Comparison of Economic Cycles of the Slovak Economy and Other Visegrad Four Countries

Eleonóra Matoušková
University of Economics in Bratislava
eleonora.matouskova@euba.sk

Summary

The aim of the article is to compare the course of economic cycle in the Slovak economy with the economic cycles of the other three Visegrad Four (V4) countries for the period 2003–2021. The comparison was carried out on the basis of monitoring gross domestic product, unemployment rate and the individual components of aggregate demand developments. In the period reviewed, we saw three phases of economic growth and two phases of economic downturn in these countries. The first economic crisis caused by the global financial crisis occurred in the V4 countries in 2009. GDP decreased the most in Hungary, slightly less in Slovakia and the Czech Republic. The economic downturn avoided Poland, where there was only a slowdown in growth. In 2020, the economies of all V4 countries were affected by the coronavirus crisis, with real GDP falling in each of them. In the Slovak Republic, Hungary and the Czech Republic, the decrease in GDP was around 5 per cent, in Poland it was less (–2.7%). The measures taken by governments and the improvement of the health situation helped to revive the growth of the economies of the V4 countries in 2021. [1]

Keywords: economic cycle, Visegrad Four countries, gross domestic product, aggregate demand, public finance

JEL Codes: E32, H6

DOI: https://doi.org/10.35551/PFQ_2022_3_9

Economic cycle is traditionally understood in economic literature as fluctuations in real gross domestic product around the long-term growing trend of potential product. The growth of potential product depends primarily on capital growth and technological progress. On the other hand, fluctuations in economic activity, i.e. fluctuations in real gross domestic product around a potential product, are influenced by demand and supply shocks. However, in contemporary economic literature, we may also encounter other views on understanding the nature and causes of the economic cycle.

A new opinion on the cause of economic cycles emerged in the early 1980s (see Ch. Beveridge, Ch. Nelson, J. Campbell, E. Prescott, Ch. Plosser). According to the theory of these authors, the economic cycle is the result of fluctuations in the production possibilities of the economy itself (Plosser, 1989). Thus, fluctuations in real aggregate output are the result of economic shocks that permanently affect the output possibilities of the economy. These are, for example, sudden and significant changes in the productivity of production factors.

In economic literature, we can meet many theories, trying to justify the emergence of economic cycles. Keynes' economic cycle theory is one of the most significant ones looking for the cause of the economic cycle on the demand side. Keynes developed this theory during the World Economic Crisis of the 1930s, when most economies were in deep economic depression. In this theory, fluctuations in investment activity are considered to be a major factor in the emergence of the economic cycle. He saw the instability of investment activity in alternating pessimistic and optimistic moods in the business sector, which he did not further justify. A decrease in entrepreneurs' confidence in future investment returns, compared to the cost of procuring them, leads to a decrease in demand for investments (Keynes, 1963). The use of a combination of accelerator and multiplier models can also explain the origin and mechanism of spreading the economic cycle. With this theory, Keynesian economists justify why investments in the economy fluctuate, thus provoking instability in the economic system. The main representative of this concept is the well-known economist and author *Paul A. Samuelson* (1939).

According to the monetarists, the economic cycle is the result of the central bank's incorrect monetary policy on the supply of money. The cause of the economic cycle is external monetary shock, which changes aggregate demand. As a result of the adjustment of enterprises to changes in real wages, there are also changes in the short-term aggregate supply. As the demand for money of individual economic operators is stable for a long time and the market economy is also stable, in the opinion of *M. Friedman* (1968), the main cause of fluctuations and disturbances in the economy is the sharp changes in the volume of the money mass. These disorders are triggered by exogenous effects such as state interventions. The biggest declines in U.S. production between 1867 and 1960 were caused by a previous inadequate reduction in money supply by the central bank (Friedman & Schwartz, 1971).

According to the concept of the equilibrium model of the business cycle, fluctuations in economic activity are not an expression of macroeconomic imbalances. They are based on the presumption of imperfect information of undertakings operating in different markets. Macroeconomic fluctuations arise only by unexpected changes in the amount of money. If the central bank unexpectedly increases the supply of money, aggregate demand will increase, and this will increase also the price level. Some producers perceive the increase in the prices of their products and believe that consumer demand for their products and services has increased to the detriment of their competitors' products. In such a case, they expect profit to rise above the level of normal profit in the economy (they would achieve net economic profit), which motivates them to increase the production volume. This increases real aggregate output in the economy. However, when producers realise that this was not in fact an increase in the relative price of their products, but an increase in the total price level, they will reduce the production volume to the original level. The only result of a central bank's such stabilisation monetary policy is an increase in the price level (Barro, 1981).

The theory of the School of Real Economic Cycle has developed within the framework of the New Classical Economics. According to its representatives, the cause of the economic cycle is on the supply side, in supply shocks such as the change in aggregate productivity caused not only by technological changes, but also by changes in the prices of production inputs (energy, raw materials, materials, etc.), due to high and low harvests in the agrarian sector, improvement or deterioration of climatic conditions, change in ecological standards, etc. Transient fluctuations in aggregate productivity spread to subsequent periods through so-called inter-period work substitution (or inter-period leisure substitution). The principle of inter-period work substitution explains why unemployment is decreasing in the expansion phase and rising in the recession phase (Kydland & Prescott, 1982).

Until the emergence of the World Economic Crisis, which unexpectedly collapsed on the New York Stock Exchange in 1929 and quickly spread to other sectors, economists did not anticipate that such deep economic shocks could occur at all. In economic theory, the view of classical economists prevailed that the market economy is internally stable. Economic practice has confirmed the opinion of economic theorists. Although since the beginning of the 19th century there have been smaller-scale recessions in individual economies in the world, they have not had much intensity, depth and duration. The period of industrial development was characterised by a high rate of economic growth, rapid production growth, dynamic job creation and rapid income growth.[2]

In the 20th century, the longest and deepest crisis was the Great Depression of the 1930s. The World Economic Crisis was only brought to end by the Second World War. The needs of war production in the US and other countries, the rapid growth in demand for goods and services, triggered unusually high real GDP growth (almost 19 per cent in 1942) (Frank & Bernanke, 2003). The increase in government consumption led to high growth in aggregate demand. After the Second World War, periods of economic downturn, economic recessions of a larger or smaller scale re-emerged, but none of them reached the scale and intensity of the Great Depression. The economic crisis of 1929–1933 also hit Slovakia (at that time part of Czechoslovakia) hard. One solution was the so-called forced syndication, compulsory creation of cartels and syndicates, especially in light industry (Horbulák, 2018).

