

The grand COVID-19 divergence: managing a sustainable and equitable recovery in the European Union

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Summary: The COVID-19 pandemic has led to the biggest global recession since the Second World War. Forecasts show the European Union underperforming economically relative to the United States and China during 2019-2023. Southern European countries have been particularly strongly affected. While the ICT sector has benefitted from the COVID-19 crisis, tourism, travel and services have been strongly affected. Business insolvencies have, paradoxically, fallen. While total employment has almost recovered, the young and those with low-level qualifications have suffered employment losses. Inequality could rise. The pandemic may lead to medium to long-term changes in the economy, with more teleworking, possibly higher productivity growth and changed consumer behaviour.

Policymakers must act to prevent lasting divergence within the EU and to prevent scarring from the fallout from the pandemic. The first priority is tackling the global health emergency. Second, we warn against premature fiscal tightening and rather recommend additional short-term support from national budgets. Over the medium term, fiscal policymakers will need to gradually move away from supporting companies through subsidies towards tax incentives for corporate investment. A review of the European fiscal framework is needed to achieve the EU's green goals more rapidly. The quality of public finances, how policymakers spend resources and the associated reforms are of central importance to prevent scarring. Improving the efficiency of insolvency procedures will be crucial for speedy and effective recovery. Targeted labour market policies for the young and less-qualified are needed. As teleworking becomes a more permanent feature of the EU's labour markets, it will be crucial to adapt social security and taxation systems in the context of the single market for labour. The EU should resist protectionist calls in the wake of the pandemic. Rigorous competition policy enforcement and an integrated EU market have been beneficial for European convergence and growth. Capital markets have an important role to play in a speedy recovery.

1. Introduction

The COVID-19 pandemic has led to the biggest global recession since the Second World War. Global GDP in 2020 was 6.7 percent lower than had been forecast at the end of 2019¹. Developing and advanced countries lost about the same proportion of output relative to forecast (6.7 percent vs 6.3 percent), yet the annual GDP actual decline was larger in advanced economies: a 4.7 percent recession in 2020 versus a 2.2 percent recession in 2020 in emerging and developing countries. Among the big economies, China even grew by 2.3 percent, though its 2020 level of GDP was 3.6 percent lower than pre-COVID-19 forecasts.

According to the International Monetary Fund (IMF, 2021), despite higher-than-usual growth as the global economy recovers from the COVID-19 shock, world output will still be about 4 percent lower in 2024 than pre-pandemic projections suggested. In other words, the global economy looks set to suffer from **longer-lasting scarring effects** that could permanently lower the path of output.

Within the European Union, some countries have seen greater GDP losses than others. Some sectors have been harder hit than others, and there have been different impacts on the labour market depending on age, gender and education level. We document these differences in section 2.

Some of the intra-EU divergence may become permanent or at least long-lasting (section 3). For example, GDP forecasts suggest that some countries, such as Italy, will reach their pre-pandemic GDP level only by 2023 while others, such as Poland, will surpass it already in 2021². On a sectoral level, the pandemic might lead to a different economy because of long-lasting behavioural changes.

As the EU emerges from the COVID-19 recession, important policy choices need to be made to prevent unnecessary long-term damage, facilitate the necessary sectoral reallocation, address the inequality effects of the pandemic and ensure a sustainable recovery. We analyse these choices in section 4.

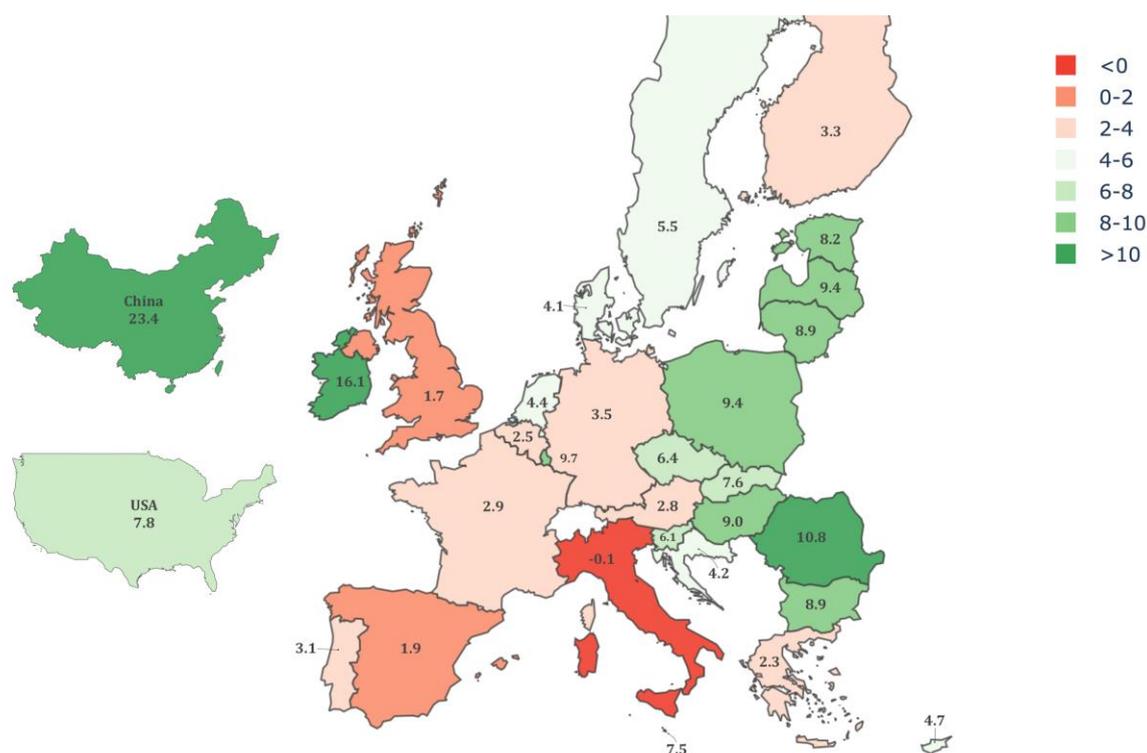
2 – EU Divergence

According to current forecasts, from 2019-2023, the EU economy is set to underperform relative to that of the United States and China. There will also be divergence within the EU. Figure 1 shows expected cumulative growth over this period, highlighting the economic underperformance of large parts of the EU relative to the US and China, and the underperformance of countries in the Mediterranean and of the United Kingdom.

¹ Based on a comparison of the April 2021 and the October 2019 IMF *World Economic Outlook* forecasts (IMF, 2021).

² There are different dates for the return to pre-pandemic level of output depending on whether we use annual or quarterly data. In this paper, we mostly rely on the April 2021 IMF forecast of annual data, because that is available up to 2026, while the May 2021 European Commission forecast is available only up to 2022. For 2021-2022, European Commission forecasts are slightly more optimistic than those of the IMF, yet the Commission forecasts reflect similar cross-country differences as the IMF forecasts. The Commission also presents quarterly forecasts. For Italy, the Commission's quarterly forecast suggests that output will return to its pre-pandemic level by the end of 2022, yet the Commission's annual forecast indicates that Italian GDP in 2022 will not yet reach the annual 2019 value.

