

THE MACROECONOMIC IMPACT OF THE NEXT GENERATION EU PROGRAMME UNDER VARIOUS ALTERNATIVE SCENARIOS

In late July, the European Council agreed to create Next Generation EU (NGEU), a temporary recovery fund to address the consequences of the COVID-19 crisis and accelerate the digital and green transition of the European economy.¹ The fund will be financed through debt issuances by the European Commission (EC). Drawing on the government's preliminary estimates, the maximum volume of resources that Spain might receive from the fund between 2021 and 2026 would amount to €140 billion (12.6% of GDP estimated for 2020),² of which 47% would be in the form of direct grants and the remainder via loans. To access these resources, the Government will have to submit, before the end of the year, a "recovery and resilience plan" whose coherence with the EC's specific recommendations for Spain will have to be assessed by the EC.

The European Council agreement does not explicitly define certain important aspects of the new stimulus programme, such as the composition of the expenditure that each country will be able to undertake using the resources obtained, the timing of project implementation and fund disbursement or the conditions of the loans. The specifics of these aspects are not inconsequential, as the scale of the programme's macroeconomic effects will rely crucially on their final form.

This box presents an initial approximation of the potential effects on the Spanish economy based on various assumptions regarding the main determinants of that impact. These main determinants largely coincide with those aspects of the programme that are yet to be clarified and over which there is considerable uncertainty. Specifically, four sources of uncertainty are considered: the amount of funds to be disbursed, the schedule for project implementation (and how this corresponds to the schedule for receipt of the funds), how the resources received will be distributed between grants and loans, and the type of projects to which the resources will be allocated.

Moreover, even if precise details of the foregoing aspects were available, there is an additional important source of uncertainty in terms of how the scale of the macroeconomic impact of the stimulus will be measured. This is because the economic literature, to date, has only been able to estimate with considerable imprecision the "fiscal multiplier" of each public expenditure category (consumption, investment or benefits), defined as the percentage increase of GDP obtained from an increment of 1 pp of GDP in each of these expenditure items.

A further element of uncertainty as to the magnitude of the effects - not covered in this box - is the lack of any recent historical precedents for programmes entailing such a large-scale mobilisation of resources within the EU. This makes it harder to quantify the possible synergies deriving from the simultaneous implementation of a very extensive series of major projects in the various Member States, as it appears will happen as a result of NGEU.³ One notable aspect in this connection is the favourable impact to be expected on the functioning of European capital markets, stemming from the very significant increase in the volume of high credit quality assets available in the EU owing to the supranational issuances made under the framework of the various European programmes launched in response to COVID-19.⁴

Regarding the first of the above-mentioned four aspects of the fund that are yet to be clearly defined - the amount to be disbursed - it is important to set in context the sheer scale of the resources that the NGEU programme could potentially make available to Spain. Specifically, the portion taking the form of grants would alone approximately triple the entire general government's capital expenditure in 2019. Given the large scale of the funds and the short time frame allowed to the various national governments to set out their projects, it is possible that some countries will not mobilise all the funds potentially allocated to them. In view of this first source of uncertainty, the simulation exercises

1 The details of the programme are described in Box 5 ("Next Generation EU: Main characteristics and impact of its announcement on financial conditions").

2 The 2020 GDP estimate has been calculated as the average of the estimates under the two scenarios considered in Box 1 of this report.

3 For analysis of the potential synergies between expansionary monetary and budgetary policies and structural reforms in respect of a monetary union, see O. Arce, S. Hurtado and C. Thomas (2016) "Policy Spillovers and Synergies in a Monetary Union", *International Journal of Central Banking*, vol 12 No. 3: 219-277.

4 Overall, if the full resources envisaged in the European programmes launched in the wake of the COVID-19 crisis are brought to bear, supranational debt could increase over the next five years by some €1,300 billion, doubling the outstanding debt of European organisations. From the standpoint of total safe assets, including national sovereign debt, the increase would be of approximately one third. See M. Delgado-Téllez, I. Kataryniuk, F. López-Vicente and J. J. Pérez (2020). "Supranational debt and financing needs in the European Union", Occasional Papers No 2021, Banco de España.

