RECOVERY WATCH

POLICY STUDY
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THE REAL EFFECTS OF NEXT GENERATION EU

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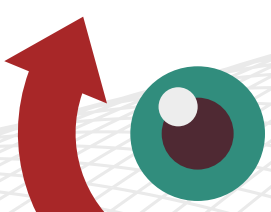
RECOVERY WATCH



RECOVERY WATCH

WHAT IS THIS PROJECT ABOUT?

The National Recovery and Resilience Plans represent the new framework in which European member states identify their development strategies and allocate European and national resources – with the objective of relaunching socio-economic conditions following the coronavirus pandemic.

This process, initiated as part of the European response to the global health crisis, follows the construction of NextGenerationEU. It combines national and European efforts to relaunch and reshape the economy, steering the digital and climate transitions.

For European progressives, it is worth assessing the potential of these national plans for curbing inequalities and delivering wellbeing for all, as well as investigating how to create a European economic governance that supports social, regional, digital and climate justice.

The Foundation for European Progressive Studies (FEPS), the Friedrich Ebert Stiftung (FES) and the Institut Emile Vandervelde (IEV), in partnership with first-rate knowledge organisations, have built a structured network of experts to monitor the implementation of National Recovery and Resilience Plans and assess their impact on key social outcomes. Fact- and data-based evidence will sharpen the implementation of national plans and instruct progressive policymaking from the local to the European level.

The Recovery Watch will deliver over 15 policy studies dedicated to cross-country analysis of the National Recovery and Resilience Plans and NextGenerationEU. Monitoring the distributive effects of EU spending via NextGenerationEU, and the strategies and policies composing the national plans, the project will focus on four areas: climate action, digital investment, welfare measures and EU governance.

KNOWLEDGE PARTNERS

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EXECUTIVE SUMMARY

The Next Generation EU (NGEU) fund, established in response to the COVID-19 pandemic, represents an unprecedented financial commitment by the European Union. NGEU was designed not only to support member states in their immediate economic recovery but also to facilitate large-scale investments and reforms aligned with the EU's long-term objectives, notably the ecological transition, digitalisation, and social and territorial cohesion. The assessment of NGEU's economic effects is crucial as it can inform policymakers about the efficacy of such large-scale financial interventions and guide future decisions on EU fiscal policy and integration.

SPECIAL FEATURES OF NGEU

The NGEU programme is historic in scale and approach. Its main component, the Recovery and Resilience Facility (RRF), has a budget of €724 billion (in current prices), about half of which are grants and the other half are loans. Novel design aspects of NGEU include:

- **Common debt issuance:** For the first time, the EU has issued common debt to finance a vast investment programme, showing the EU's ability to coordinate a response when confronted with a major external shock.

- **Innovative allocation:** Unlike other EU programmes, the funds are not allocated solely based on macroeconomic criteria like gross domestic product or population but on pandemic-induced needs, ensuring targeted support where it is most needed.

ECONOMIC IMPACT AND FISCAL MULTIPLIERS

The existing literature measuring the effects of fiscal policies pursued since the Covid-19 crisis in the EU highlights a range of fiscal multipliers. Some estimates are close to (but never below) zero, while others exceed unity. As most studies rely on large macroeconomic general equilibrium models, the diversity of results does not reflect fundamental differences in theoretical approaches but rather a model choice concerning the initial state of the economy. These findings also suggest that the anticipated impacts of NGEU could differ significantly across the EU depending on local economic circumstances and the specific timing of disbursement.

This policy study offers an alternative view to *ex-ante* modelling exercises to assess the expected value added of NGEU for some EU member states. While NGEU remains a work-in-progress with the majority of disbursements scheduled in the second half of the 2021-2026 period, this study proposes to link the expected *ex-post* value added of NGEU to the *ex-post* value added of past domestic fiscal policies by EU member states.

Arguably, NGEU loans are similar to domestic debt-funded public spending, likely resulting in comparable fiscal multipliers. However, NGEU grants, which do not incur immediate interest costs for recipient governments, are expected to yield higher fiscal multipliers, free from the crowding-out effects typically associated with rising interest rates post-stimulus. The study proposes using domestic fiscal multipliers as a benchmark, suggesting that the real impact of NGEU, especially through grants, could exceed those observed with loan-based stimuli, providing a potentially stronger economic boost.

Fiscal multipliers are estimated for the three largest EU economies Germany, France and Italy based on quarterly data. To compute the multipliers, this study draws on an approach using Okun's Law to estimate potential output and the output gap. Subsequently, the cyclically-adjusted fiscal balance is derived from these output gap estimates and fiscal shocks are identified as quarterly changes in this balance. Finally, the fiscal multiplier effect is determined using local projections.

- **General result:** France shows a fiscal multiplier of 0.5 after one year; Italy shows a peak of 0.7 after three years; Germany's fiscal multiplier is never statistically significant. Considering the focus of NGEU funds on Italy, our results support the impression that RRF disbursements go primarily where the expected real effects are the highest.

- **Context-dependent results:** When separating the sample between bad years (slack) and good years (expansion), the fiscal multiplier for France shows no difference. In Germany, however, the difference is substantial: while the fiscal multiplier is nil in expansions, it is substantial during bad years, peaking at two one year after the stimulus. In Italy, the difference between bad and good years is also significant. Its fiscal multiplier is positive in the short run during good years and it peaks at four after three years if the fiscal stimulus occurred during bad years.

This study demonstrates that fiscal policy has tangible effects on the economy, with the estimated lower bounds for fiscal multipliers above zero (France, Italy) or at zero (Germany), but never below. **These effects are notably more significant during times of high unemployment**, emphasising the importance of timely stimulus interventions aligned with economic downturns.

Despite a rapid economic recovery post-pandemic that reduced unemployment rates across all three countries studied, using NGEU funds has been less than optimal, possibly due to administrative burdens and supply-side constraints. **However, the study suggests that even in economically better times, fiscal policies like those under NGEU can be effective in the longer run, especially in countries like Italy, which was severely affected by the pandemic and has substantial amounts of both grants and loans yet to be disbursed.** Ongoing evaluation of NGEU funds will be necessary to understand further their real economic impact and contribution to the EU's long-term goals.

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1. INTRODUCTION

Four years ago, the Covid-19 pandemic had sizable side effects on public finances and economic policies. The virus's rapid spread led to overcrowded hospitals and intensive care units, forcing public authorities to introduce containment policies. Public health care needs plus the recession that followed the periods of lockdown led to substantial increases in public deficits and debt. In parallel, many central banks relaunched or extended their purchases of public bonds. In March 2020, the European Central Bank (ECB) extended its Public Sector Purchase Programme and created a new programme: the Pandemic Emergency Purchase Programme (PEPP). The PEPP was mainly introduced to combat financial fragmentation in the eurozone, hence reducing sovereign spreads between member states.