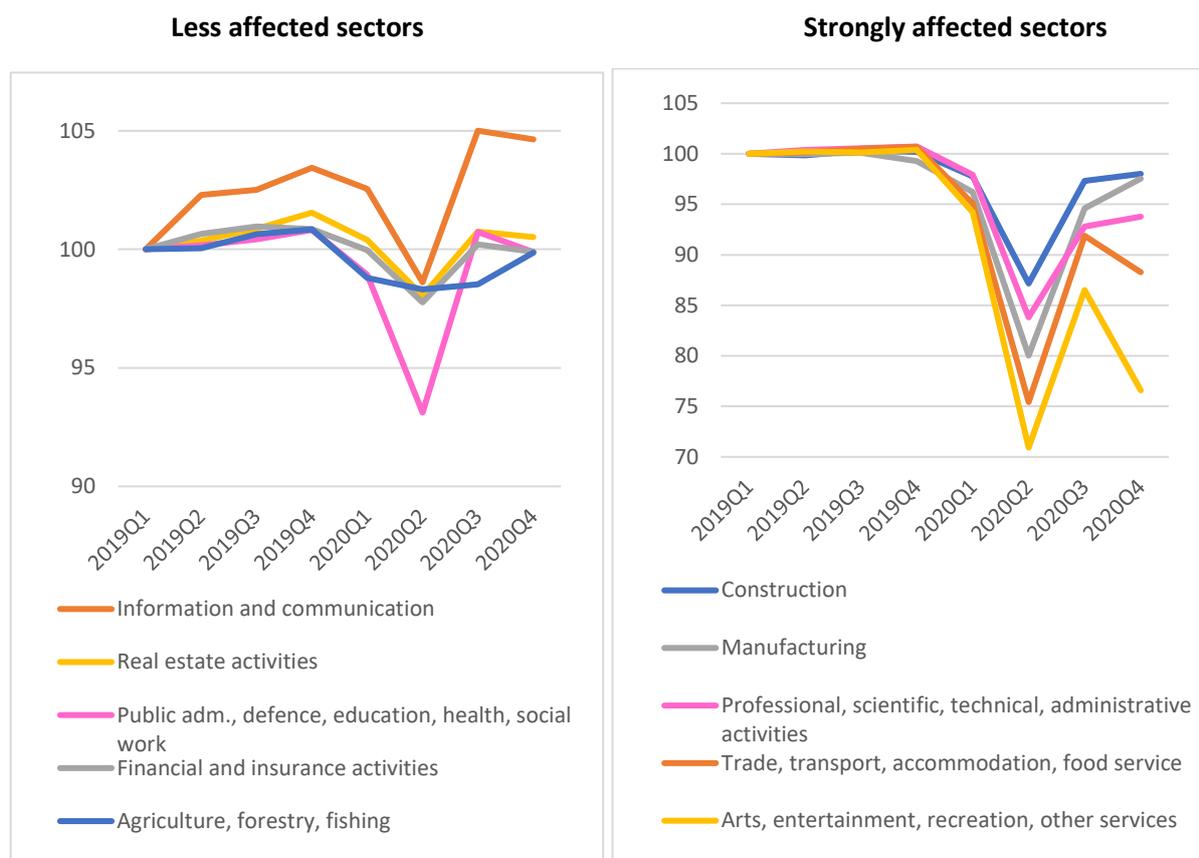
Figure 1: Real GDP forecasts as of April 2021: cumulative growth from 2019 to 2023 (in %)



Source: Bruegel based on IMF WEO (April 2021). Note: forecast EU cumulative growth from 2019 to 2023 is 4.1%. Countries in red are thus below the EU average, while those in green are above. Irish GDP numbers reflect the large role of foreign multinationals and should therefore be considered with care.

The pandemic has been one of the main drivers of this underperformance. Figure 2 shows that growth forecasts for the period 2019-2023 have been strongly revised downward in some countries in the south of Europe, in the Czech Republic and in the UK during the pandemic, while forecasts for 2023 for the US and Ireland have actually improved compared to pre-crisis forecasts.

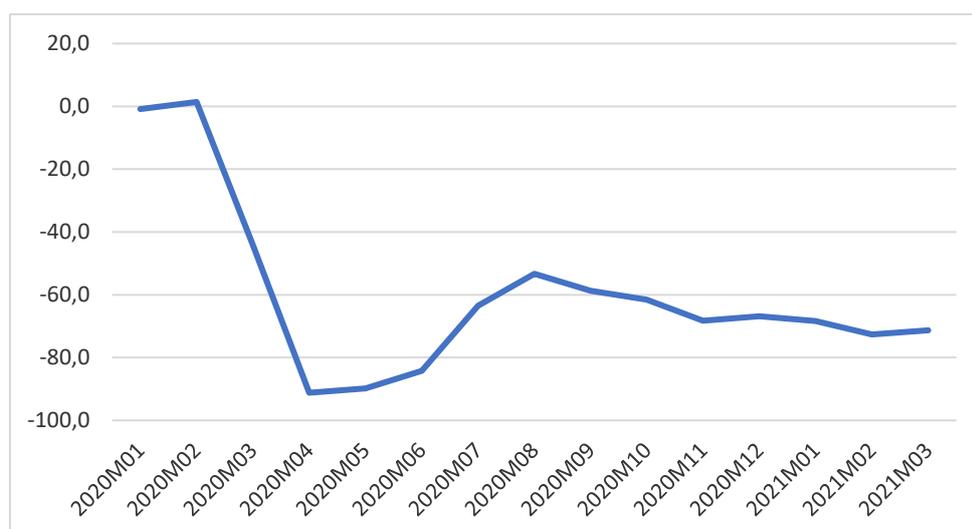
Figure 3: Gross value added in selected sectors, EU27, 2019Q1=100



Source: Bruegel based on Eurostat's 'Gross value added and income A*10 industry breakdowns [namq_10_a10]' dataset. Note: chain-linked volumes, seasonally adjusted.

Travel has been particularly hard hit and its future prospects remain unclear. The number of EU flights remains more than 70 percent down compared to their 2019 levels (Figure 4).

