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To cite this article: P M Hryhoruk *et al* 2023 *IOP Conf. Ser.: Earth Environ. Sci.* **1254** 012127

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Post-COVID-19 economic recovery in the context of SDG8 and SDG9: the case of selected Eastern European countries

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Abstract. Assessing the economic development of countries in the context of the tasks defined in the UN 2030 Agenda for Sustainable Development is essential from the point of view of determining progress in achieving the SDGs. It becomes especially relevant in periods of global challenges and disturbances, one of which is the COVID-19 pandemic. The goals of SDG8 and SDG9 contain indicators that are determined mainly by the state of development of the country's economy, so the analysis of trends in their changes is important in the context of identifying trends in economic growth in general, as well as for evaluating progress in achieving these goals. The purpose of the study is to identify the impact of the COVID-19 pandemic on the economic development of countries to achieve sustainable development goals and assess progress trends in the post-pandemic recovery of the economies of Eastern Europe by analyzing quantitative data from official statistical sources. The object of the study is the economic development of Eastern European countries in the conditions of the COVID-19 pandemic. The study period covers the time range from 2017 to 2021 and includes both the pre-pandemic and pandemic periods. Eight countries of Eastern Europe were chosen as research objects. Indicators of official statistics related to SDG8 and SDG9 sub-goals were selected for analysis. The study showed a significant decrease in the values of most indicators, which was caused by the destructive effect of the pandemic. To assess the possible development trajectory, we calculated the estimated value of indicators for 2022 using the Holt-Winters method. The results showed that, despite some progress in 2021, in 2022, the values of the indicators are decreasing. Such estimates correspond to the trends provided by international institutions. We have built a composite indicator to assess the economic development trend comprehensively. The results of the evaluation confirmed the general trend towards a decrease in the level of economic growth in the context of the goals of SDG8 and SDG9 for all the countries of Eastern Europe selected in the study.

1. Introduction

The irrepressible desire to ensure society's economic and technological development was a characteristic feature of the last century. The success of the activity and development of the world's economies was measured mainly by economic indicators, particularly the growth of the gross domestic product. There was a generally accepted opinion in society that this is a sufficient



prerequisite for developing well-being and raising the population's standard of living, ensuring the competitiveness of national economies. Achieving appropriate progress was mainly provided due to exploitation and irrational use of natural and resource potential. The results of such irresponsible activity actualized problems of a socio-economic nature, problems caused by the deterioration of the environment, and the loss of value orientations of society. The Sustainable Development Goals (SDGs) [1] were formed to prevent these disturbances and define the strategic perspectives of world development that set global growth priorities until 2030.

Despite some progress in the fight against the spread of COVID-19, due, in particular, to effective restrictive measures, mass vaccination of the population (mandatory in some countries of the world), the permanent nature of the course of the disease causes a further increase in the number of victims of the pandemic. As of early 2023, COVID-19 has been recorded in 231 countries and territories with more than 672 million cases, of which about 6.7 million have been fatal [2]. A sudden spike in cases in Shanghai in May 2022 showed [3] that the pandemic can return to peaks even for countries like China, where stringent anti-epidemic measures are in place as part of the "zero-COVID" strategy, which aims to neutralize any facts disease by strict isolation of all infected. The new increase in morbidity and the continuation of this strategy led to mass protests at the end of November 2022, eventually forcing the Chinese government to abandon this policy.

Such a situation leads to a slowdown in the socio-economic development of the world's countries and, accordingly, causes negative consequences for the prospects of achieving the SDGs. Thus, studying the trend of the economic development of the regions during the COVID-19 pandemic is an urgent problem. The study focuses on the global SDG8 and SDG9, which are most related to economic development, in the context of establishing the dynamics of target indicators, the direction of their change during the pandemic period, and compliance with planned trends. The study is hypothetical and limited to data from 2017 to 2021. The war launched by Russia against Ukraine in 2014, and especially its "hot" phase, which began in 2022, caused an additional negative effect on economic development. However, the lack of necessary statistical data does not allow this impact to be considered in the study. Therefore, all calculated estimates are based exclusively on data, the dynamics of which mainly refer to the pandemic period.

