

The Impact of the COVID-19 Pandemic on Household Expenditures in the EU Countries (The Case of Central and Eastern Europe)

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Abstract

The COVID-19 pandemic has been one of the critical significant impact factors at the micro and microeconomic levels and has affected financial resources at both the state and household levels. The article aims to study the pandemic's impact on the dynamics and structure of household expenditures in Central and Eastern Europe. The research is based on statistical data analysis and trend analysis. Household performance indicators were studied in the period 2017-2021, with a focus on the period 2019-2021, when there was an increase in the incidence of COVID-19. The obtained results allow us to state that households in the countries of Central and Eastern Europe received less income due to the COVID-19 pandemic effect, significantly reduced their expenditures, and preferred savings over investment. Households reoriented their expenditures by reducing spending on recreation and culture, restaurants and hotels, clothing and footwear, transport, electricity, water, gas, housing, food, and non-alcoholic beverages. The share of education costs remained unchanged. In the near term, excluding additional risk factors and uncertainty in current prices, the costs of households in Central and Eastern European countries will decrease. Still, their specific weight in the structure of GDP will decline.

Keywords: central and eastern europe, consumption, COVID-19 pandemic, forecast, household expenditures



1.0 Introduction

The COVID-19 pandemic isolated millions of people in many countries and regions worldwide. Many precautions were introduced in all countries of Central and Eastern Europe (OECD, 2021), as well as in Asian countries (Qian & Jiang, 2020). In Asia, the development of the pandemic was characterised by a high incidence due to high population density in megacities and internal migration processes, such as in China (Hu et al., 2021). These included sanitary and epidemiological measures, quarantine zones, temperature screening, mandatory vaccination, mass event cancellation in educational, cultural, and entertainment institutions, and remote work. Most countries use restrictions on exit and entry, and on the movement of citizens within the state (Qian & Jiang, 2020). Most economic and social processes accompany state regulation in crises and emergencies. The situation is aggravated by state restrictions on labour activity.

Such extraordinary steps generally led to a slowdown in the economic development of most countries in the world and the formation of new behaviour in households, changing the consumption of goods and services. Regardless of social status and level of security, most people began to use their budget more rationally and save on expenses. During the crisis, households in most countries were forced to reduce their spending, including on food.

Carrying out economic reforms to ensure stability and support, the country's economy and the population became relevant during the pandemic (Petrová, K. et al., 2023). Mitigating the impact of COVID-19 and the economic downturn caused by it on household incomes must be calculated from a long-term perspective because it is practically impossible to predict the further development of events related to the COVID-19 pandemic.

The study aims to examine the pandemic's impact on the dynamics and structure of household expenditures in Central and Eastern Europe.

To achieve the goal, the following tasks were set:

1. To analyse the dynamics and structure of household expenditures in the EU and the countries of Central and Eastern European countries.



2. Determine the main trends in household spending in the countries of Central and Eastern European countries under the influence of the COVID-19 pandemic.
3. To forecast future trends in household expenditures in Central and Eastern European countries.

2.0 Literature Review

Analysis of the scientific literature has shown increased interest in the impact of the pandemic on household expenditures around the world. It is due to the topic's relevance to the whole world due to the incredible spread of COVID-19. Scientists investigate various aspects of the pandemic's impact on the population and households in different countries.

The COVID-19 pandemic significantly negatively impacted the results of production activities of resident units in various countries of the world (Kaplan et al., 2020). This process can be seen both in material production and in the service sector (Ahmed & Sarkodie, 2021). This has particularly affected several Asian countries, such as India, Malaysia, and North Korea, which are active participants in the global market for goods and services, and among which China has been particularly affected (Lee, 2020). The service sector was affected even more than goods production (Kaplan et al., 2020), as high-tech industries can operate with minimal or no human intervention in the production process. The pandemic has significantly affected food production, considerably altering the consumption levels of many households (Béné et al., 2021).

