THE HOPE OF THE ECONOMIC RECOVERY ACROSS THE EU27

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Abstract

The paper deals with the analysis of the present global crisis' impact on the EU Member States' economies and answers to the question related to the posibility of economic recovery on short and medium terms. Different methods of statistical analysis and forecasting are used in order to quantify the economic recovery process using two scenarios. The main conclusion of the research is that the present crisis succeeded in increasing the economic disparities between the Member States' economies. The statistical databased used for the analysis is the latest official one.

Keywords

Global crisis; economic disparities; economic recovery; economic clusters; scenarios.

1. General approach

The present global crisis in more complex than its predecessors. It covers economic dimension, social dimension, sanitary dimension, military dimension and so on.

After an initial economic shock, the Member States' economies faced to different challenges that led to great economic disparities. At the beginning of 2021, the European Commission became more optimistic and declared that the European citizenship would see the light at the end of the tunnel. The main hope for the EU27 is based on the vaccination campaigns which are able to support new measures regarding the gradually socio-economic relax.

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From the economic point of view, the Euro area is facing to greater challenges than the EU27. On the other hand, the global economy succeeded in improving its performance. This was the effect of the new stimulus packages' implementing, especially in USA and Japan. During the same period, EU27 has to face to great difficulties in voting on the multiannual budget and the package of financial recovery measures, as a result of the dissensions between the Member States.

The latest official statistical data present a positive evolution of the real GDP during 2021-2022 (see Figure 1).

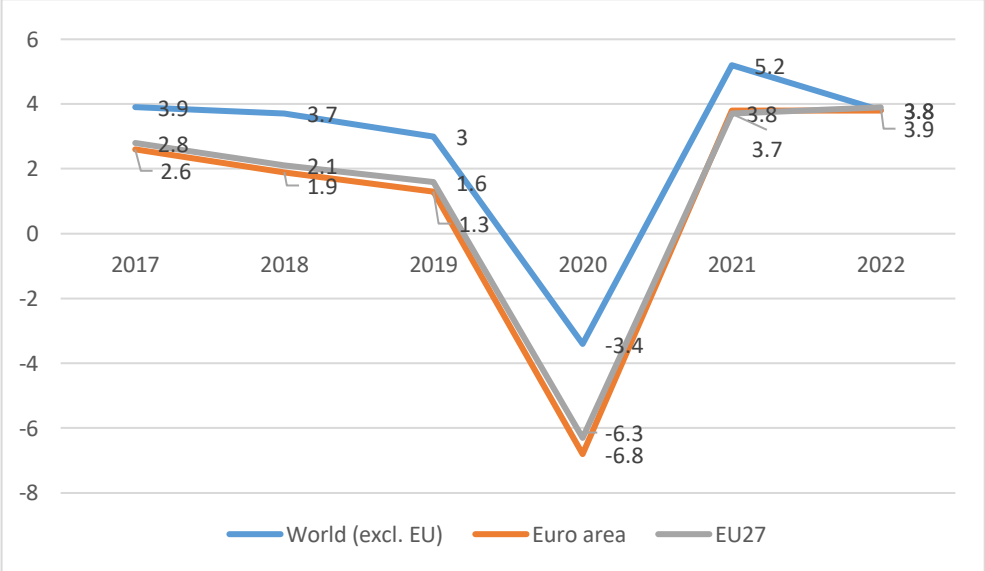

Figure 1. Real GDP growth rate (%)

According to Figure 1, the world economy had better economic performances compared to EU27 and Euro area during the whole analysed period. In the same way, EU27 succeeded in having greater GDP growth rates than the Euro area during the analysed period, as well.

Figure 1 supports the idea that the economic recovery will put those three economic entities at the same level of economic growth as in 2017. This means that the pandemic pushed down the economy by at least 5 years.

This approach is based on the following ***technical assumptions***:

TA 1: 3-month EURIBOR (percentage per annum) is assumed to be: -0.4 in 2020, -0.6 in 2021 and -0.5 in 2022;

TA 2: 10-year government bond yields (percentage per annum) is assumed to be: -0.5 in 2020, -0.5 in 2021 and -0.4 in 2022;

TA 3: USD/EUR exchange rate is assumed to be: 1.14 in 2020, 1.21 in 2021 and 1.21 in 2022;

TA 4: Oil price (USD per barrel) is assumed to be: 43.4 in 2020, 54.7 in 2021 and 52.4 in 2022 (European Commission, 2021).

The present research in this paper is focused on the analysis of the economic disparities between the Member States and tries to answer to the question related to the economic recovery deadline.