Especially since the 1980s, a dampening of economic cycles in developed countries, the so-called Great Moderation, has been observed. There is no clear consensus among economists in justifying such developments. The decline in the importance of traditional fixed capital-intensive industries is usually considered to be the reason for the gradual moderation of economic cycles (Holman, 2004). The situation changed dramatically in 2008, when financial and economic crisis of global dimensions occurred. The issues of economic and financial crises suddenly came under the spotlight of economists, politicians as well as the general public. After overcoming this crisis, there was a period of recovery and economic growth again.

However, in 2020, society and the economies of the world had to deal with a new economic crisis, this time caused by the coronavirus pandemic. It would seem that the spread of contagious diseases, and even more so global pandemics, cannot be a problem in today's developed world that could grow to such large sizes and crippling economies. Epidemics affected many countries in the distant past, but perhaps few would have predicted that we would be fighting such a global problem in the 21st century.

The aim of this article is to evaluate and compare development of the Slovak economy with those of the other V4 economies over the last nineteen years. The comparison will take place on the basis of the development of gross domestic product, unemployment rate and the individual components of the demand side of the economy.

In order to achieve the main objective, we asked the following research questions, which can also be understood as partial objectives:

❶ Was the course of the economic cycle the same or similar in individual V4 countries during the reporting period? How deep have individual economies been affected by the global financial and economic crisis and the economic crisis caused by the coronavirus pandemic?

❷ How have the Slovak economy and economies of other V4 countries dealt with the economic consequences of the pandemic?

❸ What are the risks of further economic development in the V4 countries?

DEVELOPMENT OF THE BASIC MACROECONOMIC INDICATOR – GROSS DOMESTIC PRODUCT – IN THE V4 COUNTRIES

The Visegrad Group or the Visegrad Four (V4) is an informal group of four Central European countries: Hungary, Poland, the Czech Republic and the Slovak Republic. The Community was originally established in 1991 by three countries, one of which was the now non-existent Czechoslovakia. By dividing Czechoslovakia into two separate countries, the original Visegrad Three was transformed into the V4 in 1993. These countries have always been part of the same civilisation based on the same cultural, intellectual, socio-economic and religious values that they wish to develop further. The V4 countries cooperate in various areas of common interest within the European Union (MIRRI, 2022). We therefore find it interesting to monitor and compare development of these countries in the economic area that is of our interest.

„Knowledge about economic past in the form of crises is of key importance, as knowledge about the nature of previous crises and bubbles protects us from many bad economic, and thus, financial decisions. If we know the nature of crises and bubbles and the circumstances of their evolution, it can help us make better financial decisions“ (Csiszárik-Kocsir & Varga & Garai–Fodor, 2021). The course of economic cycle can be characterised mainly by the development of real gross domestic product (GDP). Other macroeconomic categories on the basis of which the performance of the economy can be monitored are the unemployment rate, the development of aggregate demand, both domestic and foreign, private consumption and public consumption, export performance and the import intensity of the economy.

Economists, politicians and the public are watching closely as the national economic product (gross domestic product) develops, whether output is increasing. They expect this to translate into an increase in people's living standards and quality of life. Economic growth is an important but not sufficient condition for development. Even with rapid growth, economic development can be more moderate, and even modest output growth can induce greater improvements in quality of life (Kocziszky & Szendi, 2021).

„May 1, 2004 – the day the EU was enlarged by ten new countries, including the V4 countries. It can be stated that the V4 countries made a significant civilizational leap. Their importance on the international scale increased not only in the area of economic but also political and international security" (Blaszcyk, 2022).

As shown in Table 1, in the Slovak Republic there was high economic growth in 2003–2008, on average of 6.6 per cent per annum. The highest GDP growth was recorded in 2007, when the economy grew by up to 10.7 per cent. Of the V4 countries in 2003–2008, Slovakia achieved the highest real GDP growth. Economic growth was also reported by the Czech Republic and Poland, but yearly GDP growth was lower compared to Slovakia (on average in the Czech Republic 5 per cent and in Poland 4.9 per cent). Unlike these three countries, economic development in Hungary was slightly less favourable even in the period before the global financial crisis. Although the Hungarian economy grew at an average rate of 4.2 per cent per annum in 2003–2006, growth already declined significantly to 0.5 per cent in 2007 and to 0.9 per cent in 2008.

Table 1

REAL GDP DEVELOPMENTS IN THE V4 COUNTRIES (CHANGES PER YEAR IN PER CENT)

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Slovakia	5.4	5.2	6.5	8.5	10.7	5.4	–5.5	5.9	2.8
Poland	3.6	5.1	3.5	6.2	7.2	3.9	2.8	3.7	4.8
Hungary	3.8	4.8	4.3	4.0	0.5	0.9	–6.7	1.1	1.9
Czech Republic	3.6	4.9	6.4	6.9	5.5	2.7	–4.7	2.4	1.8
European Union	1.5	2.5	2.0	3.4	3.1	0.5	–4.3	2.2	1.8

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Slovakia	1.9	0.7	2.6	4.8	2.1	3.0	3.7	2.5	–4.8	3.0
Poland	1.3	1.1	3.4	4.2	3.1	4.8	5.4	4.7	–2.7	5.9
Hungary	–1.4	1.9	4.2	3.8	2.1	4.3	5.4	4.6	–5.0	7.1
Czech Republic	–0.8	0.0	2.3	5.4	2.5	5.2	3.2	3.0	–5.8	3.3
European Union	–0.7	0.0	1.6	2.3	2.0	2.8	2.1	1.6	–6.1	5.4

Source: Eurostat

At the end of 2008, the global financial and economic crisis that originally occurred in the United States was also transferred to EU countries. Gross domestic product in Slovakia still increased by 5.4 per cent this year, but in 2009 the economic recession was fully reflected. The GDP decreased by 5.5 per cent a favourably developing economy with high growth figures had slumped. The uneven development of Slovakia's industrial regions is deteriorating at a time of economic crises, which was also reflected during this crisis (Horbulák, 2018). It was necessary to stimulate economic growth and at the same time avoid excessive increase in public debt. The very difficult task of the government was to strike a balance between economic growth, reducing the unemployment rate, socially bearable measures and reducing public debt (Obadi, 2013).

Economic recession was fully manifested in the V4 countries in 2009, with the most GDP falling in Hungary (–6.7%), then Slovakia (–5.5%) and the Czech Republic (–4.7%). The economic downturn has avoided Poland, where growth only slowed down to 2.8 per cent.

Already in the following year 2010 there was a recovery in Slovak economy (GDP growth of 5.9%). However, this re-emerging trend of economic growth slowed down in the following years. The Slovak economy achieved significantly lower growth values than before the crisis. One of the causes thereof was the emergence of another, although milder recession in the EU, caused by the debt crisis in peripheral countries of the euro area and fears about the further development of monetary union.[3] Although the Slovak Republic did not exceed the recommended values of public debt during this period, the unfavourable and uncertain situation in the euro area negatively affected the values of economic growth. Even in the following years, there was no return to pre-crisis high growth rates. Gross domestic product increased on average by only 3 per cent per annum in the post-crisis period. Labour productivity growth slowed down and the real convergence of the Slovak economy towards the level of the EU–27 economies and, in particular, to the level of more advanced – the primary fifteen – EU countries also began to stagnate (Frank & Morvay et al., 2019).

