesale and retail trade					
Y-o-y change in %	-9.9	-2.2	-7.9	0.3	8.9
Accommodation and food service activities					
Y-o-y change in %	-27.9	-6.2	-23.1	-14.9	10.6

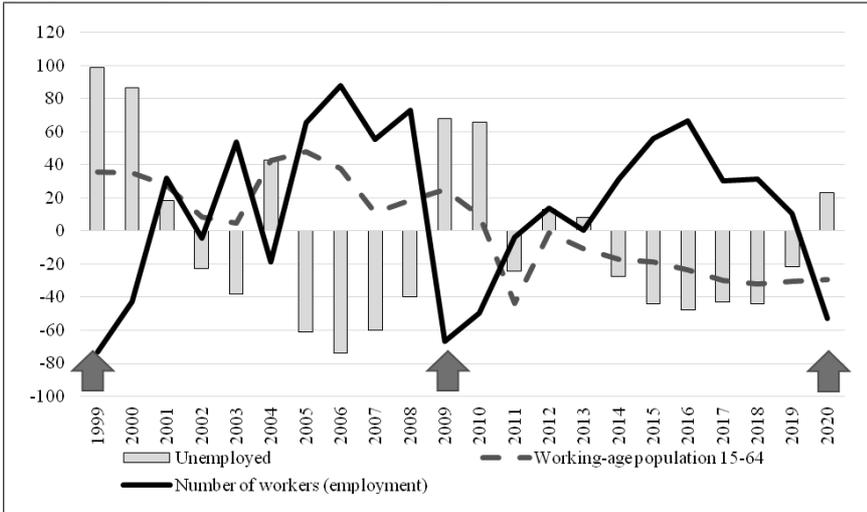
Source: Eurostat database, author's calculations

V. The Demographic Factor Played a “Positive” Role This Time

A look at *the labour force supply side* reveals a fundamental change in the evolution of the working-age population. In earlier economic recessions (notably in 1999, but also to a lesser extent in 2009), the year-on-year change in the number of people of working age was significantly positive. This complicated labour market developments in the short term at the time – it increased the unemployment rate. By contrast, the 2020 recession saw a massive decline in the number of working-age people, moderating the rise in unemployment. Already since 2017, the number of people of working age has fallen by around 30,000 people each year (that is around 0.8% of the working age population per year). Shortly before the 2020 recession, this factor was a significant contributor to labour shortages in parts of the country; during the recession, it dampened the rise in unemployment. And as this is a lingering demographic impact, with the economy picking up in 2021 and early 2022, the labour shortages in parts of the economy quickly became apparent. Partial cushioning of this shortage may be associated with an influx of labour force from Ukraine, but it is too early to assess this impact.

The decline in the number of persons of productive age was a common feature of the development of the V4 group, it was a common factor in mitigating the impact of the recession on unemployment. Slovakia joined this tendency with a slight time delay (Figure 5). The term “positive” is in quotes in the subtitle because it is a positive phenomenon only at the given moment. In the long term, the decline in the working-age population means a limitation for the economy.

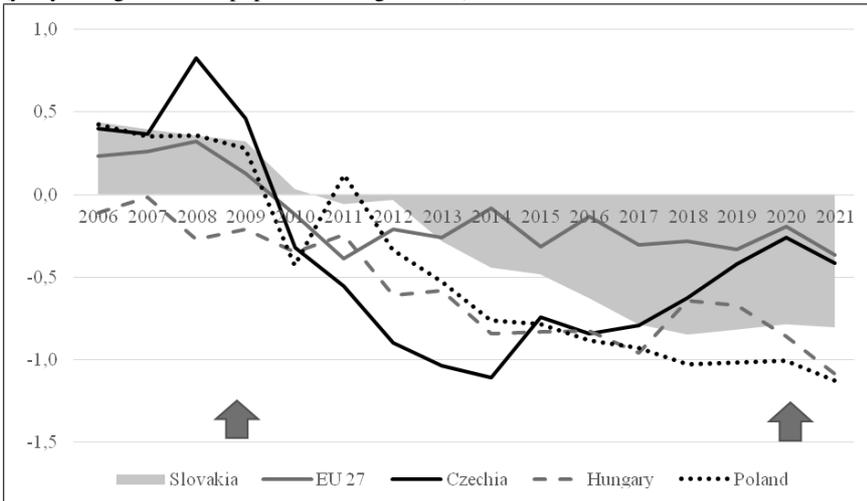
Figure 4: Changes in employment, unemployment and working-age population
(y-o-y increases/y-o-y decreases in thousand persons)



Note: Employment and unemployment based on LFS. Moments of economic downturns are highlighted.

Source: Eurostat database, author's calculations and design (2022)

Figure 5: Changes in working-age population in V4 counties and in the aggregated EU
(y-o-y changes as % of population in age 15–64)



Note: Moments of economic downturns are highlighted.