The outbreak of the COVID-19 pandemic significantly increases the likelihood that households will experience financial constraints and reduced liquidity. Households with low levels of education, the young, the poor, and households living in less developed countries are vulnerable groups that require more extensive attention from the government (Li et al., 2020). The results of the COVID-19 impact are unique compared to other shocks globally, harming both individuals and groups of households and income and the nation's financial status (Magli et al., 2022). A person's social status, education level, health, residence, and other factors influence the formation of the expenditure pattern (Braveman & Gottlieb, 2014). Behavioural factors of single-person households in some countries differ significantly from the consumption and expenditure of families with children. Thus, while for some families, COVID-19 completely changed their lifestyle and



consumption of resources, other families have changed their level of expenditure insignificantly (Maniriho et al., 2021). 29% of families in Kenya were food insecure during the pandemic, threatening a total health deterioration (Onyango et al., 2021). A similar problem presents in India, where people were forced to reduce the number of meals to survive. However, the problem is worse in rural areas and less pronounced in large cities (Choudhury, 2021), and the negative impact of COVID-19 on poverty in India (Thakur, 2021). According to a survey by the National Statistical Committee of the Kyrgyz Republic (2020), about half of the population was forced to cut costs, and one-third of the people turned to financial assistance. Georgarakos and Kenny (2022) investigated the impact of financial support measures in the Eurozone countries introduced during the pandemic on consumer expectations and behaviour regarding the prospects for household income and spending.

Attention is also paid to changes in food consumption in different countries (Principato et al., 2020; Grunert et al., 2021; Sheth, 2020). Aziz, Long and Murad (2021) investigated changes in consumer behavioural factors during the COVID-19 pandemic in Malaysia. Given the high level of development in Saudi Arabia, it can be concluded that the consumption of basic sets of goods has not changed, but the source of supply has changed. In particular, people began to buy more online (Alessa et al., 2021). Studies by Puttaiah et al. (2020), Accenture (2020), and Numerator Intelligence (2020) also confirmed that people have started to buy online, and this habit seems to stay for a long time. At the same time, the European Commission's (2021a) research indicates that people have become more willing to buy environmentally friendly products and products that improve the environment.

At the same time, it is impossible to say that the financial crisis is provoked by public policy and limitations (Partington & Wearden, 2020). Government policy in Sweden was aimed at the socio-economic limitations of the population, while in Denmark, there were no such restrictions. The analysis results show that the decrease in householding consumption is not so much due to restrictions but rather to a high level of disease in the country. People save on their initiative, not under pressure from the authorities (Andersen et al., 2020).

Other results showed that people were saving more and spending less during quarantine restrictions. Older people tended to save more, while younger generations reduced their spending only slightly. Separately, the fact redistribution of households' expenditures



in the direction of online purchases was highlighted. The number of people who had to take a loan to provide for the necessities of life also increased (Baker et al., 2020).

All EU countries noted a decrease in consumer spending by households, and this reduction is due to the consequences of the COVID-19 pandemic. Consumer spending by households in EU member states decreased in 2020 by an extraordinary 8% compared to 2019. Social distancing measures, government restrictions on people's movement, and insignificant economic activity have seriously affected household consumer spending (Eurostat, 2022a). Every third household in the EU cannot survive an unexpected COVID-19 pandemic shock. In this case, the EU provided related support for economic aid to those households where members had lost jobs or faced an extreme income reduction (Demertzis et al., 2020). In 2020, the Commission set up a Support program to mitigate Unemployment Risks in an Emergency (SURE) to help preserve jobs and workers impacted by COVID-19. Before the end of 2020, a total of €90.3 billion in financial help had been approved to support EU member-states under this program, and €39.5 billion had been paid to some of them: Croatia, Belgium, Spain, Cyprus, Greece, Latvia, Lithuania, Hungary, Italy, Malta, Portugal, Romania, Poland, Slovenia, and Slovakia. The total financial capacity of the Support program is €100 billion, so the rest of the EU members can still receive support under SURE (European Commission, 2020b).

The COVID-19 pandemic harmed the countries of Europe, equating the level of economic activity to the post-World War II period (Wetzel, 2021). The negative impact of the pandemic and lockdowns on economic development in Eastern Europe showed in the research of Menut et al. (2020). The spending on health and life insurance increased among the wealthy part of the population in Poland (Wicka, 2021). However, these changes apply only to rich people, while average-income people increased these expenditures insignificantly. Governments in CEE countries implemented social protection policies in case of the COVID-19 pandemic, providing extended protection for workers and businesses.

3.0 Research Methodology

To conduct the research, we chose Central and Eastern Europe: Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the



Slovak Republic, Slovenia, and the three Baltic States: Estonia, Latvia, and Lithuania (OECD, 2001).

