Analyzing the Spillover Effects of Next Generation EU[1]

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Abstract: The paper aims to analyze whether implementing the Next Generation EU package entails positive spillover effects and to what extent Member States can profit from them. More precisely, this study shows how economic spillovers can also benefit small and open economies like the *Frugals*, which receive a lower share of the stimulus package and are generally opposed to a large distributive European budget. By analyzing the current economic literature on the topic, this research sheds light on a relatively understudied phenomenon crucial for future debates on the role of a common European fiscal policy and the next steps of European Integration more broadly.

1. Introduction

This paper analyzes whether implementing the Next Generation EU package entails positive spillover effects and to what extent Member States can profit from them. More precisely, this study shows how economic spillovers can also benefit small and open economies like the *Frugals*, which receive a lower share of the stimulus package and are generally opposed to a large distributive European budget. Therefore, the article supports the argument to make the NGEU a permanent instrument. By analyzing the current economic literature on the topic, this research sheds light on a relatively understudied phenomenon that is crucial for future debates on the role of a standard European fiscal policy and the next steps of European Integration more broadly.

The article is structured as follows: First, a general outline of the NGEU package is presented. Then, the second section highlights the role of economic spillovers occurring at the European level. Finally, a closer look at the country-specific spillover effects helps further understand the importance of such phenomena in bringing about a win-win situation – both for countries that receive most of the direct transfers (the highly indebted ones) and for those that are almost net contributors (the Frugals, in particular).

2. Next Generation EU: A General Overview

The COVID-19 crisis and national measures taken to counteract the spread of the virus across the Member States have left severe and profound consequences in the European macroeconomic landscape. The immediate short-term response included the activation of three streams of funding (SURE, EIB, and ESM), the intense relaxation of the monetary policy, and the activation of the general escape clause of the Stability and Growth Pact (Bisciari *et al*., 2021) – which allowed Member States to implement expansive fiscal policies further. Besides these measures, the EU institutions responded with a more structural intervention in the Next Generation EU package (NGEU), amounting to roughly 750 billion euros (in 2018 prices).

Although rightly criticized for not being large enough to address the gravity of the economic crisis, the NGEU is the first time in history that the European Union directly issues an effective form of mutual debt to positively intervene in the economy (Picek, 2020). Thanks to the package, the total EU spending jumped to over 3% of the Union's GNI in 2021-2022, allowing it to play an important macroeconomic stabilization function (Bisciari *et al.*, 2021). The Recovery and Resilience Facility (RRF) is at the core of the NGEU, and it aims to support investments and reforms in the Member States, helping them achieve a sustainable and resilient recovery while at the same time promoting the Union's green and digital priorities. It consists of

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312.5 billion euros (2018 prices) made available to Member States through grants and 360 billion euros in loans, while the rest is used to finance already-existing funds.
Except for Sweden and Latvia, all countries requested the full amount of grants the EU made available. Regarding loans, at the time of writing, only seven Member States have resorted to this option: Greece, Italy, and Romania have asked for the full amount of loans available, while Cyprus, Poland, Portugal, and Slovenia have requested a smaller proportion (Darvas *et al.,* 2022) [2]. Countries with a below-the-EU-average interest rate, like Germany or France, have preferred not to ask for any loan.

According to the ECB, grants generally impact economic output more than loans. One reason is that grants and loans have different fiscal implications, as the former are not included in the national debt compared to the latter. By using grants to finance public investment, the debt-to-GDP ratio will fall owing to the positive denominator effect (GDP will increase, led by the boost of new investments, resulting in the ratio's decline). This creates a leeway for additional expansive fiscal policies once the NGEU funds have been received. On the contrary, loans directly impact the national debt, resulting in the debt-to-GDP ratio increasing and in the need for governments to consolidate the public debt, therefore reducing the room for fiscal maneuver.

Another reason for the more negligible output effect of loans compared to grants is that, as we have seen, only a minority of Member States have taken up loans. As the allocation of grants is more widespread, the fiscal stimulus financed by grants has more significant spillover effects than the stimulus financed by loans (Bańkowski, K. *et al.,* 2021).