2. Literature review

Even that the present global complex crisis is new, it became a favourite subject for a lot of researches.

This crisis was unexpected, as well. This is why the economists talked about economic recovery in 2019. At that moment, the all efforts were focused on investment, long-lasting capital and total factor productivity. There was a direct connection between the countries with greater financial vulnerabilities in the pre-crisis years and the output losses after the crisis. On the other hand, the Member States which were able to implement stronger pre-crisis fiscal positions or used more flexible exchange rate regimes succeeded in having lower output losses (Chen, W., Mrkaic, M. and Nabar, M., 2019).

Starting to 2020, the economic approach is changing. The specialists have understood that this new crisis is more complex and is able to disrupt the global, regional, national and local social and economic order. The other effects of the pandemic consist in casualties and the economic shock after repeated lockdowns. Moreover the risk of going to school and to work is still high (Georgieva, K., 2020).

Other researchers tried to realise an analogy between the latest four global recessions (1975, 1982, 1991 and 2009) in order to discover common elements able to lead to a viable conclusion regarding the present crisis. According to this research, the common evolutions of these recessions are: the decreasing of the real GDP, revenues and employment, accompanied by the increasing of unemployment, inflation or government debt rate. An interesting

conclusion is that the emerging and developing economies were able to face better to the crisis and to achieve a faster economic recovery (Kose, M.A., Sugawara, N. and Terrones, M.E., 2020).

The connection between the pandemic and the economic recession. In this context, the economic decision makers would take care at the market signals, especially at the asset classes. Moreover, the same managers would investigate the recession and recovery patterns, as well as the history of the epidemics and the shocks (Carlsson-Szlezak, P., Reeves, M. and Swartz, P., 2020).

The importance of the present crisis is expressed by the global organisations, as well. A global study pointed out that the present pandemic affected 160 million jobs in the developing states. The greatest part of these jobs were those well paid. On the other hand, the same pandemic supported the increasing of the social and economic disparities. The developing countries have not the resources to fight against such great challenges. The only viable solution seems to be the international cooperation for development (United Nations, 2020).

Other global organisation, OECD, realise growth prospects under high uncertain. This study started from the assumption that China has an important role in the global supply chains, travel and commodity markets. Moreover, the same analysis considered that China achieved the epidemic peaks during the first quarter of 2020. As a result of the globalisation, the global economic growth forecast decreased by around ½ percentage in 2020. The global GDP growth rate decreased finally to 2.4% in the same year. The annual GDP growth rate will be over 6% in China in 2021. The G20 economies were affected by the economic situation in China, especially Japan, Korea and Australia. The economic recovery will support a global GDP growth rate of 3.25% in 2021 (OECD, 2020).

A very recent research realised for the US Congress points out that more than 200 countries were affected by Covid 19. This pandemic supported the global economic contraction by -6.0% in 2020. The main global economic actors comprised 60% of their economic activity. The forecast talk about an economic recovery at least until 2024. As a result of the contraction in the global economy, 100 million to 110 million people could enter under extreme poverty. The pessimistic approach points out that the full economic impact of the pandemic is impossible to quantify as long as the negative health

effects didn't achieve the peak (Jackson, J.K., Weiss, A.M., Schwarzenberg, A.B., Nelson, R.M., Sutter, K.M. and Sutherland, M.D., 2021).

Last but not least, the impact of the Covid on the global economy is analysed in connection to the ecosystems and the opportunities for circular economy strategies. This approach stipulates that the globalisation was the main cause of the Covid's spreading across the world. On the other hand, this pandemic represents a stimulus for achieving sustainable development goals and for changing our lifestyle. The authors of this research propose a more sustainable model recalibrated on circular economy (Ibn-Mohammed, T., Mustapha, K.B., Godsell, J., Adamu, Z., Babatunde, K.A., Akintade, D.D., Acquaye, A., Fujii, H., Ndiaye, M.M., Yamoah F.A. and Koh, S.C.L.,2021).

3. Methodology

According to the above literature review, it is very difficult to realise forecasts about the economic recovery. As a result, this research takes into consideration two economic indicators (GDP growth rate, Covid's efect (positive or negative)) and realises a short time forecast.

This scientific approach will respond to the question if the economic recovery will be able to achieve the levels before the crisis on short time. The forecast will be supported by IBM-SPSS software.

The independent variable is time, while the dependent variable is the GDP growth rates under the below scenarios. The analysis respect the ARIMA method.