This study is based on statistical information from the European Parliament, the Organization for Economic Cooperation and Development, and Eurostat. The information published in these resources has different periods and measurement units.

The Household final consumption expenditure indicator was used to study the dynamics of household expenditure in Central and Eastern Europe.

Household final consumption expenditure (formerly private consumption) – is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It also includes payments and fees to governments to obtain permits and licenses. This indicator comprises the expenditures of Non-profit Institutions Serving Households (NPISHs) even when reported separately by the country (The World Bank, n.d.).

According to OECD (2021) household's final consumption expenditure generally represents around 60% of GDP and, in some countries, is commonly the most significant part of the GDP final uses. In this case household's final consumption expenditure is an essential variable for the research. A different concept, (household) actual individual consumption, is also used in the System of National Accounts (SNA). This concept distributes individual consumption expenditures of general government and NPISHs (those that immediately benefit households) to households (the ultimate consumers of these expenditures), delivering an essential criterion for comparative cross-country analysis, in particular for well-being comparisons (Goudeau et al., 2021).

To forecast household expenditure in Central and Eastern Europe, a method of trend analysis was used based on the quantitative indicator of household final consumption expenditure in current prices (y, million euro) and the qualitative indicator of household final consumption expenditure in the percentage of gross domestic product (GDP). The trend model shows the trend of the development of the process if the coefficient of determination approaches 1. Data for 2014-2019 were used to forecast the qualitative indicator of household final consumption expenditures as a percentage of (GDP) excluding the effects of the COVID-19 pandemic and to construct a trend line (y_1). To determine the impact of the COVID-19 pandemic on the predicted



value of household final consumption expenditures as a percentage of (GDP), a trend line (y_2) was plotted with data for 2014-2021.

4.0 Research Results

Under the influence of various factors, many households in EU countries have significantly changed their attitude toward expenses, and structure, primarily due to the impact of the COVID-19 pandemic, which has reduced the income level of many citizens. The changes affected not only incomes, but also the consumption, investments, and savings of EU citizens (Fig. 1).

According to Eurostat, lockdowns, social distancing, and restrictions on business activity reduced household consumption by 8% across Europe, an impact not seen since the financial crisis of 2008 (Broom, 2021).

The data shown in Figure 1, show that from the fourth quarter of 2019, actual final consumption in real terms per capita decreased by 0.02% compared to the previous period, and already in the second quarter of 2020 - by almost 10%. In the same period, the gross disposable income of households, the gross investment rate of households decreased sharply, and the gross household saving rate increased significantly (UNESCO, 2022). In conditions of crisis and uncertainty, the population preferred to save money, rather than spend it, as in previous periods, when there was no impact of the COVID-19 pandemic.