In 2010–2013, Slovakia and Poland resumed the path of recovery and growth, but the annual GDP growth was significantly lower than in the period before the global financial crisis (on average around 2.8 per cent respectively). The Czech Republic and Hungary showed a weak recession also in 2012. The Czech gross domestic product decreased by 0.8 per cent in 2012 and even in 2013 the Czech economy recorded zero GDP growth. Hungarian GDP decreased by 1.4 per cent in 2012. As per Figure 1, in the period 2014–2019, GDP in all V4 countries increased.

In 2020, all the EU countries and the world were affected by the coronavirus pandemic, with serious consequences for their economies. As a result of protecting human health from COVID–19, many businesses were closed down, particularly in the gastronomy sector, hotels, services and part of the shops. This sudden supply shock negatively affected the performance of economies of these countries. As a result of the shortfall or decrease in income of persons affected by the restriction of work or business activity, demand was consequently reduced, which further aggravated the economic development. Economies reached the next phase of economic downturn. There was another economic crisis.

„The pandemic is, most importantly, multidimensional. In dealing with the effects of the 2008 financial crisis, efforts were focused on helping banks so as to avoid a domino effect and maintaining a functioning banking system. During the pandemic, attention was focused on health protection, mainly

Figure 1

DEVELOPMENT OF REAL GDP IN THE SLOVAK REPUBLIC, HUNGARY, POLAND AND THE CZECH REPUBLIC (CHANGES PER YEAR IN %)

Source: Eurostat

by limiting the transmission of infection by stopping manufacturing, service, educational, and entertainment activities and by issuing orders and imposing prohibitions on the population. On the other hand, efforts were made to prevent corporate bankrupties and job losses (Wójicki, 2022).

The coronavirus pandemic in 2020 affected the economies of all V4 countries, with real GDP falling in all of them. In the Slovak Republic, Hungary and the Czech Republic, the GDP slump was around 5 per cent, in Poland it was less (2.7%).

MEASURES TAKEN BY THE V4 COUNTRIES TO MITIGATE THE ECONOMIC IMPACT OF THE PANDEMIC CRISIS

Already in spring 2020, the governments of all V4 countries took measures to mitigate the economic impact of the crisis and revive the economy. These packages were been similar in many ways, as governments tried to address the same problems that had arisen in the economic sphere as a result of the pandemic. These measures focused mainly on helping employees, entrepreneurs and sole traders. At certain points, these measures differed, whether by the proportion of the funds provided or by the specific form of aid granted. From a number of measures, we point out those that we consider significant and believe that they have helped the recovery of economies the most.

Measures taken in the Slovak Republic

- The State reimbursed 80 per cent of the employees' salary in the companies whose operations were closed.

▸The State contributed to the tradesmen who saw a decrease in revenues.

▸The financial instrument „SIH anticorona guarantee", which made it possible to grant preferential bridging loans to small and medium-sized enterprises. The aim was to maintain jobs and operations despite the crisis situation. The maximum amount of the loan was 50 per cent of the total turnover of the company for 2019.

▸The State granted financial assistance in the form of a loan guarantee granted by the bank and payment of interest on the loan granted by the bank.

▸Deferral of employer contributions in the event of a decrease in revenues of more than 40%.

▸Deferral of mortgage and loan repayments (Vláda SR, 2021).

Measures taken in Hungary

▸At the beginning of the pandemic, the Hungarian government introduced two funds to mitigate the effects of the coronavirus: the Economic Support Fund to maintain employment, create jobs and boost the economy, and the Epidemic Prevention Fund.

▸Introduction of the so-called ‚Kurzarbeit', while the income shortfall was reimbursed by the State. The maximum amount of the State contribution was 70 per cent of the employee's salary.

▸Introduction of a compulsory tax on financial institutions of 0.19 per cent on the tax base during an emergency.

▸Introduction of a compulsory tax in the retail sector, whose amount was determined in relation to net annual turnover.

▸Collective investment funds and pension funds were eligible for loans from the Treasury with a five-year repayment period.

▸State guarantees for loans up to 90%.

▸Loan programme at an interest rate of 2,5 per cent.

▸Reduction of the social insurance rate.

▸Service undertakings (tourism, hospitality, entertainment) were exempt from tax payment (Hajnal & Kovács, 2020), (Smetanková & Krček & Tetourová, 2020).

Measures taken in the Czech Republic

▸Promoting employment retention. Compensation was provided for the costs of employers whose employees were ordered quarantine or isolation. The amount of the contribution was set at 80 per cent of the costs. In the case of quarantine, the employee received a salary compensation of 60 per cent of the earnings. In the event of an obstacle on the part of the employer, he could apply for a contribution equal to 60 per cent of the salary compensation paid, including insurance premiums (Smetanková & Krček & Tetourová, 2020).

▸Subsidy programme to support entrepreneurs: Entrepreneurs and firms were eligible for support, if their turnover had fallen by at least 30 per cent and were at risk of not covering costs and being at a loss. The support represented 40 per cent of the company's uncovered costs.

▸Investments in transport and water infrastructure.

▸Loosening the rules on budgetary responsibility (Vláda ČR, 2021).

Measures taken in Poland

▸The government earmarked EUR 6.5 billion to protect jobs. In the event of downtime or reduction in working time, the State replaced social security contributions.

▸Self-employed persons received a one-off contribution of 455.7 EUR.

- Financial assistance (even non-repayable) for enterprises conditional on the maintenance of jobs.
- State guarantees for loans.
- Possibility of deferred repayment of loans.
- Entrepreneurs were entitled to a tax relief of 50 per cent for three months on social security contributions.
- Programme to promote public investment (Gazeta prawna, 2020).

In a difficult situation, thanks to the measures taken, economic growth was achieved in all V4 countries in 2021. The Slovak and Czech economies recorded growth of about 3 per cent. The Hungarian and Polish economies did even better, GDP in Poland grew by 5.9 per cent and in Hungary by up to 7.1 per cent.

For now, the economic crisis caused by the coronavirus pandemic seems to have lasted only one year. However, economies are currently threatened by other economic and non-economic factors that may reverse favourable developments. Fears of the continuation of the pandemic, rising inflation, the ongoing war in Ukraine, the lack of strategic raw materials, parts for manufacturing enterprises, climate change are the main risks to the current and future development of economies and the prosperity of the population.