The model proposed in this paper is an optimisation one and is used under two scenarios:

$$[\text{optimum}]\ ER = \begin{cases} max \sum_{i=1}^{27} GDP_i - min \sum_{i=1}^{27} \propto_i GDP_i \text{ , where } \propto_i > 1 \\ \\ max \sum_{i=1}^{27} GDP_i - min \sum_{i=1}^{27} \propto_i GDP_i \text{ , where } \propto_i < 1 \end{cases} \text{, (1)}$$

where: ER – economic recovery; $\propto_i$ – Covid's efect (positive or negative) on GDP_i, i= (1,27) number of the Member States.

Under the optimistic scenario, $\propto_i$ will have negative values. Under the pessimistic approach, the same indicator will have positive values.

The implementation of the above model is based on the following ***working hypotheses***:

H1: The sanitary conditions are not predictable on short time. As a result, two scenarios will be used.

H2: The economic environment is not stable and predictable.

H3: The present global crisis supports the increasing of the regional economic disparities across the EU27.

H4: The impact of the global complex crisis on the EU's economies is different.

As a result, of the above four hypotheses, the real economic recovery is better described by the next equation:

$$[\text{real}] \quad \text{ER} = \left(max \sum_{i=1}^{27} GDP_i - min \sum_{i=1}^{27} \propto_i GDP_i\right) \text{-} \left(max \sum_{i=1}^{27} GDP_i - min \sum_{i=1}^{27} \propto_i GDP_i\right)^* \quad (2)$$

The second equation (*) express that related to the pessimistic scenario. In order to realise this research the latest statistic data were used (European Commission, 2021).

The next step of the analysis is regression approach. It is able to point out the disparities related to the economic recovery process across the EU27. The dependent variables are the GDP growth rates, while the independent variable is time. The ANOVA method is used.

Finally, a cluster analysis under Schwarz's Bayesian Criterion will certify or not the quality of this analysis.

The statistical period took into consideration covers 2012-2023. It is representative for a scientific analysis.

4. Results and discussions

The implementation of the model leads to the results from Figure 2

According to Figure 2, Model 1 is the effect of the optimistic scenario for the Euro area. In the same way, Model 2 represents the effect of the pessimistic scenario in the same Euro area. The difference between these two effects is that, in the optimistic scenario, the economic recovery will be able to achieve the pre-crisis level in 2023. Under the negative scenario, this thing will be not possible and the economic recovery will take longer.

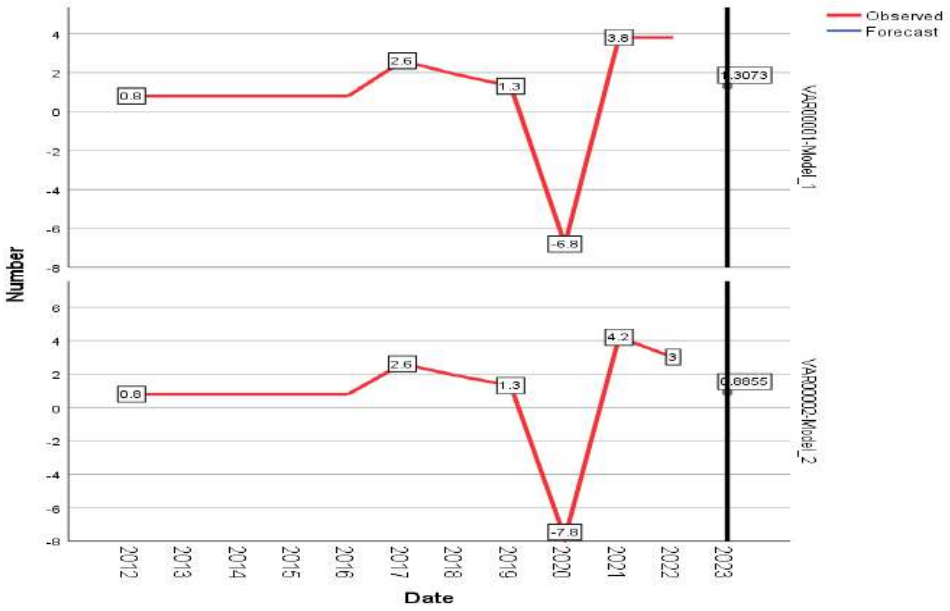

Figure 2. Euro area GDP growth rate's forecasts (%)

Moreover, in both cases, the GDP growth rate will decrease in 2023 compared cu 2021-2022. This is a new risk and challenge for the Euro area economy.