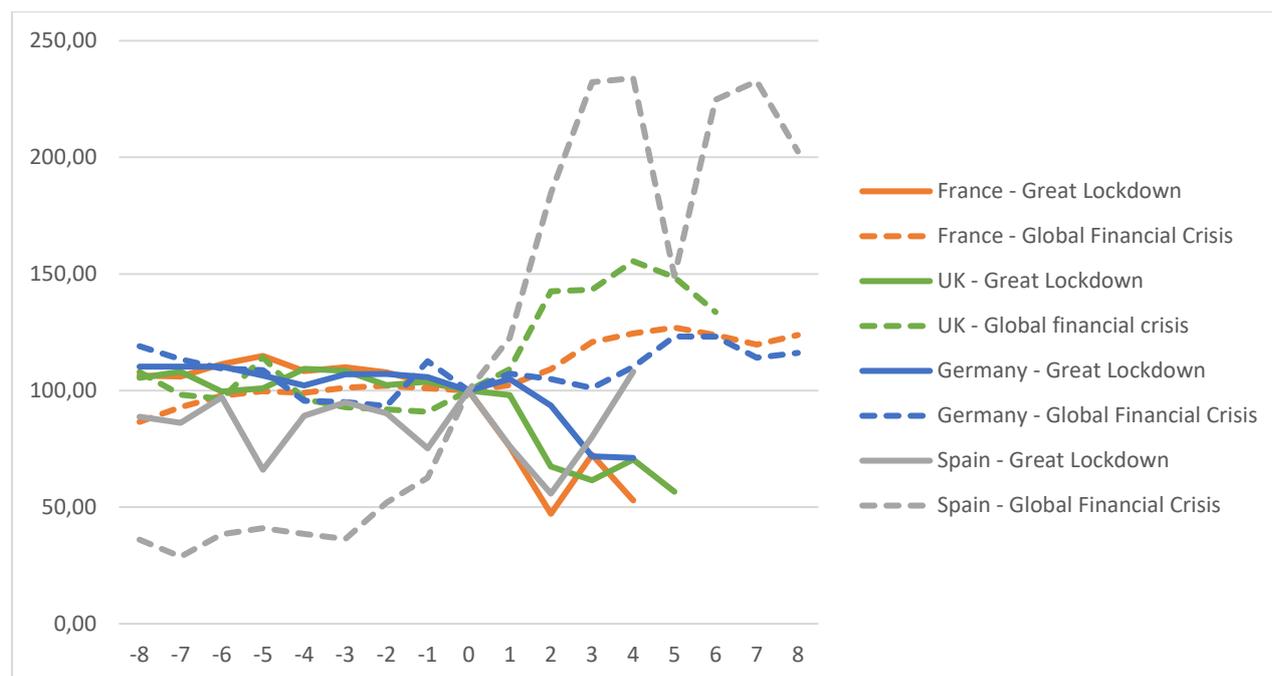
Figure 4: Commercial air flights in the EU, percentage change vs same month in 2019



Source: Bruegel based on Eurostat.

However, strong effects in some sectors have not yet resulted in an increase in corporate insolvencies. Unlike the Great Financial Crisis, the current ‘great lockdown’ has in fact been associated with falling numbers of insolvencies (Figure 5). The data suggests that extraordinary fiscal support measures, both in terms of liquidity and capital (Anderson *et al*, 2021), combined with decisions to suspend and relax some insolvency notification requirements, are the main reasons for the falling rates. The European Systemic Risk Board (2021) warns of the big threat of a wave of insolvencies (ESRB 2021) as current measures and support are phased out.

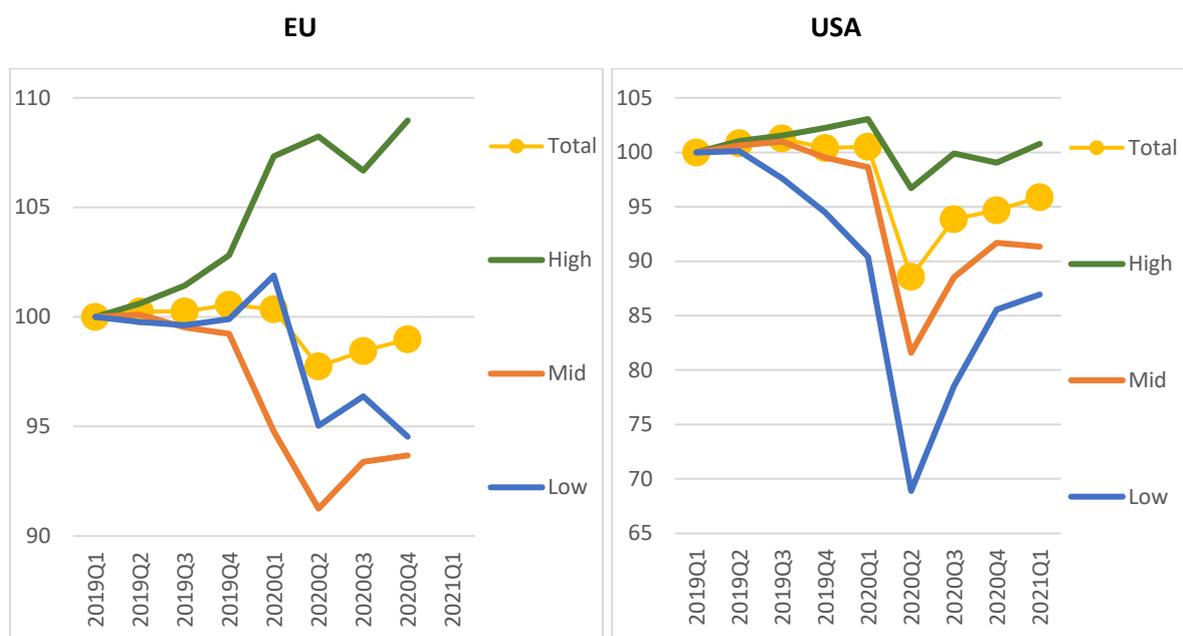
Figure 5: Business insolvency filings during the Great Financial Crisis and the COVID-19 crisis (x axis = quarters before/since the start of the recession)



Source: Bruegel based on Banque de France and Insee, UK Insolvency Service, Statistisches Bundesamt and Instituto Nacional de Estadística. Note: Data is indexed to pre-recession quarter = 100. French data seasonally adjusted. No data for Northern Ireland available before 2009Q4.