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show the macroeconomic impact of a fiscal impulse of a standardised amount, which is identical in all cases. Specifically, for illustrative purposes, the simulations presented in this box are based on a stimulus of a size arbitrarily set at €10 billion (0.9% of GDP forecast for 2020).

Regarding the second of the aforementioned aspects, concerning the schedule for project implementation and receipt of the funds, the programme establishes that, once the projects are submitted and approved, the fund disbursement commitments shall be made before end-2023, whereas the payments would be made with a lag and in phases through to the end of 2026. Bearing this in mind, the simulation exercises performed in this box factor in two different assumptions regarding the project implementation schedule.

On the one hand, the scenarios constructed based on the “early implementation” assumption envisage the impetus to activity deriving from the NGEU programme being concentrated over the next three years (2021-2023), in keeping with the stipulation in the agreement that 70% of the resources be committed before the end of 2022 and the remaining 30% in 2023. Therefore, in the early implementation simulations, it is assumed that 70% of the standardised expenditure amount is implemented in equal parts in 2021 and 2022 (i.e. €3.5 billion each year). Applying the commitments schedule is equivalent to assuming that the Spanish general government will advance a portion of the allocated resources, as is often the case with existing European structural and investment funds (one example being the ERDF), meaning that project implementation and its impact on agents’ expenditure decisions would approximate the commitments schedule.

Conversely, in the scenarios that include the “late implementation” assumption, it is assumed that project implementation follows the payments schedule for the EU as a whole included in the EC proposal of 27 May. Assuming a consistent schedule for all countries, Spain would receive

approximately 6% of the funds in 2021 and an identical percentage in 2026, 18% in 2022 and 2025, and 26% in 2023 and 2024. Based on the standardised amount of €10 billion, this means expenditure would amount to €0.6 billion in 2021 and €1.8 billion in 2022 (peaking at just over €2.5 billion in each of the subsequent two years).

As for the third aspect - the distribution of the funds between direct grants and loans - it should be noted that direct grants have a greater impact on activity. Looking ahead, Spain will have to repay all the amounts that it receives in the form of loans. In the case of grants, it will have to contribute towards funding the European debt generated by the grants received by all the countries, in a proportion equal to its contribution to the resources that the EU allocates in European budgets to the repayment of that debt.⁵ That said, Spain would benefit in net terms from the portion of funds provided as grants, since its share in these would exceed its future contribution. In the near term, the expenditure financed through grants would be balanced in books by an income item of a matching amount, meaning the impact on the deficit is nil. By contrast, the balancing entry of expenditure financed with loans is an increase in debt, which would lead to a deficit increase.

In any event, even if the loans are less attractive than the grants as a result, they are nevertheless useful insofar as the related cost is lower than that of Spanish sovereign debt issuances with the same term.⁶ In light of these considerations regarding the macroeconomic impact of the funds provided via the two instruments, and given the uncertainty about how they will be distributed, the simulations envisage two alternative assumptions as to the form in which the funds will be received (“grants” and “loans”), assuming that Spain receives a normalised amount of €10 billion in either one form or the other.

Lastly, there is considerable uncertainty as to the type of projects that will qualify for the European funds,⁷ in addition, as mentioned, to the uncertainty over the fiscal

5 The envisaged time frame for debt repayment is between 2028 and 2058. In any event, it is not clear what portion of that debt that will have to be financed through national contributions (which, in theory, would have to be based on the gross national income of each country), since the European Council has urged the European Commission to establish new pan-European taxes, which might be used to repay the debt. Consequently, Spain’s participation in the EU budget multiplied by the volume of the grants received by all of the countries gives a higher amount than Spain will have to finance in the 30-year period that begins in 2028.

6 No indications as to the terms and conditions of the loans have been announced. That said, if the applicable interest rate were that used for issuances by the EU, the cost, based on historical experience, could be approximately 50 bp below the issuance costs of the Spanish Treasury. See M. Delgado-Téllez, I. Kataryniuk, F. López-Vicente and J. J. Pérez (2020). *Supranational debt and financing needs in the European Union*, Occasional Papers No 2021, Banco de España.