The EU27's economic performance under the same two scenarios is presented in Figure 3.

According to Figure 3, the economic recovery is available only under the optimistic scenario in 2023.

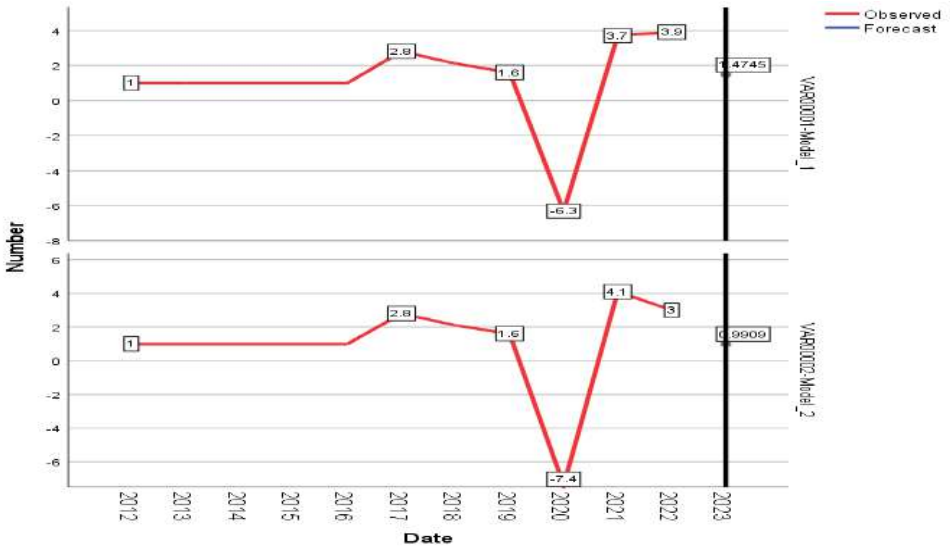

Figure 3. EU27 GDP growth rate's forecasts (%)

The Member States' economies present great disparities regarding the economic recovery in 2021. The regression analysis leads to at least two well defined clusters using this indicator (see Figure 4).

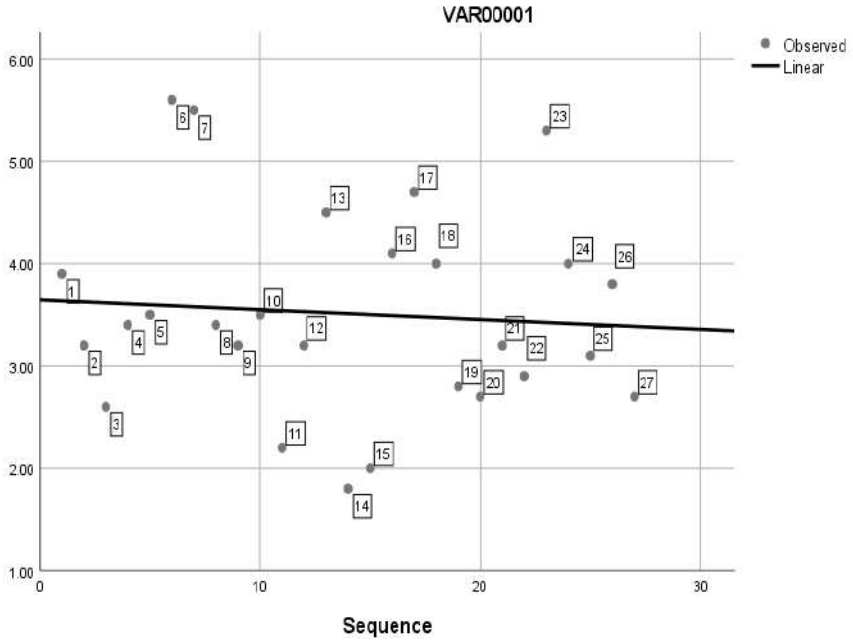

Figure 4. EU27 GDP growth rate's clusters in 2021

In Figure 4: 1 – Belgium; 2 – Germany; 3 – Estonia; 4 – Ireland; 5 – Greece; 6 – Spain; 7 – France; 8 – Italy; 9 – Cyprus; 10 – Latvia; 11 – Lithuania; 12 – Luxembourg; 13 – Malta; 14 – Netherlands; 15 – Austria; 16 – Portugal; 17 – Slovenia; 18 – Slovakia; 19 – Finland; 20 – Bulgaria; 21 – Czechia; 22 – Denmark; 23 – Croatia; 24 – Hungary; 25 – Poland; 26 – Romania; 27 – Sweden.