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Beyond the scale of the envelope, NGEU has some innovative aspects: (1) the issuance of a common debt, and (2) the allocation of resources to member states according to the needs induced by the pandemic, rather than according to the usual macroeconomic criteria.

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Despite the PEPP, sovereign spreads did not drop for good until the European Council announced the Next Generation EU (NGEU) and the Recovery and Resilience Facility (RRF) in July 2020. With an envelope of €724 billion (in current prices), the scale of financial support is unprecedented in the Union's history. Beyond the scale of the envelope, NGEU has some innovative aspects: (1) the issuance of a common debt, which will finance a vast investment programme from 2021 to 2026, and reforms aimed at channelling the recovery within the framework of the EU's long-term objectives (ecological transition, digitalisation, social and territorial cohesion); and (2) the allocation of resources to member states according to the needs induced by the pandemic, rather than according to the usual macroeconomic criteria, mostly linked to relative economic size. The common debt will be repaid between 2028 and 2058, a priori through additional own resources (like a tax on financial transactions, the Carbon Border Adjustment Mechanism, a tax on plastic packaging or a tax on multinationals) and through increases in countries' contributions to the EU budget. NGEU has offered an EU-coordinated response to the Covid crisis.

While NGEU and the RRF are relatively new instruments[1], the disbursements they permit are even more recent and gradual. The largest share of payments for grants is planned for 2024. This makes the assessment of NGEU/RRF almost impossible. With funding just being paid out, investments have not reached their full implementation. In contrast to the European Structural and Investment Funds, the RRF follows a "performance-based" approach that requires member states to achieve milestones (like the launch of a call for tender or the signing of procurement contracts) before receiving disbursements. Many milestones in the first half of the RRF are only the kick-off of investments.

Yet, the European Commission released a mid-term evaluation of the RRF in February 2024. The evaluation spans many dimensions: the effectiveness at achieving the objectives; the facility's efficiency (cost-benefit analysis); its remaining relevance; its coherence with other EU policies like cohesion funds; and its value added (beyond individual actions). At this early stage, the European Commission based its assessment of the NGEU's value added on macroeconomic simulations conducted with large-scale models. It, therefore, only illustrates the expected impact of the RRF in comparison to a situation without the RRF or NGEU. There are no ex post evaluations to date.

The purpose of this policy study is to offer an alternative view of the expected value added of NGEU for some EU member states. The main goal of NGEU is to facilitate investments in the green and digital transitions: it would therefore be ideal to offer an ex post and medium- to long-term perspective on the impact of these investments on the EU economy. While NGEU remains work in progress, we propose to link the expected ex post value added of NGEU to the ex post value added of past domestic fiscal policies by some EU member states, namely, France, Germany and Italy, from a short- to medium-term perspective.

Here, we first review the empirical literature that has evaluated the impact of fiscal policies since the pandemic. Most of the papers evaluate NGEU for one or several countries using large-scale models like the European Commission. Some draw a parallel between NGEU and some EU regional funds (European Regional Development Funds (ERDF) or European Structural and Investment (ESI) Funds) to attribute the estimates of the latter to the former. We take a different road. We use the specificity of NGEU/RRF to draw a parallel between NGEU and domestic fiscal stimulus. Half of the funds allocated via the RRF are loans. As such, the public spending they fund operates more or less the same way, as if it were funded by domestic debt issuance.[2] We can expect a fiscal multiplier close to that after domestic stimulus (without European funding). NGEU grants provide another perspective: since governments that receive them do not have to bear the immediate interest cost, the fiscal stimulus is not compensated for by a crowding-out effect (which ensues from the rise of interest rates, which may follow a fiscal stimulus). The fiscal multiplier we may expect from using NGEU grants should be higher than that related to using NGEU loans.

Consequently, we argue that domestic fiscal multipliers computed from past fiscal policies can serve as a benchmark for the real effect of NGEU/RRF. More precisely, it can serve as the lower bound of the real impact since it is calibrated on EU loans and not EU grants. If grants are mainly used by member states, the fiscal multiplier can be expected to be above that for loans.

In the following, we compute some fiscal multiplier effects from fiscal shocks, where we identify a fiscal shock as the quarterly change in the cyclically adjusted fiscal balance. On the computation of fiscal multiplier effects, we follow the method developed by Ramey and Zubairy (2018).[3] We therefore investigate whether the fiscal shock has had a real impact on the economy. Due to the availability of quarterly data, we compute fiscal multiplier effects for three countries: France; Germany; and Italy.

Results point to positive fiscal multipliers in France and Italy, not in Germany, but an important determinant of the effectiveness of fiscal policy on real activity is the timing of implementation. By timing of implementation, we mean to distinguish between periods of economic expansion and periods of slowdown. In the latter case, we expect the fiscal multiplier to be higher than in the former case (see the meta-analysis of Gechert and Rannenberg 2018).[4] The rationale behind this is that a country under a slowdown or, worse, a recession can mobilise additional resources without creating scarcities (of labour, capital or financing), and hence, no ensuing wage/price inflation would prevent a boost in economic activity. Thus, a fiscal stimulus in this context would trigger neither higher inflation nor a crowding out of private investment via a higher interest rate. Stated differently, fiscal policy would show stabilising properties, not destabilising ones.

Except for France, where the fiscal multiplier is rather indifferent to the timing of implementation, fiscal multipliers are found to be very different in Germany and Italy, depending on whether the fiscal stimulus occurs during an expansion or a slowdown. In the latter situation, the fiscal multiplier is significantly higher than during an economic expansion. It also grows during the first two years, with peaks around two. Finally, the fiscal multiplier in Italy reaches four after three years.[5] The relative focus of NGEU/RRF funds on Italy, rather than France or Germany, is thus found to be consistent with the expected empirical effects of fiscal stimulus based upon past fiscal policies. The timing of NGEU/RRF is discussed with respect to these results, and it may serve as a rationale for the current incomplete use of NGEU/RRF funds.

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2. REAL EFFECTS OF FISCAL POLICIES IN EUROPE SINCE COVID-19: A REVIEW OF THE LITERATURE

The literature devoted to measuring the effects of fiscal policies pursued since the Covid-19 crisis in the EU, whether national or European, is fairly limited. These studies are briefly reviewed in this section.

The multiplier effects are varied, particularly in the short term, where they range from a value close to zero (but never negative) to a value close to unity (see Table 1). This diversity of results does not fundamentally reflect differences in theoretical approach, as the studies mainly use general equilibrium models, but rather differences in the initial state of the economy at the time of the fiscal shock. This is typically the case in the first macroeconomic evaluation of NGEU by Codogno and van den Noord (2020),[6] who report higher real effects for EU peripheral countries than for core countries. The particularity of the estimates reported in Table 1 is that they are carried out ex ante, and to the best of our knowledge, there are no recent empirical ex post analyses of European recovery plans.

