An Assessment of Post-COVID-19 EU Recovery Funds and the Distribution of Them among Member States

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Abstract: The European Commission has launched numerous recovery plans for Member States to try to mitigate the damage caused by COVID-19. The most important element of this program is the Recovery and Resilience Facility (RRF), which is worth EUR 672.5 billion in loans and grants. Seventy per cent of the RRF grants will be distributed between 2021 and 2022, with the remaining 30 per cent in 2023. The allocation of grants for the period 2021–2022 has been made according to different socioeconomic criteria. In this context, the aim of our work is to assess the recovery policies jointly developed by EU countries and to analyze which of the criteria adopted for the allocation of the grants included in the RRF for the period 2021–2022 has been most decisive in the distribution of these funds. In addition, we also examine whether other health indicators directly related to the pandemic can also be related to the amount of funding that EU countries will receive in this period by carrying out regression analysis. Our results show that the countries that will receive more RRF grants are those with larger populations, Gross Domestic Product (GDP) per capita and higher unemployment rates. Furthermore, it is noted that health criteria, as well as those of a socioeconomic nature, may be relevant in the allocation of recovery funds. In this way, our results can be the start of a debate in the literature on whether the socioeconomic criteria adopted in the distribution of these funds have been appropriate. or whether other criteria, such as those of a health nature, should have been taken into account.

Keywords: recovery funds; COVID-19; European countries; allocation criteria

1. Introduction

The World Health Organization (WHO) is the United Nations agency that connects nations, partners and people to promote health, keep the world safe, serve the vulnerable and coordinate the world's response to health emergencies (World Health Organization (WHO) 2021). This agency defines Coronavirus (COVID-19) as an infectious disease caused by the SARS-CoV−2 virus. COVID-19 causes a respiratory illness in humans that can lead to pneumonia and other acute lung diseases and can even result in death. Older people and those with underlying medical conditions such as cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness. In any case, anyone can get sick with COVID-19 and become seriously ill or die at any age (World Health Organization (WHO) 2021).

On 17 November 2019, we learned of the first case in China, in the city of Wuhan. Since then, the situation has become more complicated and the virus has spread around the world. According to an estimate based on official data available to the World Health Organization (WHO) (2021), this virus has a case fatality rate of 4.5% and a transmission rate (R0) ranging from 1.4 to 2.5 (one infected person can infect between 1.4 and 2.5 uninfected people). This latter characteristic of COVID-19 makes it a serious threat, since, to control the pandemic, the transmission rate must be less than 1.

In this situation, government institutions in most nations have had to declare a state of emergency to combat the virus, confining the population and limiting their movements. As a result, thousands of companies (mostly SMEs) have been forced into bankruptcy, and the economic and social fabric is being damaged (Jin and Wang 2020). In fact, negative economic expectations and the decline of many companies is causing large drops in Gross Domestic Product (GDP) in all countries of the world and a desolate scenario (Jin and Wang 2020).

This exceptional economic situation has required an immediate response both individually for each country and collectively for those countries that are part of some type of alliance. In this paper, we focus on the response that the European Union (EU) is jointly offering to its Member States (Goniewicz et al. 2020). To this end, it has carried out a policy of expanding its budgetary policy with an increase of EUR 1.8 trillion. Specifically, within this expansion policy, the Next Generation EU programme stands out, which aims to boost growth in all Member States and which has been approved at EUR 750,000 million (of the EUR 1.8 trillion by which the budget has been increased). The most important element within this programme (at EUR 672.5 billion) is the Recovery and Resilience Facility (RRF). It aims to help Member States cope with the economic and social impact of the COVID-19 pandemic, while ensuring that their economies undertake green and digital transitions, becoming more sustainable and resilient (European Commission 2020a). The distribution of these funds among Member States will be made according to the distribution socioeconomic criteria set by the European Commission. In addition, in order to receive RRF support, Member States have to prepare national recovery and resilience plans setting out their reform and investment agendas until 2026 (European Commission 2020a).