2. Literature review

Given the new global disturbances caused by the COVID-19 pandemic, issues of monitoring economic development remain the focus of international institutions and individual scientists. At the same time, separate countries or territories, as well as global development as a whole, are subject to analysis.

Issues of progress in achieving sustainable development goals are not left out. Report [4] provides a brief overview of global and regional development in achieving the SDGs as of the end of 2021. As can be seen from the charts presented, there is a reduction in the pace of development for specific goals. In particular, this situation is observed for SDG8 in terms of ensuring decent work, which is caused by the growth of unemployment rates. On the other hand, the pandemic gave a significant impetus to the development of remote technologies, which spread after 2019 in trade, service provision, banking, and education, reflected in the relevant component of SDG9. It should be noted that part of the actual data from 2019 to 2021 was not available during the preparation of this report, as the pandemic disrupted the established data collection procedures by the relevant government institutions. Therefore, such data were replaced by simulated data, which gives some of the presented results an estimated character.

Annual reports are prepared by Cambridge University specialists, which reflect the state and dynamics of sustainable development indicators. The report prepared based on the values of sustainable development indicators as of the end of 2021 [5] states that the average value of the

global SDG index after 2019 has a downward trend. The slow recovery of poor and vulnerable countries explains this result.

The report also presents statistics for individual territories by territory, as well as data for separate countries and territories. The highest value of the SDG index is for EU countries; the lowest is for Sub-Saharan African countries. However, in this study, there is also a lack of relevant values of some from 2015 or 2016, which makes it impossible to assess the impact of COVID-19 on the dynamics of relevant indicators of the SDGs in individual countries and to conduct a complete comparison of the trajectories of achieving the SDGs.

Considerable attention of researchers is paid to the application of tools of statistical analysis and economic-mathematical modeling to build possible trajectories of sustainable development in the context of the impact of COVID-19. According to the results of a study conducted by the Pardee Center for International Futures at the University of Denver in cooperation with UNDP based on data for 2020 several scenarios of global development were constructed in the context of the long-term effect of the pandemic [6]. Considerable attention in the research is also devoted to the analysis of development trends of countries with a low or average value of the human development index. The main conclusion formed by the authors is that one of the strategies enables such countries to get out of the short-term pandemic crisis and return to the trajectory of sustainable development in the long term.

The use of economic and mathematical models based on expert data to assess progress in achieving the SDGs, particularly SDG9, during the COVID-19 pandemic is presented in the article [7]. However, Fulzele et al mainly consider environmental and energy indicators, focusing on something other than sustainable development's economic aspects. Research [8] aims to use machine learning methods to model possible trajectories of sustainable development from up to 2024. Shuai et al concluded that for most of the SDGs, a significant deviation is expected in the progress of achieving the goals compared to the trajectories that could have taken place in the absence of the pandemic and the preservation of development trends. To return to the basic development trajectories, the authors suggest that the main efforts should be devoted to those sectors of the economy that cause the least negative impact on the environment.

Hryhoruk et al [9] considered the construction of a generalized index for assessing the consequences of COVID-19 on the socio-economic development indicators of Ukraine's regions in the context of sustainable development. As a result, it was established that the pandemic had a more significant impact on economic development than the social component. At the same time, the structure of the location of the regions of Ukraine in the space of built integral indicators of economic and social development remained unchanged. Based on a statistical analysis of indicators, the economic consequences of the COVID-19 pandemic for the Polish economy are considered in the article [10]. Dudzik and Brukwicka conclude that Poland's economy suffered less from the consequences of the pandemic than other Eastern European countries. Identifying patterns of the impact of the COVID-19 pandemic on the SDGs, determining the interrelationship of goals in the context of deviations from the planned development trajectories, and the formation of proposals for the development of business recovery strategies based on the theory of catastrophes is presented in the study by Chang et al [11]. Among the shortcomings of the conducted research, it can be noted that the authors do not associate the obtained results with sustainable development goals.