Among these studies, a few introduce a sectoral dimension, related to the industrial network of funds' beneficiaries, or a spatial dimension, related to the regional allocation of funds. In the first case, the computed fiscal multipliers include the effects of the funds allocated to the beneficiary industries in upstream or downstream sectors, as in the analysis by Barattieri et al. (2023)[7] with US data. Therefore, cross-sectoral spillovers can be included in the evaluation of the fiscal stimulus. For example, Fernández-Cerezo et al. (2023)[8] find an average effect of the funds allocated to Spain under NGEU of around 1.75% of GDP over a five-year period compared to its stationary state. In the second case, fiscal multipliers are computed from the regional allocation of European funds. In this vein, Barbero et al. (2022)[9] find that the subsidies allocated under NGEU would increase the EU's GDP by 0.85% in 2026 compared to its stationary state. Durand and Espinoza (2021)[10] estimate the aggregate and sectoral fiscal multipliers of ESI Funds and of public investment at the EU level. They find that positive shocks due to ESI Funds are followed by an increase in output between 1.2% on impact and 1.8% after one year. Canova and Pappa (2021)[11] estimate the macroeconomic effect of the ERDF and European Social Funds (ESF) separately: their results show that the ERDF has positive average consequences on all regional variables, but the cumulative impact vanishes over time. In contrast, the ESF has insignificant average impact effects, but medium-term multipliers are positive.

Other studies, with the exception of Picek (2020),[12] apply a general equilibrium framework using dynamic stochastic general equilibrium models (DSGE), which is very theoretical, and therefore, only illustrates ex ante evaluations of public policies.

Boscá et al. (2021)[13] studied the stabilising effects of Spain's fiscal response to the Covid-19 crisis. The annual fall in GDP is found to have been moderated by at least 7.6 percentage points (pp) in the most intense period of the crisis thanks to these stabilising policies. The expected effects of using NGEU funds on the Spanish economy are also estimated. Assuming that Spain could receive funds from the EU of between 1.5 and 2.25pp of its GDP, activity could increase by 2-3pp in 2024. Malliaropulos et al. (2021)[14] also apply a DGSE model and apply it to the Greek economy. They conclude that using NGEU funds earmarked for Greece would boost GDP by almost 7% in 2026. Hinterlang et al. (2023)[15] simulate the fiscal stimulus package implemented by the German government to mitigate the costs of the Covid-19 pandemic in a multi-sector DSGE model. They find that, cumulatively, over 2020-2022, production losses relative to the steady state can be reduced by more than 6pp. The long-term fiscal multiplier of the German fiscal expansion in their study is 0.5.

Using the NiGEM macroeconometric model, Watt and Watzka (2020)[16] find that the expected impact of NGEU is very limited in the first three years, at around 0.3% of GDP for the EU as a whole and the eurozone. This is not surprising, as NGEU subsidy payments are progressive, peaking in the fourth year.

Most of the other evaluations are based on DSGE models developed and used by the European Commission or the ECB. Bańkowski et al. (2021)[17] use the ECB's EAGLE model and show that NGEU subsidies could increase aggregate eurozone GDP by 1pp by 2025, while loans (assuming they are fully claimed) would increase it by an additional 0.7pp by 2025. Pfeiffer et al. (2023)[18] use the QUEST model developed by the European Commission to assess the impact of NGEU and its spillover effects,

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which are found to be non-negligible. Specifically, they report that NGEU is expected to increase aggregate GDP in the eurozone by around 1.5pp until 2024. They show that one-third of the effect is explained by spillover effects from additional trade between EU member states. A simple aggregation of national effects may, therefore, underestimate the assessment of the macroeconomic effects of NGEU.

The European Commission (2024)[19] has recently released a mid-term evaluation of the RRF that draws extensively on assessments by Pfeiffer et al. (2023)[20] and adds a companion study commissioned to an external group of experts (Corti et al. 2023).[21] According to the latter, NGEU/RRF would also help reduce interest rate spreads in the EU, hence accelerating the member states' economic recovery.

Table 1. Multiplier effects on GDP reported in the literature

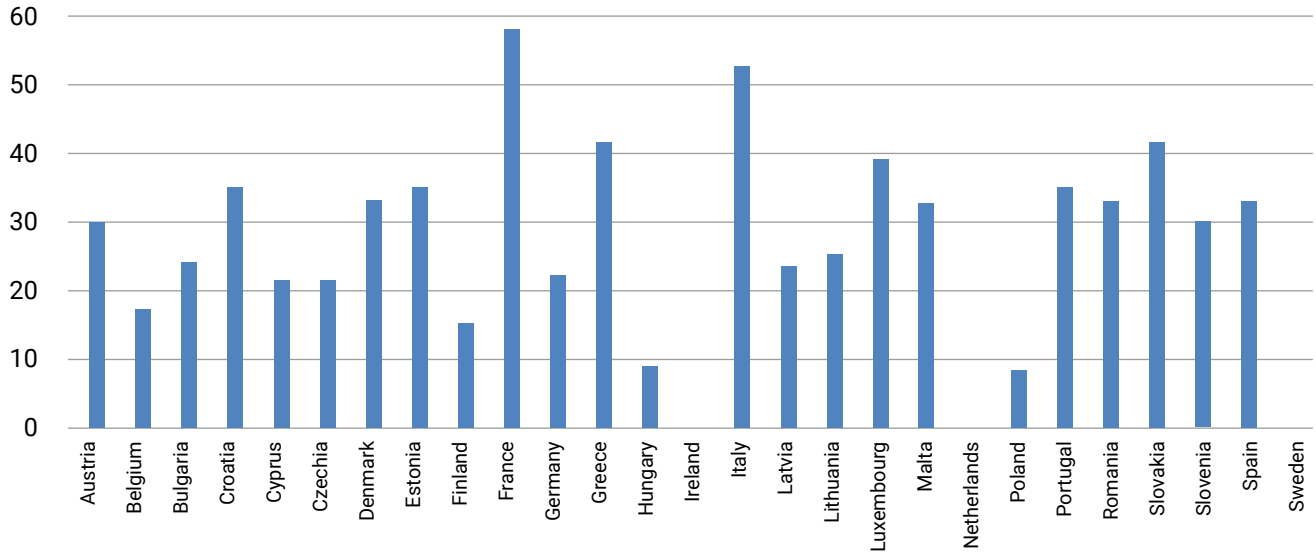
SOURCE	SCOPE	COUNTRY	MULTIPLIER EFFECT
Hinterlang et al. (2023)	National	Germany	0.3 (short term) 0.5 (long term, discounted)
Boscá et al. (2021)	National	Spain	1.5 (peak) 1.0 (medium term, discounted)
	NGEU	Spain	1.33 (peak) 1.08 (medium term, discounted)
Canova and Pappa (2021)	ERDF	EU	1.8 (short term) 1.1 (cumulative after 3 years)
	ESF	EU	0 (short term) 5.1 (cumulative after 3 years)
Durand and Espinoza (2021)	ESI	EU	1.2 (short term) 1.8 (after 1 year)
Fernández-Cerezo et al. (2023)	NGEU	Spain	0.2-0.3 (medium term, undiscounted)
Malliaropulos et al. (2021)	NGEU	Greece	0.9 (short term) 1.95 (long term, discounted)
Picek (2020)	NGEU	EU	[2.0; 5.0] (short term, depending on EU country)
Watt and Watzka (2020)	NGEU	EU	0.8 (short term)
Bańkowski et al. (2021)	NGEU	EU	1.0 (short term) [2.5; 5.0] (long term, undiscounted)
Barbero et al. (2022)	NGEU	EU	1.2 (short term) 3.25 (medium term, discounted)
Pfeiffer et al. (2023)	NGEU	EU	1.0 (short term) 6.0 (long term, undiscounted)

