

Intereconomics

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Structural Indicators and the Fiscal Uncertainty Principle

The uncertainty principle in quantum mechanics (also known as Heisenberg's uncertainty principle) states that you cannot predict, with perfect accuracy, both the position and momentum of a particle. In economics, we realise that we can predict the values of two macroeconomic indicators, the output gap and the fiscal stance, with only limited accuracy. We cannot estimate both indicators without taking into account the other parameter's estimate. While the United States has recently used a huge fiscal stimulus to considerably increase GDP as well as potential output, Europe after the financial crisis learned how austerity not only reduced current GDP, but also potential GDP and so-called structural fiscal balances, contrary to the intention of the European fiscal rules.

One issue of simultaneous estimations of the output gap and of the "structural" fiscal indicator is endogeneity, in particular endogeneity of the output gap (or estimated potential output). While a fiscal stimulus (as currently in the US) increases GDP (and thus decreases the negative output gap), the more recent literature on the revisions of output gap estimates highlights that estimates of potential output have been reversed procyclically (Heimberger and Kapeller, 2017). Heimberger (2020) shows that one additional percentage point in predicted loss of actual output is associated with a loss in potential output of about 0.6 percentage points. Consequently, estimates of the potential output and the output gap are not independent of changes in fiscal policy.

The relationship between fiscal policy and current GDP is an established result of the modern empirical literature. Earlier studies, which estimated no or even negative fiscal multipliers and have been discussed during the euro crisis, turned out to be flawed (Guajardo et al., 2014; Breuer, 2019). Furthermore, Fatás and Summers (2018) and Gechert et al. (2019) discuss the direct relationship between fiscal policy and long-run GDP.

An increase in the fiscal deficit would increase GDP as well as potential GDP and also lead to an endogenous positive response of the primary government budget balance, depending on the effect of automatic stabilisers. The different effects will be stronger if the fiscal multiplier appears to be larger or if automatic stabilisers turn out to be higher. And the effect will be negative for negative shocks, as for example during the euro crisis or the recent COVID-19 crisis.

If the crisis worsens the economic outlook, potential output declines and structural deficits increase, thus demanding more fiscal tightening. The idea of adjusting the deficit for endogenous automatic effects of the business cycle on the government budget is the big improvement of the second generation fiscal rules, compared to the static 3% Maastricht rule. But the endogeneity of output gap estimates and thus uncertain estimates of structural balances challenge the reliability and soundness of the European fiscal framework. Currently, the rules are suspended. Researchers argue that the rules need to be revised before they are reintroduced (Breuer, 2021; Kammer and Arnold, 2021; von Weizsäcker and Krämer, 2021).

In the recent discussion of how to reform the fiscal compact and to estimate the output gap, Krahe and Sigl-Glöckner (2021) argue that potential output should be based on full employment rather than technical estimates of "structural" unemployment. In this line, Posen (2021) suggests using labour market-based cyclical indicators rather than the unobservable output gap. Already Blanchard (1990) has been sceptical about output gap estimates and suggested using unemployment

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as a “natural” cyclical indicator. Following this line, Fontanari et al. (2020) provide a method for how to estimate output gaps that are less prone to revisions based on the relationship between unemployment and GDP (Okun’s law).

Another idea to provide “natural” structural economic indicators would be to analyse what an indicator would look like if it maintains the status quo rather than actively shifting other indicators considerably – e.g. the long-run debt ratio – towards an arbitrary value. A “structural” deficit – e.g. of 0.5% of GDP – cannot be structural if it has considerable implications for other indicators.

Stabilising initial conditions of debt-GDP-ratios at current average levels, e.g. 100% of GDP, would allow deficits approximately as high as the nominal growth rate of GDP, well above the current limit of 0.5% of GDP of the European fiscal framework. In other words: The European fiscal framework sets deficit limits that distort debt-GDP-ratios, GDP and potential GDP away from initial conditions. Stabilising the current targets would allow a fiscal stimulus that would increase GDP as well as potential output, including an endogenous response of the fiscal balance. Assuming a lower fiscal deficit would imply that GDP, potential GDP and the output gap would be lower than expected.

A more natural structural indicator could also take into account a constant ratio of public capital to GDP, and thus require a certain amount of (net) government investment. In most European countries, this would require a higher ratio of public investment to GDP.

Further, euro area countries cannot use exchange rates to improve competitiveness and to stabilise the current account. For the current account to be balanced in the long run, a policy is required that will increase fiscal deficits or prices in surplus countries and reduce fiscal deficits in the countries running a trade deficit. Rather than pushing debt ratios to any new arbitrary level, structural indicators in a currency union should try to estimate how “structural” nominal GDP and price levels could bring real exchange rates and current account imbalances to balance. According to this view, surplus countries like Germany would need a real appreciation, taking into account the interest rate target of the central bank. This would help the ECB to shift monetary policy away from the liquidity trap and the low interest environment.

On the other hand, if we ignore the systematic macroeconomic interdependencies and just fearfully try to tighten the belt of one single indicator, without any theoretical reasoning, we should not be surprised if the whole system turns out to be in disequilibrium, even when our estimated structural indicator appears to be close to balance.

References

- Blanchard, O. (1990), Suggestions for a new set of fiscal indicators, *OECD Working Paper*, No. 79.
- Breuer, C. (2019), Expansionary Austerity and Reverse Causality: A Critique of the Conventional Approach, *INET Working Paper*, No. 98.
- Breuer, C. (2021a), Staatsverschuldung nach Corona: Rückkehr zur Goldenen Regel, *Wirtschaftsdienst*, 101(1), 2-3.
- Fatás, A. and L. H. Summers (2018), The permanent effects of fiscal consolidations, *Journal of International Economics*, 112, 238-250.
- Fontanari, C., A. Palumbo and C. Salvatori (2020), Potential Output in Theory and Practice: A Revision and Update of Okun’s Original Method, *Structural Change and Economic Dynamics*, 54, 247-266.
- Gechert, S., G. Horn und C. Paetz (2019), Long-Term Effects of Fiscal Stimulus and Austerity in Europe, *Oxford Bulletin of Economics and Statistics*, 81(3), 647-666.
- Guajardo, J., D. Leigh und A. Pescatori (2014), Expansionary Austerity? International Evidence, *Journal of the European Economic Association*, 12(4), 949-968.
- Heimberger, P. (2020), Potential Output, EU Fiscal Surveillance and the COVID-19 Shock, *Intereconomics*, 55(3), 167-174.
- Heimberger, P. and J. Kappeller (2017), The performativity of potential output: pro-cyclicality and path dependency in coordinating European fiscal policies, *Review of International Political Economy*, 24(5), 904-928.
- Kammer, A. and N. Arnold (2021), Europe’s COVID-19 Crisis Response: A Race Well Run, But Not Yet Won?, *Intereconomics*, 56(4), 194-196.
- Krahé, M. und P. Sigl-Glöckner (2021), Die Definition einer zukunftsfähigen Finanzpolitik, *Wirtschaftsdienst*, 101(7), 497-500.
- Posen, A. (2021), Fiscal Success During COVID-19 Says Believe the Good News, *Intereconomics*, 56(4), 190-193.
- von Weizsäcker, C.-C. and H. M. Krämer (2021), *Saving and Investment in the Twenty-First Century*, Springer.

Fiscal Stimulus: Lessons From the US to the EU?

With the American Rescue Plan, the US government has put in place a fiscal stimulus package worth 10% of GDP, to be followed by an equally large infrastructure package. In the EU, although the fiscal policy response has also been unprecedented, it is much smaller. As the effects of the pandemic on society and the economy are still fluid, economists and policymakers weigh their options and attempt to learn from previous recessions while looking forward to creating a coordinated response to the pandemic and beyond. On 3 June 2021, as part of the Centre for European Policy Studies' annual flagship conference, the CEPS Ideas Lab, *Intereconomics* and the European Network for Economic and Fiscal Policy Research (EconPol) asked experts from both sides of the Atlantic to offer their insights on the potential lessons that could be learned for Europe. What are the effects for fiscal policymaking in Europe? Does Europe need a new fiscal framework? What does the EU have to learn from the US? Does the COVID-19 crisis require a large aggregate demand response? What can be achieved with such a policy approach? This Forum, the result of the session participants' comments and continued discussion, addresses these questions.

COVID-19 Is Transforming Economic Policy in the United States

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Fiscal Success During COVID-19 Says Believe the Good News

Adam S. Posen, Peterson Institute for International Economics, Washington DC, USA.

Europe's COVID-19 Crisis Response: A Race Well Run, But Not Yet Won

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EU After COVID-19: An Opportunity for Policy Coordination

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Recovering From COVID-19: A Transatlantic Comparison of Fiscal Policy

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Claudia Sahn

COVID-19 Is Transforming Economic Policy in the United States

A global pandemic is bringing the sea change in economic policy that the meltdown of financial markets in 2008 did not. While the shift is incomplete and its success is far from guaranteed, now is the time to reflect on its effects and the challenges ahead.

The economic policy response during the COVID-19 pandemic offers four key lessons: First, the features of the coronavirus crisis are different from and the same as past recessions. Second, we must use lessons learned from economic policies in this crisis to prepare for future recessions. Third, good policies require good administration, which was repeatedly missing during the COVID-19 crisis. Good policy is worthless if it never reaches the people it was intended to serve. Finally, it is time for macroeconomics to upgrade its tools and frameworks, bringing in new ideas and retiring some old ones. That effort will require introspection and collaboration. To remain relevant, change in economics is imperative.

Differences and similarities shape the policy response now and in the future

COVID-19 hit the United States hard. In mid-March 2020, a \$21 trillion economy locked down to keep people safe and hospitals from being overburdened by a new, mysterious killer. Several prominent macroeconomists, such as Mankiw (2020) and Summers (2020), heralded it as the first true supply-side recession, since people could not, in their opinion, spend. They concluded that demand policies in recessions, like stimulus checks, were unhelpful and would spark shortages, wasteful deficit spending and high inflation. They called for targeted relief only for people hardest hit like the unemployed and spending on public health efforts. Those actions were necessary but insufficient. The breadth of the crisis was too broad for such a narrow policy response.

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Yes, spending was restricted more than in past recessions, but people still had to have enough money to keep a roof over their heads and feed their children. Moreover, I argued from the start of the pandemic that we were also living “the mother of all demand shocks” (Sahn, 2020). Millions of workers claimed unemployment insurance each week, and the official unemployment rate hurtled toward 15% in April 2020 (Cox, 2020). The speed and breadth of job losses rivaled only the Great Depression. As shown in Figure 1, nearly half of US families lost income from employment during the crisis. While income loss was most common among low-income families, those with higher incomes were also negatively affected.

Economic hardship was even greater among particular groups. People of color (Spriggs, 2021), low-wage service workers (Gould and Kandra, 2021) and mothers (Heggeness, et al., 2021) were hit especially hard. While it is true that in all recessions some are hurt more than others, the severity of this recession magnified the pain of the hardest hit groups. Moreover, most families, even in the best of times, do not have a sufficient financial buffer to weather a lost paycheck (Bhutta et al., 2020). Without government aid, a collapse in demand was inevitable.

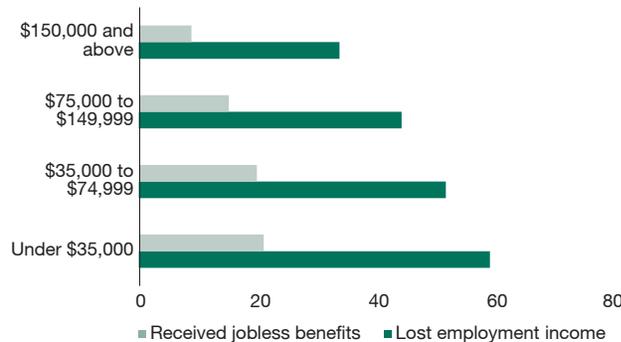
Thankfully, policymakers went big, fast and broad. They recognized the novel and the traditional features of this crisis. In March 2020, Congress enacted the \$2.2 trillion Coronavirus Aid, Relief, and Economic Security (CARES) Act. It combined targeted relief, such as an extra \$600 per week for the unemployed, and broad-based support in \$1,200 stimulus checks per adult. By contrast, during the Great Recession, the American Recovery and Reinvestment Act was under \$1 trillion, while the extra weekly payments were \$25 and the checks \$500 per adult.

The large response in the CARES Act worked. Larrimore et al. (2021) found using Internal Revenue Service records that these two relief programs more than replaced the lost employment income for a typical worker with a large income loss due to the COVID-19 recession and provided jobless benefits. Moreover, the support was greatest for low-wage workers.

The coronavirus crisis had unique features, too. First and foremost, it was caused by a pandemic. COVID-19 drove the crisis from the start and will continue to until its end. In response, Congress allocated billions of dollars in public health efforts to fight the pandemic and develop a vac-

Figure 1
Many families lost income from work, fewer received jobless benefits

Percent of families by household income in 2019



Source: U.S. Census Bureau Household Pulse Survey for Dec. 9 to Dec. 21, 2020.

... cine. Another difference from the Great Recession is that the fundamentals of the US economy and finances of many families were the best they had been in decades. Policymakers viewed their efforts as a bridge to the other side of the pandemic. So, while income from employment fell broadly, massive relief from the government was able to keep many families afloat.

Some benefits, like enhanced unemployment insurance and stimulus checks, even reached people who were struggling before the coronavirus-induced crisis. Researchers at Columbia University estimate that the American Rescue Plan cut the poverty rate for children from 15% (without relief) to 6% (with the relief); among Black and Hispanic families, the reductions were sizeable, too, from around 20% to 10% (Parolin et al., 2021). Fiscal relief worked, and it worked most for groups who entered the COVID-19 crisis with the most economic challenges and who were hit hardest by the crisis.

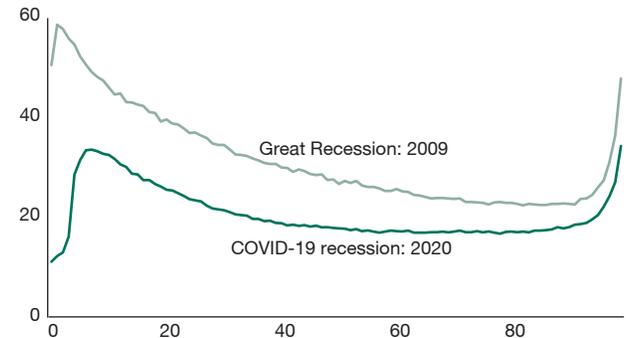
Use lessons from economic policies in this crisis to prepare for future recessions

Go bigger, go faster, go broader – was the lesson from the Great Recession when the policy response fell short. Congress and the Federal Reserve delivered in the spring of 2020. The \$2 trillion CARES Act was twice the package that was offered in 2009. Support from Congress waned last summer as COVID-19 cases decreased but then the surge in infection rates in late autumn and into the winter led to another \$1 trillion in fiscal support at the end of 2020.

The big test remained. How committed are policymakers to pushing a rapid recovery? In the years following the

Figure 2
CARES Act relief shielded low-income workers the most from large income losses

Percent of workers who had large income losses after including relief, by deciles of income in 2019



Note: Authors use IRS data from W2 and 1099 forms. Income in 2019 is wages or unemployment insurance. Calculations include workers age 25 or older with income in 2019. Large income loss is a decrease of 10% or more.

Source: Larrimore et al. (2020).

Great Recession, the Federal Reserve and, especially, Congress declared victory far too early. Congress even adopted “austerity” policies to reduce the federal debt when unemployment remained elevated and household finances fragile. Then later the Federal Reserve raised interest rates prematurely. The result was a long, painful recovery that took years longer than necessary and scarred many workers and the overall economic growth.

The \$2 trillion American Rescue Package passed in March 2021 brought the total fiscal aid within a year to around \$5 trillion or nearly a quarter of US GDP. It was the package that never came after the Great Recession. It was massive and did, in fact, help fuel a sharp pick-up in demand, along with vaccinations and re-openings. The Fed, too, continues to support a rapid, inclusive recovery. It is a bumpy road with an unexpectedly strong rebound in prices, as well as some employers finding it difficult to hire workers and producers coming up short on some supplies. Nonetheless, it is clear that we are on a faster path to recovery than in “jobless” recoveries after the prior two recessions.

The takeaway for policymakers and their advisers for the next crisis is to act forcefully at the start and stay the course until we have a recovery for all. It is worth it.

Good policies require effective administration

Too often, relief during the coronavirus crisis did not reach all people who it was designed to help. Those groups who

had the hardest time accessing the relief were often the ones who needed it most. Signing ceremonies for the legislation and victory laps by politicians due to the generous aid mean little to the people who got nothing or who struggled to get that aid. Administrative problems are not new, and they plague nearly every aid program in the United States, even outside of recessions. Policymakers must grapple with administrative failings and build systems that will serve all people in the next crisis.