NGEU affects the economy of the euro area and of its member countries via three main channels: a risk premium channel, a structural reform channel, and a fiscal stimulus channel. First, simply announcing the NGEU and its solidarity-based mechanism helped to improve the negative sentiment in sovereign bond markets, reducing risk premiums, especially in high-debt countries[3]. Second, the structural reforms outlined in the NRRPs are expected to increase the "potential output" of Member States and help alleviate systemic inefficiencies if properly implemented. Last, the NGEU represents an important debt-financed fiscal stimulus in the euro area: the related "output multipliers" can be expected to be relatively high given both the large amount of funds involved and the EU-wide nature of the stimulus, which promises significant positive trade spillover effects. This paper focuses on the latter economic channel and the role of such spillovers.

3. Spillover Effects at the European Level

One of the main reasons behind the need for a coordinated EU-wide fiscal policy is that it would have a much broader impact on the whole aggregated economy compared to the effect of separate national actions individually led by the Member States. This view has always been popular among economists and academics, who have been calling for joint fiscal action that could help, in an anticyclical way, the Member States' economies negatively affected by an economic shock. It is, nonetheless, only since the 2010 crisis that this position has started gaining broader consensus (Núñez Ferrer, 2021). With the creation and the adoption of the NGEU package, the European Institutions have for the first time in their histories engaged themselves in the implementation of a community-wide fiscal intervention policy. Yet this has not come without any confrontation or conflict behind the approval of the deal. Northern and richer Member States, also known as the "Frugals"[4], with balanced economies and low levels of accumulated debt, have always been opposed to the idea of grants as a means of funding as they feared that the EU could develop into a fiscal Union.

They also called for stronger conditionalities, linking the approval of payment requests with proofs of realization of economic reforms or investments and with the possibility of vetoing the disbursement of funding in the case that targets or milestones were not met. As showed by De La Porte and Jensen (2021), important instruments used during the negotiations to convince the Frugals to adopt the package were side

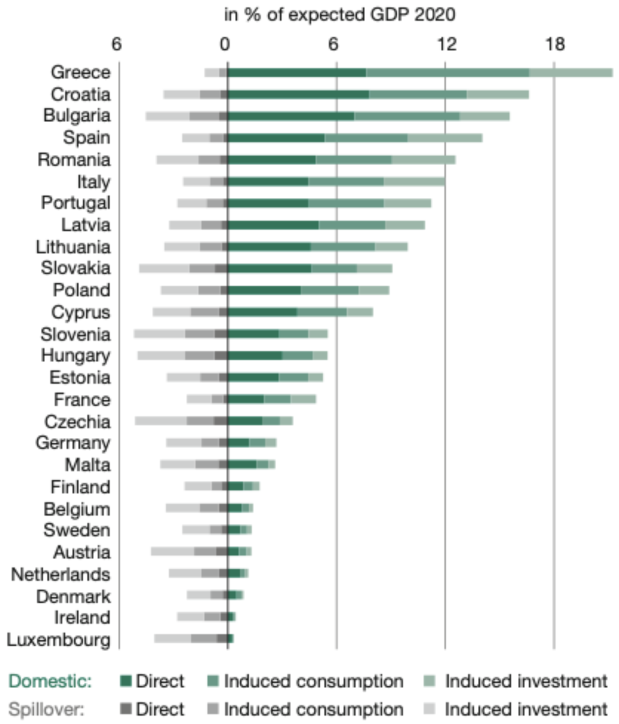
[2] Yet, according to article 14 of the RRF regulation, Member States can request loan support until 31 August 2023.
[3] Much like the famous "whatever it takes" of Mario Draghi during his term as the ECB's president.
[4] A group of Member States comprising Sweden, Denmark, Austria and led by the Netherlands.

and net-payments (which amounted to 12 billion euros) and the increase of rebates. However, this debate around rebates and net payments (the difference between what Member States pay into the common budget and what they receive from it) risks leaving out the additional induced growth effects of the NGEU package both at home (via domestic multipliers) and abroad (via international spillover effects to other EU countries). It is, in fact thanks to the latter mechanism in particular that, by "capturing" a share of the increased economic output from Southern and Eastern Member States that receive more grants, the economies of the Northern countries can grow by more than the respective portion of their contributions to the package would suggest (Picek, 2020).

By assuming that a) only on grants will provide "additional" expenditures, b) 1/3 of the funds available will be used as government expenditure and 2/3 as investment expenditure, and c) the take-up rate of the funds will be 100% (all the funds a Member State receives are actually spent), Picek is able to calculate three models of economic growth. In particular, the first model reflects the economic effects of the positive fiscal shock (direct effect). The second and the third models indicate, respectively, the economic effects of induced consumption and induced investment. Spillover effects across borders occur in all three models.