Source: authors' own elaboration.

3. NGEU PAYMENTS UNFOLDING SMOOTHLY BUT UNEVENLY

The disbursements of NGEU have been gradual, in line with what was planned in July 2020 (and even in May 2020 in the European Commission's documents). We draw on the scoreboard that the European Commission has created for the RRF. As of the end of January 2024, it showed that 37% of total NGEU allocated grants and loans had been disbursed: 42% of grants and 31% of loans. Disbursements of allocations range from zero for Ireland, the Netherlands and Sweden, which have not requested their grants, to almost 60% for France.[22] Italy and Spain, which were earmarked as substantial beneficiaries of the RRF, have received, respectively, around 50% and 30% of their allocations (see Figure 1).

FIGURE 1. Total disbursement in proportion to allocation, in %



Source: European Commission (Recovery and Resilience Scoreboard).

Disbursements of loans and grants show relatively similar trends (see Figure 2). Except for Greece and Italy, which, respectively, received 40% and 50% of their allocated loans, all the other countries eligible for loans (only 13 of the 27 EU member states) have received a much lower share than the average. Spain stands below 1% of its allocated share of loans and Czechia at 0%. If one excludes Ireland, the Netherlands and Sweden, which made no requests for their eligible grants, it turns out that the discrepancy across countries of disbursements of allocations is the same for grants as it is for loans. The minimum disbursement for grants is 2% of the allocation (Hungary and Poland), whereas the maximum disbursement is around 58% (France and Italy).

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Due to so many missing disbursements, with some countries very far from their allocated loans and grants, spillover effects may actually be quite small, implying that it does not seem crucial to include spillover effects in the estimation of NGEU fiscal multipliers.

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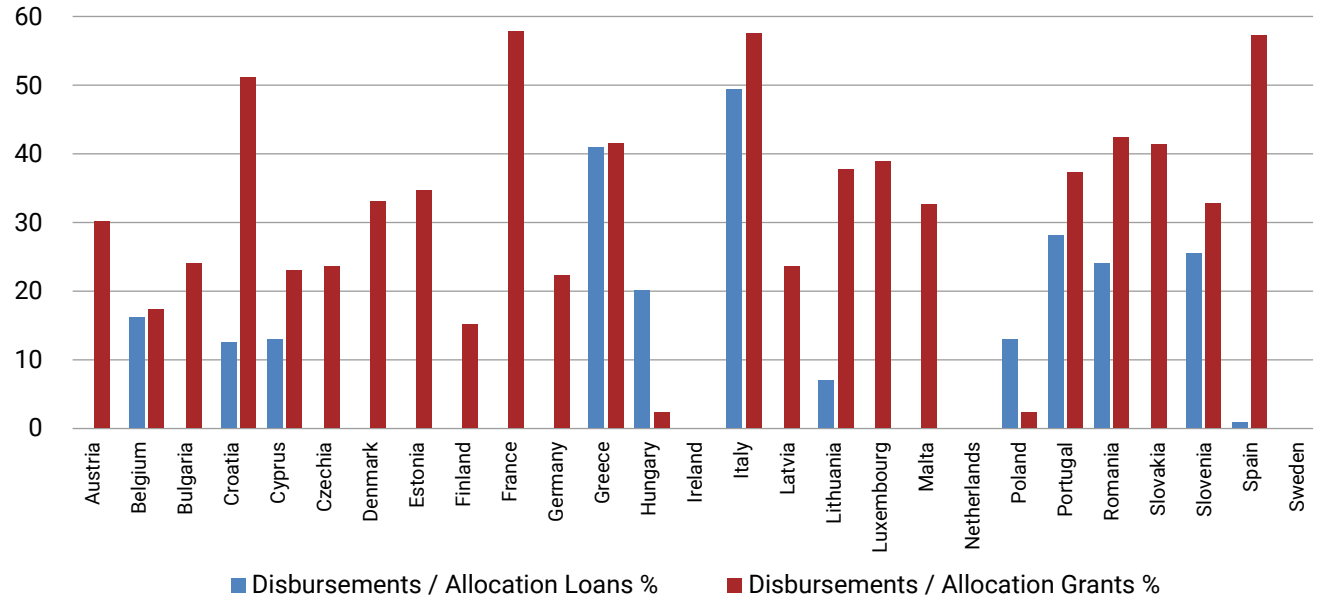
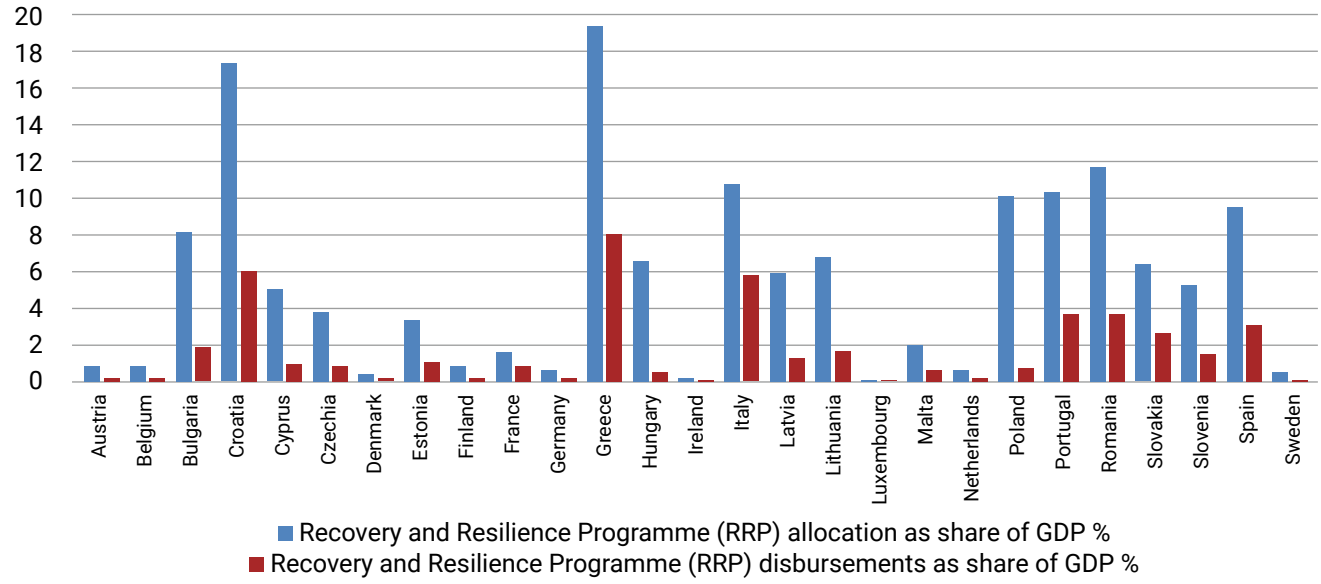
FIGURE 2. Total disbursement in proportion to allocation, in %, loans and grants