According to the above figure, the first cluster covers: Belgium, Spain, France, Latvia, Malta, Portugal, Slovenia, Slovakia, Croatia, Hungary and Romania. The second cluster covers the other Member States.

The cluster analysis certifies the quality of this analysis (see Figure 5). The cluster quality is 0.7 and the ratio between both clusters is 4.4.

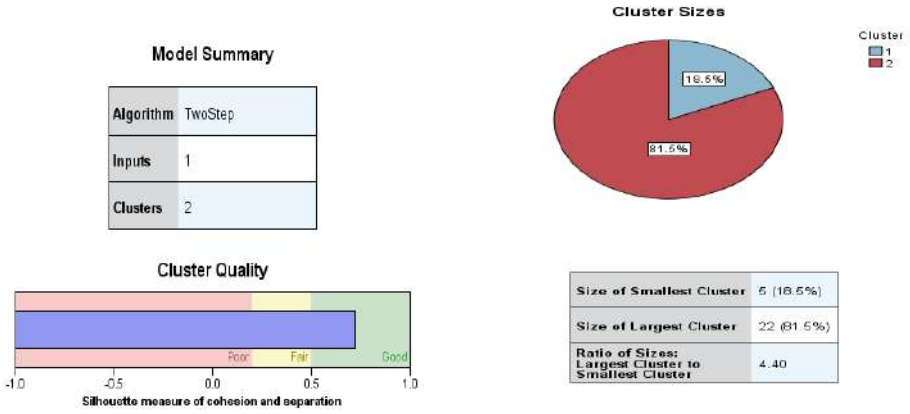

Figure 5. The cluster approach for EU GDP growth rates in 2021

The results of the analysis of the Euro area in 2021 are presented in Figure 6.

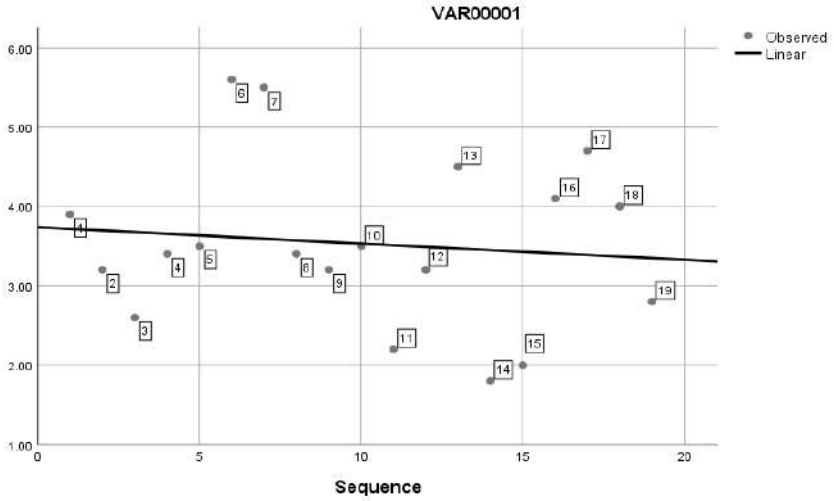

Figure 6. Euro area GDP growth rate's clusters in 2021

In Figure 6: 1 – Belgium; 2 – Germany; 3 – Estonia; 4 – Ireland; 5 – Greece; 6 – Spain; 7 – France; 8 – Italy; 9 – Cyprus; 10 – Latvia; 11 – Lithuania; 12 – Luxembourg; 13 – Malta; 14 – Netherlands; 15 – Austria; 16 – Portugal; 17 – Slovenia; 18 – Slovakia; 19 – Finland.

The situation in Figure 6 leads to the same two clusters approach. The first cluster covers 8 Member States: Belgium, Spain, France, Latvia, Malta, Portugal, Slovenia and Slovakia. The other 11 belong to the second cluster (see Figure 7).