Without reliable statistical data, studies are often based on survey results or expert assessments. In the article [12], based on the analysis of expert data on the impact of COVID-19 on the SDGs, it was concluded that SDG8 is one of the goals for which the effect had particularly negative consequences. Based on a multifactorial criteria analysis, Elavarasan et al determined the priorities of the components of sustainable development. They proposed comprehensive strategies for building optimal trajectories for achieving the SDGs in the post-pandemic period. According to the authors, this will allow returning to pre-pandemic development trajectories

faster. In the article [13], based on the results of processing expert data, the impact of the pandemic on the achievement of SDG8 was investigated using the example of Brazil. Report [14] contains a thorough analysis of the achievement of SDG8 in the context of COVID-19, based on the results of a survey of trade unions around the world. At the same time, the emphasis was placed on evaluating indicators related to sub-goals related to obtaining decent work. The vast majority of respondents confirmed the thesis of a significant deviation in the achievement of SDG8 from the planned trajectory for this sub-goal. The authors identified priorities in developing a strategy to achieve SDG8, among which creating new jobs plays a key role. In the study [15], an analysis of economic growth trends in Eastern European countries and an assessment of the effects of the COVID-19 pandemic were carried out. Sheiko and Storozhenko summarized the forecast assessments provided by international institutions and individual experts regarding the development trajectories of Eastern European countries after 2021 and assessed potential risks and threats. However, this study does not link the obtained results to the achievement of the SDGs.

Article [16] contains the results of evaluating changes in the indicators of individual goals, in particular SDG8, due to the negative manifestation of the COVID-19 pandemic. Based on expert data, a ranking of indicators corresponding to the goals selected for analysis was conducted. It was established that one of the most important indicators is the average annual growth rate of GDP per capita, which characterizes economic recovery. According to Marzouk et al, this ranking of indicators will help identify trends in SDG indicators in light of COVID-19 and contribute to creating sustainable development strategies.

The issue of determining priorities in developing a strategy to overcome the consequences of the pandemic to eliminate instabilities and gaps in the interaction between the components of sustainable development is investigated in studies [17–21]. The authors emphasize that under current conditions, developing a long-term sustainable development strategy goes beyond national development policies. This calls for the integration of the SDGs at both the national and international levels, the identification and prevention of potential risks, and the orientation of national development strategies towards inclusive green growth and the development of digital technologies.

The conducted analysis allows us to state the relevance of researching issues of sustainable development and economic recovery of countries in the post-pandemic period. Considering the variability of the development of the current situation, assessing the impact of the pandemic requires constant revision of the forecast estimates and conclusions regarding the development trends of the countries. Highly appreciating the contribution of scientists and international institutions to the study of the impact of COVID-19 on the achievement of the SDGs and the development of approaches to strategies for the recovery of development, including national economies, in the post-pandemic period, it should be noted that the studies are mainly based on expert data, which contributes a subjectivity in the obtained results. It should also be noted that at the level of European countries, such studies mainly concern EU member states. The purpose of our research is to identify the impact of the COVID-19 pandemic on the economic development of countries to achieve sustainable development goals and evaluate progress trends in the post-pandemic recovery of the economies of Eastern Europe countries by analyzing quantitative data from official statistics. The object of the study is the economic development of Eastern European countries in the conditions of the COVID-19 pandemic. The subject of the study is models and methods of assessing the impact of the COVID-19 pandemic on the country's economic development.

Following the specified goal, the formulated object, and the subject of the research, the research objectives are the analysis of economic development indicators of Eastern European countries in the context of SDG8 and SDG9 in the period from 2017 to 2021, and the identification of the main trends of their change; comprehensive assessment of progress in the

recovery of Eastern European countries economic development in the context of SDG8 and SDG9 in the period after 2021.