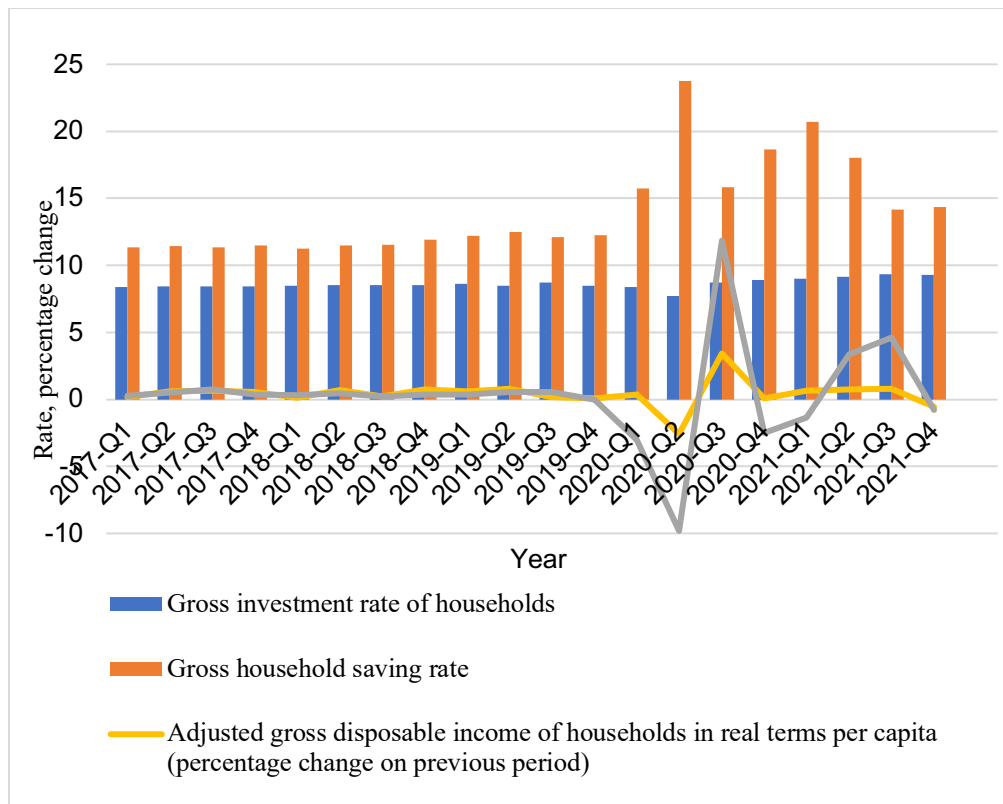


Figure 1 : Income, Saving, Investment and Consumption of EU Households in 2017-2021 Source: Authors' Calculations Based on Eurostat (2022d)

Due to social and economic restrictions, the population was forced to change their lifestyle and stay home longer. In addition, part of the population lost their jobs, new types of labour activity appeared, and the possibility of remote work became more active, saving the resources of businesses and households. All these combined factors significantly reduced the amount of EU household spending from 7430674.4 million euros in 2019 to 6931862 million euros in 2020. Nevertheless, after the start of widespread vaccination at the end of 2020, the EU population gradually began to restore financial stability and spend more money (UNESCO, 2022).

If we analyse the expenses structure, during the COVID-19 pandemic, the population significantly revised its attitude toward the family budget (Fig. 2).



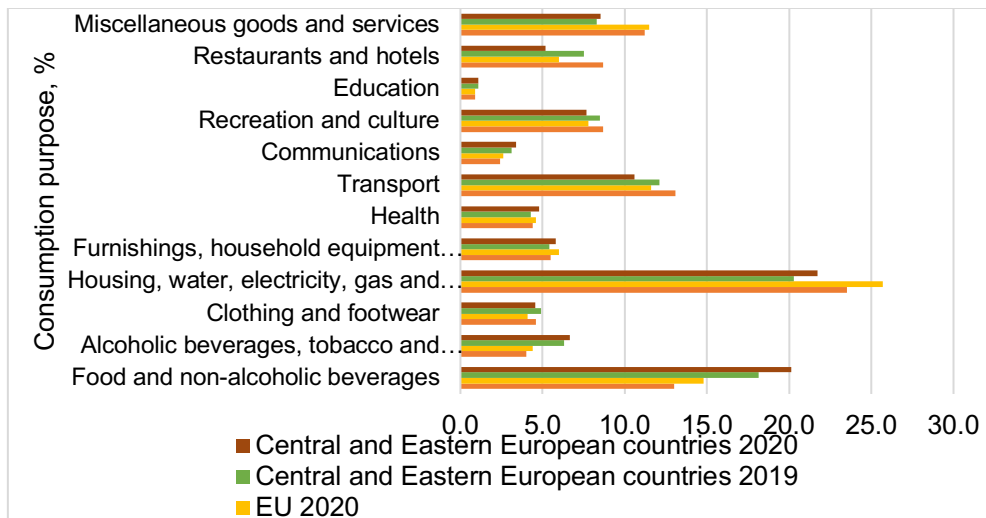


Figure 2 : Final Consumption Expenditure of Households in EU and Central and Eastern European Countries by Consumption Purpose in 2019-2020
 (%) Source: Authors' Calculations Based on Eurostat (2022c)

In 2019-2020, the most considerable specific weight in the expenditure of household structure both in EU countries and Central and Eastern European countries was spent on housing, water, electricity, gas, and other fuels. At the same time, in 2020, the specific weight of these costs increased compared to 2019. The share of spending on food and non-alcoholic beverages increased significantly, while restaurants and hotels decreased. The only cost item that remained unchanged is the cost of education. Note that the specific weight of individual expenses in Central and Eastern European countries differs from those in the EU (UNESCO, 2022). Expenses for food, non-alcoholic and alcoholic beverages, tobacco and narcotics are significantly higher. At the same time, on housing, utilities, fuels, transport, miscellaneous goods and services, households in Central and Eastern European countries spend less money.