Source: European Commission (Recovery and Resilience Scoreboard).

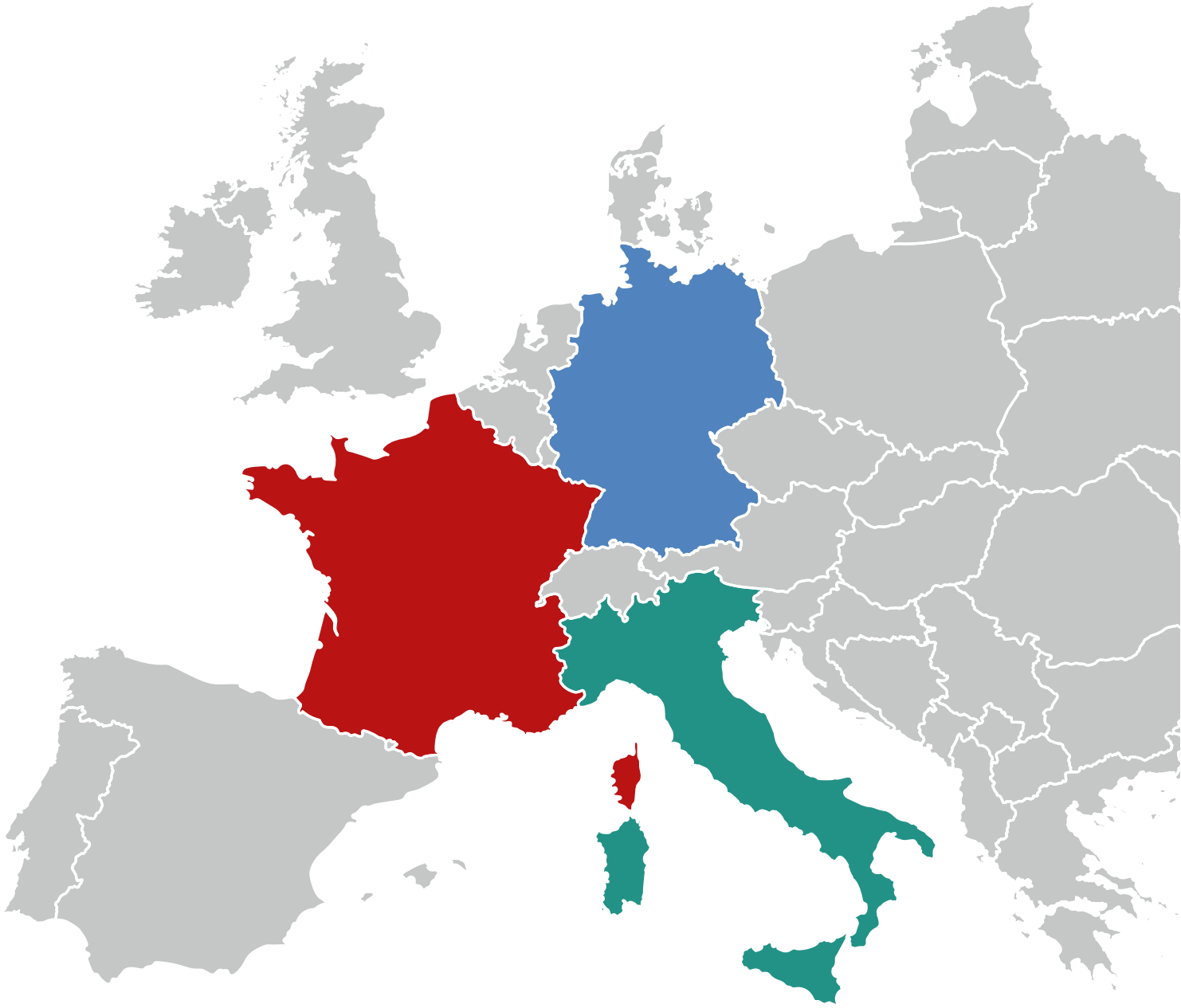
So far, disbursements of the RRF have been quite uneven between EU member states. Due to so many missing disbursements, with some countries very far from their allocated loans and grants, spillover effects may actually be quite small, implying that it does not seem crucial to include spillover effects in the estimation of NGEU fiscal multipliers. Moreover, the relative size of actual disbursement in terms of GDP remains relatively small, at less than 1.8% (unweighted average), in comparison with an estimated full support of 5.6% if all grants and loans were disbursed. Again, there are strong discrepancies across the EU member states (see Figure 3); this further supports the computation of individual fiscal multipliers.

FIGURE 3. Recovery and Resilience Programme (RRP) allocation and disbursement, in proportion to the country's GDP, in %



Source: European Commission (Recovery and Resilience Scoreboard).

4. FISCAL MULTIPLIER EFFECTS: APPLICATION TO FRANCE, GERMANY AND ITALY



We compute new estimates of the cyclically adjusted fiscal balance, which is a measure of the fiscal balance that has been corrected for the endogeneity of the business cycle, but without having to rely on the controversial unobservable potential output. To do so, we draw on work by Fontanari et al. (2020).[23] The method by Fontanari et al. (2020)[24] allows one to estimate potential output based on Okun's Law and permits new estimates of the output gap to be computed from observable data and a transparent unemployment target. Then, following Carnazza et al. (2023),[25] we extract the cyclically adjusted fiscal balance from these new estimates of the output gap. In a second step, we identify a fiscal shock as the quarterly change in the cyclically adjusted fiscal balance. We can then revisit the fiscal multiplier effect using local projections in the vein of Ramey and Zubairy (2018).[26] We also investigate whether the fiscal multiplier is context dependent: higher during a recession and lower during an expansion.[27] Details on data sources are presented in Table 2.