3. Research methodology

Sustainable development goals are interrelated, so the assessment of progress in achieving them must be comprehensive. This requires the processing of significant amounts of data; therefore, in our study, we will limit ourselves to the analysis of those indicators that are directly related to economic development in the context of the indicators of the goals of SDG8 and SDG9. For the research, we used the toolkit for analyzing the dynamics of indicators – to identify existing trends in their change; forecasting methods – for assessing the trends of changes in indicators for the following periods; integrated assessment technologies – to obtain a comprehensive assessment of the progress of economic development in the post-pandemic period; generalization – for interpreting the obtained results and formulating conclusions in the context of research objectives.

The information base of the research is publications on the research topic, data from a Metadata repository for SDG Indicators [22], a databank of the World Bank [23], the statistical portal of ILO [24], and results of the author's studies.

According to [25], statistical data for SDG8 after 2015 are available for only 60 percent of countries' indicators. For SDG9, this share of data is 70 percent. This makes it difficult to carry out a comprehensive analysis of progress in economic development, in particular, and in the context of the indicators defined in [1] for the goals of SDG8 and SDG9. Therefore, those indicators supported by the necessary statistics were selected for the study.

As objects for evaluating economic development trends, we will choose the countries of Eastern Europe: Bulgaria, Czechia, Hungary, Moldova, Poland, Romania, Slovak Republic, and Ukraine. Most of the countries are members of the EU. According to the World Bank, as of 2021, Ukraine had the status of a country with a Lower middle-income economy; Bulgaria and Moldova had level of Middle-income economies; the rest of the countries belong to the category of countries with High-income industrial economies [26]

We select the period from 2017 to 2021 for the research. The choice of such a period is due to several reasons:

- (i) the period from 2017 to 2019 refers to the pre-pandemic period and was used to determine the direction of the impact of COVID-19 on the economic development of countries in 2020;
- (ii) the following period is limited to 2021 since, for the vast majority of indicators, there is no data for 2022, which is provided in the section of country statistics by world institutions, in particular, the World Bank, the International Labor Organization, the United Nations Statistics Division.

The active phase of Russian aggression against Ukraine, which began in February 2020, caused new global challenges to the progress of economic development in Ukraine and other Eastern European countries. Hence, their consideration requires a separate study.

We use visual analysis of their values to identify trends in changing indicators. Assessing the predictive values of indicators we execute using the Holt-Winters method [27]. It belongs to the group of adaptive forecasting methods and can be successfully used for a series of dynamics in the absence of a clear trend in changing indicators.

To assess progress in the recovery of the economic development of the countries of Eastern Europe in the context of SDG8 and SDG9 in the period after 2021, we will use the comprehensive index method, which will allow us to comprehensively take into account the change in the values of all partial indicators and reduce them to one measure [9]. This simplifies the interpretation of the obtained result.

4. Results and discussions

Let's consider the dynamics of indicators that determine the economic development of the countries selected for the study. We have chosen the following indicators: GDP annual growth (percent); Growth Rate of Per Capita GDP at constant 2015 prices in US Dollars (percent); Industry (including construction), value added (annual growth, percent); Exports of goods and services (annual growth, percent); Imports of goods and services (annual growth, percent); Unemployment rate, total (percent); Employment to population ratio, 15+, total (percent).

The first two indicators are among the determining factors in analyzing the country's economic development, as they accumulate all economic activity results. The third indicator characterizes the industry's contribution to economic development and is related to SDG9. The fourth and fifth indicators reflect the foreign economic ties of economic development. The last two are employment indicators, primarily associated with providing decent work as one of the sub-goals of SDG8. For ease of analysis, we will also include the estimated values of indicators for 2022 in the tables together with the initial data. This will simplify our analysis of the expected trend and simplify the calculations of the integral indicator.

The values of GDP change indicators are shown in table 1 and table 2.

The analysis of the presented values shows that in 2020 there was a significant drop in the GDP value, which was reflected in the negative values of the corresponding growth rates. In 2021, GDP growth resumed, but it should be taken into account that such a result was obtained in comparison with the previous year and does not reflect the real change in GDP. The highest growth was observed for Moldova and the Slovak Republic. In general, GDP growth was higher for countries with high-income industrial economies, except Moldova, which belongs to the

Table 1. GDP annual growth (percent).