In this sense, we have found some studies that try to analyse these funds from a descriptive point of view. For example, Castellarin (2020) examines the measures through which EU institutions contribute financially to the response to the COVID-19 crisis, which include the Next Generation EU recovery plan. In the same line, Watt (2020) assesses the economic policy measures that have been adopted or are under discussion at EU level in response to the COVID-19 pandemic. Bedrunka et al. (2021) describe the provision of COVID-19 funding in individual EU Member States under the ongoing operational programmes of the EU financial perspective in the period 2014–2020. Watzka and Watt (2020) examine the macroeconomic effects of the EU's Recovery and Resilience Facility. Additionally, Arbolino and Di Arbolino and Caro (2021) analyse the effects of the COVID-19 crisis on regional employment in Italy and how the allocation of the EU funds can sustain the resilience of regional labour markets, by reducing the employment losses at time of COVID-19. However, to the best of our knowledge, we have not found any empirical work on whether or not the criteria chosen for the distribution of these recovery funds are appropriate.

In this context, the aim of our paper is to assess these recovery policies that EU countries are jointly developing and to analyse which of the socioeconomic criteria adopted for the distribution of RRF has been most relevant. In addition, we will also examine whether other health indicators directly related to the pandemic (the number of COVID-19 cases per 1000 people and the number of COVID-19 deaths per 1000 people) could also be related to the amount of funds that EU countries have received. To this end, we use Ordinary Least Squared (OLS) estimation with robust standard errors.

This alliance and cooperation behaviour among EU countries in adverse situations can be explained through the Resource Dependency Theory (RDT) (Cohen et al. 2015). Since the seminal work on RDT by Pfeffer and Salancik (1978), developed more than 40 years ago, this theory has been widely applied in research to explain how organisations reduce interdependence and uncertainty from the environment (Hillman et al. 2009). Indeed, this becomes even more important when any type of economic and/or health crisis is triggered. RDT explains organisational and interorganisational behaviour in terms of the critical resources an organisation must have in order to survive and operate. The theory focuses on the following: resources; the flow or exchange of resources between

organisations; the dependencies and the power differences resulting from the unequal exchange of resources; the constraining effects that such dependency has on organisational action; and the efforts of organisational leaders to manage dependency (Johnson 1995).

The basic argument of the resource dependence perspective and interorganisational relationships is explained by Pfeffer (1987) as follows (Hillman et al. 2009): (1) organisations are the fundamental units for understanding interfirm relations and society as a whole; (2) these organisations are not autonomous, but are constrained by a network of interdependencies with other organisations; (3) interdependence, when coupled with uncertainty about what the actions of those with whom organisations are interdependent will be, leads to a situation in which survival and continued success are uncertain; therefore; (4) organisations take actions to manage external interdependencies, although such actions are inevitably never fully successful and produce new patterns of dependence and interdependence; and (5) these patterns of dependence produce both interorganisational and intraorganisational power, where such power has some effect on organisational behaviour.

Drees and Heugens (2013) have used a meta-analysis to confirm the predictions of RDT, namely that organisations respond to resource dependencies by forming interorganisational arrangements such as interlocks, alliances, joint ventures, sourcing arrangements, and mergers and acquisitions. In turn, these arrangements make them more autonomous and more legitimate. Moreover, these authors extend the RDT in three ways. First, they show that the mechanisms linking agreements with organisational autonomy and legitimacy are different depending on the agreements. Second, they address the question of whether RDT is also a theory of organisational performance, finding that while autonomy positively influences the relationship between agreement formation and performance, legitimacy does not. This suggests that RDT can also explain organisational actions that have social acceptance rather than economic performance as an ulterior motive. Third, they assess whether competition law is a boundary condition for RDT assumptions. They show that the adoption of the Horizontal Merger Guidelines in the United States has caused organisations to "run away" from mergers towards less regulated arrangements, such as alliances and joint ventures, and has negatively affected the profitability of remaining mergers.

Although the RDT has traditionally been associated with the private sector, its application is also very relevant in the public sector. In this sense, as mentioned above, the EU can be a clear example of economic cooperation between certain States (Cohen et al. 2015). In fact, its scope of cooperation and the number of countries that comprise it has expanded over time. Thus, EU integration allows Member States to smoothly assimilate the negative consequences of globalisation, and at the same time, to take advantage of the possibilities that arise (Grzelak and Kujaczyńska 2013).

Since this theory tries to explain the different reasons why countries may enter into different alliances, it seems appropriate to use it in this paper to show how EU Member States have come up with common strategies to mitigate the effects of the COVID-19 crisis. Thus, the agreement on this recovery plan (Next Generation EU) is a substantial change from the policies adopted to cope with the financial crisis that began in 2008 (Great Recession). Indeed, Europe was heavily criticised in the previous crisis for the austerity policies and the absence of a joint economic policy among Member States. In the current crisis, countries are making a greater effort to undertake joint policies (Goniewicz et al. 2020). Among them, as we have mentioned above, the New Generation EU stands out, in an attempt to avoid falling into a debt crisis again and questioning the viability of the euro, as happened in the Draghi era, as well as other more serious effects such as financial destabilisation and the rupture of the European project.