"Supporting economies in this situation requires a large amount of funds, but these place heavy burden on the expenditure side of state budgets. This may be facilitated by the abundance of funds from the European Union, which will also allow for significant developments. The long-term effects of developments will be deteremined by the efficiency of the use of funds, which is extremely important because domestic funds are finite: the increased deficit generated in 2020 and 2021 by the anti-cyclical economic policy will sooner or later have to be reduced. In the use of funds, the aspects of long-term growth should be given priority" (Molnár, D. & Horváth, D. & Regős, G., 2021).

DEVELOPMENT OF AGGREGATE DEMAND IN THE V4 COUNTRIES

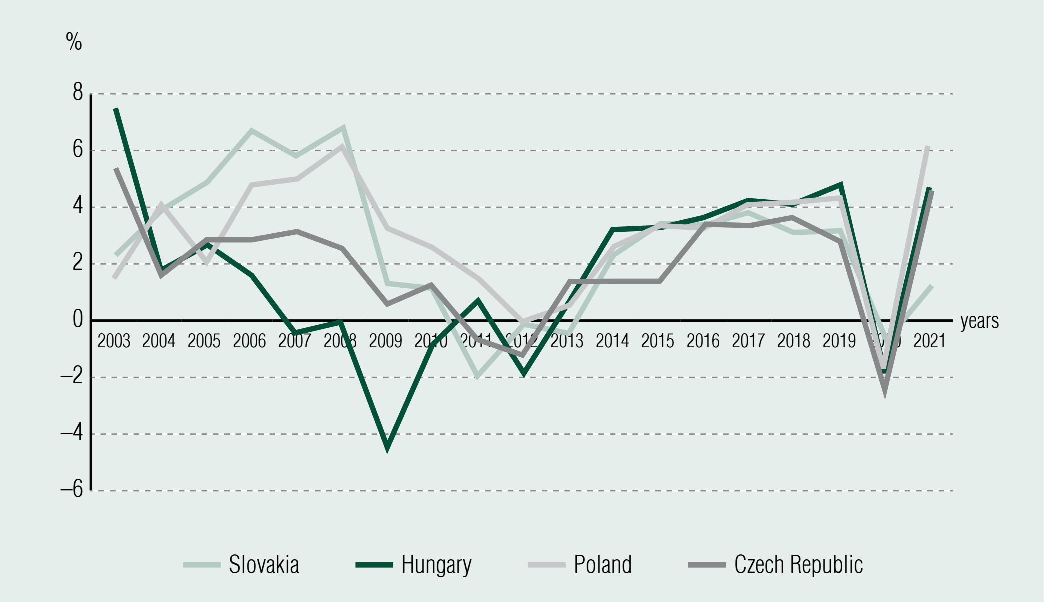
During the economic recession caused by the global financial crisis, all V4 countries experienced a decrease in household final consumption or a decrease in their growth. The most significant slump in consumption was in Hungary, where household consumption decreased by 4.6 per cent in 2009. Poland was the only economy from the V4 countries where household consumption did not see a decrease in this crisis period (there was only a slowdown in its growth to 0.3 per cent in 2012).

Decrease in household consumption caused by the economic consequences of the corona crisis was the largest in the Czech Republic (2.6%) in 2020. Slovakia recorded the lowest decrease in consumption among the V4 countries (0.7%). As per *Figure 2,* GDP growth in 2021 also resulted in a recovery in household consumption, which increased the most in Poland (6.1%) and at least in Slovakia (only 1.1%).

In 2009, when the economic recession became fully evident in Europe as a result of the global financial crisis, gross fixed capital formation declined in all V4 countries. Slovakia reported the largest slump (almost 20%). Capital formation in the Czech Republic and Hungary decreased approximately equally (by 9%). Poland was best off in this respect, with capital formation falling by only 2.7 per cent. After a brief recovery in investment growth in 2011 in the Slovak Republic and Poland, there was a renewed decrease in 2012. Gross fixed capital formation in all V4 countries was subject to significant fluctuations also in the economic growth phase after 2013. The

Figure 2

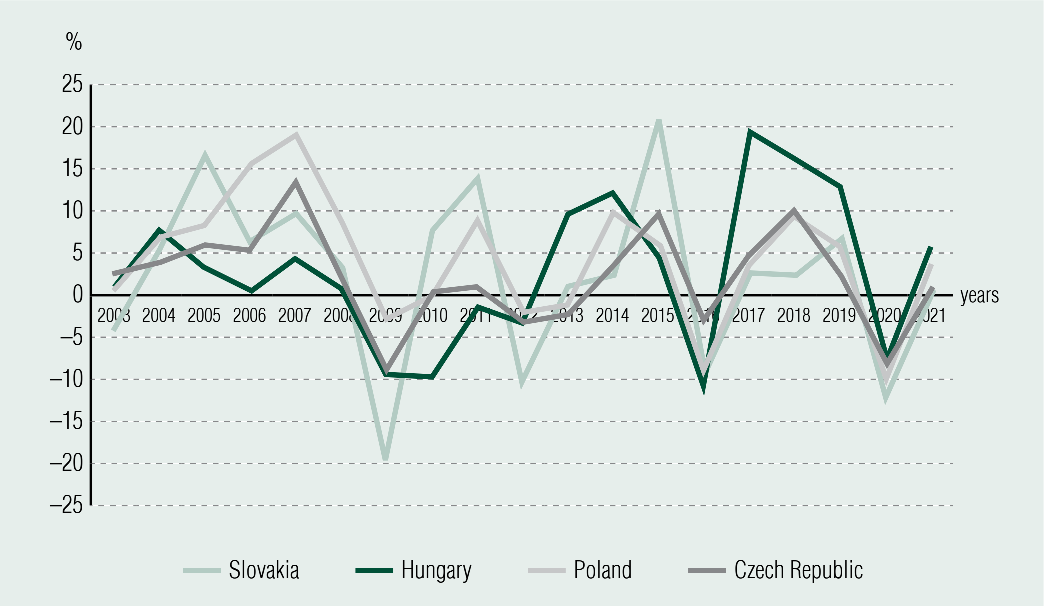
FINAL CONSUMPTION OF HOUSEHOLDS IN V4 COUNTRIES (CHANGES PER YEAR IN %)



Source: OECD

Figure 3

GROSS FIXED CAPITAL FORMATION IN V4 COUNTRIES (CHANGES PER YEAR IN %)



Source: OECD

coronavirus pandemic and the economic crisis triggered by it led to a decrease in investment in all V4 countries in 2020, with Slovakia (12%) and Hungary (7.3%) recording the largest decreases. As per *Figure 3*, the economic recovery in 2021 also led to an increase in fixed capital formation in all countries surveyed, most in Hungary (5.9%), at least in Slovakia and the Czech Republic (0.6%).