As shown in figure 1 from Picek's article (2020), in all the Member States the total economic effects are larger than the initial positive shock via domestic mechanisms. This is because the simultaneous "fiscal expansion" in all the countries produces additional spillover effects to each Member.

Figure 1. Decomposition of cumulative GDP increases into a domestic (green) and spillover (grey) effect

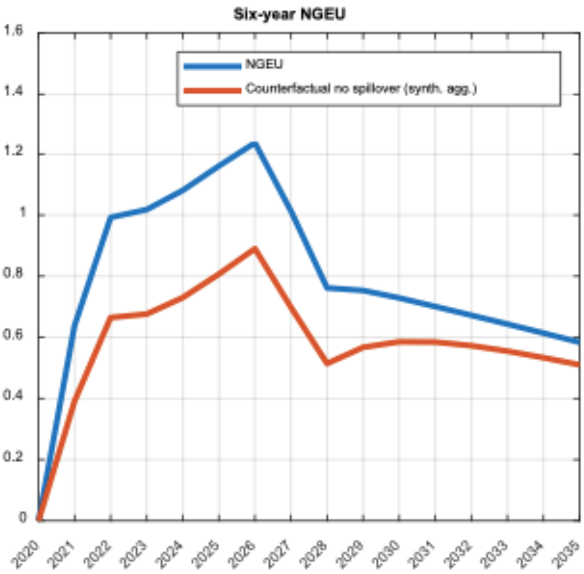


Note: The spillover effect is not negative. Both effects are positive and contribute to the total effect.
Source: Picek, 2020: 330.

In particular, the domestic part (in green) is defined as the GDP growth that results from each country running its own stimulus program while no other country runs theirs simultaneously; the spillover part (in grey) is instead defined as the indirect GDP increase that results from the economic growth of other countries, with trade relations as the main drivers of the spillover mechanism. The spillover-induced growth can, therefore, also be interpreted as the "price" that each Member State would pay if it were to run its own expansive fiscal policy plan while all the other neighbors decide to remain "uncooperative" and not stimulate their economies as planned in the NGEU (Picek, 2020). Nevertheless, significant differences persist across Member States. Due to the larger size of their initial domestic stimulus and being relatively closed economies compared to the ones of other countries. Southern and Eastern European States exhibit a GDP growth mainly driven by domestic spending. For Northern countries like the Frugals, instead, most of the growth originates from outside the borders because the increased economic activity of the other Member States spills over. Indeed, as illustrated in the graphic, their firms and households can secure a higher proportion of induced investment activity and the resulting consumption triggered by it (Picek, 2020). Economic growth originating from the domestic effect of the stimulus is the least important for these countries. The comparatively small and open economies of Northern Europe are thus able to seize a large share of the positive economic effects of the NGEU not only through the channels of their trade relations with Southern and Eastern Europe but also through their favorable industrial structure that allows them to capture demand for investment goods. Therefore, in conclusion, despite their small domestic grants, even the Northern European countries can thus benefit from the NGEU package to a substantial extent.

These estimates are also consistent with the simulations performed by Pfeiffer *et al* (2021a). They assumed that Member States use 100% of the NGEU grants as additional productive public investment while loans are only 50% additional (with the other half financing general government spending and therefore impacting the national public debt), and they combined the EU Commission's QUEST model[5] with a multi-country structure designed to take into account both the bilateral trade linkages among the 27 Member States and the cross-borders value chains. Similar to Picek, the authors then quantify economic spillovers by first simulating all NGEU investment plans jointly (the actual synchronized plan), then running 27 stand-alone simulations based on the unilateral plans (therefore assuming that only one Member State at a time implements the plan) and by finally calculating for each State the fiscal economic spillovers as the difference between the GDP effects in the first and second simulations. The findings, as shown in the authors' graph reported here (figure 2), indicate that macroeconomic spillovers are significant, with the EU-wide GDP effects being around one third larger when explicitly accounting for spillover effects. After the implementation of the NGEU package, real GDP in 2026 is estimated to be at 1.2% higher compared to a no-NGEU baseline while, by excluding spillovers, GDP effects are estimated to be around 0.8% only (Pfeiffer *et al.*, 2021a:18).