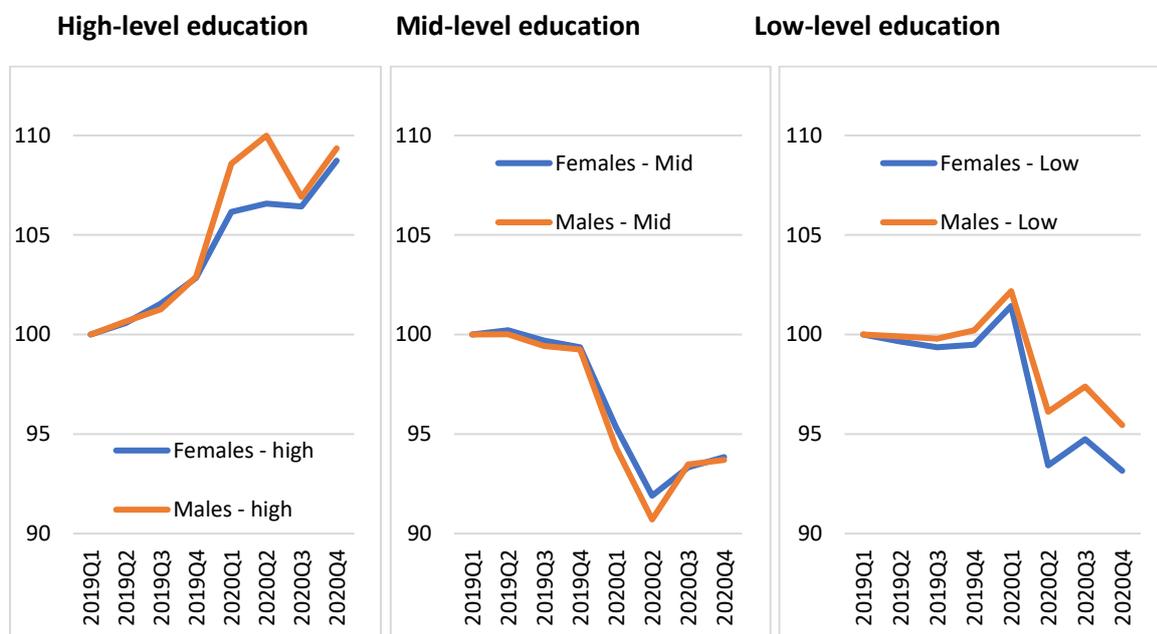
Other significant intra-EU divergence can be seen in the labour market, with the young and the less educated particularly affected (Figures 6, 7 and 8). Generally, highly educated people have done well while at the lower end, there have been substantial employment losses. Moreover, the young have been disproportionately affected compared to older workers. There have even been increases in employment for those aged 55-65 (Grzegorzcyk and Wolff, 2021). Low-qualified women appear to have suffered more than men (probably reflecting that they work in high-contact services that were strongly affected by lockdowns), while women aged 25-65 have been doing better in the labour market than men.

Figure 6: Employment by educational level, 2019Q1=100



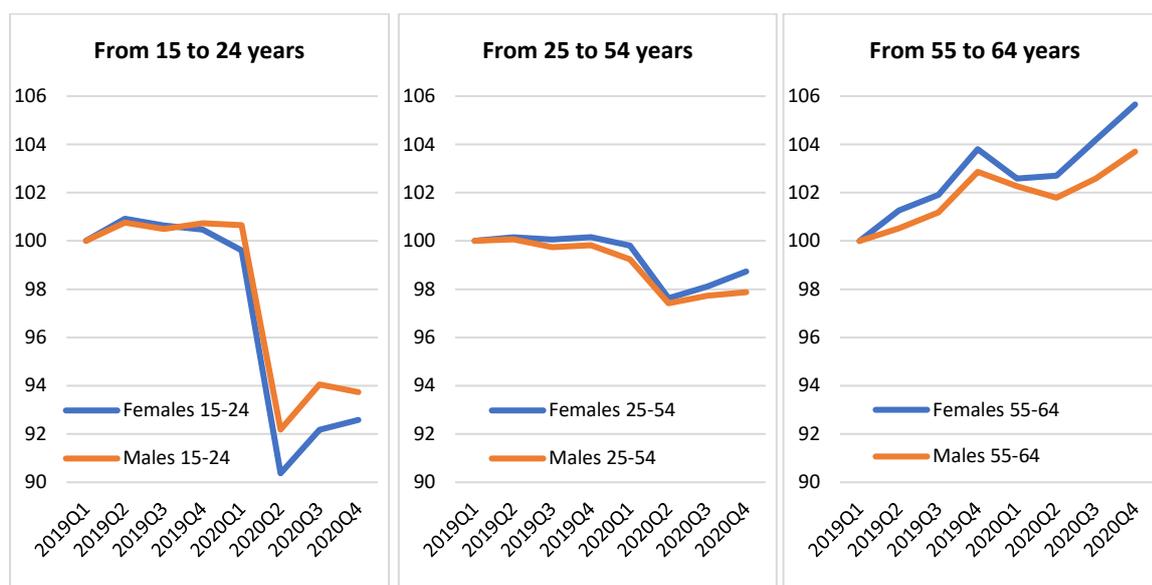
Source: Bruegel based on Eurostat’s ‘Employment by sex, occupation and educational attainment level (1 000) [lfsq_egised]’ dataset, and ILO’s ‘Employment by sex, age and education (thousands)’ dataset. Note: values are seasonally adjusted. The EU and US panels have different scales.

Figure 7: EU employment by educational level and gender, 2019Q1=100



Source: Bruegel based on Eurostat’s ‘Employment by sex, occupation and educational attainment level (1 000) [lfsq_egised]’ dataset. Note: seasonally adjusted data.

Figure 8: EU employment by age and gender, 2019Q1=100



Source: Bruegel based on Eurostat’s ‘Employment and activity by sex and age - quarterly data [lfsi_emp_q]’ dataset. Note: seasonally adjusted data.

Education and age correlate strongly with income and wealth and hence the labour market effects we have described suggest a widening of income inequalities³. From a survey of about 90 papers published in 2020-2021 on various aspects of inequality, Stantcheva (2021) concluded that COVID-19 has exacerbated existing inequalities across income groups, sectors, regions, gender, and between children from different backgrounds. Almeida *et al* (2020) showed that in the absence of a policy response, disposable income inequality would have increased more.

School and university closures affect the most vulnerable parts of society. A study from the Organisation for Economic Co-operation and Development (Hanushek and Woessmann, 2020) suggests that students affected by school closures during the pandemic may experience 3 percent lower lifetime incomes unless catch-up measures are put in place. This, they estimate, translates into a lower long-term level of output, because of the loss in productivity, in nations where education closures were most prominent. These numbers are worse for certain segments of society, in particular the less educated.

3. Will there be structural shifts in our economies?

While the pandemic persists globally, some consumers may remain more cautious and adopt different behaviour to what was normal pre-pandemic. Given the still-dramatic health crisis at the global level and the emergence of coronavirus variants, the situation is still very precarious. Globally, the pandemic is unlikely to be under control in 2022 and the virus may even become endemic (Phillips, 2021). This suggests that global travel patterns will not return to pre-pandemic levels soon and systematic screening for new variants will remain a vital measure to safeguard the local containment of the pandemic (Hellwig *et al*, 2021). Even within the EU, business travel is likely to remain at lower levels because of increased caution and because of the greater efficiency of online meetings.

³ See numerical scenarios for income inequality increases in the EU and globally in Darvas (2021).

However, there is also some evidence that consumers want to return to old patterns as soon as the health situation allows. Anecdotal evidence, which could indicate what a post-COVID-19 economy will look like, is emerging from countries that have almost completed their vaccine rollouts and have reopened earlier than the EU. One example is Israel, which has, at the time of writing, fully vaccinated around 60 percent of its total population. In Israel, credit-card spending has surged since the reopening in early March 2021 in particular of restaurants, hotels and clothing stores (spending was at first above pre-pandemic levels, and then settled to about pre-pandemic levels). This suggests that consumer behaviour will tend to return to normal when permitted (Olai Milhøj *et al*, 2021).