Source: Eurostat database, author's calculations and design (2022)

On both sides of the labour market, factors were present during the pandemic crisis that prevented a significant increase in unemployment. On the labour demand side, the redirection of the negative impact on the average number of hours worked by a worker played a positive role. This was the result of deliberate policies (STW schemes were helpful in the short run). On the labour supply side, the significant decline in the working age population played a role. This is the result of demographic trends and is not a favourable phenomenon in the long term.

Factors on both sides of the labour market are a novelty for the Slovak economy, but these are processes that have been known in other economies for some time.

VI. Conclusion

A brief view of the figures on the number of employed or unemployed could give the false impression that the 2020 recession has not had a more serious impact on the labour market. Yet it has, and it has not been negligible. But this impact has translated differently into the way the labour force has been used: it has not translated primarily into the withdrawal of part of the labour force (and hence unemployment), but primarily into a reduction in the use of workers' capacities, while maintaining their employment status.

Public policies have changed the impact of recessions on the labour market on a pan-European scale; the negative impact of job losses has been redirected from increasing unemployment to reducing the utilisation rate of workers' time stock. The negative impact is more 'shared'. Thus, the development in the Slovak Republic was not an isolated event, but rather part of a broader change in European economies. But the effect of the change on unemployment was also reinforced in the Slovak Republic by a substantial decline in the working age population.

Given the changed socio-economic impact of recessions and the greater political attractiveness of such a solution (compared to the unemployment spikes of past recessions), such a policy has good prospects for sustained use, for short-term shock mitigation. However, a new factor of income distribution and inequality formation has also emerged, which will need further research in the near future.

Acknowledgements

This paper is a part of research project VEGA 1/0716/19 (50%) and VEGA 2/0097/19 (50%).

References

- Auer, D. (2022). Firing discrimination: Selective labor market responses of firms during the COVID-19 economic crisis. *PLoS one*, 17(1), e0262337.
- Boeri, T., Bruecker, H. (2011). Short-time work benefits revisited: some lessons from the Great Recession. *Economic Policy*, 26(68), 697–765.
- Cahuc, P., Carcillo, S. (2011). Is short-time work a good method to keep unemployment down?. *Nordic Economic Policy Review*, 1(1), 133–165.

- Casey, B. H., Mayhew, K. (2022). Kurzarbeit/Short Time Working: Experiences and Lessons From the Covid-Induced Downturn. *National Institute Economic Review*, 1–14.
- Fournier Gabela, J. G., Sarmiento, L. (2020). *Kurzarbeit and Natural Disasters: How Effective Are Short-Time Working Allowances in Avoiding Unemployment?*
- Frank, K., Morvay, K. et al. (2021). *Hospodársky vývoj Slovenska v roku 2020. Zaostrené na: ako koronavírusová kríza mení ekonomiku*. Ekonomický ústav SAV, Bratislava, ISBN 978-80-7144-322-3.
- Hijzen, A., Martin, S. (2013). The role of short-time work schemes during the global financial crisis and early recovery: a cross-country analysis. *IZA Journal of Labor Policy*, 2(1), 1–31.
- Jurajda, S., Doleželová, P. (2021). Czech Kurzarbeit: Evidence from the First Pandemic Wave. *CERGE-EI Working Paper Series*, (685).
- Michálek, A. (2021). Nezamestnanosť obyvateľstva počas pandémie Covid-19 na Slovensku v roku 2020. *Acta Geographica Universitatis Comenianae*, 65(1), 23–42.
- Morvay, K. (2020). *Slovenská ekonomika na ceste od nedostatku práce k nedostatku jej produktivity*. Vydavateľstvo EKONÓM, Bratislava. ISBN 978-80-225-4765-9.
- Morvay, K., Hudcovský, M. (2020). Demografický faktor ako zmierňovač aj posilňovač problémov na trhu práce. *Monitor hospodárskej politiky*, 3, 3–5. ISSN 2453-9287.
- Müller, T., Schulten, T. (2020). Ensuring Fair Short-Time Work – A European Overview. *ETUI Research Paper-Policy Brief*, 7.
- OECD. Publishing, Organisation for Economic Co-operation and Development Staff. (2009). *OECD Employment Outlook 2009: Tackling the Jobs Crisis*. Organisation for Economic Co-operation and Development.
- Přívára, A. (2021). Labour market efficiency and emigration in Slovakia and EU neighbouring countries. *Economic Research – Ekonomika Istraživanja*, 34(1), 1850–1869.
- Simons, J. (2022). Slovakia: Moderate but Inclusive COVID-19 Response. In *The Political Economy of COVID-19 Responses in East Central Europe* (pp. 155–173). European University Institute.
- Walkowiak, E. (2021). JobKeeper: The Australian Short-Time Work Program. *Australian Journal of Public Administration*, 80(4), 1046–1053.