The paper is structured as follows. Section 2 provides the material and methods used. Section 3 presents the results and, finally, Section 4 concludes and summarizes the limitations and future research.

2. Materials and Methods

In order to assess the recovery policies that EU countries are jointly implementing, different official sources and databases have been consulted at the European level. These include, for example, the Recovery Plan for Europe report published by the European European Commission (2020a).

Furthermore, we have also analysed which of the socioeconomic criteria adopted for the distribution of the RRF has been most decisive. Moreover, we have also considered the possible influence of other health variables related to the pandemic (the number of COVID-19 cases per 1000 people and the number of COVID-19 deaths per 1000 people) on the distribution of these funds. For this purpose, we carry out a regression analysis to explore the direction of causality that goes from socioeconomic and health factors to the funds allocated to each country. Given that our sample is small (27 countries), we use OLS estimation with robust standard errors to heteroscedasticity since it improves the properties of small-sample estimations.[1]

For all of the above, we have searched for information in different databases. Specifically, with regard to the socioeconomic variables, these have been established in accordance with the criteria established by the EU for the distribution of funds (European Commission 2020a). On the other hand, in the absence of any previous study, the health variables have been on the basis of the variables provided by European Centre for Disease Prevention and Control's database on the impact of the pandemic. Table 1 shows the variables we have used in our analysis, their source and descriptive statistics.

Table 1. Definition of variables and descriptive statistics.

Variable	Description	Source
RRF_total	Recovery and Resilence Facility—Grants allocation per country (in million EUR 2018 prices) (total)	European European Commission (2020a)
RRF_21_22	Recovery and Resilence Facility—Grants allocation per country (in million EUR 2018 prices) (2021–2022 commitment)	European European Commission (2020a)
RRF_23	Recovery and Resilence Facility—Grants allocation per country (in million EUR 2018 prices) (2023 commitment)	European European Commission (2020a)
Population_2019	The number of persons having their usual residence in a country in 2019	Eurostat Database
GDP_pc_2019	2019 annual Gross Domestic Product at market prices (in million units of national currency per capita)	Eurostat Database
Unemployment	Average unemployment rate over the past 5 years (2015–2019) compared to the EU average	Eurostat Database
COVIDcases	Number of COVID-19 * cases per 1000 people	Own elaboration from data of the European Centre for Disease Prevention and Control
COVIDdeaths	Number of COVID-19 * deaths per 1000 people	Own elaboration from data of the Centre for Disease Prevention and Control

Variable	Mean	Std. Dev.	Min.	Max.
RRF_total	11,574.04	17,024.68	93	65,456
RRF_21_22	8101.93	11,915.28	72	44,724
RRF_23	3472.11	5266.65	21	20,732
Population_2019	16,581,711	22,304,096	514,564	83,166,711
GDP_pc_2019	0.27	0.93	0.02	4.86

Table 1. *Cont.*

Unemployment	1.00	0.52	0.41	2.73
COVIDcases	44.99	18.74	7.71	87.90
COVIDdeaths	0.90	0.44	0.12	1.80

* COVID-19 situation update for the EU/EEA, as of week 3, updated 28 January 2021.

3. Results

In this section, we first examine the distribution of recovery funds among EU countries and then perform a regression analysis to see which of the socioeconomic criteria adopted for the distribution of the RRF has been most relevant. In addition, another regression analysis is also conducted to determine whether other indicators directly related to the pandemic might also be linked to the amount of funds received by Member States.

Substantial amounts budgeted for the coming years, together with the New Generation EU, the temporary instrument designed to boost the recovery, constitute the largest stimulus package ever financed through the EU budget. This long-term budget will increase flexibility mechanisms to ensure the ability to cope with unforeseen needs. Indeed, as already mentioned, a total of EUR 1.8 trillion will help rebuild a post-COVID-19 Europe, building a greener, more digital and more resilient Europe. Moreover, it is a budget appropriate not only for today's realities, but also for tomorrow's uncertainties (European Commission 2020a; European Council 2020b).

The last step in the adoption of the next long-term EU budget was reached on 17 December 2020. Table 2 shows the total allocations by heading of the EU's long-term budget (2021–2027).

Table 2. Multiannual Financial Framework (MFF) 2021–2027 total allocations by heading (in billion EUR, in constant 2018 prices).