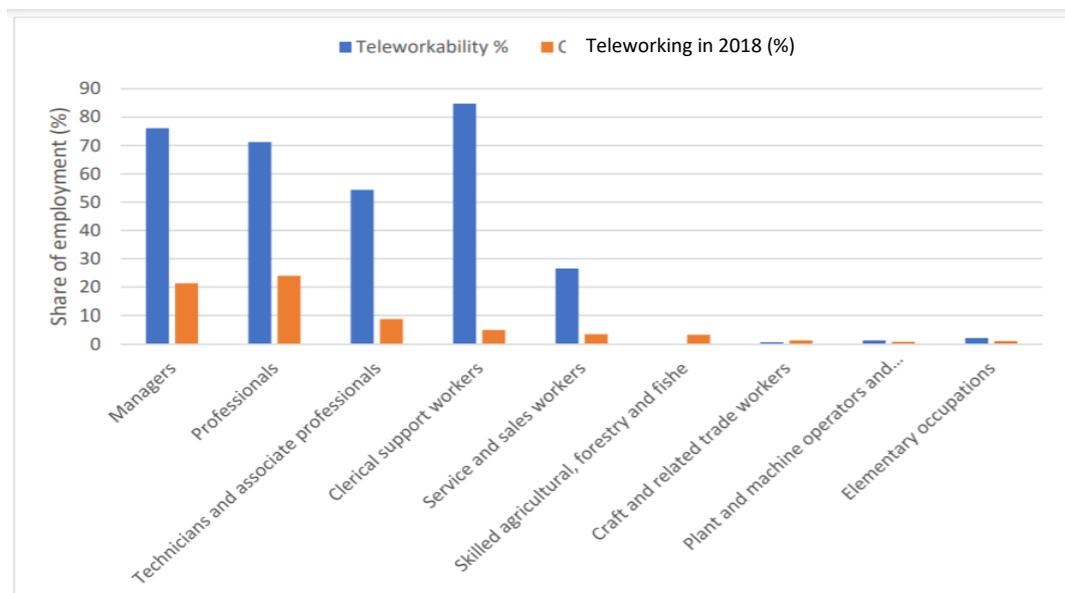
There are good reasons to believe that long-term productivity growth will increase. Based on a business survey in the US, the UK and five EU countries (France, Germany, Italy, Spain and Sweden), Mischke *et al* (2021) estimated that there is potential for annual productivity growth to increase by about one percentage point up to 2024.

COVID-19 has forced firms to become more efficient. Firms forced into sudden and prolonged shutdowns have had to optimise processes, cut down costs and become more efficient. Firms have had to become more innovative and to digitalise and automate as much as possible. Maqui and Morris (2020) showed that 75 percent of firms surveyed agreed that the pandemic had helped make their business more efficient and resilient. Nine out of 10 firms had sped up the adoption of digital technology and automation.

The average level of productivity within sectors could mechanically increase as the least productive firms are forced to exit. This is known as the ‘cleansing effect’. Preliminary evidence provides some support, for example in France, where the average level of productivity has increased, albeit at a lower level of output (Hadjibeyli *et al*, 2021).

The prospect of teleworking will allow for greater flexibility, and arguably higher productivity. Maqui and Morris (2020) also found that 60 percent of surveyed respondents did not believe that teleworking reduces productivity. Many see advantages arising from greater overall flexibility, less commuting time and increased connectivity. Figure 9 shows the potential for increased teleworking by profession.

Figure 9: Teleworkability and actual teleworking in 2018 among employees by broad occupation group, EU



Source: Bruegel via LFS, COVID group. Note: employees only. ‘Teleworkability’ refers to share of employment in teleworkable occupations according to our operationalisation; ‘Teleworking in 2018’ refers to share of employment working from home usually or sometime according to LFS 2018 microdata (EU27).

However, the overall net effect on productivity is uncertain. Bloom *et al* (2020) showed that the current efforts to deal with the pandemic increases intermediate costs for UK firms. They estimated that productivity reduced by up to 5 percent by the last quarter of 2020, and they argued that the current management of the pandemic may cause a reduction of 1 percent by comparison to pre-pandemic levels due to reduced time of senior management and less R&D.

A shortening of global value chains would increase costs and reduce efficiencies. Certain parts of production may be repatriated, reducing the length of global value chains, motivated by protectionism and the desire to increase resilience. Either way, this process will see an increase in overall costs. Arriola *et al* (2020) estimated that a shortening of value chains will adversely affect competitiveness and temper productivity (OECD, 2021, found the same based on model simulations). Whether and to what extent supply chains will be shortened remains, however, uncertain.

COVID-19 may have permanently affected market structures. Companies in information and communication technology have seen increases in their market capitalisations. This has increased significantly their share in the S&P Index. To the extent that there is increased concentration, there could be negative productivity effects and negative effects on economic dynamism (Demertzis and Viegi 2021).

4. Policy challenges ahead

Policymakers will face tremendous uncertainty in the next few years. The evolution of the pandemic remains the biggest risk to the global outlook and policymakers need to prioritise the health emergency. But beyond the pandemic, behavioural change among individuals, and new work

technologies and organisations may emerge. In addition, policymakers need to factor into their policy choices major political goals such as reducing greenhouse gas emissions.