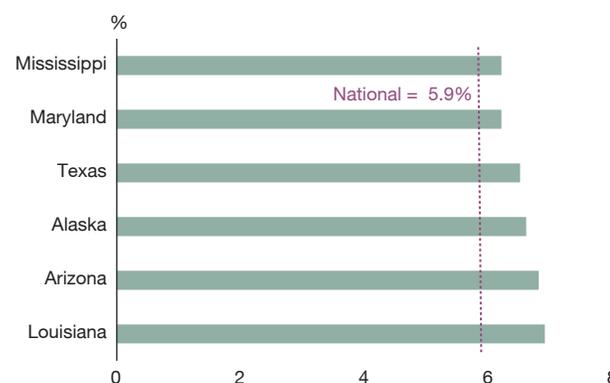
Unemployment insurance suffered the most catastrophic failures during the COVID-19 crisis (Pancotti, 2021). Decades of neglect and in some cases deliberate attacks on the state-run programs made it vulnerable. In addition, Congress passed legislation to expand the measures and make weekly benefits more generous. Outdated technology systems made it impossible to raise replacement rates of workers' prior pay. Most states were only able to add a flat amount. Congress first chose \$600, which would fully replace the typical unemployed workers pay. But that meant that about half of workers got more in benefits than they had earned before being laid off. That kicked off a debate about disincentives to return to work and labor shortages. It raged on and eventually led 26 Republican Governors to cut off the extra federal aid months before Congress had enacted it. Some of the largest states like Texas have unemployment rates well above the national average. Moreover, people of color are more likely to be unemployed.

Another example of a well-intended, new policy that suffered from administrative problems was the Payroll Protection Program. The goal of the program was to loan money to small business owners so they could continue to keep their employees on the payroll. If businesses did so, then their loans were converted to grants and they did not have to repay them. It is great policy, but it was run through the Small Business Administration, a small agency, and banks, who have a profit motive rather than a public policy mission. As a result of weak administrative systems, the program failed to live up to expectations.

Research by Doniger and Kay (2021) at the Federal Reserve shows that delays in the roll out of the Payroll Protection Programs reduced the number of employees whose jobs could have been saved. Specifically, they estimate that 1% fewer delayed loans would have lowered the unemployment rate by one-tenth percentage point. The delays and other administrative failings of the program affected the smallest businesses, the self-employed, lower paid, and Black- and Hispanic-owned businesses most. So again, the people who were least likely to get the relief were often the ones in most need of it. While millions of

Figure 3
Six states ending jobless benefits early have unemployment above national average

State unemployment rate in June 2021, seasonally adjusted



Source: Bureau of Labor Statistics.

businesses and employees benefited from the program, it must be improved to accomplish its goals equitably.

Solutions exist. The most effective one would be to put fiscal relief to families, the employed and small businesses on autopilot. Tying extra support to economic conditions – such that they start as soon as a recession begins and would continue until recovery is complete – would take some of the politics out of fighting recessions. For example, I argued for automatic stimulus checks to families in recessions and recoveries (Sahm, 2019). Automatic stabilizers for enhanced jobless benefits are in numerous legislative proposals and were endorsed by President Biden. This approach would allow policymakers to focus their energies on fighting the novel features of the crisis, whether a pandemic or underwater mortgage borrowers. Committing to deliver a basic set of relief programs would also force the government to build the administrative capacity for the programs. Congress enacts a set of policies in nearly every recession. We know what programs work. We know what programs are used. We can avoid the fire drill and administrative failings by making a commitment before the next recession.

More broadly, we learned that near universal cash relief is effective. Research shows that the three rounds of stimulus checks to most families provided both relief and boosted economic activity (Sahm, 2021a). In contrast, targeted programs are complicated and will often miss those in need of relief in recessions, because families' financial situations may deteriorate rapidly. The government has no systems to track which families are suffering hardship and which are not. Moreover, an accepted definition of what qualified as hardship does not exist, especially in recessions, which are widespread events. Cash relief,

specifically for nearly all children in the so-called child tax credit, shows that policymakers see the benefits of the approach. The Biden Administration has proposed extending the one-year program for another five years. This is the first program – with no tax filing or work requirements – to serve families with children. It has the potential to cut the number of children living in poverty, especially deep poverty, but only if it is administered well.

The crisis magnified the existing shortcomings of our safety net. The failure of unemployment insurance went well beyond the administration of benefits. Experts have known for years that limited eligibility, geographic differences across states and insufficient amounts and duration of benefits were problematic, too. Numerous policy proposals exist, some of which have been laid out by West et al. (2016). What is lacking is the political will to reform the system and an acknowledgement across the political spectrum that the unemployed deserve aid, not derision, during recessions and expansions alike.

Macroeconomists must upgrade their tools and frameworks

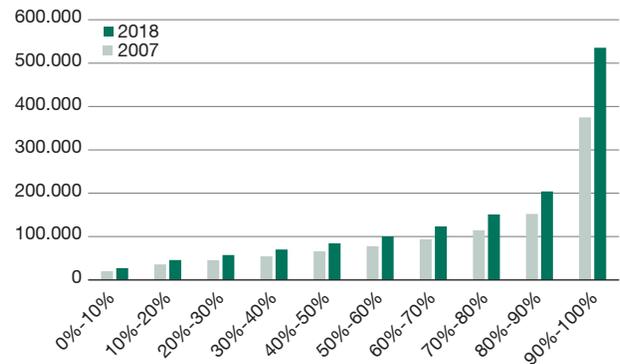
During the first year of the COVID-19 crisis, Congress enacted almost \$5 trillion in fiscal relief and the Federal Reserve pumped trillions more into the financial system. Economists played a key role in shaping and debating this massive push to stabilize the economy. Many programs, like stimulus checks and extra weekly jobless benefits, were supersized. Several new programs like the payroll loans and Fed loans to municipalities were put together on the fly. Economists were instrumental – albeit far from unified – in crafting the big and bold policy response.

Economists, along with other policy experts, government staff and data scientists, have led efforts to evaluate the effects of the policies, often as soon as the first data become available. Studies like the one by Ganong et al. (2020) found that the extra \$600 per week in jobless benefits did not create meaningful work disincentives. The Census Bureau created two new surveys of households and small businesses to track the rapidly changing economic conditions. Private data also offered timely insights on labor market conditions and consumer spending. The flood of studies and data was overwhelming at times, and as with any topic, research often differed in the findings. Even so, policymakers in Congress, the Administration, and the Federal Reserve had more information than in past crises to craft effective, evidence-based policies.

Arguments made by economists in the policy debates, especially surrounding the American Rescue Plan, also showed that their tools need an upgrade. A key example

Figure 4
Income inequality was large and rising before the pandemic

Average household personal disposable income in 2007 and 2018, dollars, by income decile



Source: Bureau of Economic Analysis.

is the heavy reliance on aggregate statistics like GDP, the savings rate or personal income to evaluate the need for aid. Metrics such as potential output hide the wide differences across families. Decades of rising inequality in the United States have magnified the shortcomings of aggregate data. In fact, data from the Bureau of Economic Analysis, which disaggregates national personal disposable income shows that in 2018 (the latest available data) the top 10% of US households had as much personal income as the bottom 70%. The gap has risen since the Great Recession.

Moreover, while the fiscal relief was generous by historical standards, it is trivial compared to the pre-crisis inequality. This helps explain why personal income – and aggregate – is higher now than before the pandemic, but the unemployment rate – in which each individual counts equally – remains nearly three percentage points higher and we have seven million fewer jobs than before. Aggregate statistics are useful in economic debates, but they need to be combined with other data that capture the heterogeneity in the US economy.

Another example of a longstanding framework that led some of the economic policy discussions astray is potential output. It is an estimate using methods developed in the 1960s of the economic capacity of the economy. How much demand could the businesses meet without inflation getting out of hand? While we can measure GDP, potential output to which GDP is compared is never observable. Nonetheless, economists like Blanchard (2021) used estimates from the Congressional Budget

Office to argue against the Rescue Plan. He treated the estimates of potential output as if they were a precise reality. Policy that hinges crucially on things we cannot see is problematic. Making matters worse, the official estimates assume that the racial inequalities in the labor market are the best we can do. Specifically, as I discuss in Sahm (2021b), the estimates of potential output assume a Black unemployment rate of 10%, the level achieved in 2005, as the lowest sustainable level of unemployment for Black workers.

More broadly, economists have wasted precious time during the coronavirus crisis using and defending falsified models. Empirics and common sense must sort out the old models that do not work and bring in new models that do. An upgrade, not a deletion of economic frameworks is necessary. Inexcusably, the Great Recession and its painfully slow recovery did not lead to an economics upgrade. As a result, the COVID-19 crisis showed once again how much intellectual baggage the economics profession carries with it. In large part, the falsified models lost out and new, bold policies were enacted. That is good, but it would be even better to have robust, evidence-based models to guide these new policies. In some cases, like the new, near-universal child benefits, policy is running ahead of our economic understanding. That program is essentially universal basic income for children, but the potential macroeconomic, long-term effects of such cash transfers have hardly been studied. Flogging the “dead parrots” of macro models incurs opportunity costs. It is time that would be better spent on creating new, lively models.

Better tools and frameworks do exist. The most important shift relative to the Great Recession is the economic views about the federal debt. Debt-to-GDP targets, such as those advanced by Reinhart and Rogoff (2011), served as an intellectual justification for austerity measures in the United States and Europe. Cutbacks in government spending slowed the recovery and led to lasting damage to workers and economic growth. During the COVID-19 crisis, centrist economists moved away from a limit to the level of debt and, as Furman and Summers (2020) argued, began to focus on debt service relative to GDP. The idea being that the country must make its debt payments but does not have to pay off the debt. Other economists further to the left, like Kelton (2020), a leader of the Modern Monetary Theory, argue that debt (in any form) should not set a limit on fiscal policy. Instead, the correct limit is inflation, and deficit spending could continue until the economy begins to overheat. Even five years ago, such a shift in the debate over the financing of fiscal policy was unthinkable, but it remains unclear which is the economic framework that will emerge and whether it will be central to policymaking.

Introspection among economists about the federal debt is one of many examples where collaboration across groups would lead to the best outcomes. Other areas that could benefit from an upgrade are how to design the social safety net, including unemployment insurance, so it supports people in need and overall economic growth. Models that incorporate differences across people, such as Heterogeneous Agent New Keynesian models, should be integrated into policy debates (Kaplan et al., 2018). Taking those models from academic journals to the halls of Congress will take considerable effort. They are complex, often black-box models, but they improve on aggregate models that are less and less effective given the inequality in the economy.

Finally, economists need to grapple more with the concept of full employment and the fact that the US economy has likely been operating below its potential for decades. Most economic models assume that – after a shock like a recession – the economy naturally moves back to a full employment equilibrium. However, other macroeconomic models, such as stock-flow consistent models (Nikiforos and Zezza, 2017), do not assume self-healing dynamics. The need for fiscal and monetary policy is notably different if the economy is perpetually operating below full employment. Again, it is not clear that one model is better than the other, but both bring useful insights. Unfortunately, debates about frameworks and tools often become contentious and unproductive. A true sea change in economic policy will require that economists embrace and promote change.

References

- Bhutta, N., A. C. Chang, L. J. Dettling and J. W. Hsu (2020, 28 September), Disparities in Wealth by Race and Ethnicity in the 2019 Survey of Consumer Finances, *FEDS Notes*.
- Blanchard, O. (2021, 18 February), In defense of concerns over the \$1.9 trillion relief plan, *PIIE Real Time Economic Issues Watch*.
- Cox, J. (2020, 16 April), Weekly jobless claims hit 5.245 million, raising monthly loss to 22 million due to coronavirus, *CNBC*.
- Doniger, C. and B. Kay (2021), Ten Days Late and Billions of Dollars Short: The Employment Effects of Delays in Paycheck Protection Program Financing, Finance and Economics Discussion Series, 2021-003, Board of Governors of the Federal Reserve System.
- Furman, J. and L. Summers (2020), *A Reconsideration of Fiscal Policy in the Era of Low Interest Rates*, Discussion Draft, Brookings.
- Ganong, P., P. Noel and J. S. Vavra (2020), US Unemployment Insurance Replacement Rates During the Pandemic, *BFI Working Paper*.
- Gould, E. and M. Kassa (2021), *Low-wage, low-hours workers were hit hardest in the COVID-19 recession*, Economic Policy Institute.
- Heggeness, M. L., J. Fields, Y. A. García Trejo and A. Schulzetenberg (2021), *Tracking Job Losses for Mothers of School-Age Children During a Health Crisis*, U.S. Census Bureau.
- Kaplan, G., B. Moll and G. Violante (2018), Monetary Policy According to HANK, *American Economic Review*, 108(3), 697-743.
- Kelton, S. (2020), *The Deficit Myth: Modern Monetary Theory and the Birth of the People's Economy*, PublicAffairs.

- Larrimore, J., J. Mortenson and D. Splinter (2021, 29 June), *Earnings Shocks and Stabilization During COVID-19*, <http://dx.doi.org/10.2139/ssrn.3876745> (8 July 2021).
- Mankiw, G. (2020, 15 April), *Two significant U.S. macroeconomic needs to consider amid the coronavirus pandemic*, Washington Center for Equitable Growth.
- Nikiforos, M. and G. Zezza (2017), *Stock-flow Consistent Macroeconomic Models: A Survey*, *Levy Economics Institute Working Paper*, 891.
- Pancotti, E. (2021), *Unemployment Insurance in the pandemic, and beyond*, The Weeds podcast, *Vox*.
- Parolin, Z., S. Collyer, M. A. Curran and C. Wimer (2021), *The Potential Poverty Reduction Effect of the American Rescue Plan*, Center on Poverty and Social Policy at Columbia University.
- Reinhart, C. M. and K. Rogoff (2011), *From Financial Crash to Debt Crisis*, *American Economic Review*, 101, 1676-1706.
- Sahm, C. (2019), *Direct Stimulus Payments to Individuals*, The Hamilton Project, Policy Proposal.
- Sahm (2020, 29 April), *The coronavirus recession is severe, and the damage to the U.S. economy will last years*, *Washington Center for Equitable Growth*.
- Sahm, C. (2021a), *They Worked: The effects of \$1,400 stimulus checks on families and the economy*, Jain Family Institute.
- Sahm (2021b, 9 April), *Fears of a Too Hot Economy Ignore Racial Inequality*, *Bloomberg Opinion*.
- Spriggs, W. E. (2021), *The Urgency of Now to Speed the Recovery*, Testimony prepared for US House of Representatives Committee on Financial Services 117th Congress, First Session Hearing on "More than a Shot in the Arm: The Need for Additional COVID-19 Stimulus".
- West, R., I. Dutta-Gupta, K. Grant, M. Boteach, C. McKenna and J. Conti (2016), *Strengthening Unemployment Protections in America*, Center for American Progress.

Adam S. Posen*

Fiscal Success During COVID-19 Says Believe the Good News

Too much blood in terms of unemployment and sweat in terms of intellectual effort has been spent on trying to determine the amount of fiscal space that economies have – our policy focus instead should be on what to do with the fiscal space that almost all advanced economies (and a surprising number of emerging market economies) actually have.

This realization begins with the failings of making misleadingly precise guesses about the output gap and various other not directly observable measures as a driver of policies within the state. Starting with Posen (1998, 2001) on restoring Japan's economic growth, there has been a mounting attack on official sector output gaps being

biased downwards by repeatedly estimating recession outcomes as the trend. Also, building on this analysis of Japan in the 1990s versus 2000s, and subsequent experience globally, has been support for the idea that fiscal austerity or even just fiscal inaction are the right responses to a recession.

The fiscal response to COVID-19

The shift from the fiscal passivity and premature austerity of 2008-12 to the aggressive fiscal response to COVID-19 in 2020-21 has therefore been heartwarming as well as beneficial. As Furman and Summers (2020) pointed out, the fiscal response which took months in the US and a couple of years in the euro area in the global financial crisis, was far exceeded in size in both places in spring 2020 in a matter of weeks. At least as importantly, both the US and euro area governments have committed to avoiding the devastating fiscal reversals they pursued – and advocated for others – in mid-2010.

Perhaps some of this shift in fiscal response is due to greater perceived universality of the pandemic, and it being deemed a supply shock rather than the fault of financial moral hazard. That would be unfortunate because distinguishing the shocks rather than seeing the first response as a mistake would be the wrong conclusion.

Fiscal activism in response to COVID-19 succeeded along every dimension, and it did so in ways that indi-

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cate it would also have been successful in response to the global financial crisis (or previously to Japan's Great Recession). Response was rapid and commensurate in scale, with some targeting and some built-in sunsets – it was not too late and persistent, as often assumed to be inevitable. Multipliers were high and lags were few. Fiscal-monetary cooperation worked globally to allow for simultaneous large-scale bond issuance, with markets accepting the response. Exchange rates and inflation expectations remained stable. Public investment (in vaccines and medical provision) crowded in private investment.

Even most emerging markets and some low-income economies had macroeconomic policy space to run countercyclical macroeconomic policies after April 2020, not as much as for the advanced economies, but enough that capital did not fly out of their bonds. In fact, public sector issuance by some emerging markets and lower middle-income economies continued to increase (Bogdanova et al., 2021). So fiscal room is more the global rule than the exception, though Mauro and Zhou (2021) and Blanchard et al. (2021) offer some reasons for caution.