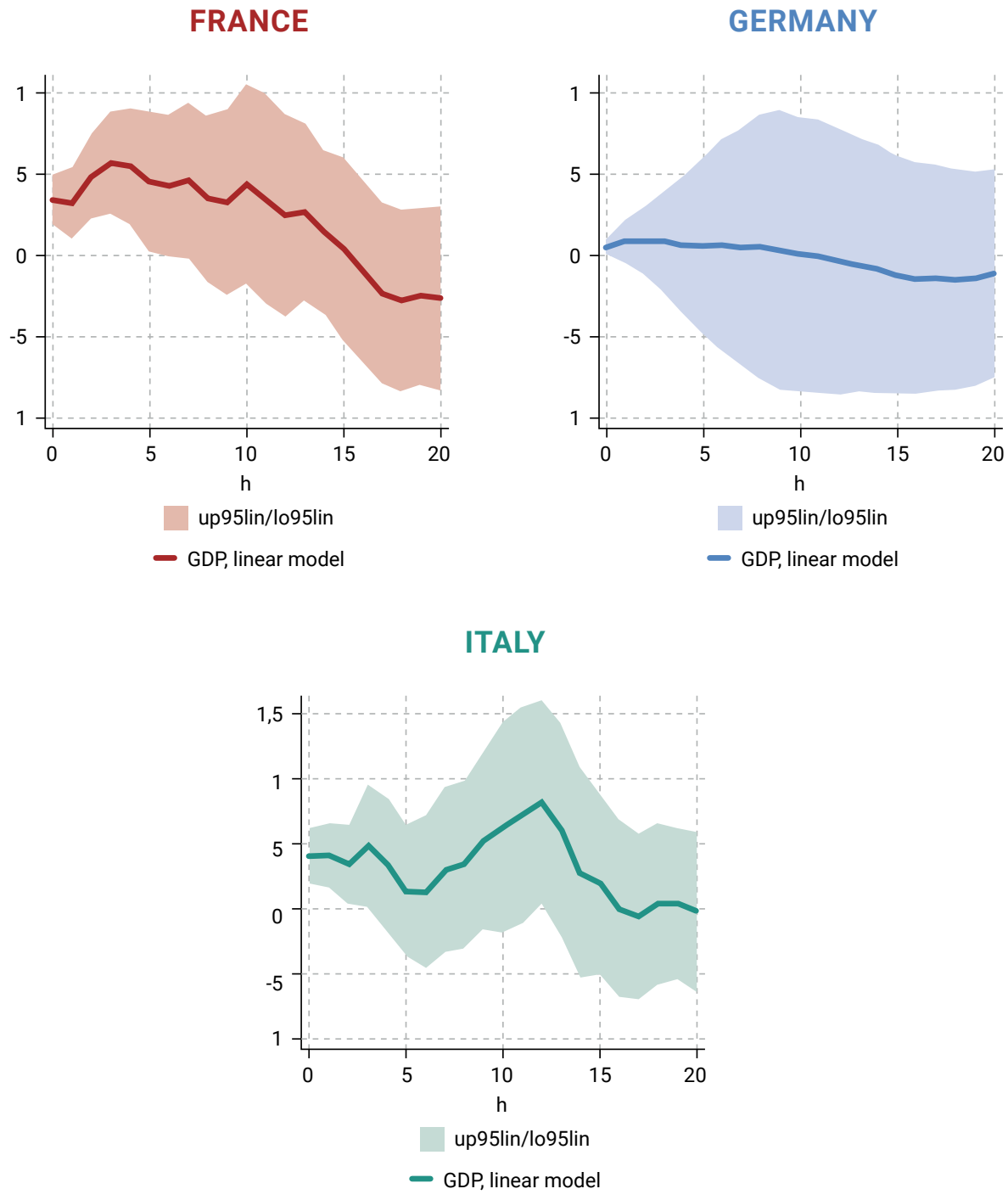
TABLE 2. Data overview

COUNTRY	SAMPLE PERIOD	UNEMPLOYMENT RATE	REAL GDP	FISCAL BALANCE
FRANCE	Q1 1980-Q4 2019	Insee	Insee/OECD	Eurostat
GERMANY	Q1 1991-Q4 2019	Destatis/OECD	Destatis/OECD	Destatis
ITALY	Q1 1999-Q4 2019	IStat/OECD	IStat/OECD	IStat/Eurostat

The fiscal multipliers are presented in Figure 4. They are quite different across countries: France shows a fiscal multiplier of 0.5 after one year; Italy shows a peak at 0.7 after three years; Germany shows no fiscal multiplier (it is never statistically significant). Considering the important focus of NGEU/RRF on Italy, this first set of results is interesting: RRF disbursements would go primarily where the expected real effect would be the highest.

4. FISCAL MULTIPLIER EFFECTS: APPLICATION TO FRANCE, GERMANY AND ITALY

FIGURE 4. Impulse response functions



Source: authors' own calculations.

Now, if we separate the sample of data between (bad) years of slack and (good) years of expansion, the fiscal multipliers in Germany and Italy show quite different pictures. We use the average unemployment rate over the sample, plus one standard deviation, as a threshold between bad and good years to characterise how exceptional the evolution of the labour market has been. The threshold is 9.6% for France, 9.4% for Germany and 11.4% for Italy. Periods when the unemployment rate is below the threshold are characterised as good years, whereas those when it is above the threshold are characterised as bad years. Periods of slack (or bad) years represent 25% of the sample for France, 22% for Germany and 24% for Italy.

The context-dependent fiscal multipliers are presented in Figure 5. For France, results do not show a difference between bad and good years: the short-run fiscal multiplier in bad years is just slightly and temporarily above its value during good years. In contrast to Germany, the fiscal multiplier is positive in the short run during good years, and it peaks at four after three years if the fiscal stimulus occurred during bad years. It confirms that the allocation of NGEU towards Italy should prove very effective until the medium term.[28] The fiscal multiplier for Italy also shows large volatility that may relate to the succession of bad and good years after a fiscal stimulus. Overall, the fiscal multiplier is positive after five years and gives insights into the potential positive effects of NGEU funds at this horizon.