7 Although one of the objectives of the NGEU agreement signed by the European Council is to foster medium and long-term growth, no restriction has been set as to the type of spending to be carried out.

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multiplier to be applied to the amount used in each case. Both the theoretical models and the empirical evidence available suggest that public investment expenditure has a larger and more enduring impact on activity than that of spending in other areas, such as government consumption or transfers to households.⁸ This is, inter alia, because in addition to increasing demand for goods in the short term (as occurs in other cases), public investment also helps to expand the economy's productive capital stock and, therefore, to support medium and long-term growth.⁹ In any event, the timing of the impact of public investment on activity hinges on the nature of the projects receiving the investment. For instance, although the effects of R&D expenditure are higher over a sufficiently lengthy time frame, they may take longer to materialise than with other public investment projects.

To incorporate these sources of uncertainty, a scenario has been considered whereby the normalised amount of €10 billion is used entirely for public investment projects ("public investment" scenario), together with another in which these funds are used to finance current expenditure on government consumption and benefits ("current expenditure" scenario). Moreover, in each of these scenarios, the estimated impact is presented in the form of a range, in recognition of the uncertainty over the size of the fiscal multiplier for each type of project.

Given all these considerations, Table 1 shows, using the Quarterly Macroeconometric Model of the Banco de España,¹⁰ the impact on the Spanish economy (in terms of GDP and public debt) that would derive from a fiscal stimulus equivalent to €10 billion under the different

Table 1
MACROECONOMIC EFFECTS OF THE NEXT GENERATION EU PROGRAMME UNDER VARIOUS ALTERNATIVE ASSUMPTIONS
Impact on GDP and public debt in 2021-2022 of a standardised fiscal impulse of €10 billion (a)

Percentage differences in level

	GDP		Public debt	
	2021	2022	2021	2022
Exercise 1: "early implementation" + "grants" + "public investment"	0.19 – 0.3	0.21 – 0.35	-0.22 – -0.35	-0.35 – -0.57
Exercise 2: "late implementation" + "grants" + "public investment"	0.02 – 0.04	0.08 – 0.13	-0.03 – -0.05	-0.1 – -0.18
Exercise 3: "early implementation" + "loans" + "public investment"	0.14 – 0.27	0.15 – 0.29	-0.1 – -0.2	-0.09 – -0.18
Exercise 4: "early implementation" + "grants" + "current expenditure"	0.06 – 0.09	0.12 – 0.19	-0.07 – -0.11	-0.18 – -0.29

SOURCE: Banco de España.

a Range of intervals under two alternative assumptions on the multiplier effect of public investment expenditure (0.8 and 1.3) and of expenditure on grants and public consumption (0.4 and 0.7). Under the early implementation assumption, the €10 billion fiscal impulse would consist of increased expenditure of €3.5 billion in 2021 and 2022 and of €3 billion in 2023, whereas under the late implementation assumption it would consist of increased expenditure of €0.6 billion in 2021 and 2026, of €1.8 billion in 2022 and 2025 and of €2.6 billion in 2023 and 2024.

8 Indeed, the consensus reached by virtually all empirical evidence is that the medium-term public investment multiplier effect would be higher than 1, whereas that of spending on government consumption or benefits would be less than 1. See V. Ramey (2019), *Ten Years After the Financial Crisis: What Have We Learned from the Renaissance in Fiscal Research?*, Journal of Economic Perspectives, Vol. 33(2), pp 89-114, for a review of the existing evidence. Nevertheless, the estimates are subject to a particularly high degree of uncertainty. Thus, for instance, A. Abiad et al. (2016), *The macroeconomic effects of public investment: Evidence from advanced economies*, Journal of Macroeconomics 50: 224-240, estimates a public investment multiplier of 1.4 after four years for a group of advanced economies. Further, the estimated value could nearly double if the investment is made in highly efficient projects or during periods of low economic growth. Conversely, other studies find that, in the short term, the public investment multiplier may possibly not exceed a value of 0.6, especially in the case of short-run fiscal stimuli (see M. Alloza and C. Sanz (2020), *Jobs Multipliers: Evidence from a Large Fiscal Stimulus in Spain*, forthcoming in the Scandinavian Journal of Economics).