We need to overcome the widespread bias against believing in fiscal good news. Finance ministry officials are institutionally encouraged to be skeptical, to see their role as conservatives, to say no to spending proposals. Whether trained as lawyers or economists, they are schooled in looking for clever counter-intuitive effects of well-intentioned policies. At some point, however, they and we have to trust the accumulation of evidence in favor of fiscal space being larger, and fiscal policy being more constructive, than these pre-conceived notions allow.

The pandemic stress tested longer-term patterns of economic response to fiscal policy which already had emerged in light of the low-interest rate trends. When public expenditure is put to good use, both markets and citizens can appreciate it. The savings glut/shortage of safe assets has persisted and shows no sign of going away even as debt-to-GDP levels have risen. The arguments for going the other way – expansionary austerity, crowding out of private investment, the relative importance of long-term goals over stabilization against shocks, fiscal discipline inducing structural reform – have been contradicted by experience, most prominently and repeatedly in the euro area (Posen, 2005; Kirkegaard and Posen, 2018; Blanchard et al., 2021).

EU – US comparison

Getting more specific about new EU-US comparison, though, requires looking at how the respective governments used their fiscal room. The fundamental point is

that the US was playing catch-up with the EU in dealing with social dislocation. Compared to almost every EU member economy, the US does not have a sufficient welfare state and does not have a large set of automatic stabilizers, which is tied to the US having a paltry public sector. As a result, a lot of the policies that Washington enacted in 2020-21 were ad hoc, making up for these failings.

Relatedly, there is a lot of creative research work to be done to disentangle the right approach to dealing with short sharp jumps in labor dislocation. In much of Europe, the emphasis was on furloughs and *kurzarbeit*, relief that was mainly disbursed to maintain the employee/employer relationship; in contrast, as many have pointed out, in the US, emphasis was on layoffs and separation from employers in order to get unemployment insurance.

In the short run, Europe was probably wise (or fortunate) to go on the route that it did and not create additional frictional unemployment. Even if extent of firm- and job-specific human capital is often exaggerated, the more the post-pandemic economy looks like the pre-pandemic economy in terms of geographic and sectoral allocation, the less the costs of encouraging workers to stay tied to their jobs. If the replacement of workers by capital (automation) is in part path-dependent, not a question of obvious optimality or progress, then encouraging fewer mass separations may also pay off for longer-term welfare at little cost. As the US converges back to its old structures, with some one-time jump in automation, this conjecture will be increasingly borne out.

That said, both the US and Europe remain problematic on the fiscal design side in some common ways. First, the scale of transfers across jurisdictions within the federation in both entities remains too low. While it is obviously very different to speak of the federal response in Europe, and there has been promising progress of mutual fiscal policy just this year, including some issuance of euro-level bonds, at the level of the monetary zone, insufficient transfers persist between regions. While the US has more inter-state transfers within the union, swings in state and local government revenue – with balanced budget requirements – significantly offset national countercyclical response.

The second point that remains an issue is the poor design of automatic stabilizers, or rather the emergence of automatic stabilizers as the mere residual of other tax and spending decisions. This is not just about insufficient spending during downturns. There has to be some credible sense that you are going to pick up revenues in the later years, which is partly an institutional matter and partly a political matter. Either way, what we have in the US and

Europe is a failure to create a credible cyclical response in both directions. Rather than trying to guide them via the unobservable output gap, which usually includes insisting prematurely that the gap is about to be closed and that we need to immediately start collecting taxes, we should come up with a labor market-based cycle or some kind of lagging indicator cycle. One also might consider counter-cyclical taxes on real estate that also have financial stability benefits.

The third point is one of governance. This is of course even more different between the US and Europe, though both purport to rely on some amount of technocratic guidance and “scoring” of spending and deficits. One way to respond to this challenge is to come up with more sophisticated and flexible forms of debt sustainability analysis (e.g. Blanchard et al., 2021). Another is to try to refocus targets on sounder measures of fiscal room (e.g. Furman and Summers, 2020). But in the end, there is no institutional fix via fiscal rules for politics (Posen, 2005).

At present, European governance is at less risk than US governance: Due to Republican obstructionism, the US Congress has been unable to pass any long-term budget or to reliably raise taxes when needed. This is something more akin to Italy or Argentina in the 1970s-80s or is getting there following a breakdown of fiscal stability because of political fragmentation. The fiscal space is taken away not due to high quantity of debt, but due to low quality of ability to cope credibly with rises in debt. That is why Japan is able to bear such high-debt levels, and why we should worry that the US may not continue to be able to do so at a lower level.

Too much public debt?

There are no simple limits, or even robust rules of thumb, for when an economy issues too much public debt. But current fears of reaching such numerical limits are excessively restrictive. As set out in Blanchard (2019, 2021), a good starting point is to look at when the safe rate of interest is below the rate of income growth. A lasting negative $r-g$ differential implies that an economy can run a primary deficit in line with $r-g$ and keep its debt-to-GDP ratio constant. As we are seeing right now in response to COVID-19, a persistent negative $r-g$ differential also means that an economy can issue additional debt for a one-off (emergency) program, and never need to raise taxes to pay for it. Fiscal space is particularly valuable when the cost of recessions is high relative to trend growth, and monetary policy is near the effective lower bound for interest rates.

Of course, the government interest rate can jump for reasons of fundamentals or even self-fulfilling panics.

But when the central bank supports the economy and the government, this is unlikely for advanced economies (Posen, 2010), as the 2012 “whatever-it-takes” moment demonstrated. There are many reasons to believe in continued low rates for the advanced economies (Posen, 2011), including:

- demographics and cross-country convergence increase global savings;
- worker bargaining power over wages remains limited;
- pace of technological progress remains slow at frontier;
- diminished risk appetite from private investors raises safe asset demand;
- repeated inflation undershoots anchor inflation expectations;
- rates in the US, and to a lesser degree in China and the euro area, lower the floor for others;
- stability of government regimes is high if not increasing;
- lower levels of taxes and foreign currency debt make consolidation feasible if necessary.

In any event, declining real rates are the continuation of a centuries-long downward trend (Schmelzing, 2020).

Still, as argued in Orszag et al. (2021), humility about forecasts for r^* is justified, if one looks at the failings of previous official- and private-sector forecasts of long-term risk-free rates. What are the policy implications if we were to take uncertainty about interest rates seriously and humbly?

Orszag et al. (2021) propose equipping policymakers to face deep uncertainties about future interest rates as well as hard-to-predict global shocks (including climate risks). They reject fiscal anchors – simple limits on deficits or debt as a share of GDP – because any attempts to modify such targets for a given period will not see needed changes. Instead, they propose making the annual budget respond more automatically to economic swings, while making government programs respond more automatically to long-term fiscal pressures (embed adjustment mechanisms in health care and pension programs). Relatedly, investments like those for climate adaptation and mitigation should be part of a sustained counter-cyclical infrastructure investment program. In a

low-rate environment, debt maturities may also be extended to hedge against interest rate changes. This set of recommended policies, though, is perfectly consistent with what is outlined here as a better use of fiscal capacity assuming low rates – the policy implications are still for greater fiscal activism and less attention to numerical debt limits or rules.

Finally, better use of fiscal room includes a plea that we should be doing bottom-up budgeting; that is, we need to decide what it is we need to spend on, including pandemic preparedness and climate change and so on, make the commitment, and then raise the taxes to meet it. Kirkegaard (2018) shows through historical fiscal episodes in the US that this is usually how it has gone in the US – that the government does something constructive, whether it is for infrastructure, war, or a welfare state, and then is able to find the money necessary for it. Arguably, that is what we have seen recently in the EU with mutual transfers taking place in response to the pandemic, and the specifics of the Union getting its own means to pay for it coming along later.

Conclusions

What does the good news about fiscal policy really add up to? The COVID-19 fiscal policy response should not be viewed as something to emerge from, but rather as a model going forward in which stabilization plays just as important of a role as structural reform. The priority should be establishing a means to sustain and evaluate longer-term infrastructure (green) investment and to expand automatic stabilizers rather than spending more effort on fiscal rules and sustainability. To this end, monetary coordination can and should be an enabler for fiscal policy. Finally, it is important to remember that fiscal restraint is not its own reward.

References

- Blanchard, O. (2019), Public Debt and Low Interest Rates, *American Economic Review*, 109(4), 1197-1229.
- Blanchard, O. (2021, 2 June), Rethinking Fiscal and Monetary Policy Post-COVID, Markus' Academy lecture, Princeton University, Bendheim Center for Finance, <https://bcf.princeton.edu/events/olivier-blanchard-on-rethinking-fiscal-and-monetary-policy-post-covid/> (30 June 2021).
- Blanchard, O., J. Felman and A. Subramanian (2021), Does the New Fiscal Consensus in Advanced Economies Travel to Emerging Markets?, *Policy Brief*, 21-7, Peterson Institute for International Economics.
- Blanchard, O., Á. Leandro and J. Zettelmeyer (2021), Redesigning EU Fiscal Rules: From Rules to Standards, *Working Paper*, 21-1, Peterson Institute for International Economics.
- Blanchard, O. and L. H. Summers (2020), Automatic Stabilizers in a Low-Rate Environment, *Policy Brief*, 20-2, Peterson Institute for International Economics.
- Bogdanova, B., T. Chan, K. Micic and G. von Peter (2021), Enhancing the BIS Government Bond Statistics, in Bank for International Settlements, *BIS Quarterly Review: International Banking and Financial Market Developments*, June, 15-24.
- Furman, J. and L. H. Summers (2020), A Reconsideration of Fiscal Policy in the Era of Low Interest Rates, Discussion Draft presented at an event cohosted by the Peterson Institute for International Economics and the Hutchins Center on Fiscal and Monetary Policy at the Brookings Institution, "Fiscal Policy Advice for Joe Biden and Congress."
- Kirkegaard, J. F. (2018), A More Perfect (Fiscal) Union: US Experience in Establishing a Continent-Sized Fiscal Union and Its Key Elements Most Relevant to the Euro Area, in J. F. Kirkegaard and A. S. Posen (eds.), *Lessons for EU Integration from US History*, Report to the European Commission under Tender Reference 2016: ECFIN 004/A.
- Kirkegaard, J. F. and A. S. Posen (eds.) (2018), Lessons for EU Integration from US History, Report to the European Commission under Tender Reference 2016: ECFIN 004/A.
- Mauro, P. and J. Zhou (2021), $r - g < 0$: Can We Sleep More Soundly?, *IMF Economic Review*, 69, 197-229.
- Orszag, P. R., R. E. Rubin and J. E. Stiglitz (2021), Fiscal Resiliency in a Deeply Uncertain World: The Role of Semiautonomous Discretion, *Policy Brief*, 21-2, Peterson Institute for International Economics.
- Posen, A. S. (1998), Restoring Japan's Economic Growth, Institute for International Economics.
- Posen, A. S. (2001), Recognizing Japan's Rising Potential Growth, *NIRA Review*, (Winter), 48-53.
- Posen, A. S. (2005), Can Rubonomics Work in the Eurozone?, in A. S. Posen (ed.), *The Euro at Five: Ready for a Global Role?*, Special Report 18, Peterson Institute for International Economics.
- Posen, A. S. (2010, 14 June), When Central Banks Buy Bonds: Independence and the Power to Say No, Speech at Barclays Capital 14th Annual Global Inflation-Linked Conference, New York, <https://www.bankofengland.co.uk/-/media/boe/files/speech/2010/when-central-banks-buy-bonds-speech-by-adam-posen.pdf> (30 June, 2021).
- Posen, A. S. (2011, 27 June), Not That '70's Show: Why Stagflation is Unlikely, Speech at University of Aberdeen Business School, <https://www.bankofengland.co.uk/-/media/boe/files/speech/2011/not-that-70s-show-speech-by-adam-posen-presentation.pdf> (30 June, 2021).
- Schmelzing, P. (2020), Eight Centuries of Global Real Interest Rates, R-G, and the 'Suprasecular' Decline, 1311–2018, *Staff Working Paper*, 845, Bank of England.

Alfred Kammer and Nathaniel Arnold

Europe's COVID-19 Crisis Response: A Race Well Run, But Not Yet Won

A laudable response to the pandemic

The COVID-19 crisis has been the biggest global economic shock since World War II. Unlike the “global” financial crisis – which was really a US and European financial crisis that spilled over to the rest of the world – the pandemic was truly an exogenous global shock.

Many countries reacted quickly with mobility restrictions and lockdowns as the pandemic swept across the globe in early 2020. These initial containment measures dealt a blow to the incomes of businesses and workers across the economy, though the intensity of the impact differed across sectors – with tourism and hospitality clearly suffering more and being less able to adapt. Moreover, the shock was severe but expected to be temporary due to the success of activity restrictions on reducing new COVID-19 cases in the first wave of the pandemic, as well as rapid development of vaccine candidates.

Governments, especially in advanced economies, countered the COVID-19 crisis with unprecedented levels of policy support. In Europe, policies aimed at preventing the unnecessary destruction of businesses and jobs and maintaining the structure of the economy in the face of a temporary exogenous shock. And the policy response so far – at both the national and European levels – has been incredibly successful.

The monetary and financial regulatory policy response helped prevent financial markets from seizing up as the pandemic struck. It kept credit – the lifeblood of the economy – flowing, with lending growth to firms jumping from 2.5% in February 2020 to over 6.5% in May in the euro area.

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At the same time, fiscal support for workers and businesses helped prevent a massive rise in unemployment and a cascade of bankruptcies. This has – to a large extent – preserved the fabric and structure of the economy in the face of massive uncertainty. These policies helped keep household disposable income in the euro area from declining between 2019 and 2020, despite a 6.6% drop in real GDP. The public sector stepped up to shoulder the burden of the shock and tried to make households and businesses whole – a task made easier by the strength of the existing social safety nets in Europe, which were able to be quickly expanded where needed to meet the challenges of the COVID-19 crisis.

For instance, job retention schemes were a critical part of the response. These schemes pay part of an employee's normal wages if a business keeps them employed but reduces their hours. In this way, businesses can temporarily reduce labour costs in the face of weaker demand without laying off workers. At the same time, workers' incomes are maintained even if the working hours are reduced. Moreover, by maintaining the worker-job bond, job-specific human capital is preserved and long-lasting economic scarring due to the loss of human capital is reduced.

Many EU countries had job retention schemes in place already and expanded them during the crisis to cover a broader range of workers (e.g. gig workers), while others were able to quickly add such programmes to their social safety nets. On average, EU countries are estimated to have spent nearly 2% of GDP on job retention schemes in 2020. The benefits of such schemes are readily apparent from the unemployment numbers. While hours worked in the second quarter of 2020 fell more than 15% below late-2019 levels in the EU, the employment rate fell less than two percentage points and the unemployment rate ticked up one percentage point. These job retention schemes were supported at the EU level with €100 billion in low-cost loans to countries.

In contrast, the US, which did not have job retention schemes in place, saw a sharp spike in the unemployment rate in the second quarter of 2020, going from 4.4% to 14.8% between March and April, before steadily declining. As a result, the annual average unemployment rate in the US more than doubled in 2020, necessitating higher spending on unemployment benefits, which was similar to the average amount spent in EU countries on job retention schemes.

European countries also announced an array of measures to support businesses, including “above-the-line” measures like tax cuts, as well as “below-the-line” measures like equity support, loans and loan guarantees. For the latter, euro area countries announced programmes worth 17% of GDP in 2020. Even though the eventual take up of these programmes only amounted to about 5% of GDP, these measures played an important role in shoring up confidence and convincing banks, which entered the crisis in a strong position, to continue lending in the face of a sharp drop in economic activity.

Despite the large fiscal response, Europe on average suffered a greater drop in real GDP than the US did. While comparisons between fiscal responses in the US and the EU are not straightforward, taking into account the more robust social safety nets in EU countries and “below-the-line” measures, they provided comparable degrees of fiscal support in 2020. The pandemic had a larger growth impact on many European countries, but this was mainly due to factors besides the fiscal response. These factors include different initial underlying growth rates, the structure of the economy – with many of the hardest hit European countries more dependent on sectors most impacted by the pandemic like tourism – the severity of activity restrictions and the ability to adapt to the pandemic, such as through teleworking.

A robust transition to the post-pandemic world

Now, with vaccine rollouts accelerating, the prospects for a return to something approximating normalcy look good. But the economy will not just snap back to its pre-pandemic form. There will be shifts in the structure of the economy, partly driven by deeper technological and environmental changes. Moreover, achieving a greener, more digital and inclusive economy will require transformations in many sectors. Policies must help facilitate these transformations.

Labour and product markets in the EU are generally more rigid than those in the US, and European firms lack access to venture capital and other forms of financing that many US firms enjoy. These shortcomings will inhibit the capacity of European economies to respond to the shifts in the economic landscape occasioned by the pandemic and coming economic transformations.

Less flexible labour markets can hinder the flow of workers from declining firms and sectors to new and expanding ones, serving as a drag on growth. Moreover, if government support for firms is withdrawn too quickly, it could lead to the insolvency of potentially viable firms, while if continued support takes the form of debt, it may

leave many viable firms suffering from a debt overhang, limiting their capacity to invest and expand as demand picks up. This could weigh down the recovery and result in very costly output losses relative to the pre-pandemic trajectory of the economy.