Country	2017	2018	2019	2020	2021	2022
Bulgaria	2.8	2.7	4.0	-4.0	7.6	5.7
Czechia	5.2	3.2	3.0	-5.5	3.5	2.1
Hungary	4.3	5.4	4.9	-4.5	7.1	5.3
Moldova	4.7	4.3	3.7	-7.4	13.9	10.3
Poland	5.1	5.9	4.4	-2.0	6.8	5.4
Romania	8.2	6.0	3.9	-3.7	5.1	3.7
Slovak Republic	2.9	4.0	2.5	-3.4	3.0	2.0
Ukraine	2.4	3.5	3.2	-3.8	3.4	2.3

Table 2. Growth Rate of Per Capita GDP at constant 2015 prices in US Dollars (percent).

Country	2017	2018	2019	2020	2021	2022
Bulgaria	3.5	3.4	4.8	-3.4	8.5	6.6
Czechia	4.9	2.9	2.6	-5.7	5.4	3.6
Hungary	4.5	5.5	4.9	-4.3	7.6	5.7
Moldova	6.5	6.2	5.4	-6.4	14.8	11.3
Poland	5.1	5.9	4.5	-1.8	7.3	5.8
Romania	8.8	6.7	4.4	-3.1	5.9	4.5
Slovak Republic	2.8	3.9	2.4	-3.5	3.2	2.2
Ukraine	2.8	4.0	3.8	-3.1	4.3	3.2

group of countries with middle-income economies. According to the estimates of the values of the indicators for 2022, we note a decrease in the GDP growth rate, which is explained by the higher values of the indicators in 2021 compared to 2020.

The change in the values of the “indicator Industry (including construction), value added” is shown in table 3. Let’s draw attention to the fact that for most countries, except Hungary, there was a downward trend in the values of the indicator from 2017 to 2020. In Hungary, such a decrease occurred only in 2020. As in the case of GDP, 2020 turned out to be the most critical year. The reduction or suspension of business activity of many production structures explains this. The year 2021 was characterized by the recovery of businesses in most countries, although the negative trend of the change in the indicator remained for Moldova. Estimated values of the indicator for 2022 also show a tendency to decrease values.

Let’s consider the indicators reflecting the volume of foreign trade. This field of activity was also significantly limited due to quarantine restrictions. However, such restrictions gave significant impetus to the development of online trade. Values of indicators are shown in table 4 and table 5.

The analysis of the tables shows that the given indicators in the pre-pandemic period had a changing trend, but in 2020 they also significantly decreased. The most significant export decrease occurred in Bulgaria, the Czech Republic, Moldova, and Romania. For the import indicator, the most significant decrease occurred in the Czech Republic and the Slovak Republic. In 2021, there was a significant increase in the volume of export-import transactions, and the growth rates were the highest during the studied period for all countries except the Czech Republic and Ukraine. For Ukraine, in 2021, the negative trend of decreasing the value of the

Table 3. Industry (including construction), value added (annual growth, percent).

Country	2017	2018	2019	2020	2021	2022
Bulgaria	1.0	0.0	-0.1	-8.2	1.7	0.0
Czechia	6.6	1.4	1.9	-9.9	3.3	1.1
Hungary	4.4	4.3	4.5	-7.9	6.6	4.3
Moldova	3.8	8.3	6.0	-2.8	-0.7	-0.7
Poland	1.2	5.8	3.4	-4.5	3.4	2.2
Romania	6.4	4.5	-0.4	-4.2	4.1	2.6
Slovak Republic	1.5	7.0	3.9	-12.6	2.5	0.1
Ukraine	1.8	2.7	2.3	-3.2	2.6	1.7

Table 4. Exports of goods and services (annual growth, percent).