9 This multiplier effect largely depends on the degree of complementarity between public and private investment. See Box 5.2 of the Annual Report 2020 of the Banco de España for a detailed analysis of the channels through which public investment supports medium and long-term growth. One of the channels accounting for the high public investment multiplier, even in the short term, rests on the idea that, as it is more powerful in the medium and long term, rational agents consider it in their decisions.

10 See A. Arencibia, S. Hurtado, M. de Luis and E. Ortega (2017), *New version of the Quarterly Model of Banco de España (MTBE)*, Occasional Paper No 1709, Banco de España. In this exercise, it is assumed that public investment has a multiplier effect on GDP of between 0.8 and 1.3 after three years, compared with between 0.4 and 0.7 in the case of other expenditure items.

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scenarios described above. These scenarios have been constructed by combining different assumptions on the various sources of uncertainty set out. The findings are presented up to 2022, which is the last year in the horizon of the macroeconomic scenarios included in Box 1 of this report. In any event, the effects would also extend to subsequent years, more so naturally in the simulation using the “late implementation” assumption, as in that case spending would continue until 2026.

Exercise 1 considers the scenario in which the ingredients of the NGEU result in the combination most conducive to economic growth over the projection horizon: “early implementation”, “grants” and “public investment”. Specifically, as explained previously, the “early implementation” assumption is based on applying the commitments schedule, resulting in 35% of the normalised amount of spending (i.e. €3.5 billion) being made in 2021, with an identical amount in 2022. Considering this assumption, together with those relating to the form in which the funds are received (grants) and the use thereof (public investment), the fiscal stimulus would increase Spanish GDP by between 0.2 pp and 0.3 pp on average over the coming two years. This increased growth would also lead to a significant improvement in public finances.

Exercise 2 is the same as exercise 1, except in that it considers a more protracted implementation of the projects (“late implementation” scenario). As mentioned, the payment schedule is used in this assumption, with the result that 6% of the normalised amount of spending (€0.6 billion) is made in 2021, followed by a further 18% (€1.8 billion) in 2022. In this case, and assuming the full implementation timetable, the maximum effect on GDP of the fiscal impulse considered would not arise until 2024; consequently, the total cumulative impact of the stimulus on growth and improvement in public finances in the 2021-2022 horizon would be much lower than that estimated in exercise 1.

Exercise 3 shows the macroeconomic impact of the loan facilities included in the NGEU programme. This is

founded on the same assumptions as those in exercise 1, but considering the European funds in the form of loans rather than grants. According to the corresponding simulation, the impact on GDP of this stimulus would only be slightly lower than that obtained using the assumptions for exercise 1. However, as the additional spending would be recorded as general government deficit, the improvement in public finances would be considerably more modest.

Lastly, exercise 4 illustrates the importance of selecting projects that have a greater expansionary effect on the economy. In particular, the assumptions considered in this exercise are the same as those used in exercise 1 except, in this case, that the funds would not be used to finance productive public investment projects, but rather for other spending (“current expenditure” scenario). Under these assumptions, the rise in GDP would be less than half of that under exercise 1. As a result, the improvement in public finances would also be more modest.

In short, drawing on the analysis set out in this box, given the potential volume of funds that could be mobilised, the NGEU programme has the capacity to become a major element of support for Spanish economic recovery in the aftermath of the impact of COVID-19. As the exercises above show, maximising these effects hinges on a relatively broad set of factors. On the one hand, the capacity to carry out new projects must be developed to ensure that - ideally - the bulk of the programme’s funds are not used to finance expenditure that would have been incurred in any event. Moreover, early design and implementation of these projects would have a greater effect on activity in the short term, which should be conducive to a more robust recovery of the Spanish economy, following the harsh impact of the pandemic in 2020 as a whole. However, it is also crucial that the selection of these projects maximises their impact on economic activity and public finances; this would be fostered by structuring the distribution of the funds around a plan designed to strengthen the long-term growth of the Spanish economy.