Thus, in the second phase of the crisis response, as lockdowns end, spending on generalised support that is demand driven, such as job retention schemes, will automatically decline. In this second phase, there is a greater need for supply-side oriented spending to accelerate the recovery. This argues for replacing some of the automatic decline in spending on lifelines with spending aimed at facilitating the flow of labour and capital out of declining sectors and into expanding and new ones.

Higher spending on things like training for displaced workers, alongside incentives for hiring and investment in expanding or new sectors, can do a lot to facilitate the necessary flows and minimise the long-term costs of the pandemic. This should be supplemented with targeted transfers to vulnerable households that are more likely to suffer income losses as emergency lifelines are wound down. This would also help mitigate the rise in inequality caused by the disproportionately larger impact of the pandemic on more vulnerable households.

With regard to the corporate sector, there is also a need for more equity support for viable firms. The IMF estimated a solvency gap for European enterprises of between 2% and 3% of GDP.

In the Spring 2021 Regional Economic Outlook Update for Europe, IMF staff calculated that a package of measures along the lines described above over 2021-22 could boost GDP in 2022 by two percentage points and cut medium-term output losses relative to the pre-pandemic trend in Europe by more than half.

Since then, a number of countries have introduced further fiscal support packages. While these packages have been mainly geared towards extending lifelines in the face of renewed lockdowns, they also contain elements that will support the reallocation of factors. For example:

- part of Germany’s supplemental budget of 1.7% of GDP expanded subsidies for apprenticeships and increased grants allocated to firms, as well as provided a one-off boost to basic income support;
- in Italy, a significant chunk of the 2% of GDP fiscal package approved recently will provide grants to businesses and additional one-off support for workers in hard-hit industries like tourism.

These measures are welcome, but as the recovery gets underway, they should be complemented by further efforts to help workers transition to new careers. We must also ensure that young and low-skilled workers – whose employment prospects were some of the hardest hit by the crisis – are not left behind. In this respect, France’s recovery plan provides some good examples of such policies. It offers subsidised training to workers in job retention schemes and expands funding for training targeted at low-skilled youth. In addition, it introduces a programme of hiring subsidies for younger workers to help get them into the labour market.

Of course, fiscal policy alone is not the answer.

The Recovery and Resilience Facility (RRF) in the Next Generation EU (NGEU) recovery package is an important element in the third phase of the response to the pandemic, aimed at strengthening the recovery, promoting convergence between countries and helping them transform their economies. Grants and loans from the RRF will support EU countries investments in critical areas, like climate change and digitalisation. Higher spending financed by the RRF should be a catalyst and not a substitute for structural reforms. As it will take time for these reforms to bear fruit, it is important to start making progress on them now.

If well spent, simulations suggest that RRF-financed expenditure could boost EU output by up to 1.5 percentage points by 2023, relative to a scenario without the RRF. While some of this is already incorporated into forecasts by institutions like the IMF and European Commission, there is a potential for growth to surprise to the upside if investments are effectively implemented and accompanied by robust structural reforms.

Reducing vulnerabilities and strengthening the EU fiscal framework

One cannot ignore the impact that the crisis has had on government debt levels, especially in those countries that entered the pandemic with already elevated debt ratios. Once a robust economic expansion is firmly in place, high-debt countries will need to embark on a path of gradual, but steady, fiscal adjustment. This will help restore fiscal buffers to respond to future shocks. In many high-debt countries, the growth impact of a gradual adjustment will be mitigated over the next few years as RRFs grants bolster spending. Making the composition of fiscal policy greener, more growth-friendly and inclusive would also help.

The impact of the crisis on government debt also has implications for the EU fiscal rules. The current framework

suffers from excessive complexity, poor transparency and weak compliance. Moreover, once the general escape clause in the rules is deactivated, a strict application of the current rules would require unfeasibly large fiscal tightening in high-debt countries. Hence, now, while the escape clause is activated, would be a good time to reform the rules.

The IMF is currently taking a fresh look at how the rules should be reformed in light of the pandemic. Some of the principles that should guide reform efforts include: First, a reform should aim to simplify the rules to make them easier to understand, communicate, monitor and enforce. Second, the fiscal rules need to balance debt sustainability and economic stabilisation objectives. They must help build better buffers in good times but cannot be a straitjacket of procyclical tightening in recessions. Finally, in the longer run, incentives for compliance with the rules could be strengthened by developing a permanent central fiscal stabilisation capacity.

Conclusion

While Europe’s response to the pandemic has been laudable, there remains more to be done in order to prevent economic scarring and ensure a robust recovery. The early part of the recovery that we are entering now is a critical period. Greater focus is needed on efforts to facilitate the reallocation of labour and capital from declining firms and sectors to new and expanding ones as the recovery gets underway. EU recovery funds can complement such measures with more medium-term support for investments to support an economic transformation and accelerate the green and digital transitions. Moreover, EU funds can help mitigate the growth impact over the next few years of the gradual, but steady, fiscal adjustments that will be needed in high-debt countries. Finally, the EU fiscal rules should be reformed while the general escape clause is in place, to ensure that they are fit for purpose in the post-pandemic world.

Antonia Díaz and Luis A. Puch

EU After COVID-19: An Opportunity for Policy Coordination

In order to mitigate the impact of the COVID-19 pandemic, most G20 member countries have announced fiscal stimulus of significant magnitude. Particularly, the United States has passed two packages and authorised additional aid that amounts to approximately \$5 trillion. The sheer magnitude of the package raises concerns about the effectiveness of the European measures; in particular, the unprecedented EU-wide fiscal stimulus plan included in the Next Generation EU (NGEU) fund. In this contribution, we argue that traditional fiscal stimulus, which works through demand channels, is not what the European Union needs. We need to strengthen our common fiscal capacity and improve policy coordination; in particular, sectoral policies that support the industry and flow downstream to the services sector. This policy is very much in line with the course of action taken by the US and the leading Asian countries to increase potential growth.

Political institutions and economic policy outcomes

Any study of the effects of EU-wide policy should take into account the fact that the European Union is not a country but a confederation in progress, which, depending on the views of the observer, can be thought of as going too quickly or too slowly. If we look at the EU in this way, through the federation lenses, we see that ours has an uneasy balance between the federal government, i.e. the European Commission, and the representation of the states, i.e. the European Council. This is particularly clear when we compare the EU with the United States, where the division of state and federal powers is clear or, at least, has been tested by 200 years of litigation, debates and political interaction. Moreover, the size of

the European budget is tiny, just 1% of the EU's GDP, compared to the revenues of the US federal government, which were about 16.3% of their GDP in 2018. This comparison is not informative because it is due mainly to the fact that the US federal government collects all taxes and Social Security revenues, whereas the EU budget is comprised, mostly, of country contributions. On top of that, the US federal government controls those policy tools that enhance risk sharing across the federation. We are referring not only to Social Security, Medicaid and Medicare but to the Welfare State and all the tools of sectoral policy. We are referring to banking and financial markets supervision, too. The federal government of the US controls the policies and the fiscal resources needed to finance them. But both sides of policy should go together: "expenditure" capacity and "fiscal" capacity. This is so because the former without the latter creates moral hazard problems, as it gives incentives to profligacy in member states (Díaz, 2020, 2021).

This context is necessary to study and compare US and EU policy responses to the COVID-19 pandemic. The fiscal measures taken by the US government during 2020 amount to more than 14% of GDP, which are going to be topped by a new package in 2021, the size of which is committed to be about another 11% of GDP. The EU countries' responses are comparable in size but very heterogeneous. For instance, according to Anderson et al. (2020) and the International Monetary Fund (2021), the direct fiscal measures in Germany in 2020 amount to 15.6% of its GDP, along with guarantees worth 24.3% of GDP; Spain, on the other hand, has committed 8.1% and 13.3% of its GDP in direct fiscal measures and guarantees, respectively. The EU grants, especially those coming from the Recovery and Resilience Facility, may amount to 1.8% of Spanish GDP annually for the period 2021-27. Therefore, the size of all responses is similar. Nevertheless, there are differences in composition and the institutions in charge of conducting those policies. Those differences make it difficult to compare their effects.

First, European governments have set extensive furlough schemes and guarantees so that workers remain attached to their employers and firms do not declare bankruptcy, whereas the US has allowed jobs and firms to be destroyed. We think that those differences are consistent with the fact that firm creation is more troublesome in Europe and firms depend more on bank financing.

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Thus, it is a policy whose benefit can only be measured by knowing the counterfactual. Conversely, the US has focused on family and emergency assistance, as its automatic stabilisers are smaller than in Europe. Moreover, although we are not in a position to estimate its effect, the fact that health systems and coverage vary so much suggests that medium-run effects on health and labour productivity may be sizeable, particularly among low-skilled workers.

Second, in line with the federation analogy, the US federal government controls the policy measures to mitigate the effect of COVID-19, whereas in the EU most of the funds are controlled by the states. This distinction makes the EU policy, most likely, inefficient. This is so because uncoordinated fiscal aid to firms implies that different countries may use different criteria for aiding firms without internalising the effect on competitors established in other countries. That is, as Motta and Peitz (2020) argue, uncoordinated aid policies distort the European level playing field for firms and harm the Single Market. The negative effects of uncoordinated policy do not come only from the supply side. They also come from the demand side, as most of the trade of EU members takes place inside the Union.

This is particularly unfortunate, as the sectoral composition of the EU makes it more vulnerable to the COVID-19 pandemic than the US. For instance, the share of the tourism sector in aggregate value added and employment is two percentage points higher than the OECD average, while the US is below the OECD average (OECD, 2020). Moreover, the share of manufacturing in GDP is almost three percentage points higher in the EU than in the US, which implies that Europe is more affected by global supply chain disruptions than the US. The evidence suggests that, indeed, this has been the case. According to the Bureau of Economic Analysis, the US GDP fell in the fourth quarter of 2020 by 2.39% with respect to the same quarter of the previous year, whereas EU GDP shrank by 4.44% (on quarterly data basis). Not only that; the US has already grown during the first quarter of 2021, 0.4%, whereas EU GDP had an interannual growth rate of -1.2% (again, using quarterly data). This difference in the first quarter of 2021 is most likely due to the hesitant starting pace of vaccination in Europe compared to the US, and delivery delays due to not thoroughly specified contracts with vaccine suppliers. This might very well be the aggregate cost of having a common institution that is inexperienced in coordinating policies. Learning by doing should change this situation.

The importance of strengthening the institutions in charge of coordination policy appears to be more urgent

when we take into account two current developments. The first one is due to the asymmetric sectoral impact of COVID-19. The second one is related to the rapid technological change that we are experiencing. Digital sectors are the absolute winners of the COVID-19 crisis. Consumption patterns have shifted from consuming services locally to consuming them through digital platforms, which are, for the most part, US-based. This must have some impact on the tax base of EU countries. In addition, this crisis has burst in a moment of rapid technical change: Think of electric cars and 5G technology, where the US and China are the leaders. Participating in this international innovation race requires a coordinated effort by all EU members.

Fiscal stimulus for resilience and recovery in a quasi-federation

Despite all the difficulties inherent to our political organisation, the European Union has taken a bold step by doubling the EU budget for the next six years with the NGEU fund. To access the resources of the fund, EU members present their recovery plans to the Commission with specific details about policies, milestones, deadlines and possible outcomes. That is, EU members must present quantitative forecasts of the effects of the policies funded by NGEU. In the meantime, President Biden has signed a stimulus package, the sheer size of which has ignited a lively discussion on the likely effect of fiscal impulses on both sides of the Atlantic.

The question about whether government expenditure raises aggregate output has been largely studied in the so-called empirical fiscal multipliers literature. The most popular view of the fiscal multiplier is the textbook example in which the real interest rate is constant. However, constant real interest rates depend very much on how monetary policy has been conducted in the past, as Cloyne et al. (2020) show. Moreover, effects of fiscal multipliers may be lower in a currency union (the majority of the European Union's member states) than in a single country, like the US. There are two reasons for that. First, a real reason: As Farih and Werning (2016) show, fiscal stimuli may change the regional distribution of the demand and, therefore, real exchange rates, which affects competitiveness and, in turn, may offset the intended effect of the policy. The second reason is financial. As Bianchi et al. (2019) point out, it is not clear at all that real interest rates may remain constant in all countries in the EMU due to perceived changes in sovereign risk. It will be likely that the ECB would have to pursue an even more active policy to counteract such risks.

There is another reason why demand policies (such as traditional fiscal stimuli) may not be as effective in the European Union as in a single country. According to estimates (see Auerbach et al., 2019; or Dupor and Guerrero, 2017), regional fiscal multipliers are lower than the national multiplier in the US. Canova and Pappa (2021) find the opposite for the EU when estimating the effect of EU regional structural funds. This evidence suggests that spillovers work in opposite directions because of a lack of policy coordination of EU members. This points to the fact that the European Union should concentrate on supply-side policies as a very basic supply-side policy is strengthening our common institutions and policy coordination.

The current discussion on the effects of fiscal stimuli has also been prompted by the fears of inflation. It is true that we are already seeing inflation rising because of COVID-19 related global supply chain disruptions. Temporary shortages may trigger more difficult issues of strategic behaviour coming from imperfect competition. Economy ministers in EU countries and the US are betting on this rise of inflation being transitory, and its duration will depend much on geopolitics, as we are seeing in the case of semiconductor shortages (see Paduano, 2021). There is also the fear that the fiscal stimuli themselves will bring inflation, even though most economies are working below full capacity. The reasoning uses the tools of the fiscal theory of the price level (FTPL; see Cochrane, 2021). The argument is as follows: Currency is valued by the citizenry because the fiscal authority accepts currency to cancel fiscal obligations. Under this theory, the fiscal authority sets the nominal value of debt and the real value of fiscal surpluses. Thus, the price level accommodates for the intertemporal government budget constraint to hold. Hence, if agents perceive that the government cannot raise enough fiscal surpluses in the future, inflation goes up and the effect of the fiscal stimulus is zero. Two questions come to mind. First, to work, this mechanism needs some form of propagation channel so that demand actually rises more rapidly than supply. The propagation channel used to be wage inflation in the 1970s and 1980s. Currently, we do not see wage inflation, but a disconnection between price and wage dynamics.¹ So, unless wage inflation is triggered, we doubt that inflation (significantly above the current targets) will be a persistent phenomenon in the near future.

We also think that the probability of inflation due to high public debt is not high right now. Let us think again of the FTPL. Let us focus on the euro area, composed by het-

erogeneous countries. Asymmetry is the key. The price level in the EU depends on the fiscal position of the big countries, which is sound. Thus, according to the FTPL we will not see inflation in the foreseeable future. The problem is debt sustainability in countries like Spain, and for that we need policies to raise productivity and foster growth (see, for instance, de la Fuente, 2021).

Finally, we should point out that the NGEU fund cannot be thought of as a fiscal stimulus in the traditional sense. Its aim is not increasing demand but supply. This is the right policy in the European Union at the moment. As a matter of fact, it is a plan for sectoral transformation in the light of rapid climate change and the fierce competition of the US and China in sectors like semiconductors, 5G, electric cars and the like.

Fiscal impulse to strengthen the Single Market and coordinate supply-side policies

We are currently in a situation in which a short- and medium-term shock has taken a significant toll on the EU economy. COVID-19 has shown that the incomplete design of European institutions makes a coordinated quick response very difficult. The uneven impact of the coronavirus pandemic and fiscal problems in many countries threatens the Single Market while populist responses to the crisis threaten the European project itself. At the same time, in the long term, we have to face, simultaneously, the digital and ecological transitions. The challenges facing the EU both in the short and long term share the fact that they are market failures. COVID-19 is a negative externality, just like pollution and climate change. In the digital sector, the great revolution is that new technologies have almost negligible marginal costs. The large companies in the sector are gigantic monopolies that actively eliminate competition where it arises, often by the expeditious way of buying emerging rivals. The other major failure – in this case, institutional – faced by all countries is that corporations have great international mobility, so that, in the absence of coordination, the competition to capture tax bases leads to an inefficiently low level of corporate taxation. Moreover, it distorts competition as small and medium-sized companies are less mobile. In addition to the problems described, the EU has other problems derived from its incomplete institutional design, which means that risk sharing is limited. This, in turn, slows down economic integration. Finally, the power of the European Council introduces a non-cooperative bargaining element into the EU's decision-making process, which, as demonstrated by Persson and Tabellini (1996), leads to inefficient allocations.

¹ See Bobeica et al. (2019) for the EU case and Stansbury and Summers (2020) for the US.

The NGEU fund is a bold step in two dimensions. First of all, it should imply the creation of a common sectoral policy. Preserving the Single Market requires a coordinated effort in sectoral transformation. The most pressing concerns in this respect are twofold. First, the possible delays in implementing all recovery plans designed by EU members. The second is the typical question that arises when governments implement industrial policies: Are we picking the right winners? For instance, Spain and other countries have high hopes for hydrogen technology. A deep communication between the private economy and governments is needed to really unleash all the potential of that technology given the particularities of each country. This is not to say that one should not pick winners. For instance, China and the US have become leaders in the electric cars or semiconductors sectors because their governments committed to boost them. In our view, the success of the NGEU fund can be expected to strongly depend on the cooperation framework between regional governments and the industry. For instance, the regional Basque government (Spain) has designed its own recovery plan, which appears to be very well connected to industries located in the region.