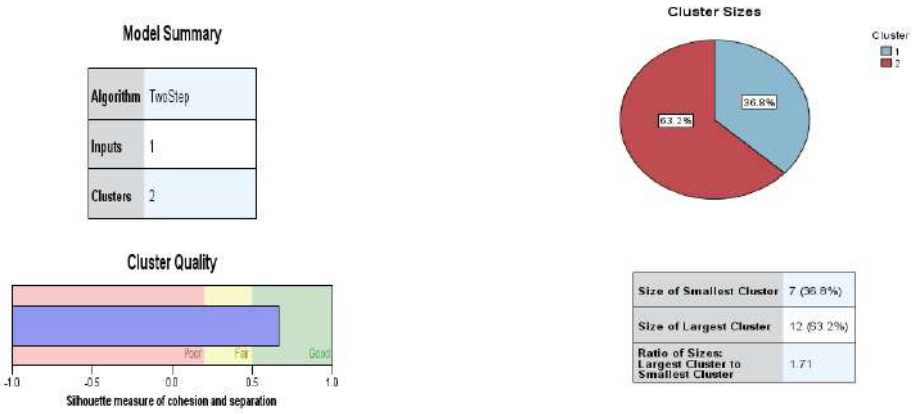

Figure 7. The cluster approach for Euro area GDP growth rates in 2021

In Figure 7, the cluster quality is good (0.7) and the ratio between the two clusters is 1.71.

The above analysis succeeded in using two scenarios, in order to cover the unpredictable global conditions on short time. As a result, the first hypothesis (H1) was respected.

The forecasting procedures were applied only on short time because the economic environment is not stable and predictable (see H2).

The economic performances of the Member States under the booth scenarios allow the using of cluster approach. This approach supports the H3 hypothesis regarding the increasing of the regional economic disparities across the EU27.

The present research pointed out that each Member State presents specific particularities regarding the economic recovery. This finding is consistent with H4 hypothesis, as well.

5. Conclusions

Currently, the main question is to predict how long will be the economic recovery period. The situation seems to be worst for the countries from the Euro area. On short time, their situation is presented in Figure 8.

According to this figure, Ireland is the Member State which succeeded in achieving positive GDP growth rate in 2020.

On the other hand, there are Member States which will be able to recovery the economic contraction from 2020 in 2021 (Luxembourg, Lithuania and Latvia).

Unfortunately, Austria, Italy, Spain and Greece will face to a longer economic recovery period than the other states from the Euro area.

Finally, Finland, Slovakia, Slovenia, Portugal, Netherlands, Malta, Cyprus, France, Estonia, Germany and Belgium will recover during 2021-2020.