Figure 2. The role spillover for EU-27 growth



Source: Pfeiffer *et al.*, 2021a:19

The increase in domestic activity and import demand is the most direct source of positive GDP spillovers, and since all countries expand, not only imports but also experts will increase. This is especially relevant for small open economies with smaller grant allocations, as in the case of the Frugals, where the positive effects

[5] QUEST is the macroeconomic model developed by the European Commission that incorporates the main features relevant for fiscal policy transmission.

coming from other Member States' plans account for the bulk of the GDP impact. Thus, simply aggregating the individual effects of the national plans and ignoring cross-border spillovers would substantially underestimate the overall growth effects of the NGEU.

Additional simulations carried out to identify interregional spillovers at the NUTS-2 level attest that the GDP impact of the NGEU package is positively associated with trade openness. In some regions, positive spillovers generated by the RRF investments can reach up to 30% by 2036, driven by the increase in the regional demand for imported goods from other Member States[6]. Martinez Mongay *et al*. (2022) confirm, furthermore, that spillovers tend to be larger in high income countries and that debt mutualization would pay off for Northern European Member States. A part of the resources granted by "core countries" to the "periphery" would come back in the form of higher exports and growth. They also explain how the positive spillover effects from the simultaneous adoption of the National Recovery and Resilience Plans in each country can be further enhanced by implementing cross-border projects like R&D actions to support key-enabling technologies necessary to produce green hydrogen or electric car batteries. Such projects tend to have long cross-border value chains that can thus promote spillover effects via international trade mechanisms.

The previous paragraph proves not only that spillover effects do exist but that they are also relatively more important for those Member States that receive a lower share of the NGEU funds, such as the Frugals. By having smaller and more open economies, Northern European countries are able to capture a higher proportion of the indirect growth effects triggered by the stimulus package. In fact, even at the regional level, the impact on aggregate output of the NGEU and trade relations are positively associated, underscoring the importance of spillovers in seizing foreign-induced demand. In addition, spillovers can be further enhanced by developing cross-border projects between Member States.

4. Spillover Effects at the National Level

This section pays attention on the country-specific spillover effects. By focusing on some examples of small and open economies in the EU, the analysis highlights the major role played by spillovers in considerably increasing the production output of those Member States that receive the least amount of NGEU funds and in helping achieve a general "win-win" situation for all the European countries.

Figure 3, taken from Pfeiffer et al. (2021a)[7], reports the real GDP growth in 2024, expressed as a percent deviation from a no-NGEU baseline.

Looking at the per-country effects, we can see that spillover effects from other countries on output growth are the most relevant for small and open economies which receive a limited direct allocation of funds from the package. These spillovers are generally higher than bilateral trade relations might suggest, as they are amplified by third-country effects resulting from the trade structure of both final and intermediate goods in the Single Market. For example, Belgium benefits not only from the direct spillovers from higher German demand but also from the increased economic activity of Germany's other trading partners, which requires imports from Belgium to grow as well (Bisciari *et al.*, 2021: 16). For Brussels, the direct impact of the NGEU funds on GDP growth in the fourth year is 0.4, but spillovers more than double this effect to 1.1. The Netherlands' plan will result in a growth of 0.22 while foreign-induced growth will bring the total GDP effect to 0.8. The same goes for Denmark, which will pass from a 0.17 domestic-led growth to a 0.64 total growth and for Austria, passing from 0.29 to 0.9[8] . The Austrian case is of particular interest: as indicated by Picek, this country has closer geographic and economic ties to the countries of Southern and Eastern Europe