Second, the NGEU fund is being financed with bonds issued by the Commission, which will give depth to the common currency, something very much needed to foster capital and banking integration within the EU (see Brunnermeier and Reis, 2019). Financing this debt brings the issue of tax policy. It is important that the tax revenues devoted to paying that debt are raised by the Commission. Otherwise, the common debt will be perceived as very risky. The fact that those tax revenues should be raised by the Commission turns our attention to corporate taxation. As argued in Díaz (2020), corporate taxation is a sort of industrial policy. This is why progress should be made towards creating a common corporate taxation as a complement to facilitate the Next Generation Fund to achieve its promised goals.

References

- Auerbach A. J., Y. Gorodnichenko, D. Murphy (2019), Local Fiscal Multipliers and Fiscal Spillovers in the United States, *NBER Working Papers*, 25457.
- Anderson, J., E. Bergamini, S. Brekelmans, A. Cameron, Z. Darvas, M. Domínguez Jiménez, K. Lenaerts and K. Midões (2020), The fiscal response to the economic fallout from the coronavirus, *Bruegel Dataset*.
- Bianchi J., P. Ottonello and I. Presno (2019), Fiscal Stimulus under Sovereign Risk, *NBER Working Papers*, 26307.
- Bobeica, E., M. Ciccarelli and I. Vansteenkiste, (2019), The link between labor cost and price inflation in the euro area, *ECB Working Paper Series*, 2235.
- Brunnermeier, M. K. and R. Reis (2019), A Crash Course on the Euro Crisis, *CFM Discussion Papers*, 1915.
- Canova, F. and E. Pappa (2021), *What are the likely macroeconomic effects of the EU Recovery plan?*, mimeo.
- Cloyne, J. S., Ò. Jordà and A. M. Taylor (2020), Decomposing the Fiscal Multiplier, *NBER Working Papers*, 26939.
- Cochrane, J. H. (2021), *The Fiscal Theory of the Price Level*, mimeo.
- de la Fuente, A. (2021), The economic consequences of Covid in Spain and how to deal with them, *Applied Economic Analysis*, 29(85), 90-104.
- Dupor, B. and R. Guerrero (2017), Local and aggregate fiscal policy multipliers, *Journal of Monetary Economics*, 92(C), 16-30.
- Díaz, A. (2020), Common Fiscal Capacity Is Needed to Strengthen Risk Sharing, *Intereconomics*, 55(4), 215-219, <https://www.intereconomics.eu/contents/year/2020/number/4/article/common-fiscal-capacity-is-needed-to-strengthen-risk-sharing.html> (6 July 2021).
- Díaz, A. (2021), The EU Budget and the Role of Public Goods, *CESifo Forum*, 22(2), 35-38.
- European Commission (2020), How could a common safe asset contribute to financial stability and financial integration in the banking union?, https://www.ecb.europa.eu/pub/fin/article/html/ecb.fieart202003_02~2b34819f75.en.html#toc1ss (5 July 2021).
- Farhi, E. and I. Werning (2016), Fiscal Multipliers: Liquidity Traps and Currency Unions, in J. B. Taylor and H. Uhlig (eds.), *Handbook of Macroeconomics*, volume 2, 2417-2492, Elsevier.
- International Monetary Fund (2021), Policy Responses to COVID-19, <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19> (5 July 2021).
- Motta, M. and M. Peitz (2020), State Aid Policies to the COVID-19 Shock: Observations and Guiding Principles, *Intereconomics*, 55(4), 219-222, <https://www.intereconomics.eu/contents/year/2020/number/4/article/state-aid-policies-in-response-to-the-covid-19-shock-observations-and-guiding-principles.html> (6 July 2021).
- OECD (2020), *Tourism Trends and Policies 2020*, OECD Publishing.
- Paduano, S. (2021, 15 June), Stress-testing supply chains is key to a durable global recovery, *Financial Times*.
- Persson, T. and G. Tabellini (1996), Federal Fiscal Constitutions: Risk Sharing and Moral Hazard, *Econometrica*, 64(3), 623-646.
- Stansbury A. and L. H. Summers (2020), The Declining Worker Power Hypothesis: An explanation for the recent evolution of the American economy, *NBER Working Papers*, 27193.

Daniel Gros

Recovering From COVID-19: A Transatlantic Comparison of Fiscal Policy

A chasm has opened up across the Atlantic in terms of fiscal policy. In the US, the fiscal deficit was about 16% of GDP in 2020, and it is projected to stay around this value in 2021. By contrast, the deficits in the euro area are only half this amount (7% and 8% of GDP) in both these years.

How should one understand this stark difference? An answer to this question has to take into account the extraordinary circumstances of the COVID-19-induced recession. This recession was different because it did not result from overinvestment in a specific sector (e.g. housing) coupled with overstretched borrowers and stressed financial institutions.

The financial system is at present not a source of concern. After an initial period of extreme volatility, financial markets recovered with stock market prices at historically high levels and risk premia generally at historically low levels. There is thus no problem with the availability of credit to solvent borrowers.

However, during the lockdown period, many workers could not do their jobs as numerous enterprises had to close and services that required close physical contact were either closed by government or consumers were simply too afraid to venture out. This meant that households (and enterprises) lost a large part of their income. Governments had to step in to keep them afloat. After all, the government is the “insurer of last resort”. The need for fiscal support from the insurance function can be estimated roughly by the size of the output gap that opened up in 2020/21. The loss of GDP in these two years is equal to the value added which was not produced because of COVID-19 restrictions.

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Deficit versus the output gap: Replacement income versus demand stimulus

One can thus divide the observed deficits during the two coronavirus pandemic years into two parts: one part, equal to the output gap, provided replacement income. The remainder could be viewed as standard deficit spending with the aim of fostering demand.

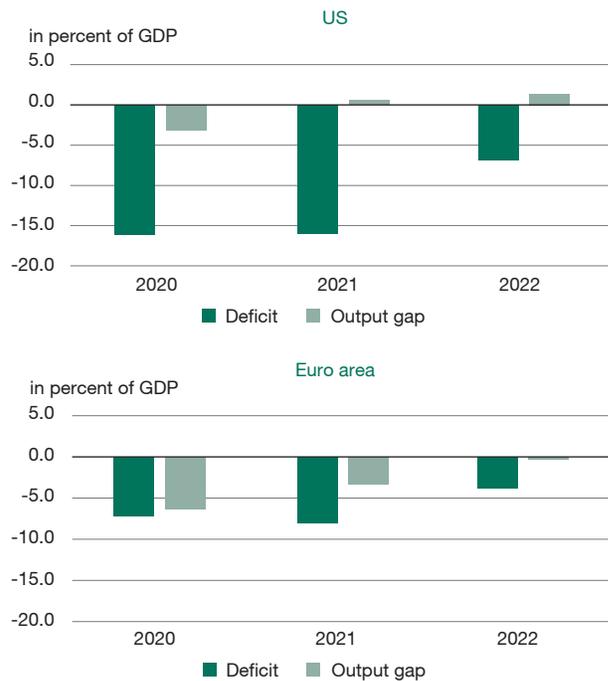
Figure 1 shows the data for both the output gap and the (general government) deficit for the three years 2020–2022 as a percentage of (potential) GDP. It is apparent that the deficits for the US are much larger than could be justified by the need to provide replacement income. In the euro area, the deficits are lower, and the output gap is larger (especially in 2020), with the result that a much larger part of the observed (and planned) deficits consist of providing replacement income.

The large part of deficits not needed to provide replacement income is illustrated in Figure 2. It shows the size of the “excess deficit”, i.e. the difference between the actual deficit and the output gap (again as a percentage of potential GDP). Panel A allows for a more direct comparison of the aggregate demand effort than the picture of the two components separately in Figure 1.

Looking directly at the difference between deficits and the output gap, the difference between the US and the euro area is even starker. While only a very small part of the US deficit of 16% of GDP for 2020 can be explained by the need to provide a replacement income, a much larger part of the smaller euro area deficit is needed for this purpose. In 2021, the US demand impulse close to 17% of GDP is almost four times larger than the 4.7% in the euro area. A significant difference is also projected to remain in 2022, when the aggregate demand aspect of fiscal policy will amount to 8.2% of GDP in the US, against 3.5% of GDP in the euro area.

Panel B shows that there are large differences between individual euro area countries, during all three years, however, no euro area country shows values close to those of the US. For example, Spain seems to have concentrated its fiscal effort in 2020, whereas most of the others have a peak in 2021. Germany plans apparently to return to its prudent fiscal policy stance already in 2022.

Figure 1
Deficit and output gap



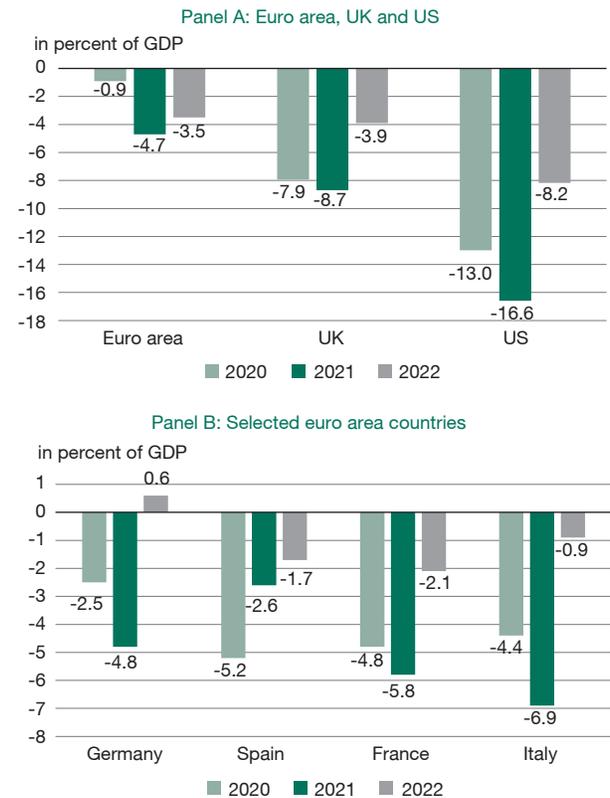
Sources: IMF and European Commission (output gap), AMECO database (deficits), June 2021.

Will demand stimulus work?

The modern view of fiscal policy is that it works by providing cash or liquidity to “hand-to-mouth” consumers, i.e. households that are constrained in their spending by their current disposable income. Consumers who do not face a liquidity constraint are unlikely to consume additional transfers provided by the government because they have to think about the future taxes with which the government will have to finance these transfers. But the models typically assume that a fraction of households are constrained by the availability of liquidity and that these households respond to higher transfers by consuming more. This feature is embedded into most of the models economists use to evaluate policy (see, for example, Burgert et al., 2020).

This type of reasoning implies that in a recession when unemployment is high, fiscal policy can foster an increase in demand by providing households with an income to spend. Households are likely to spend a large proportion of their current income on consumption when they can expect that future income will be higher. Expecting future incomes to be higher than current ones is natural for the unemployed in a recession. They can expect to earn more as the economy recovers. This simple approach also explains why multipliers (i.e. the impact of fiscal policy on output) are higher during recessions. When unemployment is low,

Figure 2
Deficit in excess of output gap



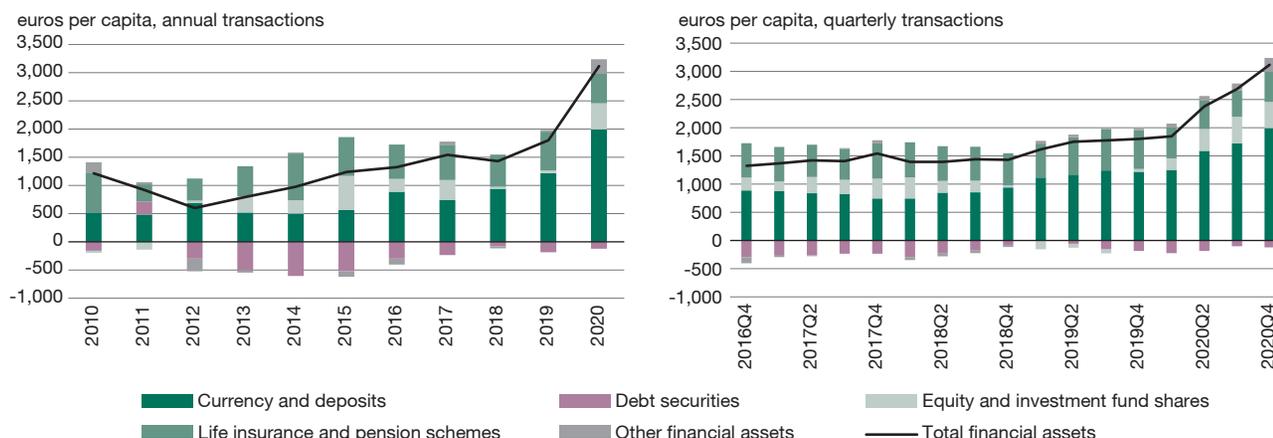
Sources: IMF and European Commission (output gap), AMECO database (deficits), June 2021.

there are fewer households around that require support to increase their spending today because their present income is already high relative to expected future incomes.

However, the COVID-19 recession is special, and the reactions of governments were very strong, as illustrated above. With deficits much larger than the output gap, household disposable income actually increased in many cases. However, consumption spending could not increase because of the COVID-19 restrictions. As a result, household savings increased. This can be seen in the large accumulation of financial assets already in 2020, illustrated in Figure 3. The financial assets of households in the euro area increased by almost 50%, from about €2,000 per capita to over €3,000 (left-hand panel). The right-hand panel of this chart shows that the increase in financial assets continues even after the large jump during the acute lockdown phase of early 2020.

This implies that there must be far fewer liquidity constrained consumers today than before the crisis. The standard models would thus imply that the impact of defi-

Figure 3
Household investments in financial assets and contributions by components



Sources: Eurostat und ECB calculations, 2021.

cit spending on demand should be much smaller than before. Apart from this technical point, it is clear that households now have the liquidity they need to spend.

A return to pre-pandemic consumption patterns is of course not certain. Households might remain cautious because of the memory of the uncertain times they just had to endure (Kozłowski et al., 2020). However, even if this were true, it would still imply that large fiscal deficits in excess of the need for replacement income should have a limited effect on the economy.

What could be the reason for the large differences in fiscal policy? Two mechanisms might be at play: confirmation bias and prisoner's dilemma.

Confirmation bias

One key underlying reason for this drifting apart is "confirmation bias" (Rodrik, 2020; Klayman, 1995), which results from a human tendency to find an affirmation of one's long-held beliefs in a crisis.

In the US, this crisis is seen by many through the lens of the 2008/9 crisis, when, according to perceived wisdom, the fiscal response was not large enough. "Go big" is the lesson learnt from that crisis, which should be applied today as well (Krugman, 2021).

In the euro area, this crisis is seen in Italy and Spain through the lens of the debate about Eurobonds, i.e. common debt issuance. The Southern members of the euro area feel vindicated in their demand for a common debt instrument and a common fiscal stabilisation mechanism.

The Germans, by contrast, feel that their prudent approach to fiscal policy was vindicated by the crisis, because years of balanced budgets mean that their government can now spend much more on helping German workers and enterprises to overcome it.

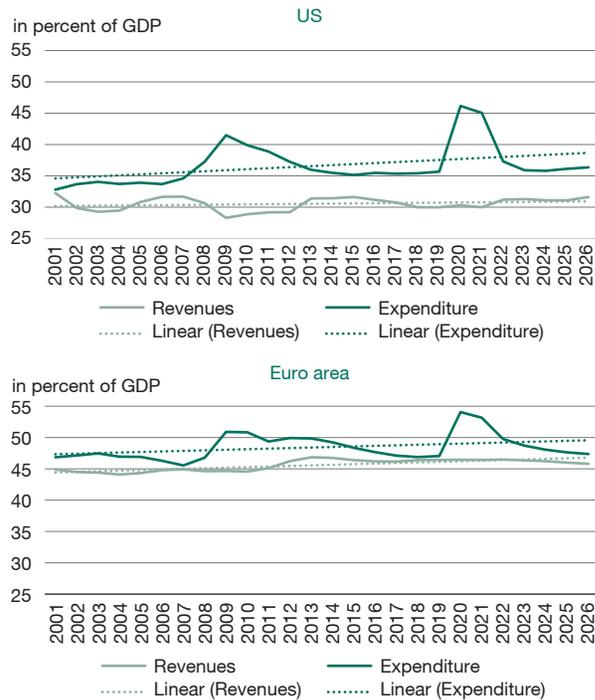
All these ways of confirming long-held beliefs about what should be done have their weaknesses. The argument that the fiscal response to the 2009 recession overlooks the fact that the COVID-19 recession is different because it is caused by an exogenous, sectoral shock, which implies that fiscal policy becomes less potent (Gros, 2020; Guerrieri et al., 2020). Moreover, as argued here, consumers have accumulated large liquid balances, making it unlikely that further transfers from the government will be spent immediately.

Whatever the strength of the arguments, confirmation bias tends to harden the opposing sides' positions, and this seems to be happening within the US political system as well.