From the literature review summarised in Table 1, it is clear that large fiscal multipliers, like two or even four, are not unusual. The results we achieve reveal two aspects. Firstly, they relate to actual past fiscal stimuli in France, Germany and Italy and not to a macroeconomic dynamic model. Secondly, they show differences across these three eurozone countries. Thus, one cannot take for granted that the fiscal multiplier in one country or group of countries will be same for another. This is obviously a limit of our method. Without data available (for a sufficiently long sample) to endeavour to complete some econometric exercises, we cannot say anything about fiscal multiplier effects beyond these three countries.

Fiscal multipliers have been computed from the past domestic fiscal stance. They are not directly connected to NGEU/RRF funds. As argued in the introduction, they could be close to those that might arise from the use of RRF loans, as domestic fiscal stimulus and RRF loans share approximately the same interest costs.

The reported fiscal multipliers might therefore be thought of as a lower bound of the expected fiscal multipliers from using RRF grants. Because computed fiscal multipliers are positive, mostly in bad years for the three countries under study, it can be concluded that NGEU/RRF will have real effects on the EU economy if the fiscal stimulus has arisen during bad years.

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The results we achieve reveal two aspects. Firstly, they relate to actual past fiscal stimuli in France, Germany and Italy and not to a macroeconomic dynamic model. Secondly, they show differences across these three eurozone countries. Thus, one cannot take for granted that the fiscal multiplier in one country or group of countries will be same for another.

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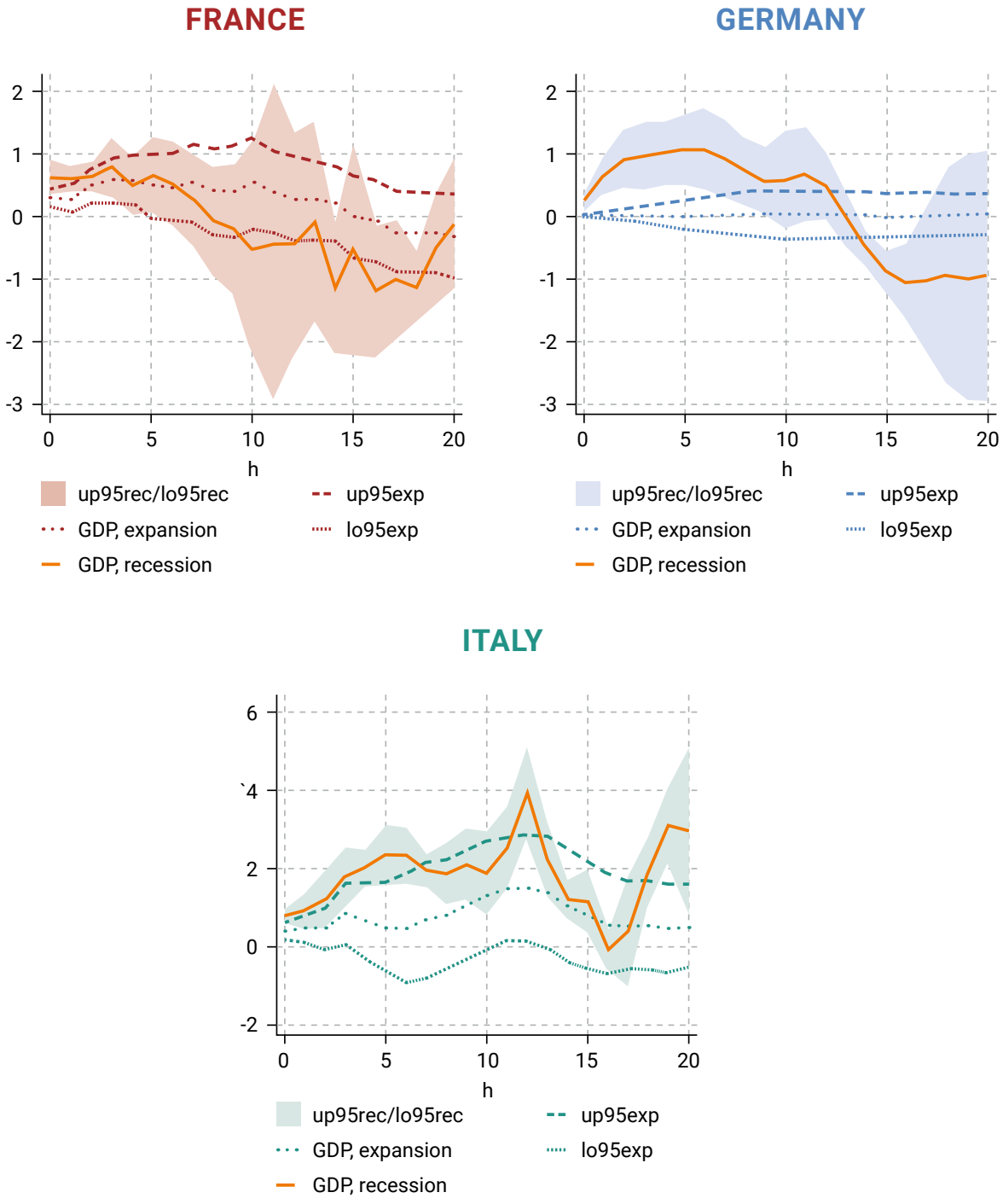
4. FISCAL MULTIPLIER EFFECTS: APPLICATION TO FRANCE, GERMANY AND ITALY

FIGURE 5. Impulse response functions for good and bad years



Note: For France, slack is an unemployment rate of ≥9.6%, for Germany ≥9.4% and for Italy ≥11.4%.

Source: authors' own calculations.

5. CONCLUSION: THE TIMING OF THE CURRENT EU STIMULUS

We have already stated in the introduction that NGEU is not meant exclusively to boost economic activity. Having said that, any real effects of NGEU would actually facilitate the reimbursement of EU debts. Moreover, part of the assessment of NGEU by, for example, the European Commission, draws on NGEU value added to economic activity, where NGEU is understood as generating some additionality with respect to domestic public spending.

This study has shown that fiscal policy has real effects on the economy. The lower bound we estimate for the fiscal multiplier is always above zero (France and Italy) or at zero (Germany), but never below. Moreover, the lower bound can be much higher when the stimulus is timely, that is, when it occurs during a period of high unemployment (we computed the threshold as the sum of the average over the entire sample plus one standard deviation).

> "The good overall performance of labour markets shortly after the pandemic has limited the effectiveness of a fiscal stimulus in those countries. Yet, even when unemployment is low, NGEU-like fiscal policies can be effective to boost economic activity."

The economic recovery that quickly followed the pandemic has come with a reduction in unemployment rates, falling to 8% of the labour force in Italy, 7% in France and 3% in Germany. Our results suggest that the good overall performance of labour markets shortly after the pandemic has limited the effectiveness of a fiscal stimulus in those countries. Yet, even when unemployment is low, NGEU-like fiscal policies can be effective to boost economic activity. Particularly for Italy, which receives substantial amounts of NGEU funds, the fiscal multiplier remains positive when there is no slack in the labour market.