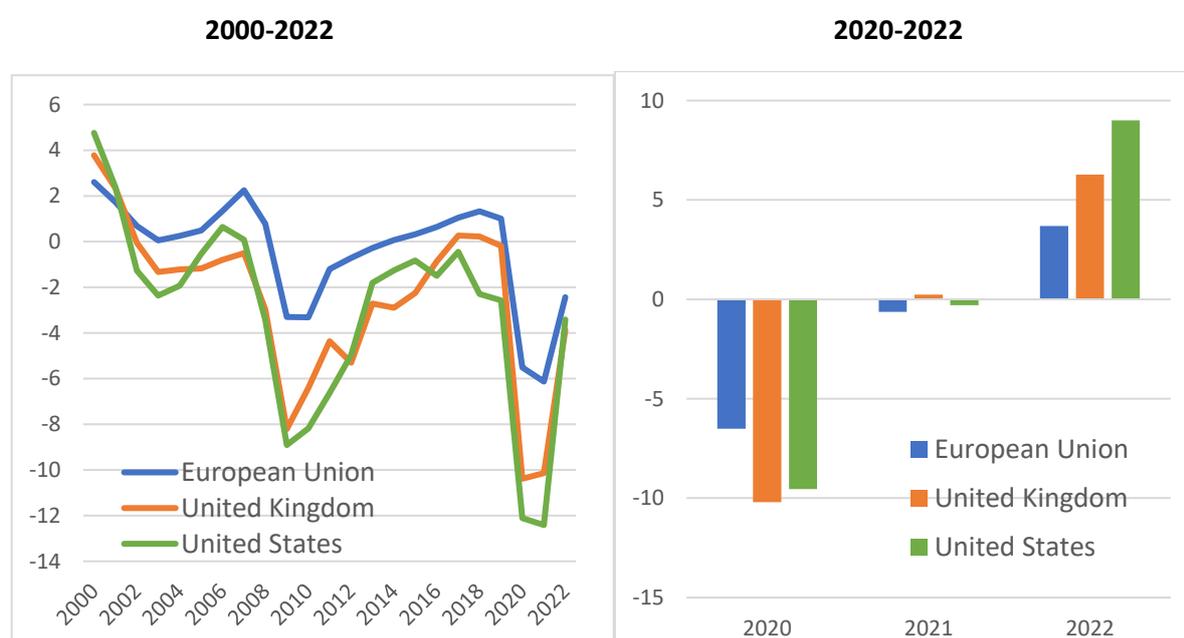
4.1 Fiscal policy orientation

The EU will reach pre-pandemic output levels later than the US, raising questions about the size and composition of fiscal support. The difference in growth performance can be explained by multiple factors, including differences in the management of the pandemic, different sectoral compositions, different market structures and levels of flexibility, and different fiscal policies. The difference in fiscal support during 2020 and 2021, however, is sizeable (Figure 10), with the scale of support in the US likely playing a role in its faster economic recovery. We advise EU policymakers not to remove fiscal support too quickly. On the contrary, we see a justification for an additional short-term fiscal impulse in order to return to the end-2019 level of output earlier than currently forecast. If productivity growth is higher in the coming years thanks to the reorganisation of business processes, then more fiscal stimulus now should not create medium-term inflationary pressures (current IMF forecasts predict inflation in the euro area will be below 1.8 percent until 2026, which suggests there is some slack in the economy), nor should it raise debt sustainability concerns. To boost aggregate demand, and given the significant distributional consequences of the COVID-19 crisis and the loss of income in some categories of the population, **fiscal support could in part take the form of targeted support to low-income households with low savings and a high propensity to consume.**

Figure 10: General government primary balance forecasts (in % of GDP)

Panel A: primary balance in % of GDP

Panel B: Change in primary balance (% GDP)



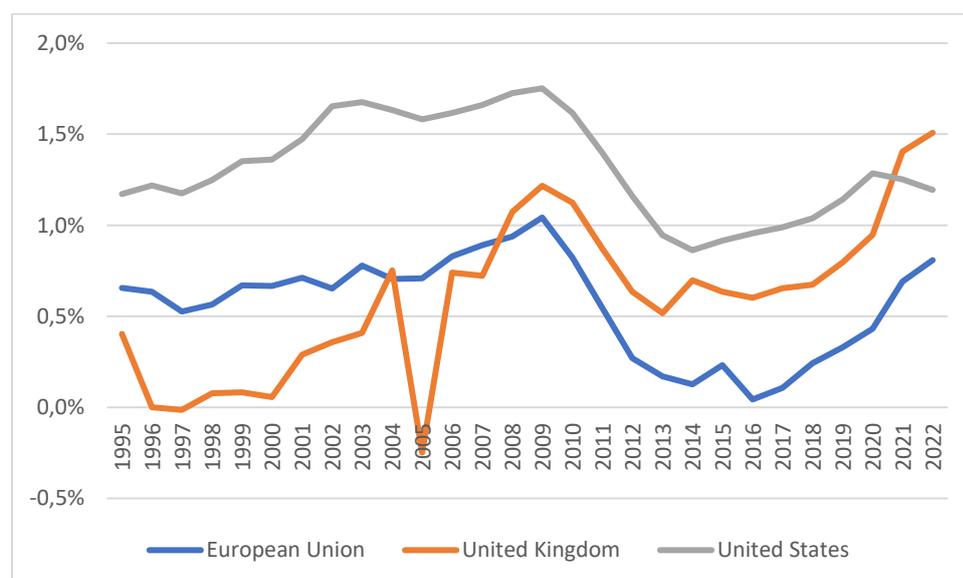
Source: May 2021 European Commission forecast. Note: the spending from Next Generation EU grants do not count as deficit of EU countries. The change in the primary balance results from both discretionary fiscal measures as well as automatic stabilisers.

Fiscal policymakers will need to move away gradually from supporting a broad set of companies towards broader demand support. Not only are corporate insolvencies at historically low levels, but the steady-state economy could look quite different to that of today. To allow for sectoral reallocation

and reorganisation within sectors, not every firm can be kept alive forever by state support⁴. Fiscal policymakers should support the reallocation of productive factors by incentivising corporate investment and supporting the retraining and re-skilling of workers. **Increasing the tax-deductibility of corporate investment, for example, would increase corporate investments and production. Fiscal incentives to upgrade digital infrastructures faster would also boost the recovery.**

The fiscal policy framework needs to be reviewed if policymakers want to achieve a rapid green transition. Beyond necessary increases in the prices of greenhouse gas emissions, the EU will need to increase public investment in green infrastructure that the private sector cannot provide.⁵ The EU has been falling behind other advanced economies in terms of public investment since around 2012 (Figure 11). While Next Generation EU will support public investment, EU net public investment as a share of GDP in 2022 is expected to remain well below the UK and US values, according to the May 2021 European Commission forecast. European fiscal rules tend to deter public investment, because investment is not privileged in the deficit rules⁶. While the costs of net public investment are incurred in a specific budget year, and therefore need to be traded-off against other spending or tax increases in order to meet fiscal targets, the benefits of such investments accrue over several years or even decades. It is likely, therefore, that the EU's fiscal rules have increased the short-term orientation in member state budgets and thereby reduced public investment. A review of fiscal rules is warranted with the aim of making them more encouraging to public green investment, for example with some form of a green golden rule.

Figure 11: Net fixed capital formation of the general government (% GDP)



Source: May 2021 AMECO. Note: European Union refers to the group of the current 27 member states. The estimated impact of Next Generation EU is incorporated in the forecast for the EU.

⁴ Anderson *et al* (2020) discussed the phases of the initial response and the phasing out of measures and their effects.

⁵ For instance, this is the case of those enabling investments, such as smart grids and electric vehicles charging infrastructure, that are necessary to unleash further private investments in renewables and electric mobility solutions.

⁶ The existing 'investment clause' in the EU fiscal framework has a very limited scope, duration and is subject to strict conditions.

The EU's landmark recovery instrument, Next Generation EU (NGEU), and in particular the Recovery and Resilience Facility (RRF) regulation, supports a more medium-term orientation of fiscal policy as national recovery and resilience plans focus on green and digital transitions⁷. The RRF aims to address the various divergences between EU countries. The orientation towards green and digital spending, as well as the medium-term focus of the programme, while welcome, does not prevent short-term scarring risks in labour markets. **National fiscal support programmes targeted at those most affected remain important to prevent scarring.**

The reform components of the recovery plans are highly important. For example, Italy plans major and important reforms to the judicial system and public administration. Such reforms have the potential to reinvigorate business activities. Structural weaknesses have been a major factor in divergent economic performance (Sapir, 2020), and reforms addressing those remain highly important.