Prisoner's dilemma

For some political forces in the US, mainly in the current administration, the question of the effectiveness of fiscal policy in terms of fostering demand and employment today is secondary. They argue that the US needs a stronger social security system and that many of the elements in the second "stimulus" package of 2021 should be made permanent. This would require a permanent increase in (federal) expenditures, but any increase in taxes is anathema to the Republican opposition, which has been able to block any sustained increase in taxes so far. As the rules of procedure are slightly different for expenditures than for tax increases (and the incentives for individual Sena-

Figure 4
General government expenditure and revenues



Sources: IMF, WEO database, April 2021.

tors and Representatives of Congress also differ), it has proven possible to increase expenditure, but not to increase taxes. This is unlikely to change soon, leading to a situation which has been called a “prisoner’s dilemma” (Alesina and Tabellini, 1990). As mentioned above, the administration is combining the lesson learnt from the Obama administration that any fiscal stimulus has to be big and that one should use a crisis to try push through long-held plans.

Figure 4 shows that in the US, expenditures and revenues (of general government, thus taking into account not only the federal level) have been drifting apart for a long time. Since 2001, the US has not had a single year without a deficit. The reason for this is that expenditure has been consistently above the threshold for revenues that is apparently politically acceptable. Expenditure has drifted upwards from 35% of GDP to close to 40%, with an extraordinary peak of 45% in 2020/21. By contrast, revenues have not kept pace, remaining mostly within a narrow range of 30%-32% of GDP. The US is likely to continue to run large deficits as long as this political equilibrium persists.

For the euro area, by contrast, expenditure and revenues are much closer (and higher than in the US) and neither of them shows a persistent upward or downward trend.

Conclusions

Discussion of the consequences of the US’ extraordinary fiscal policy tend to focus on their short-term impact on demand and potential inflation. However, the impact of even very large transfer payments to families might be limited because households have already accumulated large liquid balances, which they could spend any time.

Moreover, this entire debate might be misleading because it neglects longer-term trends. When comparing fiscal policy in the US and the euro area in the phase of economic recovery from the coronavirus pandemic, one must take into account the very different starting points. Both areas went into the COVID-19 shock with a robust economy and low unemployment. But the US was already at that time running a deficit of over 5% of GDP (and had been doing so for a long time), whereas the euro area was close to balance. This different starting point constitutes an often-overlooked key transatlantic difference.

The fact that the US was already running large fiscal deficits before the COVID-19 shock, even at times when unemployment had fallen to historical lows, points to a more fundamental problem, namely a drifting apart of the expenditures that seem politically expedient and the revenues that can be collected. The real issue for US fiscal policy is thus not a short-term one of speeding up the recovery from the coronavirus shock, but a more fundamental long-term one of political partisanship which prevents agreement on the measures needed to stabilise public finances.

In the euro area, the situation seems different: Government expenditure and revenues are much higher than in the US, but they are not drifting apart. Here, the main issue is the more traditional and short-term one, namely how to accompany and speed up the recovery.

References

- Alesina, A. and G. Tabellini (1990), A positive theory of fiscal deficits and government debt, *The Review of Economic Studies*, 57(3), 403-414.
- Burgert, M., W. Roeger, J. Varga and L. Vogel (2020), A Global Economy Version of QUEST: Simulation Properties, *European Economy Discussion Papers*, 126.
- Gros, D. (2020), Lessons From the COVID-19 Crisis for Euro Area Fiscal Rules, *Intereconomics*, 55(5), 281-284, <https://www.intereconomics.eu/contents/year/2020/number/5/article/lessons-from-the-covid-19-crisis-for-euro-area-fiscal-rules.html> (24 June 2021).
- Klayman, J. (1995), Varieties of confirmation bias, *Psychology of learning and motivation*, 32, 385-418.
- Kozłowski, J., L. Veldkamp and V. Venkateswaran (2020), Scarring body and mind: the long-term belief-scarring effects of Covid-19, *NBER Working Paper Series*, 27439.
- Krugman, P. (2021, 7 February), Fighting Covid Is Like Fighting a War, *The New York Times*.
- Rodrik, D. (2020, 6 April), Will Covid-19 Remake the World?, *Project Syndicate*.

Jan Büchel and Christian Rusche*

On Gatekeepers and Structural Competition Problems

The Digital Age saw the rise of several rapidly growing digital platforms with substantial market shares, and this development is expected to continue. Europe is a large target market for these globally operating platforms, although the majority of the most successful platforms come from the USA and Asia and will likely continue to do so in the future. This article reveals the reasons for the success of digital platforms and discusses the recent European Commission proposal for a Digital Markets Act based on the analysis of the status quo.

On 15 December 2020, the European Commission published its proposals on the Digital Markets Act (European Commission, 2020b) and the Digital Services Act (European Commission, 2020a). These proposals stand for the latest EU-level effort to adapt the regulatory system to the increased economic power and societal influence of digital platforms. The Digital Markets Act targets a limited number of core platform services of very large online platforms. The Digital Services Act aims to create a transparent and safe online environment. Concentrating on the proposed Digital Markets Act, this article discusses the importance of digital platforms in the European Union and suggests the role they will play in the future. This includes an analysis of the factors that make platforms successful and that allow them to grow at such a rapid speed and discusses the relationship of platforms and competition based on the results of this analysis. Against this backdrop, some platforms are ascribed to be gatekeepers in some markets. It also shows what makes a platform a gatekeeper and under which circumstances a gatekeeper position can cause structural competition problems that

justify a market intervention. This also allows for the derivation of policy recommendations that enrich the discussion on the recent regulatory proposals.

Competition and digital platforms

In the economic literature on competition, there is an ongoing discussion about whether competition is an aim by itself or just a means to reach other goals (Schmidt, 1999, 32). Generally, functioning competition can be a means that helps to achieve a performance-based income distribution, consumer sovereignty, an ideal allocation of production factors, flexibility and technological progress. Despite its beneficial role for an economy, full-scale competition, defined as atomistic players without impact on the market outcome acting on a given market, is not always an ideal choice (Schmidt, 1999). Among others, this holds for digital platforms. A digital platform can be defined as “an enterprise that uses the internet to facilitate economically beneficial interactions between two or more independent groups” (Demary and Rusche, 2018, 8).

There are three success factors for a digital platform (Demary and Rusche, 2018).

Economies of scale: In the digital economy, there are no or only a few physical barriers that prevent a scaling up of the business model. The marginal costs for including an additional user or for selling an additional service are, therefore, close to zero. But the starting costs for the business, which are based on the hardware, the software and the marketing costs for attracting users, can be very high.

Positive indirect network effects: The platform facilitates transactions between different groups of users. To this end, users from at least one user group must wish to be

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* This article is an updated version of Büchel and Rusche (2020a).

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matched with users from another group. The platform's business model is to decrease the transaction costs for such a match. Furthermore, when deciding on a platform, a user takes the number of potential transaction partners into account. The platform with the largest number is usually most attractive to him. The increased attractiveness of a platform with the number of users in another group is described by positive indirect network effects. Positive indirect network effects on more than one side that reinforce each other allow the platform to grow even faster and gain market power quickly.

Data analysis: The platform can collect data from the matching process and the different user groups. The integration of this data from different contexts can be used to extract information that can be especially valuable (Krotova et al., 2019). This information allows, for example, an improvement of the matching process, the revelation of opportunities for new products, services or selling advertising space.

All three success factors highlight that a big platform can yield a better outcome for itself but also for the whole economy. Such a platform will lead to higher household incomes and a better consumer satisfaction than several small platforms. One or a few platforms can be focal points for users to carry out transactions and, therefore, work as a co-ordination device. One large platform reduces transaction costs for all sides of the market. Furthermore, before a dominant platform evolves, there is a fierce competition for the market. Especially self-reinforcing positive indirect network effects can start a stable growth process that allows a platform to quickly dominate a market once a critical mass of users is reached (Evans and Schmalensee, 2016, 78). This relationship is highlighted by the term winner-takes-all market (Demary and Rusche, 2018).

However, if just one platform dominates the market and managed to obtain a durable and stable position in the market, that platform can be termed a gatekeeper. It is vital for users to be active on that platform in order to get in contact with potential transaction partners. The COVID-19 pandemic also facilitated the role of platforms due to lockdowns in several countries. Even in the accommodation sector, which was affected by lockdowns, platforms like Airbnb or Booking.com can benefit in the end. The asset-light business model of platforms – the goods and services offered on the platform are supplied by the users – allows the platform to keep costs low and adapt quickly to changes in demand or supply. Accordingly, the platforms in the accommodation sector suffer smaller damages and can easily benefit from the opportunities once the pandemic is over.

Platform's role in the economy

The importance of platforms is shown by the fact that eight of the 10 most valuable firms worldwide can be categorised as a platform (Price Waterhouse Coopers, 2020).¹ It is estimated that within the next 10 years, 30% of gross economic output will stem from platforms such as Amazon, Alibaba and Facebook (Fong et al., 2020).

These platforms are important coordination devices, not only on a national level but also worldwide. Although the European Union has a suitable infrastructure and a large user base, companies from the US and Asia usually monetise the market potentials (Price Waterhouse Coopers, 2020). Furthermore, in the digital economy there are rapid innovation cycles, which are known as "leapfrog competition" (Grave and Nyberg, 2017, 364). A firm with a dominant market position can be driven out of the market by a new company that offers goods and services more in line with the preferences of customers. Myspace vs. Facebook and Yahoo! vs. Google are examples. To include the near future of the rise of platform business models in the picture, a look at unicorn companies can be helpful (Büchel and Rusche, 2020a). Unicorn companies are not publicly listed but have a valuation of at least \$1 billion based on recent funding rounds. The interest of investors can point to companies that can challenge dominant incumbent firms or enter new markets.

In the first quarter of 2020 there were 471 unicorns worldwide with a combined valuation of \$715 billion. From those 471 unicorns, 135 (with a total valuation of \$307 billion) could be classified as platforms.² Accordingly, the mean valuation of a unicorn is \$1.52 billion, while a platform unicorn has a mean valuation of around \$2.3 billion. With regard to regional distribution, only 29 of all 471 unicorns and 12 of the 135 platform unicorns come from the EU27. So, the dominance of Asian and US firms in the European digital economy is likely to continue.

Gatekeepers and proposed obligations

The fast growth and the large economic power of digital platforms have led to a discussion on whether this can cause economic or societal problems that need to be tackled by new regulations (e.g. HM Treasury, 2019; United States House of Representatives, 2020). The recent proposals for an adopted regulation by the European Commission (2020a, 2020b) showed that the European Union answered the question on the need for new

¹ Only the Saudi Arabian Oil Company (Saudi Aramco) and Berkshire Hathaway do not have a platform business model.

² Büchel and Rusche (2020a) based on data from CB Insights.

regulations affirmatively. This is justified by the dominant position of companies from the USA and Asia in the European Union. The setting of fair rules in the EU can create a level playing field where incumbent companies can compete fairly with digital companies with market power. A level playing field can also set the scene for the rise of start-ups for example from the EU that can enhance competition in the digital economy. Furthermore, the regulation of dominant digital platforms can be justified because they can act as a gatekeeper between their different groups of users and, therefore, can potentially influence competition in their favour (Demary et al., 2020).

The Digital Markets Act (European Commission, 2020b) directly aims at core platform services of only a small number of digital platforms which are called gatekeepers. According to Article 3 of the proposal (European Commission, 2020b, 36), a platform is a “gatekeeper if

- (a) it has a significant impact on the internal market;
- (b) it operates a core platform service which serves as an important gateway for business users to reach end users; and
- (c) it enjoys an entrenched and durable position in its operations or it is foreseeable that it will enjoy such a position in the near future.”

In Article 2(2) of the proposal, eight services are defined that can be deemed a core platform service including examples such as online search engines, advertising services and video-sharing platform services (European Commission, 2020b, 35-36). Furthermore, to judge whether there is indeed a significant impact on the internal market, quantitative metrics or a qualitative case-by-case analysis can be used (European Commission, 2020b, 2). Once a platform is a gatekeeper under the definition of the proposal, the European Commission (2020b, Art. 3(7)) identifies the core platform services where problems are evident. For these services, Article 5 lists general obligations and Article 6 lists additional obligations, respectively, that can be specified further by the Commission. The general obligations state that

- The gatekeeper is not permitted to combine personal data of the core platform service with the data from other platform services or third-party sources without the consent of the user.
- It is mandatory to give business users the opportunity to offer their services on other intermediation services at other or better conditions.

- There exists the possibility for business users to promote offers and conclude contracts with customers acquired by the core platform service whether they use the core platform service for that purposes or not. Conversely, customers can access content, subscriptions etc. with the business user whether they acquired them via the core platform service or not.
- It is forbidden to prevent business users from raising issues with public authorities.
- It is forbidden to prescribe the use of identification services offered by the gatekeeper.
- The gatekeeper refrains from prescribing the use of any other service of the gatekeeper.
- The platform provides advertisers and publishers for whom it supplies advertising services, upon their request, with information concerning the price paid by the advertiser and publisher, as well as the amount or remuneration paid to the publisher.

Article 6 also stipulates that the gatekeeper will refrain from using data in competition with business users that is not publicly available. Additionally, it is allowed for end users to uninstall and pre-install software applications and software application stores as long this does not affect the essential functioning of the device or operation system. If the company fails to comply with these obligations laid down in Article 5 and 6, the Commission can, according to Article 26 of the proposal, impose a fine of up to 10% of global turnover of one year.

General analysis of the proposal

Before the proposed regulations are discussed in detail, it is necessary to point to the fact that the proposed regulation applies once a gatekeeper has evolved. This, however, leaves out the fact that shortcomings in merger control were to some extent responsible for the rise of digital platforms. This is highlighted by 566 completed acquisitions by Apple, Amazon, Google and Facebook listed in a report of the United States House of Representatives (2020) and 400 acquisitions by Amazon, Apple, Facebook, Google and Microsoft within the last 10 years listed in a report for the British HM Treasury (2019). Both reports, however, have not found a prohibited acquisition. An acquisition of an incumbent firm is especially problematic in the digital economy. Since the value of data increases with its integration with data from different sources (Krotova et al., 2019), digital companies that already have a lot of data are willing to pay higher amounts for start-ups with valuable datasets. Furthermore, companies on a platform market

must reach a critical mass of users first in order to be successful. In such a situation, the acquisition of a company with an established product that has almost reached this critical mass is problematic for competition. This is due to the fact that the acquiring platform does not have the pressure to innovate in order to improve its position.

Accordingly, a better use of the means of merger control can also help to keep competition working. This can also help to prevent the abuse of a dominant position by gatekeepers because it keeps the doors open for new competitors and helps to prevent a leveraging of market power in new markets. Keeping markets open with the help of merger control replaces to some extent the need to intervene in the future. Nevertheless, in the current situation where dominant platforms have evolved, there is indeed the need to intervene once the dominant position causes structural competition problems.

From an analytical viewpoint, there are structural problems if there are high entry or start-up costs, which include high switching costs for consumers coupled with a high level of concentration in the market.

High entry or start-up costs may be due to positive network effects (attracting a critical mass of consumers in order to be attractive for more consumers), regulatory barriers, lack of relevant data or other inputs and users that are hard to attract (for example, due to high switching costs or single-homing consumers). From an economist's perspective, high entry costs are no problem for competition if multiple enterprises are active in a market. The competition between these enterprises limits the market power of any incumbent firm directly. This is done by, for example, the introduction of standards that reduce switching costs, the setting of low prices or investments in innovation.

If the market is concentrated, there is no problem for competition if start-up or entry costs are low. In the case of monopolistic behaviour and monopoly profits, new competitors are attracted, and customers are also prone to switch to these new competitors due to high prices and the tendency for less innovation and lower quality in monopolistic markets. For example, although Alphabet (Google) dominates the market for advertisement-supported videos uploaded by private users with YouTube, TikTok was able to successfully enter this market with new features (Büchel and Rusche, 2020b).

Thus, high market concentration and high entry costs reinforce each other and can cause structural competition problems. In the platform economy, this can manifest itself in the emergence of increasingly vertically integrated platforms and the formation of proprietary markets. In a

proprietary market, a platform is also a competitor to its own business users, and it shapes a business environment in its own favour to maximise its profits.

However, innovation and changes in demand can still lead to functioning competition. If a dominant firm does not constantly adapt to changing consumer interests or invest in new or improved existing products, it will create an opportunity for new competitors to enter the market. Accordingly, a case-by-case assessment is needed to take into account all features of the market and possible substitutes so as to judge whether there are indeed structural competition problems that have to be addressed by market interventions. This also means that interventions should be evidence-based and are not capable of limiting the growth opportunities of (potential) start-ups.

Specific analysis of the proposal

Furthermore, since platforms are focal points and reduce transaction costs for the whole economy, the consequences of a regulation on the functioning of the whole platform ecosystem must also be considered. Against the backdrop of the Digital Markets Act, the definition of gatekeepers as such includes all important points from an analytical perspective. In another article, the authors have stipulated in a proposed gatekeeper definition that the platform's service must be of high relevance for the users (Büchel and Rusche, 2020a). The rationale behind including the relevance is that a company can only act as a gatekeeper and can potentially abuse their power if it keeps a gate the users want to pass or must pass. However, since this includes arbitrariness to some extent and the judgement is subjective, it is reasonable to concentrate on the important gateway proposed by the Commission.