In the year of the strongest manifestation of global financial and economic crisis in Europe (2009), domestic demand decreased in all V4 countries. Hungary (9.7%) recorded the biggest slump, while Slovakia (7.7%) and the Czech Republic (5.3%) reported slightly lower slumps. Domestic demand declined in Poland the least (0.3%), which is a major economy compared to the other three countries. This is positively reflected in its domestic demand.

The economic crisis triggered by the spread of the coronavirus worldwide has led to a reduction in domestic demand in all V4 countries. The largest decreases in domestic demand among these four countries in 2020 were recorded in the Czech Republic (5.7%) and in Slovakia (5.5%), the lowest in Hungary (3%) and Poland (3.7%). As per *Figure 4*, in 2021 there was an increase in domestic demand in all V4 countries, the most in the Czech Republic and Poland (7.6%) and at least in Slovakia (3.8%).

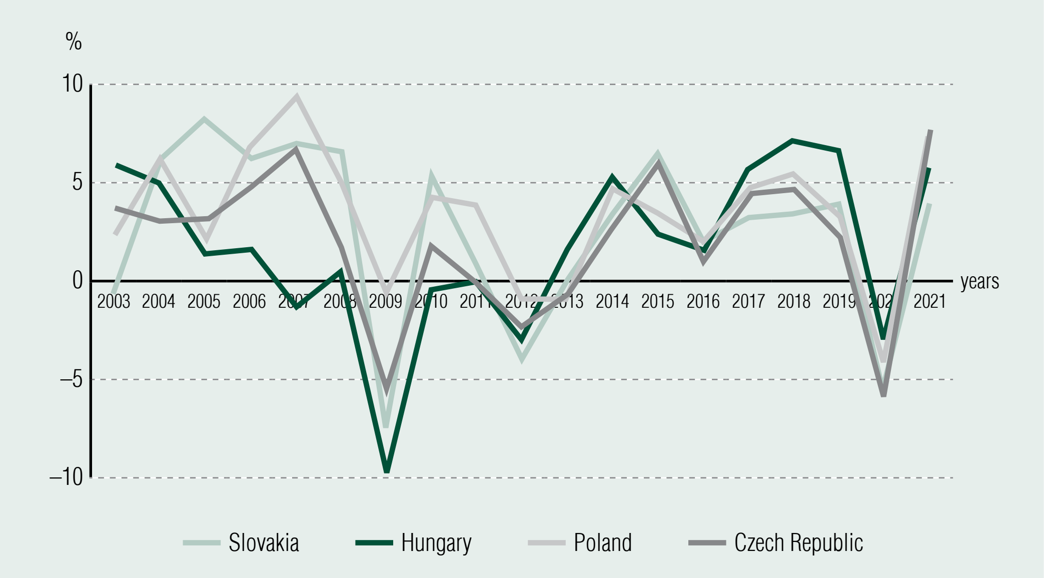
Slovakia is a small, open and pro-export-oriented economy. In 2019, the openness of the Slovak economy reached 185 per cent of GDP. The value of goods and services exported from Slovakia represented 93 per cent of GDP. The share of imports was 92 per cent of GDP. It was the fourth most open economy within the EU. Only three countries had a higher degree of openness, namely Luxembourg, Malta and Ireland (Banky.SK, 2020). Within the V4 countries, Hungary is close to the level of openness of the Slovak economy, with a 163 per cent share of exports and imports of goods and services in GDP. The Czech economy has reached an openness of 145 per cent of GDP. Among the V4 countries, Poland is the least open; reaching an openness level of 106 per cent of GDP as a large economy. Lower openness can be an advantage in certain circumstances because it means less sensitivity to changes in the external environment. This was positively reflected during both economic crises in the case of Poland. *(See Figure 5)*

In the phase of the recession caused by the global financial and economic crisis, exports decreased significantly in all V4 countries, but most significantly in Slovakia and Hungary (18.9%, and14.5%). In *Figure 6*, we can see that during the downturn phase due to the pandemic, exports decreased again the most in Slovakia (8.3%) and at least in Poland (1.9%). The start-up of domestic and foreign economies in 2021 led to a rebound in exports in all V4 countries and most in Poland (15.9%).

Poland (20.8%), followed by Slovakia (17.6%), had the highest unemployment rate at the beginning of the period reviewed. Unemployment in the Czech Republic (7.8%) and Hungary (5.9%) was significantly lower during this period. The Czech Republic has long shown very low unemployment rates (2.1 per cent in 2019), which are among the lowest in the EU. In the first growth phase of the economy within the reporting period, characterized by high economic growth, unemployment in Poland and Slovakia decreased significantly and in 2008 it decreased to a much more favourable 9.6 per cent in Slovakia and even to 7.2 per cent in Poland. This positive trend was halted by the global financial crisis and economic recession. Unlike other V4 countries, in Hungary unemployment increased slightly in the period 2004–2008 due to stagnation and later also decline in real GDP, even before the

Figure 4

DOMESTIC DEMAND IN V4 COUNTRIES (CHANGES PER YEAR IN %)



Source: OECD

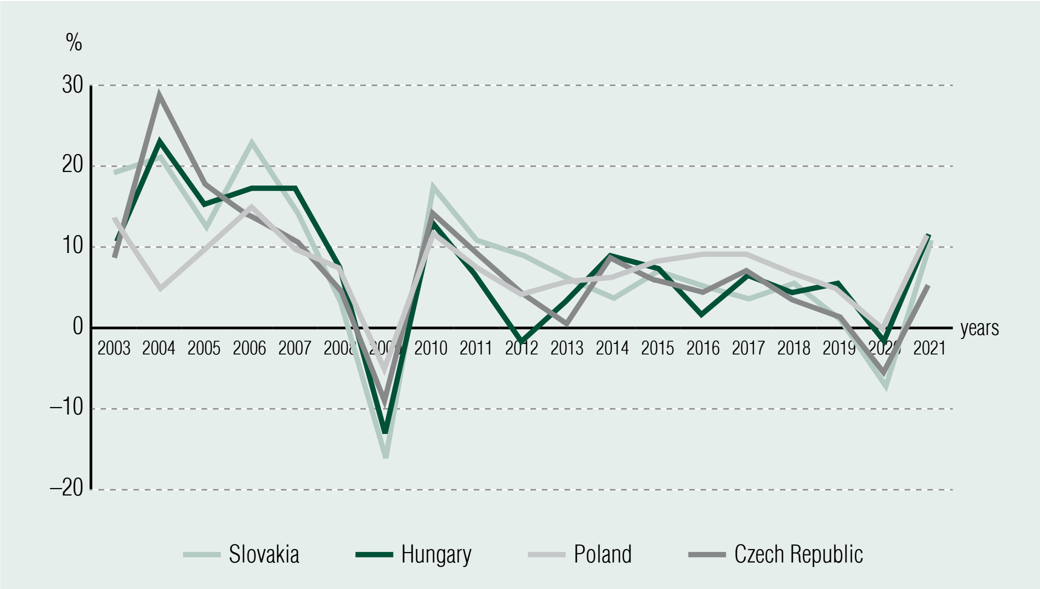
Figure 5

IMPORT IN V4 COUNTRIES (CHANGES PER YEAR IN %)

Source: OECD

Figure 6

EXPORT IN V4 COUNTRIES (CHANGES PER YEAR IN %)



Source: OECD

performance of the Hungarian economy was affected by the global financial crisis. However, it was still by 1.7 percentage points lower than in Slovakia.