NGEU can smooth the fiscal consolidation impacts once European fiscal rules are re-activated. If joint EU borrowing is not treated as national deficit and debt, then it will ease rules-based fiscal adjustment needs (Darvas and Wolff, 2021; Figure 12 in the annex)⁸.

Overall, fiscal policymakers need to focus increasingly on how resources are spent to improve economic performance and prevent scarring as well as on the progressivity of the taxation system. A short-term fiscal boost on its own is not enough to overcome the identified regional and structural divergences. Indiscriminate support for all companies may unnecessarily delay corporate restructuring. Good governance and administrative capacity are critical elements that determine the effectiveness of fiscal policies. Progressive tax systems are important in tackling income and wealth inequality and should be regularly reviewed.

4.2 Insolvency law

Improving the efficiency of insolvency procedures will be crucial for speedy and effective recovery. Policymakers need to prepare for the wave of insolvencies that could quickly arrive once current safeguards are lifted⁹. The average recovery rate from insolvency procedures in the EU is 62 cents on the dollar, far below that of the UK (85 ct/\$) or the US (81 ct/\$) (World Bank, 2020). European Banking Authority (2020) suggests that recovery rates in Europe might be even lower, with estimates ranging from 34 ct/\$ for SMEs to 40 ct/\$ for corporates. Insolvency procedures in the EU also take on average twice as long as in the UK and the US, and many frameworks in the EU favour liquidation over restructuring, thus failing to protect remaining entrepreneurial value. By reforming insolvency processes, policymakers can tackle critical impediments to economic growth in the post-COVID-19

⁷ Our analysis shows that on average, the green transition accounts for about 45 percent, and the digital transition about 25 percent of the spending plans of those 14 countries that had submitted their plans by the time of writing this paper. Note that there is some overlap between green and digital projects (ie some projects are both green and digital).

⁸ The May 2021 European Commission forecast does not consider EU borrowing to finance NGEU grants as national debt and deficit, but NGEU loans to member states are considered as national debt (Box I.2.3 of European Commission, 2021). This suggests that the same approach might be adopted when EU fiscal rules are re-activated. However, it is unclear whether expenditures financed by NGEU loans will also be considered as national budget deficit. If spending financed by such loans does not benefit from special treatment in the EU fiscal framework, borrower countries will have to reduce their non-NGEU spending to make space for spending financed by NGEU loans, once the currently suspended fiscal rules are re-activated.

⁹ Claeys *et al.* (2021) provide more details on the insolvencies in the EU and the reform of insolvency regimes.

recovery. In general, the focus should be on simplifying procedures, expanding court capacity and addressing the bureaucratic load. More specifically, ensuring that existing laws do not punish business failure excessively would strengthen market selection by facilitating firm exit and entry (Adalet McGowan *et al.*, 2017; Peng *et al.*, 2010). In addition, barriers to corporate restructuring should be reduced, for example by allowing early restructuring or creating cheaper procedures for smaller companies so they can avoid liquidation and the ensuing loss of business value. At EU level, policymakers should ensure the swift transposition into national legislation and effective implementation¹⁰ of the Restructuring and Second Chance Directive (EU, 2019), which aims to increase the coherence of insolvency procedures in EU countries and would introduce targeted measures to improve their efficiency. This would benefit the economy by promoting investment, innovation and economic growth, and would also represent an important step towards a capital markets union, notwithstanding that these structural changes will take time and are unlikely to have immediate effect. Obviously, the reform of the insolvency frameworks will take time but it is an important issue to tackle.

4.3 Labour markets

COVID-19 has had unequal labour market effects, disadvantaging the young and less educated. The green transition is expected to have divergent labour market effects, calling for targeted policies. Empirical research also suggests that skill requirements and education levels are currently higher for green jobs than they are for non-green jobs (Griffin *et al.*, 2019). Policymakers need to create specific programmes to support employment among the less-qualified and the young, and to provide dedicated training opportunities¹¹. Social policies, and in particular a strong emphasis on education and life-long learning, will have a crucial role to play in the coming years to ensure that the benefits of the coming recovery, but also of the green and digital transitions (which can also have detrimental distributional effects), will be shared by all European citizens.

As teleworking becomes a more permanent feature of the EU's labour markets, it will be crucial to adapt social security and taxation systems in the context of the single market for labour. Teleworking could be a major driver of productivity in the coming years and could also be welfare enhancing and greener, for example by allowing workers to commute less. An important question at the European level is how well social security systems are adapted to teleworking from other EU countries. Currently, significant obstacles exist, for example when it comes to health insurance coverage. If the EU wants to reap the benefits of an integrated EU labour market, it will be necessary to review these approaches.

4.4 Market structures

The EU should resist protectionist calls in the wake of the pandemic. While during the pandemic there have been instances of supply constraints, it would be a mistake to argue that reliance on purely EU supply chains would have resulted in better outcomes, even in narrow fields such as medical products. On the contrary, many of the EU's top companies rely on diversified global supply chains for cheap and high-quality production. While reviewing vulnerabilities and diversifying supplies may be

¹⁰ At the time of writing, at least seven countries have requested an extension for the transposition of the Directive until 2022, including Ireland, Italy, Latvia, the Netherlands, Portugal, Poland and Slovakia, and several more are expected to follow (Belgium, Sweden, Finland). See: <https://www.insol-europe.org/tracker-eu-directive-on-restructuring-and-insolvency>

¹¹ Cameron *et al.* (2020) provided a detailed discussion in the context of the EU Just Transition Fund.

advisable, a generalised protectionist stance will likely increase prices, reduce production capacity and slow down Europe's recovery, thereby contributing to divergence.

Rigorous competition policy enforcement and an integrated EU market have been beneficial for European convergence and growth. During the pandemic, extraordinary state subsidies were provided to companies across the EU. These subsidies were warranted given the mandatory sanitary measures. However, making state support permanent would undermine long-term growth performance. While targeted industrial policy measures can have positive growth effects in specific segments where market failures are particularly important, the EU will have to find the right balance between exiting the current support measures and ensuring market-driven growth. European industries became more concentrated already before the pandemic, a trend that could accelerate during the pandemic. Increased vigilance to identify market dominance in the digital and other sectors is warranted after COVID-19 to ensure more innovation and competition. Finally, as concerns the single market, restrictions on the free movement of people need to be removed as soon as there are no health-related justifications for maintaining them (rigorous testing may be necessary in light of the emergence of variants).

Finally, deep, liquid and integrated capital markets (and in particular a higher use of equity in corporate funding instead of debt) can help resolve debt overhangs after the pandemic and provide new impetus to growth. If insolvencies increase, it will be important to relieve stressed bank balance sheets rapidly. Capital markets can play a role in this. Re-energising the EU's capital markets union would also provide growth impetus by supporting risk capital. In the short- to medium-term, rigorous stress testing of bank balance sheets is advisable to detect and resolve obstacles to renewed lending activities.