Often, a platform acting as a gatekeeper captures a large share of total revenue in one of the underlying markets. It must be agreed upon by the authors that the Commission does not only look at the revenue that is generated in the consumer market by the platform when it decides upon whether the gatekeeper has a significant impact. A collection of alternative measures was set out by the recent Progress Report of the Expert Group for the Observatory on the Online Platform Economy (2021). This includes measures like the share of consumer attention, by quantifying the number of users or the amount of time users spend on the platform. Even the number of acquisitions undertaken by the platform as a competition strategy can serve as an adequate measure.

A platform acting as a gatekeeper can exert its gatekeeper role with regard to consumers just as well as to business users. This is due to the platform's large impact on

the entire sector, which extends not only to the business-user side of the platform but also to consumers and to potential platform user groups such as advertisers, who should also be included in the analysis.

As a result of the above analysis, it is clear that platforms in the digital economy will gain in power and importance, so much so as to even deem platforms an essential facility. Note that the regulations in European competition law in Article 102 of the Treaty on the Functioning of the European Union (TFEU) already ascribe platforms the status of an essential facility and regulate them accordingly (Demary et al., 2019). This can include the implementation of fair rules, mandatory data sharing and a right to use the platform. Accordingly, most obligations laid down in the proposal can be based on this Article or other regulations already implemented (Grave and Nyberg, 2020). The question arises whether there is still value added by the added obligations in the proposal for a Digital Markets Act. And indeed, the value added by the proposal is that it eradicates the uncertainty of the rules to be applied in Single Market to some extent.

The proposal lays down the allowed conduct by powerful digital platforms and therefore also lays down the rights users have on the platform. The specific obligations, especially in Article 5, are based on cases and proceedings in European competition law. The internal separation of data was prescribed by the Bundeskartellamt in Germany in a case against Facebook and was also implemented in German laws (Bundesgesetzblatt, 2021, 2-32). The ability to apply better conditions is based on the cases regarding best price clauses in the EU and in member states, for example.³ This, however, also means that the Digital Markets Act is not the endpoint in efforts to regulate the digital economy. Innovation and new products or services may also lead to new practices that may be deemed to be anti-competitive in the future.

Conclusion and policy recommendations

The question of whether the current competitive framework is sufficient to address issues raised in digital markets is closely connected to the question of whether the authorities' abilities are sufficient to proceed effectively against platforms that abuse their market power and breach existing competition rules. Generally, the current regulatory framework is also capable of acting in the Digital Age and it builds on established legal pillars. Nevertheless, tailored modernisation and adaption, for example in merger con-

trol, are helpful to ensure fair competition. In addition, there is a need for tailored procedures on individual large online platforms with gatekeeper power, on a case-by-case basis, by using the existing regulatory instruments. The Digital Markets Act proposal also helps to regulate the digital economy with its powerful platforms. This is done by a pre-emptive definition of fair rules based on existing experience by competition authorities. This also makes faster interventions in digital markets possible. While this can be problematic because it can potentially limit the positive effects of platforms and curbs innovations in the digital economy, the fact that it is based on evidence and can be targeted to specific situations can help to create a competitive digital economy and therefore enhance innovations.

In addition, based on the analysis above, policy recommendations can be made that can be used to further improve competition. These recommendations can be divided into: (1) how to deal with dominant digital platforms in the market now; and (2) how to keep markets open and promote future innovation.

First, the COVID-19 pandemic and the measures taken by the governments to combat it have improved the market positions of many digital platforms. In the short run, their often dominant position and their market power cannot be limited by e.g. new competitors or merger control. But the following policy recommendations can be useful for adapting the proposed Digital Markets Act.

It is beneficial to have one or only a few platforms in a market rather than having many small platforms. This, however, makes setting and enforcing clear and distinct rules more important as attempted by the Digital Markets Act. Constantly changing regulations, the introduction of undefined legal concepts or different competing regulations that can potentially apply for one firm only foster *legal uncertainty* and limit growth opportunities. Therefore, there should be no legal uncertainty because it limits investments and makes agents avoid reasonable transactions.

Pre-emptive state intervention in the economy must be avoided. Governmental interventions in markets can ultimately result in markets being designed according to political aims, limiting competition and therefore harming consumers by reducing the availability of goods and services. This especially includes interventions without there being a dominant firm or (likely) infringements in the market. This increases uncertainty for economic agents, damages competition and limits incentives for investments and innovations. The obligations in the Digital Markets Act that are based on experiences by authorities and only aim at a limited number of big platforms are an efficient way to regulate and can be a blueprint for further regulations.

³ For example, Bundeskartellamt (2015), best price clause of online hotel portal Booking.com also violates competition law.

Pay attention to the role of state-owned enterprises. State-owned enterprises and enterprises with backup from their home country are also left out of the discussion of the proposed regulation. State-owned enterprises, including platforms, may be formed or supported by governments outside the European Union and can, among other things, raise challenges to competition in the EU. This factor has to be considered in the discussion on how to adapt competition rules in the Digital Single Market.

Second, in the long run, there are more means available in order to react to identified problems for competition on digital markets. The following steps can be useful.

Avoid too tight and too many detailed regulations. Generally, anti-trust regulation is a channel for new firms and, hence, innovation. The regulation keeps markets open and creates a level playing field where fair competition can take place. Anti-trust regulations prevent dominant firms from sealing their markets off from competition. Nevertheless, regulations that are too tight limit the opportunities and incentives for new firms and can, therefore, harm consumers by restricting innovation and the availability of products and services. Accordingly, before new rules or regulations are implemented, the effects of previously implemented rules and regulations should be considered and evaluated.

Take merger control into consideration with new regulations or new competition tools. Merger control can be empowered by including data and other synergies between involved enterprises and assessments. This could, as an extreme measure, include a moratorium on mergers and acquisition involving big digital players.

Promote the Single Market in the EU. One reason for the low number of competitive digital platforms from the EU is the incomplete Single Market. Fragmentation into many small markets limits growth opportunities and the scaling up of business models. Therefore, less money is invested in the EU, and investment is allocated to different projects in different member states. This fragmentation is exemplified by huge price differences for Pampers diapers on Amazon in different member states (Economist, 2020). Pampers diapers are a standardised product that can easily be shipped and that can be ordered on a digital platform from any country. In a completed single market, huge price differences should vanish because consumers in high price countries order in countries with lower prices. The fact that this is not the case shows that the Single Market in the EU is incomplete. Accordingly, promoting the Single Market supports competition by laying the groundwork for start-ups that challenge the position of dominant digital platforms.

References

- Büchel, J. and C. Rusche (2020a), Competition in the digital Economy, An Analysis of Gatekeepers and Regulations, *IW-Policy Paper*, 26.
- Büchel, J. and C. Rusche (2020b), Status quo und Perspektiven von Video-on-Demand in Deutschland, Eine Bestandsaufnahme im Angesicht von Streaming Wars und Corona-Krise, *IW-Report*, 31.
- Bundesgesetzblatt (2021), Part I No. 1, published in Bonn on 18 January 2021.
- Bundeskartellamt (2015), Case summary B9-121/13.
- Demary, V. and C. Rusche (2018), The Economics of Platforms, *IW-Analysen*, 123.
- Demary, V., B. Engels and C. Rusche (2020), Differentiated Treatment of Business Users by Online Platforms – An Analysis of Incentives with an In-Depth Look at App Stores and E-Commerce Platforms, *Observatory on the Online Platform Economy, Analytical paper*, 2.
- Demary, V., N. Guggenberger, E. Rabovskaja and C. Rusche (2019), *Data Sharing im E-Commerce – Rechtliche und ökonomische Grundlagen*, Gutachten für ServiCon Service & Consult eG.
- Economist (2020, 29 August), The Pampers index: what nappy prices reveal about Europe.
- European Commission (2020a), Proposal for a Regulation of the European Parliament and of the Council on a Single Market For Digital Services (Digital Services Act) and amending Directive 2000/31/EC, COM(2020) 825 final.
- European Commission (2020b), Proposal for a Regulation of the European Parliament and of the Council on contestable and fair markets in the digital sector, COM(2020) 842 final.
- Evans, D. S. and R. Schmalensee (2016), *Matchmakers: The New Economics of Multisided Platforms*, Harvard Business Review Press.
- Expert Group for the Observatory on the Online Platform Economy (2020), Progress Report: Work stream on Measurement & Economic Indicators, <https://ec.europa.eu/digital-single-market/en/news/commission-expert-group-publishes-progress-reports-online-platform-economy> (16 October 2020).
- Grave, C. and J. Nyberg (2017), Die Rolle von Big Data bei der Anwendung des Kartellrechts, *Wirtschaft und Wettbewerb*, 67(7/8).
- Fong, C., J. Huang, K. Robinson and K. Ungerman (2019), *Prime Day and the broad reach of Amazon's ecosystem*, McKinsey & Co.
- HM Treasury (2019), Unlocking digital competition, Report of the Digital Competition Expert Panel.
- Krotova, A., C. Rusche and M. Spiekermann (2019), Die ökonomische Bewertung von Daten, Verfahren, Beispiele und Anwendungen, *IW-Analysen*, 129.
- Price Waterhouse Cooper (2020), Global Top 100 companies by market capitalisation, Update to 30 June 2020.
- Schmidt I. (1999), *Wettbewerbspolitik und Kartellrecht*, Lucius & Lucius, 32.
- United States House of Representatives (2020), Investigation of Competition in Digital Markets, Majority Staff Report and Recommendations, Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary.

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The Great COVID-19 Divergence: Managing a Sustainable and Equitable Recovery in the EU

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. Some sectors have been hit harder than others. 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 lasting 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 scarring due to the fallout from the pandemic. The first priority is tackling the global health emergency. Second, the article warns against premature fiscal tightening but suggests additional short-term support to prevent scarring. Third, the article warns against protectionism and advocates for reforms that boost productivity growth further.

The COVID-19 pandemic has led to the biggest global recession since the Second World War. Global GDP in 2020 was 6.7% lower than had been forecast at the end of 2019.¹ Developing and advanced countries lost about the

same proportion of output relative to the forecast (6.7% vs 6.3%), yet the actual annual GDP decline was larger in advanced economies: a 4.7% recession in 2020 vs a 2.2% recession in 2020 in emerging and developing countries respectively. Among the big economies, China even grew by 2.3%, though its 2020 level of GDP was 3.6% lower than pre-pandemic forecasts.

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

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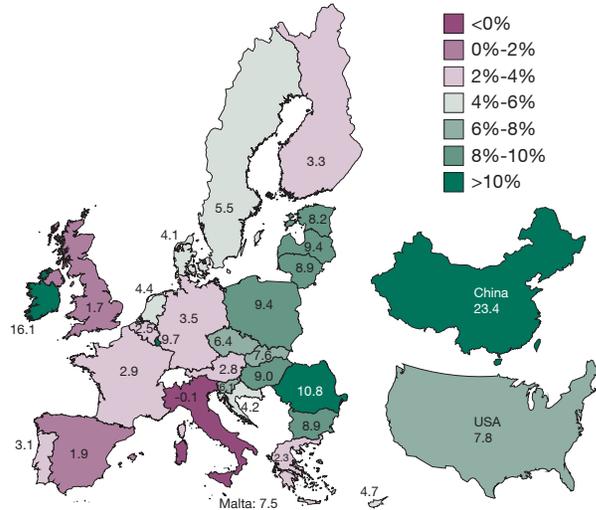
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According to the International Monetary Fund (IMF, 2019, 2021), despite higher-than-usual growth as the global economy recovers from the COVID-19 shock, world output will still be about 4% lower in 2024 than pre-pandemic projections suggested. In other 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. These differences are documented in the following section.

Some of the intra-EU divergence may become permanent or at least long lasting, as discussed in the subsequent section. 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

Figure 1
Real GDP forecasts as of April 2021: Cumulative growth for 2019-2023
 in %



Note: Forecast EU27 cumulative growth for 2019-2023 is 4.1%. Countries in shades of purple are thus below the EU27 average, while those in green are above. Irish GDP numbers reflect the large role of foreign multinationals and should therefore be considered with care.

Source: Authors' own calculations based on IMF (2021).

surpass it in 2021 already.² On a sectoral level, the pandemic might lead to a different economy because of long-lasting behavioural changes.

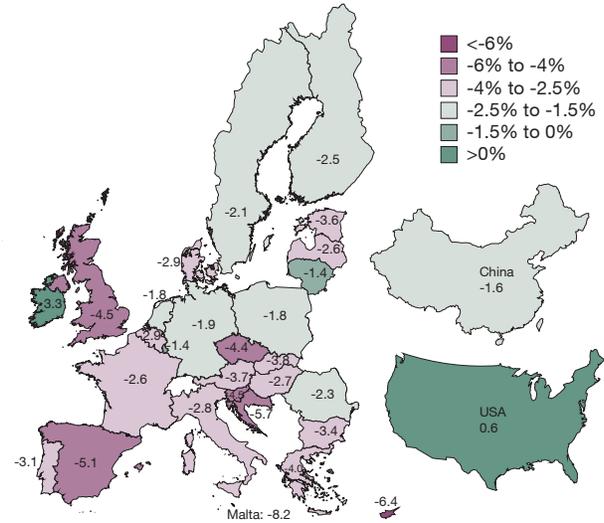
As the EU emerges from the COVID-19 recession, important policy choices need to be made to prevent unnecessary long-term damage, facilitate the necessary sectoral reallocation, address the inequality effects of the pandemic and ensure a sustainable recovery. We analyse these choices in the final section.

EU divergence

According to current forecasts, from 2019 to 2023, the EU economy is set to underperform relative to that of the United States and China. There will also be diver-

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 article, 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 2
Change in real GDP growth forecasts between October 2019 and April 2021 for 2019-2023
 in percentage points



Note: The difference between the October 2019 and the April 2021 forecasts for the 2019-2023 EU27 growth is -2.5 percentage points. Countries in shades of purple are thus below the EU27 average, while those in green are above.

Source: Authors' own calculations based on IMF (2019, 2021).

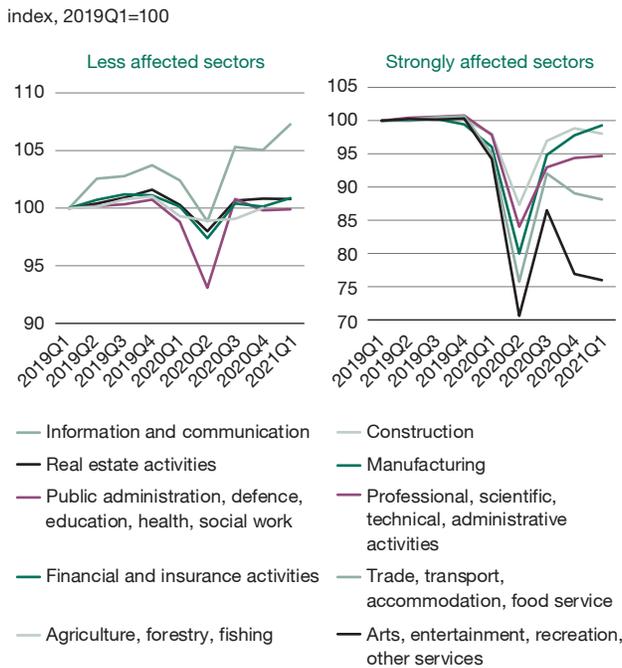
gence within the EU. Figure 1 shows expected cumulative growth over this period, highlighting the economic underperformance of large parts of the EU relative to the US and China, and of countries in the Mediterranean and of the United Kingdom.

The coronavirus 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 downwards 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.

Multiple factors can explain this picture. Sapir (2020) suggested that the differential impact of the pandemic on economic performance can be explained by the strictness of the lockdowns necessary to contain the pandemic, the size of countries' tourism sectors and the overall quality of their governance.

Clear sectoral divergences can be seen, with the tourism sector, and the services sector more broadly, particularly affected. Figure 3 shows the stark differences between sectors. It also shows that most sectors were able to reorganise so that, compared to the first lockdown, the second lockdown in the fourth quarter of 2020 affected

Figure 3
Gross value added in selected sectors, EU27



Note: Chain-linked volumes, seasonally adjusted.

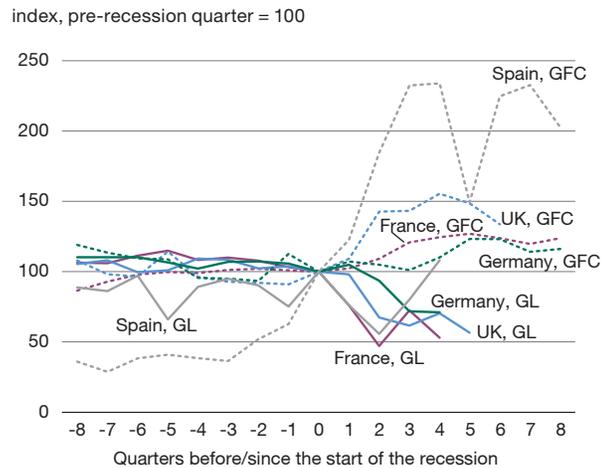
Source: Authors' own calculations based on Eurostat's "Gross value added and income A*10 industry breakdowns [namq_10_a10]" dataset, 2021.

them either much less or not at all. The most important exceptions are arts and entertainment, trade, travel and accommodation-related businesses. Travel has been particularly hard hit and its future prospects remain unclear. The number of EU flights remains 70% lower compared to 2019 (Eurostat, 2021).