	MFF	Next Generation EU	Total
1. Single market, innovation and digital	132.8	10.6	143.4
2. Cohesion, resilience and values	377.8	721.9	1099.7
3. Natural resources and environment	356.4	17.5	373.9
4. Migration and border management	22.7		22.7
5. Security and defence	13.2		13.2
6. Neighbourhood and the world	98.4		98.4
7. European public administration	73.1		73.1
Total	1074.3	750	1824.3

Source: European European Commission (2020a).

As shown in Table 2, the Next Generation EU program has funding of EUR 750 billion. It is a temporary recovery instrument to help repair the immediate economic and social damage caused by the COVID-19 pandemic. It includes the following funds (European Commission 2020a):

- The Recovery and Resilience Mechanism (RRM): is the centerpiece of the New Generation EU, with EUR 672.5 billion in loans and grants available to support reforms and investments undertaken by EU countries. The aim is to mitigate the economic and social impact of the COVID-19 pandemic and to make European economies and societies more sustainable, resilient and better prepared for the challenges and opportunities of the green and digital transitions. As of today, Member States are working on their recovery and resilience plans to access RRF funds.
- Recovery Assistance for Europe's Cohesion and Territories (REACT-EU): The Next Generation EU also includes EUR 47.5 billion for REACT-EU. This is a new initiative that continues and extends the crisis response and repair measures implemented

through the Coronavirus Response Investment Initiative and the Coronavirus Response Investment Initiative Plus. It will contribute to a green, digital and resilient recovery of the economy. The funds will be made available to:

- ○ the European Regional Development Fund (ERDF)
- ○ the European Social Fund (ESF)
- ○ the European Fund for Aid to the Most Deprived (FEAD)

These additional funds will be provided in 2021–2022 from Next Generation EU and in 2020 through a targeted revision to the current financial framework.

- Next Generation EU will also contribute additional money to other European programs or funds. such as Horizon2020, InvestEU, Rural Development, the Just Transition Fund (JTF) or RescEU.

Table 3 illustrates how the money is distributed among these different funds that comprise the Next Generation EU.

Table 3. Next Generation EU breakdown (in billion EUR, in constant 2018 prices).

Recovery and Resilence Facility (RRF)	672.5
of which is loans	360
of which is grants	312.5
ReactEU	47.5
Horizon2020	5
InvestEU	5.6
Rural Development	7.5
Just Transition Funds (JTF)	10
RescEU	1.9
Total	750

Source: European European Commission (2020a).

As listed in Table 3, the RRF is the most important instrument of this program. Of the total value of this RRF, 53.53% corresponds to loans (EUR 360 billion) and 46.47% to grants (EUR 312.5 billion). In total, 70% of the grants provided by the RRF will be committed in 2021 and 2022. The remaining 30% will be fully committed by the end of 2023. The maximum volume of loans for each Member State will not exceed 6.8% of its Gross National Income (GNI) (European Council 2020a). Specifically, the distribution of grants in each EU country appears in Table 4 below.

Table 4. RRF—Grants allocation per Member State (in million EUR 2018 prices).

	70% Allocation (2021–2022 Commitment) (RRF_21_22)	30% Allocation (2023 Commitment) (RRF_23)	Total (RRF_Total)
Austria	2.082	913	2.995
Belgium	3.402	1.746	5.148
Bulgaria	4.326	1.655	5.981
Croatia	4.322	1.628	5.95
Cyprus	764	204	968
Czechia	3.301	3.444	6.745
Denmark	1.216	338	1.554
Estonia	709	308	1.017

Table 4. *Cont.*

	70% Allocation (2021–2022 Commitment) (RRF_21_22)	30% Allocation (2023 Commitment) (RRF_23)	Total (RRF_Total)
Finland	1.55	782	2.332
France	22.699	14.695	37.394
Germany	15.203	7.514	22.717
Greece	12.612	3.631	16.243
Hungary	4.33	1.927	6.257
Ireland	853	420	1.273
Italy	44.724	20.732	65.456
Latvia	1.531	342	1.873
Lithuania	1.952	480	2.432
Luxemburg	72	21	93
Malta	160	44	204
Netherlands	3.667	1.905	5.572
Poland	18.917	4.143	23.06
Portugal	9.107	4.066	13.173
Romania	9.529	4.271	13.8
Slovakia	4.333	1.502	5.835
Slovenia	1.195	363	1.558
Spain	43.48	15.688	59.168
Sweden	2.716	985	3.701
EU 27	218.750	93.750	312.500

Source: European European Commission (2020a).