In 2010–2012, the unemployment rate in Slovakia remained at a relatively high level of around 14 per cent. Gradually, as real GDP grew, it declined to 5.8 per cent in 2019, the lowest level achieved to date. Similarly, in the other three V4 countries, unemployment was falling at this growth phase of the economic cycle. However, Slovakia still has the highest unemployment rate (6.8 per cent in 2020) among all V4 countries.

In *Figure 7,* we can see that the coronavirus pandemic and the associated measures to prevent the spread of this disease led to a slight increase in unemployment, but this was not dramatic. Unemployment increased by 1 percentage point in Slovakia and Hungary to 6.8 per cent and 4.3 per cent respectively. Of all V4 countries, however, Slovakia still has the highest unemployment rate (6.8%).

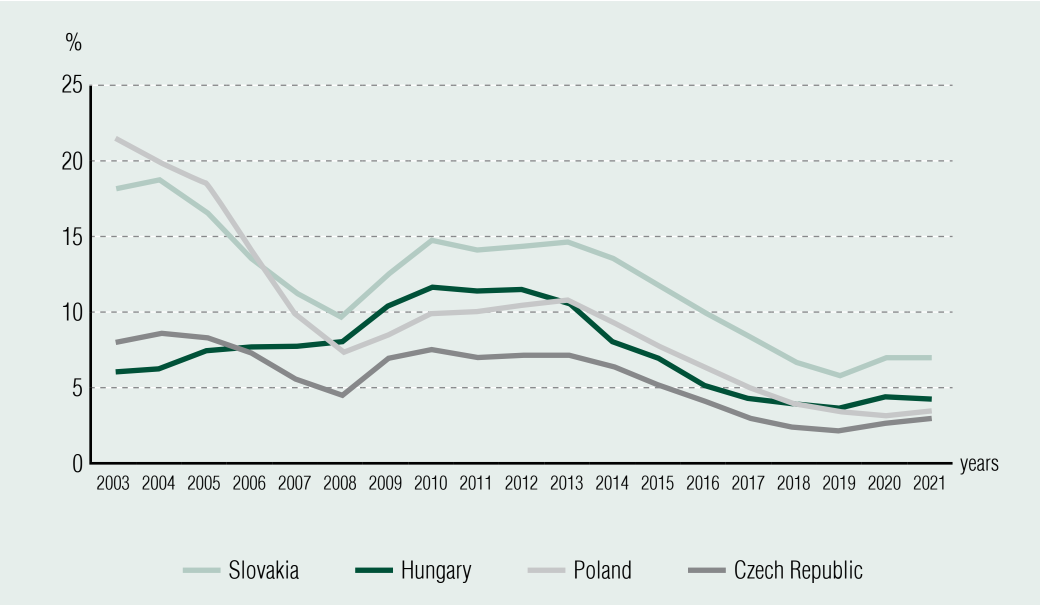
SUSTAINABILITY OF PUBLIC FINANCES IN THE V4 COUNTRIES

Slovakia's public debt, which amounted to around 43.2 per cent of GDP in 2003, started to decline in years of high economic growth and fell to an acceptable level of 28.6 per cent of GDP by 2008. After 2008, negative development in the area of indebtedness occurred in connection with the manifestations of the economic recession as a projection of the negative consequences of the global financial and economic crisis on the Slovak economy. That's when public debt and its share of GDP began to rise rapidly. In 2013, this indicator represented almost 55 per cent of GDP.

Due to negative development in the area

Figure 7

UNEMPLOYMENT RATE IN THE V4 COUNTRIES (CHANGES PER YEAR IN %)



Source: Eurostat

of state budget deficits and increasing state's indebtedness, it was necessary to adopt and consistently implement the consolidation of public finances in Slovakia. This resulted in a gradual improvement in the outcome in both areas mentioned above and the fulfilment of the requirement set for the government deficit (below 3 per cent of GDP) and a further reduction in the share of public debt in GDP. The Slovak Republic was thus eliminated from the excessive deficit procedure in 2014. In 2019, the share of general government gross debt was 48.2 per cent of GDP. The economic crisis triggered by the coronavirus pandemic led to the need to introduce measures to support the economy, which required an increase in government expenditure. This led to an enormous increase in public debt in Slovakia, which for the first time exceeded the reference value and reached 60.6 per cent of GDP in 2020 and 63,1 per cent in 2021.

During and also after the economic recession triggered by the global financial crisis, the share of public debt in GDP increased in all V4 countries; in Poland, Czech Republic and Slovakia until 2013. However, while the Czech Republic, Poland and Slovakia were below the reference value (60 per cent of GDP), Hungary significantly exceeded this limit (80.4 per cent of GDP in 2011). This is also why efforts to reduce the level of this indicator started in Hungary in 2012, slightly earlier than in the other V4 countries.

Later, in the second phase of economic growth (2014–2019) within our reporting period in all four V4 countries, governments managed to reduce public debt. The Czech Republic, whose public debt accounted for 30.3 per cent of GDP in 2019, achieved the best results in this regard throughout the period. Hungary continued to have the highest share of public debt in GDP (65.5%), but it managed to reduce it by around 15 percentage points since 2011 and move closer to the 60 per cent of GDP reference value.

In 2020, the coronavirus pandemic and its impacts on the economy negatively affected the values of this indicator in all V4 countries, of which only the Czech Republic and Poland remained below 60 per cent of GDP. In *Figure 8,* we can see that in 2021 developments in this area varied. While Poland and Hungary reduced public debt, the share of public debt to GDP increased in the Slovak Republic and the Czech Republic also in the second year of the pandemic.