The studied countries of Central and Eastern Europe occupy a relatively small specific weight in the general structure of household expenses of the EU member states (Fig. 3).

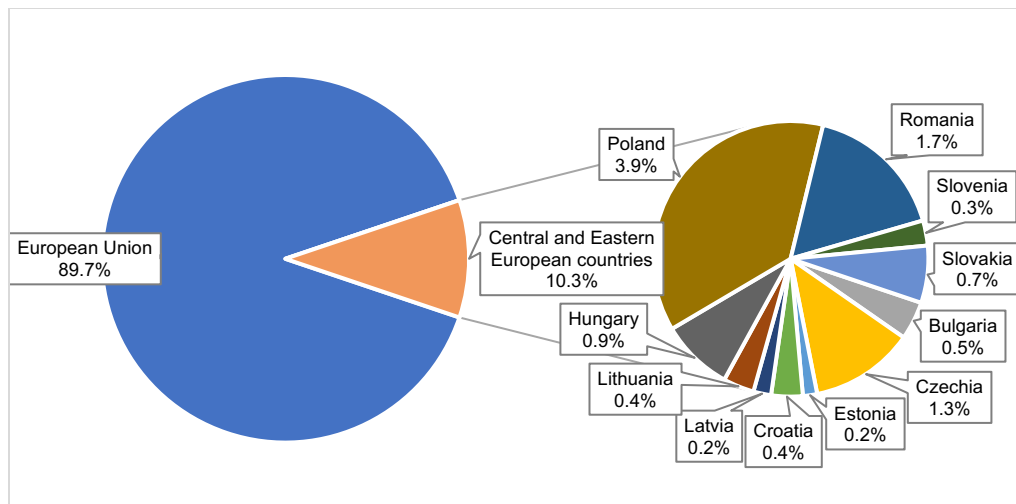
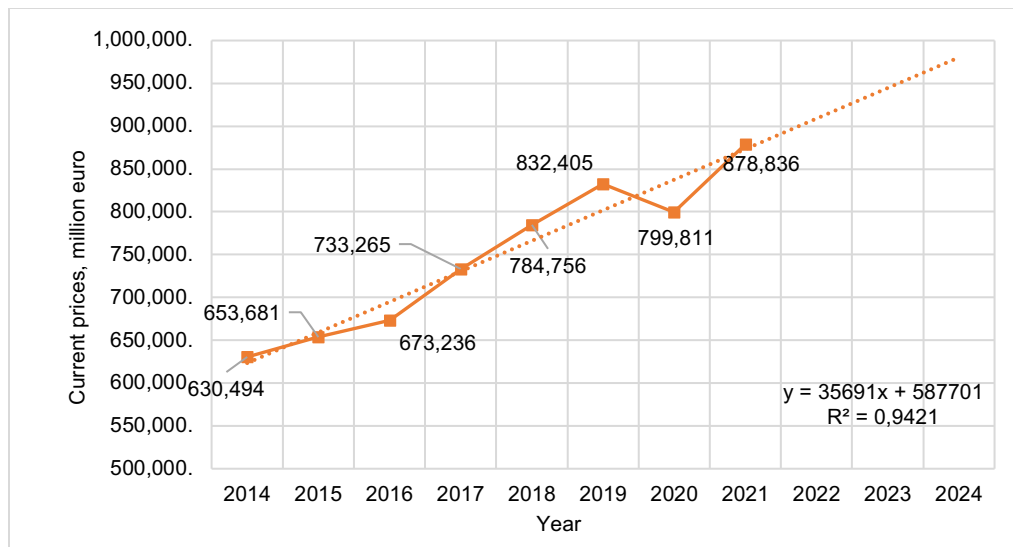