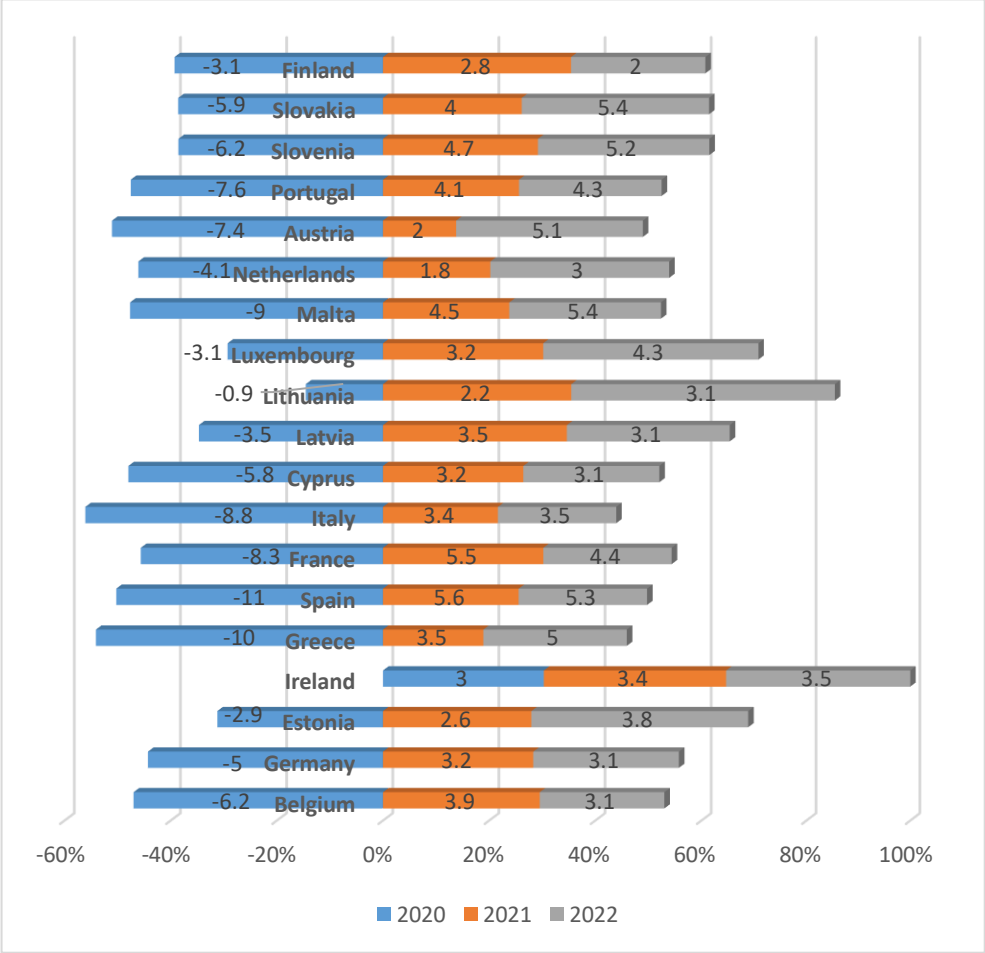

Figure 8. Economic recovery disparities across the Euro area (GDP growth rate in %)

The Member States which do not belong to the Euro area are analysed in Figure 9.

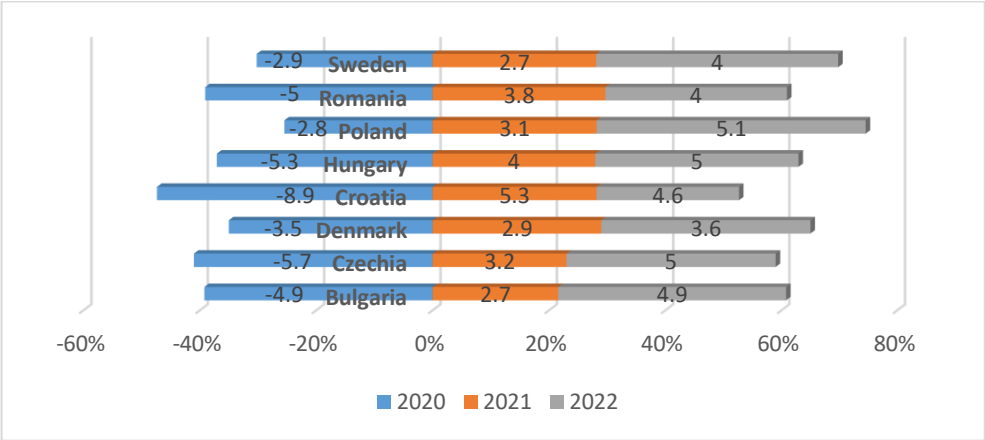

Figure 9. Economic recovery disparities across the non - Euro area (GDP growth rate in %)

According to this figure, only Poland will recover completely in 2021. The other seven Member States (Sweden, Romania, Hungary, Croatia, Denmark, Czechia and Bulgaria) will finish the economic recovery in 2020.

At this point in the paper, the analysis of the economic recovery was realised under the optimistic scenario.

The other scenario takes into consideration many and great new challenges for the EU's economy. The Euro area's economy will recover slower than in the previous scenario (see Figure 10).