The key socioeconomic criteria to the distribution of funds among the member countries for the period 2021–2022 are their population (in 2019), the inverse of their GDP per capita (in 2019) and their average unemployment rate over the last 5 years compared to the EU average (2015–2019). In the allocation key for 2023, the unemployment criterion will be replaced, in equal proportion, by real GDP growth in 2020 and in the period 2020–2021, initially based on the Commission Autumn 2020 forecasts and updated by 30 June 2022 with the latest published figures (European Commission 2020b; European Council 2020a; Más Rodríguez 2021). Table 5 shows the relationship between the different criteria for the distribution of subsidies for the period 2021–2022 established by the European Commission and the amount of money (subsidies) that the Member States will actually receive during those years. We cannot deduce the relationship between what they are expected to receive in 2023, as the criteria set for that year (2023) cannot yet be established. We have conducted this estimation using OLS with robust standard errors to heteroscedasticity. In addition, we have checked that there are not multicollinearity problems (maximum VIF 1.05). This model is significant (see F test) and explicative (see R squared).

Table 5 reveals that all socioeconomic criteria are significant in explaining the amount of grants that Member States will actually receive in the period 2021–2022. Therefore, our results show that the countries that will receive more RRF grants are those with a larger population, a higher GDP per capita and a higher unemployment rate (compared to the EU average). One result that surprises us is the GDP_pc_2019 variable, as our results show that the higher the country's per capita income, the more funds it will receive. However, according to the criteria established by the EU, this should be just the opposite, i.e., the countries that benefit the most should be the least favored in terms of GDP per capita. Finally, if we look at the magnitude of the coefficients, the one that seems to have prevailed in the distribution of funds in the period 2021–2022 is the unemployment rate of the population of the Member States (Unemployment_2019). The latter is precisely what

may cause the GDP_pc_2019 variable to have the opposite result to that expected. When several variables are entered in a regression, some may have more explanatory power than others, and in fact, they may absorb the possible effect of the others on the explained variable. In this case, we see how GDP_pc_2019 is the least significant variable in the regression, with the Unemployment_2019 variable being more significant and with a much higher coefficient, which could have absorbed the effect of GDP_pc_2019 on the dependent variable. In fact, if we perform the bivariate correlation between the variables RRF_21_22 and GDP_pc_2019 the coefficient is negative (−0.091) and not significant. Moreover, if we introduce the independent socioeconomic variables one-by-one in the regression model, the variable GDP_pc_2019 appears with a negative sign and is not significant until we introduce the Unemployment_2019 variable, when the sign of the coefficient changes and becomes significant.

Table 5. Relationship between the different socioeconomic criteria for the distribution of grants established by the European Commission (2021–2022) and the amount of grants that Member States will actually receive.

	RRF_21_22
c	−88,275.1130 (−2.36) **
Population_2019	0.0004 (3.67) ***
GDP_pc_2019	648.5240 (2.02) *
Unemployment	9696.1190 (2.43) **
N	27
$F_{(2,23)}$	8.72 ***
R-squared	0.77

Estimation using OLS estimator with robust standard errors. T statistic in brackets. Significance: *** 1%, ** 5%, * 10%. Maximum VIF: 1.05.

In addition to studying the relationship between the socioeconomic criteria set by the European Commission for the distribution of grants in 2021 and 2022, in this manuscript we want to check whether other health factors directly related to the pandemic, such as the number of COVID-19 cases per 1000 people (COVIDcases) and the number of COVID-19 deaths per 1000 people (COVIDdeaths), are also related to the amount of grants that Member States expect to receive during this period. Thus, Table 6 reinforces the regression analysis performed previously, now including these health indicators. Given that these indicators (COVIDcases and COVIDdeaths) are highly correlated (Pearson correlation of 0.6672; significant at 1%), we have run two regressions, one for each of these health variables. Once again, we have run these estimations using OLS with robust standard errors to heteroscedasticity and checked that there are not multicollinearity problems (maximum VIF 1.10 and 1.08). These models are also significant (see F test) and explicative (see R-squared).

Table 6 suggests that the amount of grants received by countries has been strongly influenced by health criteria (COVIDcases and/or COVIDdeaths), i.e., although these criteria have not been taken into account in the distribution of EU funds, the countries that have fared worst from a health point of view are the ones that will receive the most funds, which we believe is appropriate given the rationale behind the creation of the RRF funds. We believe that these results are reasonable and in line with how funds should be distributed. Those countries most affected by the pandemic, both in economic and health terms, should receive the most funds.