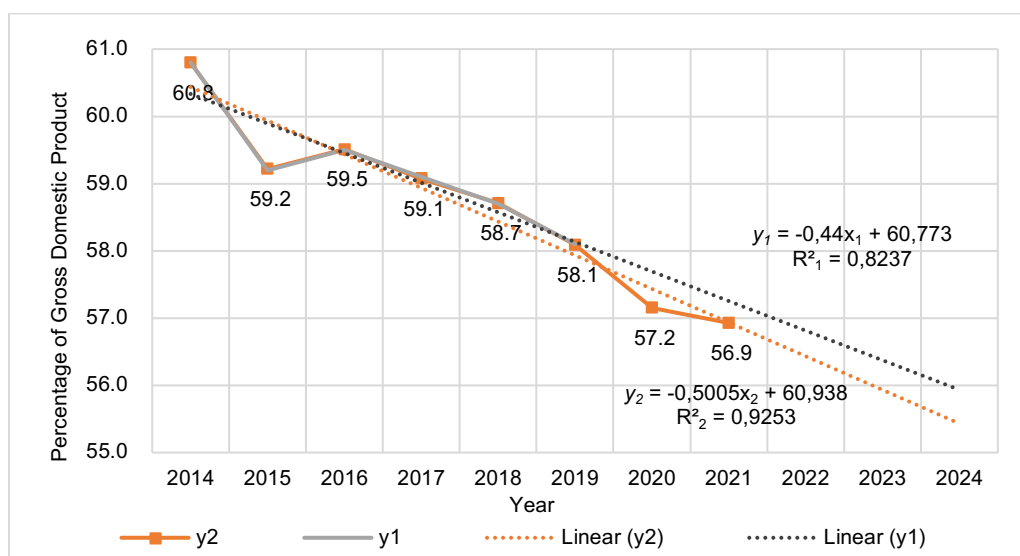
Figure 3 : Final Consumption Expenditure of Households in EU and Central and Eastern European Countries in 2020 (%)
 Source: Authors' Calculations Based on Eurostat (2022b).

In terms of consumption expenditure of households, Central and Eastern European countries occupy only 10.3% of the EU. The largest share among the studied countries is Poland (3.9%), Romania (1.7%), and the Czech Republic (1.3%). The rest of the countries account for less than 1% of the consumption expenditure of households in the EU.

The dynamics of household expenditures in Central and Eastern Europe in current prices are relatively uniform and tend to increase in the next three years (Fig. 4a). However, if we look at household final consumption expenditure in the percentage of Gross Domestic Product (GDP), there is a tendency to decrease expenses (Fig. 4b).



(a)



(b)

Figure 4 : Trend Analysis of The Household Final Consumption Expenditure in Central and Eastern Europe (a) In Current Prices (million euro) and (b) In The Percentage of GDP

Sources: Compiled by the Authors on the Data from Eurostat (2022b)

The coefficient of determination in the trend analysis showed a high level of reliability of the forecast, which makes it possible to substantiate assumptions about future trends in the development of household expenditures.



The obtained data show that household final consumption expenditure in Central and Eastern Europe at current prices gradually grows. At the same time, household final consumption expenditure in the percentage of GDP will gradually decrease. That is, the population of Central and Eastern Europe will save financial resources. This trend is observed regardless of the impact of the COVID-19 pandemic, as evidenced by the trend line y_1 . According to the calculated data, by 2024, household final consumption expenditure without the impact of the pandemic should have amounted to 56% of GDP (line y_1). Given the actual data for 2020-2021, the investigated figure would be 55.5% (line y_2), which means that the crisis caused by the COVID-19 pandemic has reduced household spending by 0.5% of GDP over three years.

5.0 Discussion

In general, the COVID-19 pandemic has led to a global economic recession that no country in the world was ready for (Chohan, 2022). There was a decline in business activity in the service sector, a fall in the stock market, a reduction in the supply of goods and inflation, which in some countries was almost unregulated due to the global economic downturn. (Strumpf, 2020).

Under the influence of the COVID-19 pandemic, households in EU countries have changed their attitude toward income, consumption, investments, savings, expenses, and structure. A roughly stable trend in household behaviour was observed from the beginning of the pandemic for an extended period until the II quarter of 2020. This period completely “broke” the established order of income, expenses, and distribution of funds, coinciding with the peak of European quarantine restrictions. It was in 2020 that indicators characterising the financial stability of households significantly deteriorated. According to research by scientists, there is a tendency to slow down the dynamics of the population’s income in Poland (Główny Urząd Statystyczny, 2021). In Romania, household consumption fell by 5% due to the impact of the pandemic, but there is an upward trend in retail sales and household spending (European Commission, 2021c). In the Czech Republic, food prices have risen rapidly, leading to an increase in the share of household expenditure on food. Spending on dining out, shopping for clothes and shoes, and travelling all fell sharply (Šolc, 2021).