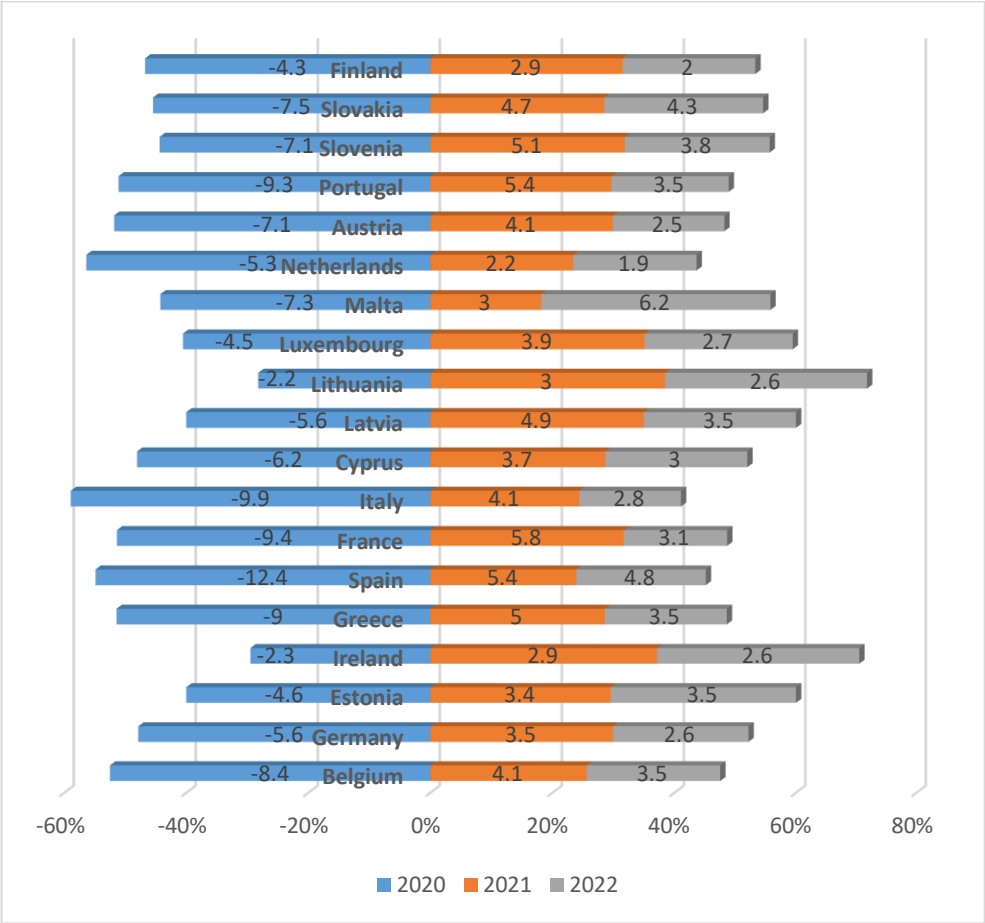

Figure 10. Economic recovery disparities across the Euro area (GDP growth rate in %; second scenario)

In Figure 10, Lithuania and Ireland will be able to recover in 2021. Slovakia, Slovenia, Austria, Malta, Luxembourg, Latvia, Cyprus, Estonia and Germany will face to a two years recovery.

The problem is than some Member States, even developed, will be not able to recover in the next two years: Portugal, Austria, Netherlands, Italy, France, Spain, Greece and Belgium.Under the same second scenario, the other Member States will face to greater challenges, as well. The economic recovery process in these countries is presented in Figure 11.

There are not Member States able to recover in 2021. Croatia will not recover until 2022. The other economies will finish the recovery in 2022: Sweden, Romania, Poland, Hungary, Denmark, Czechia and Bulgaria.

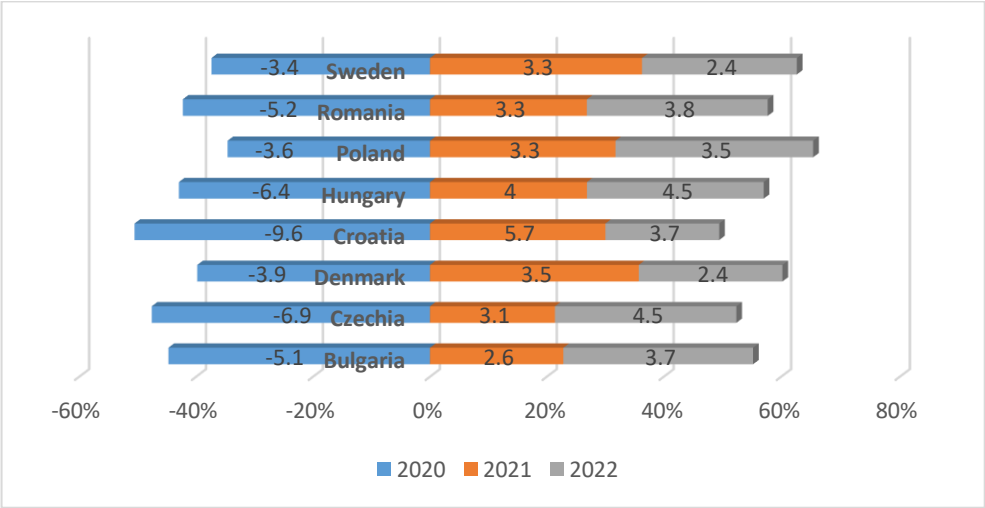

Figure 11. Economic recovery disparities across the non - Euro area (GDP growth rate in %; second scenario)

This paper addresses a topic of maximum interest for the current economy, drawing attention to the need to monitor those indicators of vulnerability that trigger risks in the macroeconomic development.

The components of the monitoring core were selected after careful monitoring of the literature, which presents a multitude of approaches to the global crisis and its consequences.

We have drafted, on the basis of the Member States, a model for assessing the stage of economic recovery, highlighting at the level of the selected indicators the vulnerabilities that prevent a rapid economic recovery.

The main shortcoming of the model consists in the limited number of indicators, the author proposing to extend the model in a future study.

The study can be extended to any other regional organization without any problems translating the model, based on known statistical methods, consolidation principles and valid working hypotheses.

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