It may well be that the rapid recovery from the pandemic, coupled with administrative costs of using NGEU/RRF funds and supply-side constraints,[29] has hampered many countries from fully using these funds. Indeed, according to OECD data, all EU countries have been experiencing lower unemployment rates since the pandemic than in the period before. They are all below the threshold that, for France, Germany and Italy, was found to be key for achieving positive and, for Italy and Germany, large fiscal multipliers. It does not mean that a common fiscal policy like NGEU may not be useful in a low-unemployment state of the economy. As we argued, the fiscal multipliers that we computed were only lower bounds for the mix of grants and loans embedded in NGEU/RRF.[30] Additionally, the economic slowdown in France, Germany and Italy after the energy and food price shocks may make the full use of NGEU funds more effective: (1) the cost benefit of using EU loans has increased with the steep rise of the ECB's policy rate; and (2) we show that, for Germany and Italy, fiscal multipliers are much higher during a slack.

Finally, in the case of Italy, emblematic of those EU countries badly hit by the pandemic and with limited fiscal room for manoeuvre, the lower-bound fiscal multiplier during good times is positive but temporary, with a peak close to one. Italy still has 30% of grants and 50% of loans remaining to be disbursed. Drawing on the results in this study, we recommend the full use of NGEU/RRF funds.

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7. APPENDIX

7.1 OKUN'S LAW

The computation of fiscal shocks draws initially on a reappraisal of the output gap, that is, the difference between actual GDP and potential GDP. To do so, we use the empirical regularity between unemployment and output first described by Arthur Okun in 1962[31] in his analysis of the output capacity of an economy under full employment.

This relationship, later termed "Okun's Law", has long been interpreted as the relationship between the deviation of output from its potential and the deviation of unemployment from its natural rate. The degree to which an increase in output contributes to a reduction in the unemployment rate is called the Okun coefficient.

To compute the Okun coefficient (β), we regress the change in the actual unemployment rate on the output change:

$$\Delta U_t = \alpha + \beta \Delta Y_t + \epsilon_t$$

Notes: ΔU_t is the change in the actual unemployment rate at time t, ΔY_t is the change in actual output, α is a constant and ϵ_t is the error term.

Okun originally found that a 1pp increase in output growth typically reduced unemployment by 0.3pp.

7.2 DERIVING THE FISCAL STANCE FROM OKUN'S LAW

We use the estimated Okun coefficients to calculate potential output following Fontanari et al. (2020).[32] According to their method, the output gap does not rest exclusively on the adjustment of the supply side of the economy to its so-called equilibrium value; it also depends on demand factors that may show some hysteresis.

The resulting expression for potential output is as follows:

$$Y^{Pot} = Y_t \times [1 - (U_t - U^*)/\beta]$$

Notes: U stands for the respective measure of unemployment or labour slack, * indicates a long-run level and Y^{Pot} stands for the potential output.

Potential output thus depends on the value of the Okun coefficient estimated in the first step, but also on the long-run value of the unemployment measure, U^*. We prefer to interpret U^* as a target for the policymaker. Depending on the objective of unemployment that policymakers give themselves, the targeted output (or potential output) ensues accordingly.

Finally, we compute the cyclically adjusted budget balance (CAB) as the difference between the fiscal balance (FB) and a cyclical component. The latter is proportional to the output gap (OG), according to the semi-elasticity of the budget balance, μ.

$$OG_t = Y_t / Y^{Pot} - 1$$

$$CAB_t = FB_t + \mu OG_t$$

ENDNOTES

1 The RRF was established in February 2021 by a regulation: Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility (OJ L 57, 18.2.2021).

2 EU loans offer a net gain to member states only to the extent that the interest rate on the loan is below the market rate for domestic debt. The net gain is thus proportional to the difference between the loan's rate and the national interest rate on their debt.

3 Ramey, V. and S. Zubairy (2018) "Government spending multipliers in good times and in bad: Evidence from US historical data". *Journal of Political Economy*, 2(126): 850-901. DOI: 10.1086/696277

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5 This is not an unusual result in the literature, as discussed later.

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22 One of the prerequisites for receiving NGEU payments is approval by the Commission and the Council of national recovery and resilience plans. All plans have received approval.

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24 Ibid.

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26 See V. Ramey and S. Zubairy (2018) "Government spending multipliers in good times and in bad: Evidence from US historical data", for more details. The authors draw on military spending news, and they rely on US quarterly historical data from 1889 onwards. Replicating their study in the European case is not possible, due to the lack of data. Considering the focus of NGEU on capital expenditures, one may also be tempted to differentiate between current and capital expenditure multipliers. Here, again, data availability is limited.

27 Details of the computations are given in the Appendix.

28 Here, again, like for Germany, the data shows a negative fiscal shock four years after fiscal expansion, explaining the decreasing multiplier in this period, as we do not net out the multiplier for future discretionary shocks.

29 See European Commission (2024) "Mid-term evaluation of the Recovery and Resilience Facility: Strengthening the EU through ambitious reforms and investments".

30 For many countries, NGEU loans are provided at a lower interest rate than their domestic rate, and therefore, they may be cost-effective. However, and this is another difficulty of assessing the impact of NGEU, many governments may have decided to implement investments that they would have done anyway, which reduces the real impact of NGEU.

31 Okun, A. (1962) "Potential GNP: Its measurement and significance". *Proceedings of the Business and Economics Statistics*, 98-104.

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RECOVERY WATCH

RECOVERY WATCH

This policy study attempts to assess the economic effects of Next Generation EU (NGEU) in France, Germany and Italy. NGEU is a significant financial commitment by the EU designed to aid economic recovery from COVID-19 and foster investments towards the EU's long-term goals. Evaluating its impact is pivotal in informing EU fiscal integration and policy-making. So far, most studies assessing the expected value added are ex-ante estimates using macroeconomic general equilibrium models. This study proposes an alternative by linking expected NGEU effects to the ex-post value added of past national fiscal policies, which serve as a lower-bound estimate of the real effects of NGEU. Arguably, NGEU loans are very close to domestic debt-funded public spending, likely resulting in comparable fiscal multipliers. NGEU grants are likely to exceed those of loan-based stimuli.

The results show that NGEU-like fiscal policy has tangible effects on EU economies, with estimated fiscal multipliers never below zero. These effects are stronger during downturns, emphasising the importance of timely crisis interventions. While most NGEU disbursement happens only after the initial post-pandemic recovery, this policy study suggests that NGEU can be effective even in economically better times. Sluggish growth prospects and the focus on green and digital transition further support the full use of remaining NGEU funds.

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