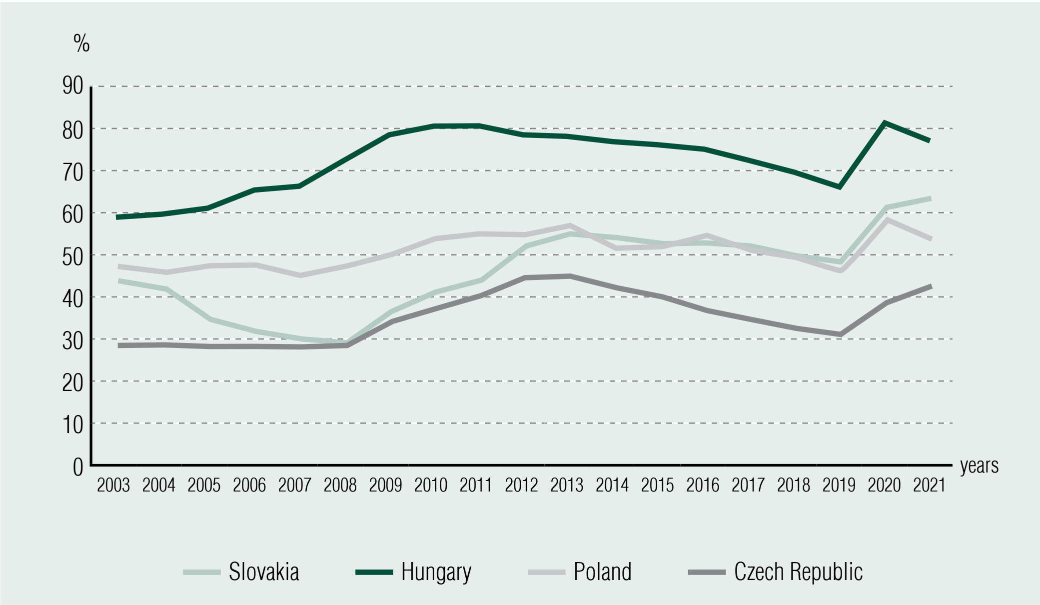
Public debt varies depending on the balance of the state budget. Throughout the period reviewed, the state budget of the V4 countries was in deficit. The only exception is the Czech Republic, which achieved a surplus balance of the state budget during the period 2016–2019. Other countries did not use enough ‚good times' to achieve at least a balanced state budget. During both economic crises, demands on expenditure from the state budget increased, which was reflected in increase in the state budget deficits as well as public debts. *(See Figure 9)*

CONCLUSION

The Visegrad Group represents an informal grouping of four Central European countries: Hungary, Poland, the Czech Republic and the Slovak Republic, which are based on the same cultural, intellectual, socio-economic values and develop cooperation today. In our article, we looked at the development of these economies over the period 2003–

Figure 8

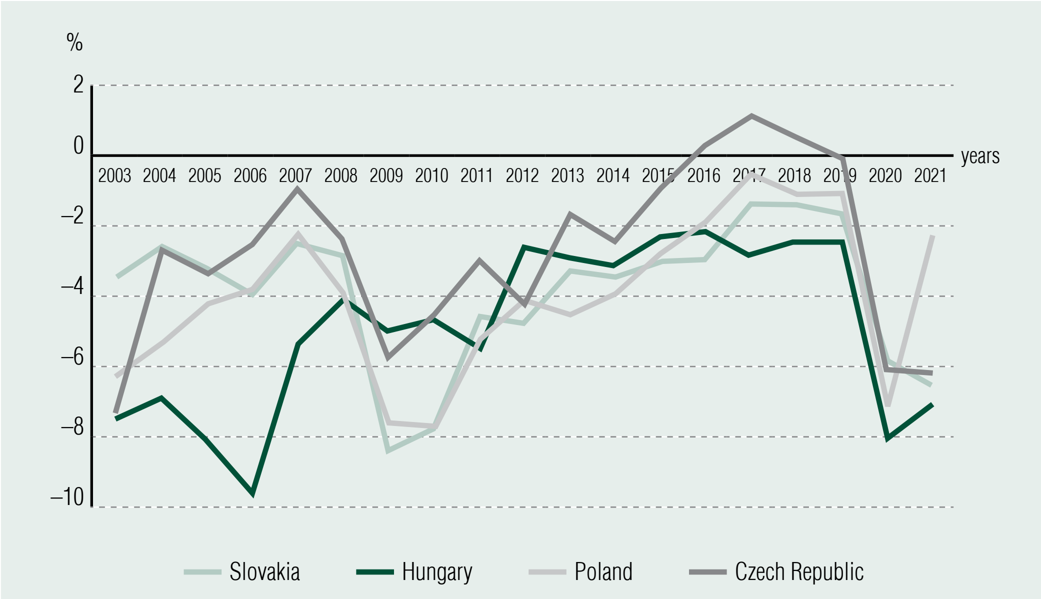
GROSS PUBLIC DEBT IN THE V4 COUNTRIES (PERCENTAGE OF GDP)



Source: Eurostat

Figure 9

GENERAL GOVERNMENT DEFICIT/SURPLUS (PERCENTAGE OF GDP)



Source: Eurostat

2021. In the period reviewed, we saw three phases of economic growth and two phases of economic downturn in these countries. Each of the economic crises occurred during the period reviewed was triggered by other causes. The global financial and economic crisis that spilled over from the USA in 2008 to Europe, and thus to the V4 countries, caused a decrease in GDP and individual components of aggregate demand in the Slovak Republic, Hungary and the Czech Republic. In Poland, there was only a slowdown in GDP growth or a stagnation in domestic demand. In the case of the Czech and Hungarian economies, we can talk about a double-bottomed recession, as in addition to 2009 there was a fall in GDP (albeit more moderately) in 2012. In the period 2014–2019, GDP in all V4 countries increased. The second recession in the period was the coronavirus pandemic, which the economies were struggling with, particularly in 2020, and we cannot say at present that the spread of this contagious disease will no longer close the economies and lead to another recession. The coronavirus pandemic in 2020 affected the economies of all V4 countries, which resulted in a decline in real GDP. In the Slovak Republic, Hungary and the Czech Republic, the slump in GDP was around 5 per cent, in Poland it was less (2.7%). Even today, despite the improvement in the health and economic situation, we are living in times of uncertainty.

Based on our research, we can conclude that the economies of Slovakia, Hungary and the Czech Republic were affected by both crises in about the same way, with GDP falling by 5–6 per sent. In Poland, there was only a recession in the case of the second crisis caused by the coronavirus pandemic, while the global financial crisis only meant a slowdown in GDP growth for the economy.

The start-up of economies and the support of subjects affected by the forced reduction of their economic activity was helped by the measures taken by governments in individual V4 countries. The governments of the V4 countries adopted packages of largely similar measures to prevent a deeper economic downturn and a high rise in unemployment. They helped to sustain many jobs and contributed to the recovery and growth of economies already in 2021. However, it is difficult to say how much the measures taken by governments, or the improved health situation or the recovery of the EU economy (where the exports of these countries are going above all), had contributed to the recovery in growth. A positive reality in 2021 is the high rate of GDP growth in Hungary (7.1%) and Poland (5.9%). The Slovak and Czech economies grew by about 3 per cent.