Country	2017	2018	2019	2020	2021	2022
Bulgaria	5.8	1.7	4.0	-10.4	11.0	7.4
Czechia	7.2	3.7	1.5	-8.0	6.9	4.4
Hungary	6.5	5.0	5.4	-6.1	10.3	7.6
Moldova	10.9	7.2	8.2	-9.6	17.5	13.1
Poland	9.0	6.8	5.3	-1.1	12.5	10.2
Romania	7.8	5.3	5.4	-9.5	12.5	8.9
Slovak Republic	3.7	5.1	0.8	-6.4	10.6	7.7
Ukraine	3.9	-1.4	7.3	-5.8	-10.4	-9.2

Table 5. Imports of goods and services (annual growth, percent).

Country	2017	2018	2019	2020	2021	2022
Bulgaria	7.4	5.8	5.2	-4.3	10.9	8.4
Czechia	6.3	5.8	1.5	-8.2	13.3	9.6
Hungary	8.4	7.0	8.2	-3.9	9.1	7.1
Moldova	11.0	9.7	6.2	-5.0	19.2	15.1
Poland	9.9	7.5	3.2	-2.4	16.1	12.9
Romania	11.5	8.6	8.6	-5.2	14.6	11.4
Slovak Republic	4.1	4.8	2.2	-8.2	12.1	8.6
Ukraine	12.9	2.8	5.7	-6.4	12.7	9.5

Table 6. Unemployment rate, total (percent).

Country	2017	2018	2019	2020	2021	2022
Bulgaria	6.2	5.2	4.2	5.1	5.4	5.5
Czechia	2.9	2.2	2.0	2.5	2.9	2.9
Hungary	4.2	3.7	3.4	4.3	4.1	4.2
Moldova	4.1	4.1	5.1	3.8	4.0	4.1
Poland	4.9	3.8	3.3	3.2	3.4	3.4
Romania	4.9	4.2	3.9	5.0	5.2	5.2
Slovak Republic	8.1	6.5	5.8	6.7	6.7	6.8
Ukraine	9.5	8.8	8.2	9.1	8.9	9.1

export indicator continued, and the rate of decrease was the highest. The year 2022 showed a reduction in the growth rate of indicators, and for Ukraine, the negative trend for the import indicator continued, albeit on a smaller scale.

Analyzing the indicators of unemployment and employment (table 6 and table 7), the following conclusions can be drawn. Regarding unemployment, from 2017 to 2019, there was a gradual decrease in the indicator's value. In 2020, the unemployment rate increased in all countries except Poland and Moldova. In 2021, the trend of unemployment growth continued for all countries except Ukraine. However, the given indicators may not reflect the actual state of the labor market, as they are obtained based on estimates calculated by the ILO [24]. The calculated estimated values of the unemployment rate for 2022 showed that the unemployment rate might remain practically at the previous level. However, the recovery of business activity may be the reason for the decrease in the rate value.

Regarding the employment indicator, from 2017 to 2019, there was also a trend of increasing values for all Eastern European countries. In 2020, the indicator's value decreased for all countries except Romania, and this trend continued in 2021 for all countries except Hungary, Poland, Slovak Republic, and Ukraine. Estimated values for 2022 show an increase in the level of employment, which is consistent with the thesis of the recovery of business activity.

In general, evaluating the trends of indicators, we can conclude that the pandemic really had a negative impact on the economic development of countries, which was reflected in the reduction of their growth rates. The most negative phenomena appeared for the indicators of Moldova, Romania, and Ukraine, and the least – for Poland.

Let's conduct a comprehensive assessment of the level of economic development. For this purpose, we will construct a composite indicator named the comprehensive index of economic

Table 7. Employment to population ratio, 15+, total (percent).

Country	2017	2018	2019	2020	2021	2022
Bulgaria	51.9	52.4	54.2	52.7	52.6	53.8
Czechia	58.5	59.2	59.2	58.3	58.0	59.3
Hungary	53.9	54.6	55.1	54.5	56.7	57.5
Moldova	40.5	35.8	40.1	38.8	37.1	38.3
Poland	53.7	54.2	54.4	54.3	55.1	56.1
Romania	52.2	52.7	53.0	52.3	49.5	51.2
Slovak Republic	55.1	55.9	56.3	55.1	56.3	57.3
Ukraine	51.0	51.4	51.7	50.1	50.2	51.3

Table 8. Comprehensive index of economic development.