We agree that it is important enough to understand that household incomes and expenditures worldwide depend on how long



the population's economic recovery and labour activity will take (Committee for the Coordination of Statistical Activities, 2020). In particular, according to researchers at the European Parliament (De Vet et al., 2021), the recovery of economies is already much slower than planned in 2020 due to the emergence of new outbreaks, which could not have been predicted a year earlier. European experts believe that by the middle of 2022, the actual level of economic activity will reach the pre-crisis period. The level of digitalisation directly affects society's development of society, and therefore the higher the level of digital skills, the higher the average level of wages will be. Therefore, more people will spend on optional expenses, such as entertainment, leisure, clothing, technology, etc. (De Vet et al., 2021).

The pattern of consumer behaviour will change depending on the post-pandemic recovery policy and economic development scenario. The exit strategy from the crisis is dynamic; different regions of the world have adopted different strategies. In Europe, countries took "stop and go" decisions on lockdowns, and it remained until a significant share of the general population received approved vaccines (OECD, 2021). Georgarakos and Kenny (2022) found evidence that government support for the population in Eurozone countries during the pandemic has a causal effect on households' expectations about their income prospects and consumer spending, including increased spending on purchases such as gifts and cars. In addition, such beliefs affect access to credit and the financial attitudes of households, even those that do not receive government support.

This partly explains the gradual increase of the households' spending, as well as our forecasted further tendency to their increase (in current prices). In addition, the increase in the household final consumption expenditure is explained by the constant increase in the price index in the EU. As measured by the Harmonized Index of Consumer Prices (HICP), the EU inflation rate amounted to 2.9% on average in 2021. Decreasing costs for telecommunications (-0.1%) hurt the inflation rate. Prices for transport increased by 6.8%, prices for housing by 4.8%, and tobacco and alcoholic beverages by 3.1% (Statistisches Bundesamt, 2022).

Li et al. (2020) show that the probability that households will experience liquidity constraints increases with the severity of the COVID-19 pandemic. The quarantine policy will be relaxed, and people will start to return to a fully productive economy as soon as the virus' danger to human life is reduced. These results are confirmed by our



research because, after the relaxation of quarantine requirements and mass vaccination in the EU and Central and Eastern European countries, households even increased their spending compared to the pre-pandemic period.

Policies that increase financial resilience through economic help to households will become necessary. Our evidence corresponds with Demertzis et al. (2020) results, which show significant differences among EU member-states regarding financial fragility. The poorer EU members are the most financially fragile countries, like Bulgaria, Croatia, Latvia, Lithuania, Hungary, Romania, and conceivably Poland, and the member-states primarily hit by the economic crisis.

Construction in the food industry will resume as soon as quarantine restrictions end. In turn, the tourism, restaurant, and cultural sectors will take longer to recover than other sectors; it may take more than two years to resume activity in this area (De Vet et al., 2021).

It is necessary to point out that not only do the dynamics of economic renewal have an important influence on household spending. Therefore, the public policies that will accompany economic recovery are significant.

6.0 Conclusions

The pandemic harms household expenditures, which is associated with a decrease in income levels and conditions of crisis and uncertainty. People's income and expenditures depend on government limitations and strict rules according to a pandemic, but also on the policies of states to combat it.

The gradual reduction of quarantine restrictions, a high level of vaccination, an adaptation of the population to remote work, and state aid and policy to mitigate crisis conditions lead to the return of households to the pre-pandemic situation regarding the management of financial resources.

The pandemic changed people's view on the formation of the household budget: the population began to spend less and save more. Although the state guarantees treatment against COVID-19 at public expense, the population of European countries still spends more on medicines during the quarantine period. A positive thing in the EU and the countries of Central and Eastern Europe is the stable level of education expenses, which was not affected by the coronavirus pandemic.



Despite the expenditure of households in Central and Eastern European countries occupying approximately only 10% of the total household expenditure in the EU, these countries need more financial support and economic aid (Simakhova et al., 2022). It is expected that by 2023-2024 households' and individuals' spending for different purposes will recover.

The study's practical significance lies in obtaining information about the future expenditure of households in Central and Eastern European countries, which will allow the population and governments to prepare for likely scenarios over the next three years. The governments of Central and Eastern European countries can use obtained results of the forecasts during the implementation of economic and social reforms.

Prospects for further investigations are to research the impact of individuals' attitudes on European household expenditures and consumer behaviour.

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