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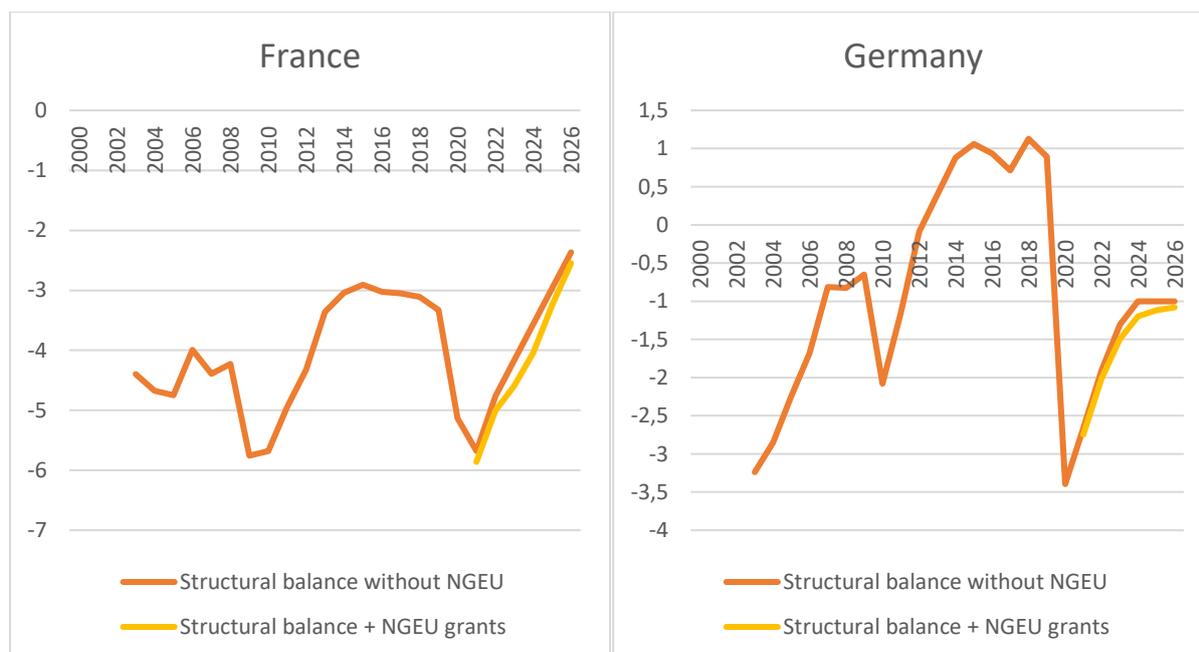
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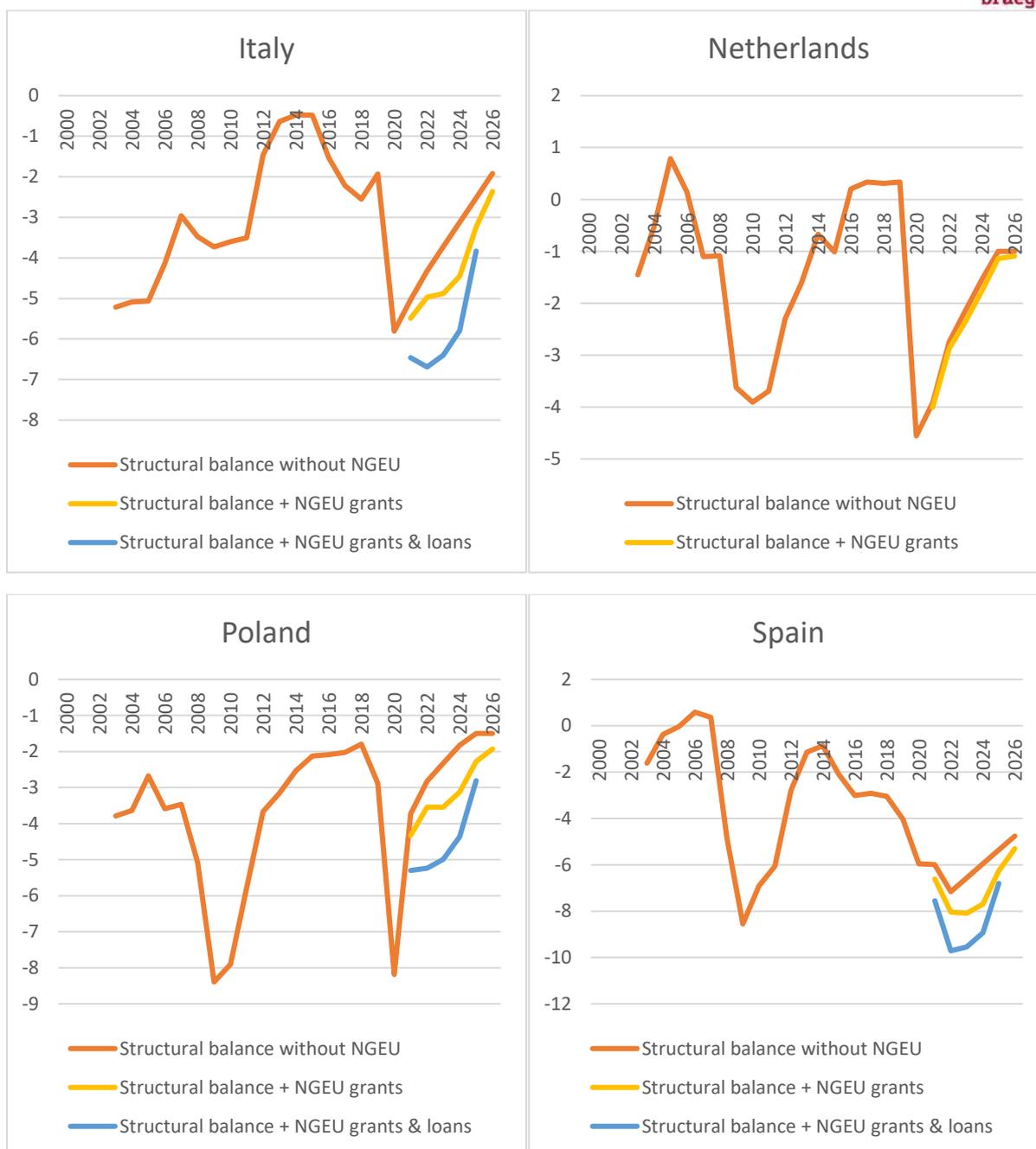
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Annex

Figure 12: Structural balance projections with and without NGEU if joint EU borrowing is not treated as national deficit





Sources: Bruegel based on European Commission structural balance estimates: Autumn 2020 AMECO dataset for 2010-2022 and May 2016 AMECO dataset for 2003-2009. Notes: For 2023-2026, we assumed 0.5% adjustment per year for Poland and 0.6% adjustment per year for the other five countries, except in 2024-2026 for Germany and in 2025-2026 for the Netherlands and Poland, by when these countries are projected to reach their 2020-2022 MTOs (though these MTOs could be revised in light of the recent surge in public debt). Annual NGEU grant and loan payments are from Darvas (2020). Only countries that have borrowed from SURE are assumed to borrow from NGEU.