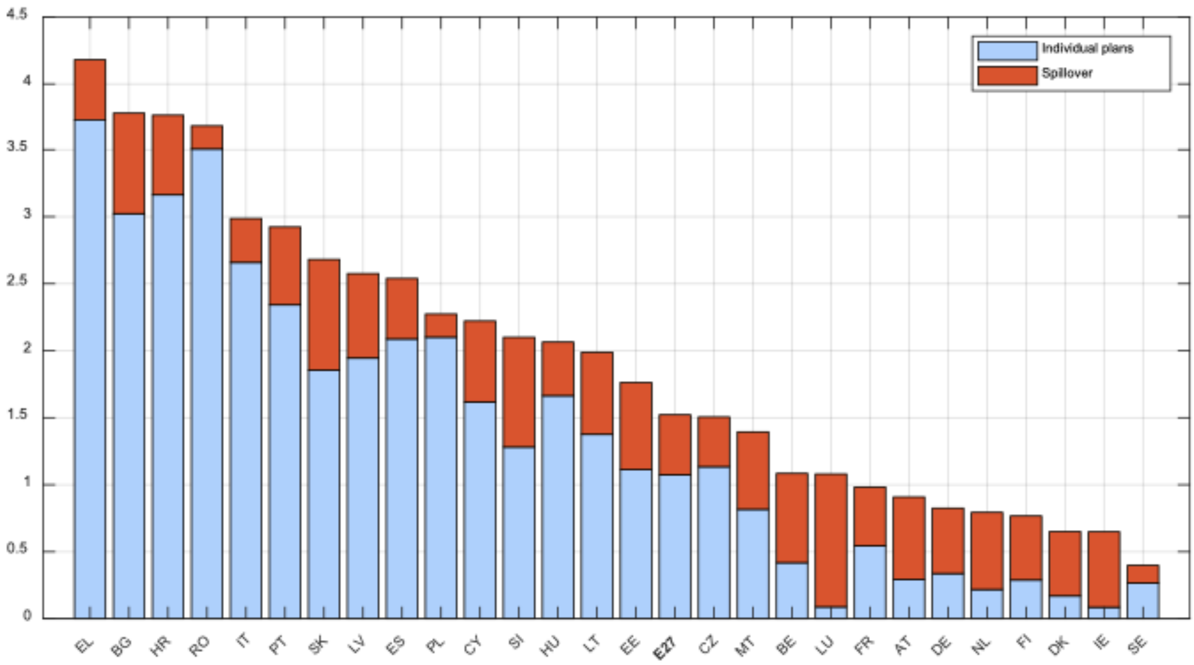
[6] "*The higher the amount a region imports with respect to its production, the higher the generated spillovers, driven by the increased import demand for intermediates within the EU*" Barbero et al. (2022:10).

[7] Two assumptions are made in drafting the graph: fast-spending profile (all the funds are allocated and spent from 2021 to 2024) and high productivity of investments.

[8] Data are taken from table 4.2 in Pfeiffer et al. (2021a: 28).

than other countries from Northern and Western Europe[9] and is set to achieve the biggest gains among the Frugal Four from the implementation of the NGEU package in the European Union, making its adherence to the group relatively more costly in economic terms[10] .

Figure 3. Effects across countries (fast spending profile, high productivity)



Source: Pfeiffer *et al.*, 2021a:25

Moreover, not only countries such as Belgium and Austria benefit from spillover effects coming from the increased economic growth in other Member States, but they also generate spillovers for other countries as well. As mentioned above, spillover effects can be further enhanced by the implementation of cross-border projects that have long value-chains. An analysis by Corti *et al.* (2021) shows that the Belgian RRP allocates around 15% of its available resources to cross-border projects that can be considered likely to generate spillover effects. The Austrian Plan, in addition, allocates almost a quarter of its total NGEU funds to these measures. Examples of such projects that are supported by both NRRPs are the "Important Projects of Common European Interest" (IPCEI) on the production of microelectronic components in the Austrian plan and on the improvement of the integration of energy networks with neighboring countries in the North Sea for the Belgian plan (Corti *et al.*, 2021) .

The same can be said for the biggest direct recipients of the NGEU funds like Italy or Spain. These countries not only benefit from the direct allocation of the funds in their individual plans (they receive the most grants among all the Member States, for example) but also their economies also generate, in absolute terms, highly relevant spillover effects towards other countries in the Single Market[11].

[9] Some estimates suggest that, just for the 2021-2022 period, Austria might benefit from a 0.12% additional spillover effect from the NGEU-led economic growth of just the four Visegrad countries. "This is not a negligible amount, given that it reflects only direct demand spillovers from four economies, three of which are rather small", in Astrov and Holzner (2021).

[10] There is thus a "political dimension" around the NGEU package and the possibility of other expansive fiscal policies: as Austria is the one that gains the most among the Frugals, it is possible that its position might shift from a hardline obstructionist of any redistributive policy to a milder opposition. See Picek, O. (2020: 330).

[11] By looking at table 4.2 in Pfeiffer et al. (2021a), we can see that Italy, Spain, and also France to a lesser extent, generate the most spillovers towards other countries. "By far the largest spillover effects are coming from Italy, a large country, receiving a major share of NGEU funds" in Pfeiffer et al. (2021a: 25).