Country	2017	2018	2019	2020	2021	2022
Bulgaria	0.51	0.48	0.53	0.23	0.64	0.58
Czechia	0.64	0.57	0.53	0.23	0.64	0.58
Hungary	0.59	0.59	0.60	0.26	0.68	0.62
Moldova	0.55	0.53	0.51	0.14	0.70	0.61
Poland	0.59	0.62	0.56	0.35	0.70	0.65
Romania	0.66	0.60	0.54	0.25	0.63	0.58
Slovak Republic	0.49	0.57	0.50	0.20	0.59	0.54
Ukraine	0.50	0.45	0.51	0.23	0.45	0.42

development. For the comparability of the results, the values for all countries for each partial indicator will be combined into one sample. We will use the rules given in [9] to normalize partial indicators. At the same time, we take into account that the unemployment rate is a disincentive. Convolution of partial indicators was carried out according to the rule of linear additive convolution. Since we do not have any a priori information about the importance of certain partial indicators, we will choose the same weighting coefficients for their convolution. The results are presented in table 8.

The analysis of the values of the comprehensive indicator allows us to state that in 2022, its lowest values for the entire studied period took place. The most significant drop occurred in Moldova, while the economy of Poland was the most stable. In 2021, an increase in the values of the comprehensive indicator was observed, and the highest values were for Moldova and Poland. The phenomenon of Moldova is explained by the significant growth of individual indicators, which in turn is determined by their low absolute values compared to other Eastern European countries. The assessment of the value of the generalized indicator of economic development for 2022 shows a slight decrease in values, which is consistent with the conclusions made during the analysis of the partial indicators that are components of this generalized indicator.

More accurate estimates of the economic development of the countries of Eastern Europe in 2022 could be obtained, taking into account either the actual values of the indicators, which are currently unavailable, or their expert assessments. Currently, such estimates are available only for GDP indicators.

5. Conclusions

Identifying economic development trends both for the country's economic system as a whole and at the level of its separate regions remains an important task. Such research acquires special significance in periods of global challenges, one of which was the COVID-19 pandemic. Deviation from the trajectory of achieving the stated goals was observed even in the pre-pandemic period, but the COVID-19 pandemic exacerbated the existing problems. It isn't easy to assess all the consequences since this process has not yet ended. In addition, the active phase of Russian aggression created new challenges for sustainable development. However, identifying trends in the change of target indicators in terms of individual SDGs, in particular SDG8 and SDG9, is an urgent task.

The study of the indicators' values from 2017 to 2019 showed that gradual progress in economic development was generally observed despite the lack of clear trends for individual indicators. This allows us to conclude on the gradual improvement and the achievement of the target indicators for SDG8 and SDG9.

The analysis showed that 2020 was the most critical year by all indicators, which led to a significant deviation from the planned trajectory of sustainable development. This finding is consistent with research results provided by other scientists and research institutions. In 2021, the situation began to improve, reflected in the indicator values' growth. Deviations occurred only in individual values for Ukraine and the Slovak Republic. Ukraine had a lower level of development according to the selected indicators, while Poland demonstrated the highest stability of its economy. At the same time, despite the limitations of statistical data, the obtained results showed that for many indicators, the rates of their decline in 2020 for Ukraine were lower than for other Eastern European EU member countries. Estimated values for 2022 showed a decrease in the growing trend of the indicators selected for analysis. This can be explained by the fact that the vast majority of indicators are relative and depend on the previous levels of the corresponding absolute indicators. To comprehensively take into account all indicators, we have built a generalized indicator of economic development. The analysis of its values confirmed the earlier conclusions regarding economic development trends in 2020 and 2022.

Study results can be considered when planning economic development strategies as auxiliary analytical information.

Acknowledgments

This study was supported by the State budget project of Khmelnytskyi National University, "Modeling the strategies for safe development of innovation-oriented socio-economic systems," project's registration number 0122U001212.

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