In the future, financial support from the European Union's Recovery and Resilience Plan is also intended to help the recovery of the V4 economies (European Commission, 2021). It will be important for countries to use these funds meaningfully and effectively. The risk of further development may be high government budget deficits, disproportionately increasing public debt and the high inflation that we have seen recently. The war in Ukraine, the disruption of the supply of strategic raw materials as well as the supply of production parts, the associated rapid price increases, pose a further threat to the growth of V4 economies. Among the V4 countries (and not only those) Slovakia, Hungary and the Czech Republic are the most dependent on oil and gas imports from Russia to date. This, too, is one of the serious reasons for jeopardising future developments. Monitoring the course of the economic cycle shows that Poland, as a large economy with high domestic demand, is the country least affected by the recession at a time of economic crises. Small open economies are more sensitive to fluctuations in foreign demand that crises, whether caused by economic or non-economic causes, bring with them. ■

Notes

[1] This article was created as part of the solution of the research project VEGA 1/0239/19 „Implications of Behavioral Economics for Streamlining the Functioning of Current Economies".

[1] Economic recessions appeared only from the beginning of the industrial era of the society development. Until then, in the period of predominantly agricultural economies, the emergence of economic cycles did not occur in today's notion.

[2] In this context, there is also talk of a double-bottomed economic crisis, with one bottom as a result of the global financial crisis (2009) and the other of the debt crisis in the euro area (2012).

References

Barro, R. J. (1981). *Money, expectations and business cycles: Essays in macroeconomics*. New York: Academic Press.

Blasczyk, M. C. (2022). Selected Aspects of European Integration of the Visegrad Group Countries. *Comparative Economic*

Research. Central and Eastern Europe, 25(2), https://doi.org/10.18778/1508-2008.25.14

Csiszárik-Kocsir, A., Varga, J., Garai-Fodor, M. (2021). Knowledge About Past and Present Financial Crises in Relation to Financial Education. *Public Finance Quarterly,* 66(2), https://doi.org/10.35551/PFQ_2021_2_3

Frank, H., Bernanke, B. S. (2003). *Ekonomie*. [Economics] Praha: Grada Publishing

Frank, K., Morvay, K. (2019). *Slovenská ekonomika po štvrťstoročí samostatného štátu*. [Slovak economy after a quarter of a century of an independent state]. Bratislava: VEDA

Friedman, M. (1968). The Role of Monetary Policy. *American Economic Review*, 58(1)

Friedman, M., Schwartz, A. J. (1971). *A Monetary History of the United States, 1867-1960*. New York: NBER

Hajnal, G., Kovács, E. (2020). Governance and Policy Responses to the COVID-19 Pandemic in Hungary: Early Experiences and Lesssons. *Good Public Governance in a Global Pandemic*, https://doi.org/10.46996/pgs.v1e1

Holman, R., et al. (2001). *Dějiny ekonomického myšlení*. [History of Economic Thought] Praha: C. H. Beck

Horbulák, Zs. (2018). *Regionálne hospodárske dejiny Slovenska*. [Regional economic history of Slovakia] Trenčín: Trenčianska univerzita Alexandra Dubčeka

Keynes, J. M. (1963). *Obecná teorie zaměstnanosti, úroku a peněz*. [General theory of employment, interest and money], Praha: Nakladatelství ČSAV

Kocziszky, G., Szendi, D. (2021). Comparative Analysis of the Economic Development Paths of Hungarian Counties. *Public Finance Quarterly*, 67(2 Special Edition), https://doi.org/10.35551/PFQ_2021_s_2_1

Kydland, F. E., Prescott, E. C. (1982). *Time to Build and Aggregate Fluctuations*. Econometrica

Molnár, D., Horváth, D., Regős, G. (2021). W-shaped Recovery in the Two Waves of the Coronavirus Pandemic. *Public Finance Quarterly*, 66(1), https://doi.org/10.35551_PFQ_1_4

Obadi, S. M., et al. (2013). *Vývoj a perspektívy svetovej ekonomiky. Hľadanie možných ciest oživenia v čase pretrvávajúcej krízy dôvery*. [Development and prospects of the world economy. Finding possible pathways to recovery at a time of ongoing crisis of confidence] Bratislava: VEDA

Plosser, C. I. (1989). Understanding Real Business Cycles. *Journal of Economic Perspectives*, 3

Samuelson, P. A. (1939). Interactions between the Multiplier Analysis and the Principle of Acceleration. *The Review of Economic Statistics*, 21(2)

Smetanková, D., Krček, T., Tetourová, E. (2020). *Přehled opatření na zmírnění socioekonomických dopadů koronavirové nákazy.* [Overview of measures to mitigate the socio-economic impacts of the coronavirus outbreak]

Wójicki, W. (2022). Crisis Aspects of the COVID-19 Pandemicin the Social Sphere and Secondarily in Economic One. *Economic and Regional Studies*, 15(1), https://doi.org/10.2478/ers-2022-0006

BANKY.SK. (2020). *Slovensko je štvrtou najotvorenejšou krajinou EÚ.* [Slovakia is the EU's fourth most open country], retrieved December 9, 2021, from https://banky.sk/slovensko-je-stvrtou-najotvorenejsou-krajinou-eu-dopady-koronakrizy-su-preto-negativnejsie/

EUROPEAN COMMISSION (2021). *Recovery plan for Europe.* Retrieved December 15,

EUROSTAT (2022). *National Accounts.* https://ec.europa.eu/eurostat/web/main/data/database

GAZETA PRAWNA (2020). *Tarcza antykryzysowa 2.0. Prezydent podpisal ustawy*, https://www.gazetaprawna.pl/wiadomosci/artykuly/1470138,tarcza-antykryzysowa-20-duda-podpisal-ustawe.html

MIRRI (2022). *Vyšehradská skupina (V4)*. [Visegrad Group (V4)], https://www.mirri.gov.sk/sekcie/informatizacia/medzinarodna-agenda/medzinarodna-spolupraca/vysehradska-skupina-v4/index.html

VLÁDA ČR (2021). *Aktuální opatření na podporu ekonomiky.* [Current measures to support the economy], Government of the Czech Republic, https://www.vlada.cz/cz/epidemie-koronaviru/dulezite-informace/podpora-a-ulevy-pro-podnikatele-a-zamestnance-180601/

VLÁDA SR (2021). *Prvá a druhá pomoc. Pomoc pre občanov a podnikateľov.* [First and second aid. Assistance for citizens and entrepreneurs], Government of the Slovak Republic, https://korona.gov.sk/prva-a-druha-pomoc/