We can therefore conclude that thanks to spillover effects, the allocation and implementation of the NGEU package will result in a "win-win" situation. Countries most affected by the COVID-crisis and whose economies were the most damaged by the global supply-and-demand disruptions will get the most available funds, helping them recover and achieve high GDP growth rates. They will also likely generate spillover effects toward other Member States via international trade channels. Net contributors to the package, such as the Frugals, will, in turn, not only benefit the most, in relative terms, from such spillovers, but they are also likely to trigger, thanks to their solid and open economies, spillover effects to other countries via cross-border projects. Both net beneficiaries and net contributors will consequently "get some" and "give some back" simultaneously, and the NGEU package will hopefully result in a strong tendency towards convergence.

5. Conclusions

The successful launch of the NGEU is seen, by some, as a turning point for Europe. It has demonstrated that joint borrowing to finance the EU's common needs is politically and legally possible and has started a new debate on what a possible fiscal capacity for the euro area will look like in the future. Many analysts and scholars support the idea of turning the NGEU and the RRF into a permanent instrument, allowing the Union to finally have the necessary tools to implement a proper countercyclical fiscal policy at the supranational level[12]. Interestingly, the idea is also shared by the ECB itself, according to which the NGEU is providing valuable lessons for the potential creation of a common macroeconomic stabilization tool to complete the institutional architecture of the Economic and Monetary Union[13].

Nonetheless, the Frugal Four, and even Germany more recently, have not provided any indication that their perspectives have changed on the need to create a permanent stabilisation function. Karlsruhe Court has questioned several times ECB's measures, such as the Outright Monetary Transactions or PSPP, that could be viewed as fiscal operations (Chang , 2021: 33) while the Frugal North, along with Berlin, is still opposed to any possibility of debt mutualization[14], the necessary precondition for the creation of a permanent fiscal policy instrument.

This paper has demonstrated that not only the implementation of the NGEU entails strong spillover effects but that they are also relatively more important for small and open economies such as those in the Northern European countries that are net contributors to the recovery package. By boosting the economic activity of Member States, the NGEU will also increase the indirect demand for final and intermediate goods within the Single Market via trade channels, resulting in an additional output increase on top of the direct effects due to the allocation of the funds. Therefore, countries such as the Frugals, although they may receive a lower share of grants in the short-term compared to Southern European Members, will highly benefit in the medium run from the spillover effects of a successful implementation of the package even more, in relative terms, than net-recipients. As already underscored by Sonja Puntscher Riekmann, in discussing whether the NGEU will be a one-time instrument or rather pave the way for more permanent measures of EU borrowing, the Frugals need to acknowledge how much they benefit from the Single Market and the euro (Puntscher Riekmann, 2021). By stressing the importance of spillover effects in generating a "win-win" situation for all the actors involved, it should be easier to persuade such Members to understand the need for more redistributive fiscal

[12] Some, like Cornago and Springford (2021), asks for a permanent RRF with double the budget, to be integrated within the Multiannual Financial Framework [see Cornago, E., & Sprinford, J. (2021). Some others go as far as asking for a permanent Recovery facility paired with the creation of an EU debt management office (see Ubide, 2020).

[13] "Depending on the experience with the implementation of the temporary NGEU project, a more permanent central fiscal capacity could play a key role in enhancing macroeconomic stabilisation and convergence in the euro area in the longer run." Freier et al. (2022: 112).

[14] The Netherlands blocked any meaningful conversation regarding the possibility of issuing new joint debt to face the rising costs of the war in Ukraine and the energy crisis (see Smith-Meyer, B., 2022) while Germany's Finance Minister has skeptically rejected the Commission's proposal to reform the Stability and Growth Pact so to allow debt reduction rules to be negotiated individually between the Member State concerned and the Commission, stating that "a single monetary union also needs single fiscal rules" [Packroff, J. (2022, November 10).

policies at the supranational level or at least to soften their hardline negotiating position, as the case of Austria might suggest.

The next few years will provide an important test for the utility of such large-scale fiscal transfers and whether they can really lead to economic convergence within the Economic and Monetary Union. Legally, due to its clear time horizon, the NGEU is a targeted instrument to deal with the COVID crisis. Politically, however, the successful implementation of the package might serve as a lesson for further and more permanent European fiscal policies.

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