Table 6. Relationship between socioeconomic and health criteria and the amount of grants that Member States will actually receive in the period 2021–2022.

	RRF_21_22	RRF_21_22
c	−13,156.9800 (−2.72) **	−12,365.3500 (−2.82) **
Population_2019	0.0004 (3.96) ***	0.0004 (3.90) ***
GDP_pc_2019	801.0885 (2.17) **	245.8318 (0.67)
Unemployment	10,403.5800 (2.86) ***	9832.2650 (2.75) **
COVIDcases	88.9243 (1.78) *	
COVIDdeaths		4858.8940 (1.76) *
N	27	27
F(4,22)	7.21 ***	7.62 ***
R-squared	0.79	0.80
Maximun VIF	1.10	1.08

Estimation using OLS estimator with robust standard errors. T statistic in brackets. Significance: *** 1%, ** 5%, * 10%.

4. Conclusions, Limitations and Future Research

As a consequence of the current health, social and economic crisis caused by COVID-19, the European Commission has launched numerous recovery plans for Member States. To this end, it has pursued an expansion of its budgetary policy. Specifically within this expansion policy, the Next Generation EU programme, which aims to boost growth in all Member States, stands out. The Next Generation EU consists of seven plans, namely, RRF, ReactEU, Horizon2020, InvestEU, Rural Development, JTF and RescEU. The most relevant element within this programme, with a value of EUR 672.5 billion in loans and grants, is the RRF. The main objective of this is to combat the social and economic impact of the post-pandemic crisis on European economies, focusing on digital transformation and the ecological transition. Overall, 70% of the RRF grants will be distributed between 2021 and 2022, and the remaining 30% in 2023. In any case, it should be noted that the disbursement of Next Generation EU money will not be made until countries submit a report (national plan) on how they are planning to distribute the money from this fund on different expenditures. Thus, countries have to prepare recovery and resilience plans as part of their national plans.

The distribution of grants for the period 2021–2022 has been made for each Member State according to the following socioeconomic criteria set by the European Commission: population (in 2019), the inverse of GDP per capita (in 2019) and the average unemployment rate over the last 5 years compared to the EU average (2015–2019). Our results show that the countries that will receive more RRF grants are those who have more population, larger GDP per capita and higher unemployment rates. In this sense, it is worth noting that the criteria that most influences the distribution of these funds is unemployment, and that in addition, we find that the countries most favoured by this recovery policy are those with the highest incomes, rather than the most economically disadvantaged. Moreover, we find that health criteria also influence the distribution of these funds, since the countries most affected in health terms by the pandemic would receive the most funding. In this way, the funds would not only go towards alleviating the economic situation but also towards improving the health systems of the different countries.

Although we note that socioeconomic factors (which are the distribution criteria established by the European Commission) do influence the amount of grants received by each Member State, we find that the effect of health criteria is also relevant. Therefore, we believe that other factors could have been taken into account in the distribution of funds in times of the pandemic by politicians. Furthermore, we would like to point out that the socioeconomic factors used by the Commission for the distribution refer to the year 2019, when the COVID-19 crisis has occurred in 2020. Thus, for example, the higher unemployment generated between 2015–2019 in some countries was not a consequence of the COVID-19 crisis; in contrast, other factors, such as the number of COVID-19 cases or deaths per 1000 people, which are directly associated with this crisis, have not been taken into account in the distribution of European funds. Therefore, we consider that our paper will allow politicians to draw conclusions for the future, where there will surely be more crises of a different nature, often ending in economic crises.

In any case, we believe that there has been a significant change in the policies applied during this crisis with respect to those implemented during the 2008 crisis (Great Recession). In this sense, we consider that it would be interesting to analyse whether the distribution of funds in the future, which will inject liquidity into the budgets of the most affected Member States, will lead to a faster recovery of the economies of these countries. Moreover, we believe that it would also be very interesting to see how transparent the countries are in the management of the funds received. On the other hand, we consider that this paper should be replicated in other groups of countries other than the EU, as it has been carried out only for the EU, which is a small sample, and this is a limitation of our paper. On the other hand, it would also be interesting to include other available variables regarding the situation of the health system in the countries analysed (number of beds per 1000 inhabitants, etc.).

Note

1   See Wooldridge (2015) for more information about this well-known methodology.

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