However, strong effects in some sectors have not yet resulted in an increase in corporate insolvencies. Unlike the global financial crisis, the current "great lockdown" has in fact been associated with falling numbers of insolvencies (Figure 4). 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 (ESRB, 2021) warns of the big threat of a wave of insolvencies when current measures and support are phased out.

Other significant intra-EU divergence can be seen in the labour market, with the young and the less educated particularly affected (Figures 5 and 6). Generally, highly educated people have done well while for the less educated, there have been substantial employment losses. Moreo-

Figure 4
Business insolvency filings during the global financial crisis and the COVID-19 crisis



Note: GFC stands for global financial crisis; GL stands for great lockdown. French data are seasonally adjusted. No data for Northern Ireland are available before 2009Q4.

Sources: Authors' own calculations based on Banque de France and Insee, UK Insolvency Service, Statistisches Bundesamt and Instituto Nacional de Estadística.

ver, 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). Women with low levels of education and women aged 15-24 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.

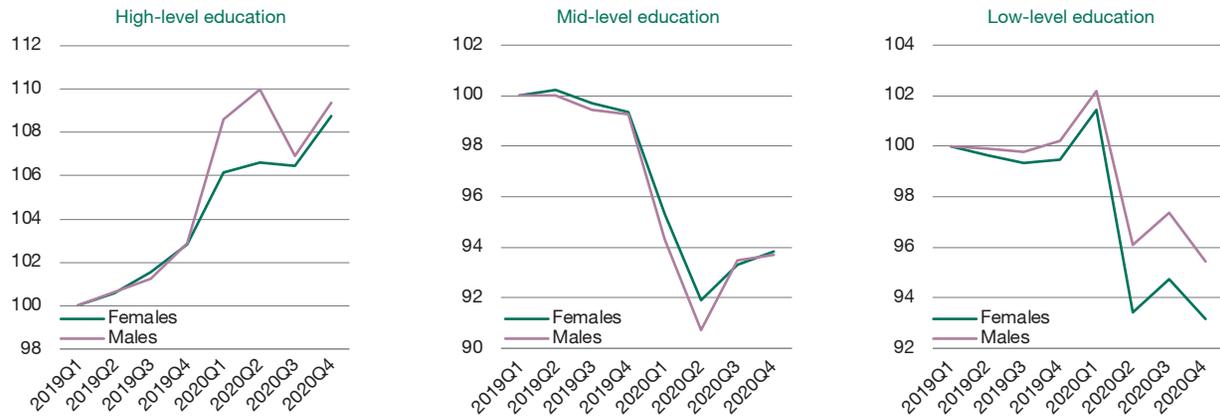
Education and age correlate strongly with income and wealth, and hence the labour market effects we have described suggest a widening of income inequalities.³ From a survey of about 90 papers published in 2020-2021 on various aspects of inequality, Stantcheva (2021) concluded that COVID-19 has exacerbated 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) suggested that students affected by school closures during the pandemic may experience 3%

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

Figure 5
EU27 employment by educational level and gender

index, 2019Q1=100

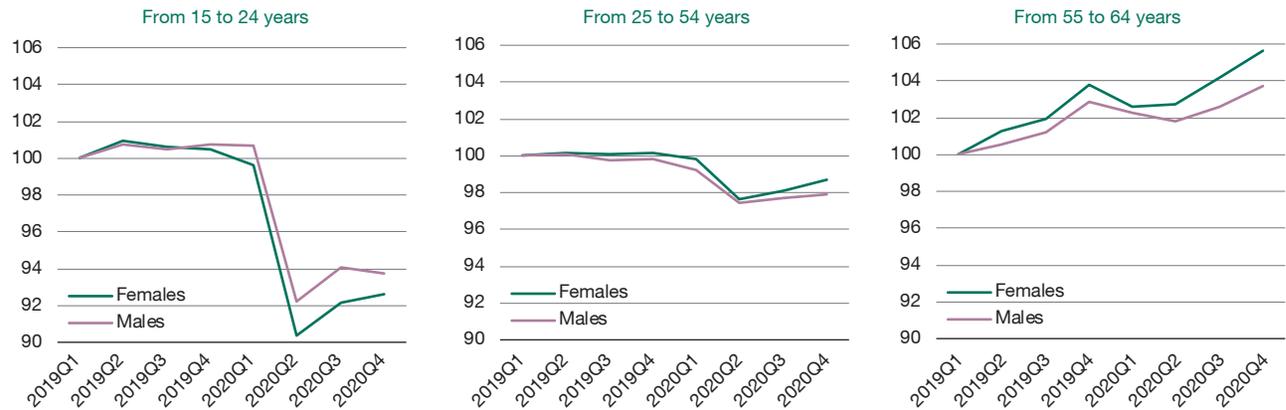


Note: Seasonally adjusted data.

Source: Authors' own calculations based on Eurostat's "Employment by sex, occupation and educational attainment level (1 000) [lfsq_egised]" dataset, 2021.

Figure 6
EU27 employment by age and gender

index, 2019Q1=100



Note: Seasonally adjusted data.

Source: Authors' own calculations based on Eurostat's "Employment and activity by sex and age - quarterly data [lfsi_emp_q]" dataset, 2021.

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, particularly the less educated.

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.

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% 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 (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.

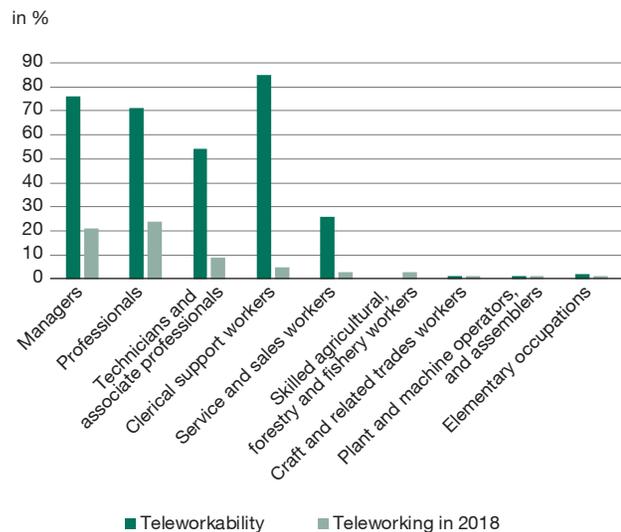
COVID-19 has forced firms to become more efficient. Firms that suddenly found themselves in prolonged shut-downs have had to optimise processes, cut down costs and become more efficient. They have had to become more innovative and to digitalise and automate as much as possible. Maqui and Morris (2020) showed that 75% of firms surveyed agreed that the pandemic 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% 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 7 shows the potential for increased teleworking by profession.

However, the overall net effect on productivity is uncertain. Bloom et al. (2020) showed that the efforts to deal with the pandemic have increased intermediate costs for UK firms. The authors estimated that productivity was re-

Figure 7
Teleworkability and actual teleworking in 2018 among employees by broad occupation group, EU27
in %



Note: Teleworkability refers to the proportion of employees who could telework.

Source: Figure 22 of Sostero et al. (2020).

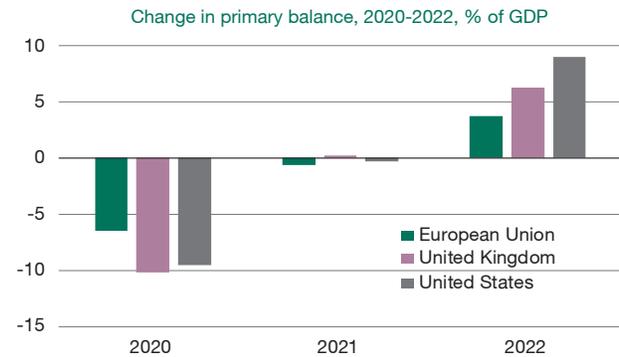
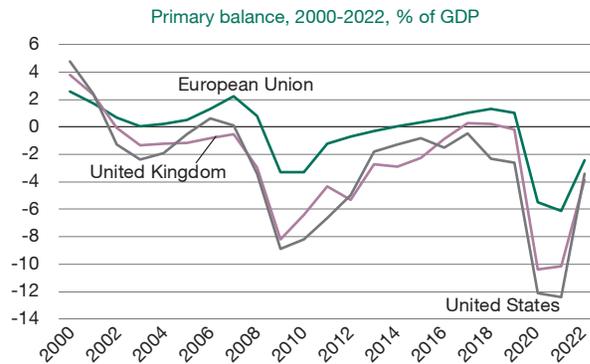
duced by up to 5% by the last quarter of 2020 and argued that the current management of the coronavirus pandemic may cause a reduction of 1% in the medium term in comparison to pre-pandemic levels due to less research and development expenditure as well as diverted time spent by managers to deal with pandemic-related issues.

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.⁴ Whether and to what extent supply chains will be shortened remains, however, uncertain.

COVID-19 may have permanently affected market structures. Information and communication technology firms have seen increases in their market capitalisations. This has significantly increased their share in the Standard & Poor’s 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 OECD (2021) found the same based on model simulations.

Figure 8
General government primary balance forecasts



Note: The spending from Next Generation EU grants does not count as deficit of EU countries. The change in the primary balance results from both discretionary fiscal measures as well as automatic stabilisers.

Source: Authors' own calculations based on May 2021 European Commission forecast.

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.

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 8), 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 late-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-

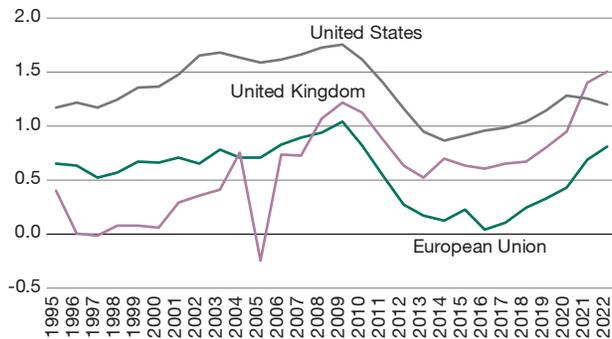
term inflationary pressures (current IMF (2021) forecasts predict inflation in the euro area will be below 1.8% until 2026, which suggests there is some slack in the economy), nor should it raise debt sustainability concerns. To boost aggregate demand, and given the significant distributional consequences 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.

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 from that of today. To allow for sectoral reallocation and reorganisation within sectors, not every firm can be kept alive forever by state support.⁵ Fiscal policymakers should support the reallocation of productive factors by incentivising corporate investment and supporting the re-training and re-skilling of workers. Increasing the tax-deductibility of corporate investment, for example, would increase corporate investment 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

⁵ Anderson et al. (2020) discussed the phases of the initial response and the phasing out of measures and their effects.

Figure 9
Net fixed capital formation of the general government
in % of GDP



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.

Source: Authors' own calculations based on May 2021 AMECO.

gas emissions, the EU will need to increase public investment in green infrastructure that the private sector cannot provide.⁶ The EU has been falling behind other advanced economies in terms of public investment since around 2012 (Figure 9). 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 rules.⁷ 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.

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 resil-

ience plans focus on green and digital transitions.⁸ 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 significant reforms to the judicial system and public administration. Structural weaknesses have been a major factor in divergent economic performances (Sapir, 2020), and such reforms have the potential to reinvigorate business activities.

NGEU can smooth the fiscal consolidation impacts once European fiscal rules are reactivated. 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).⁹

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.

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 lifted.¹⁰ The

6 For instance, this is the case for 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.

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

8 Our analysis shows that on average, the green transition accounts for about 43%, and the digital transition about 28% of the spending plans of those 23 countries that had submitted their plans by the time of writing this paper. Note that there is some overlap between green and digital projects (i.e. some projects are both green and digital).

9 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 1.2.3 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.

10 Claeys et al. (2021) provided more detail on insolvencies in the EU and the reform of insolvency regimes.

average recovery rate from insolvency procedures in the EU is 62 cents on the dollar, far below that of the UK (85 cents on the dollar) or the US (81 cents on the dollar) (World Bank, 2020). The European Banking Authority (2020) suggested that recovery rates in Europe might be even lower, with estimates ranging from 34 cents on the dollar for SMEs to 40 cents on the dollar for large companies. 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, thereby failing to protect remaining entrepreneurial value.

By reforming insolvency processes, policymakers can tackle critical impediments to economic growth in the post-COVID-19 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 the EU level, policymakers should ensure the swift transposition into national legislation and effective implementation¹¹ of the Restructuring and Second Chance Directive (EU) 2019/1023, 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 are unlikely to have immediate effect. Obviously, the reform of the insolvency frameworks will take time but it is an important issue to tackle.

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

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

currently higher for green jobs than 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 opportunities.¹² Social policies, in particular a strong emphasis on education and life-long learning, will play a crucial role 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.

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 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

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

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. 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 for 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.

References

- Adalet McGowan, M., D. Andrews and V. Millot (2017), The Walking Dead? Zombie Firms and Productivity Performance in OECD Countries, *OECD Working Paper*, 1372.
- Almeida, V., S. Barrios, M. Christl, S. De Poli, A. Tumino and W. van der Wielen (2020), Households' income and the cushioning effect of fiscal policy measures during the Great Lockdown, *JRC Working Papers*, 2020-06.
- Anderson, J., F. Papadia and N. Véron (2021), COVID-19 credit-support programmes in Europe's five largest economies, *Bruegel Working Paper*, 03/2021.
- Anderson, J., S. Tagliapietra and G. Wolff (2020), A framework for a European economic recovery after Covid 19, *Intereconomics*, 55(4), 209-215. <https://www.intereconomics.eu/contents/year/2020/number/4/article/a-framework-for-a-european-economic-recovery-after-covid-19.html> (3 June 2021).
- Arriola, C., P. Kowalski and F. van Tongeren (2020, 15 November), Localising value chains in the post-COVID world would add to the economic losses and make domestic economies more vulnerable, *VoxEU*.
- Bloom, N., P. Bunn, P. Mizen, P. Smietanka and G. Thwaites (2020), The Impact of COVID19 on Productivity, *NBER Working Paper*, 28233.
- Cameron A., G. Claeys, C. Midões and S. Tagliapietra (2020), A Just Transition Fund – How the EU budget can help with the transition, report for the European Parliament Committee on Budgets, *Bruegel Study*.
- Claeys, G., M. Hoffmann and G. Wolff (2021, 7 January), Corporate insolvencies during COVID-19: keeping calm before the storm, *Bruegel Blog*.
- Darvas, Z. (2021), The unequal inequality impact of the COVID-19 pandemic, *Bruegel Working Paper*, 06/2021.
- Darvas, Z. and G. Wolff (2021, 4 March), The EU's fiscal stance, its recovery fund, and how they relate to the fiscal rules, *Bruegel Blog*.
- Demertzis, M. and N. Viegi (2021), Low interest rates in Europe and the US: one trend, two stories, *Bruegel Policy Contribution*, 07/2021.
- European Banking Authority (2020), Report on benchmarking of national insolvency frameworks across the EU.
- European Systemic Risk Board (2021), Prevention and management of a large number of corporate insolvencies, *European Systemic Risk Board*.
- European Commission (2021), Spring 2021 Economic Forecast: Rolling up sleeves, *Institutional Paper*, 149.
- Eurostat (2021), Commercial air flights by reporting country – monthly data [avia_tf_cm].
- Griffin, M., E. György, K. Jakšić and F. Siebern-Thomas (2019), Towards a greener future: Employment and social impacts of climate change policies, in European Commission (2019), *Employment and Social Developments in Europe 2019: Sustainable growth for all: choices for the future of Social Europe*, Publications Office of the European Union.
- Grzegorzczak, M. and G. Wolff (2020, 28 November), The scarring effect of COVID-19: youth unemployment in Europe, *Bruegel Blog*.
- Hadjibeyli, B., G. Roulleau and A. Bauer (2021), Live and (don't) let die: The impact of Covid-19 and public support on French firms, *French Treasury Working Paper*, 2021-2.
- Hanushek, E. and L. Woessmann (2020), The Economic Impacts of Learning Losses, *OECD Education Working Papers*, 225.
- Hellwig, M., V. Priesemann and G. Wolff (2021), Reducing the mobility of SARS-CoV-2 variants to safeguard containment, *Bruegel Working Paper*, 07/2021.
- International Monetary Fund (2019), *World Economic Outlook: Global Manufacturing Downturn, Rising Trade Barriers*.
- International Monetary Fund (2021), *World Economic Outlook: Managing Divergent Recoveries*.
- Maqui, E. and R. Morris (2020), The long-term effects of the pandemic: insights from a survey of leading companies, *ECB Economic Bulletin*, 8/2020.
- Milhøj, M. O., L. Aggerstrøm Hansen and A. T. Lundberg (2021), How will the economy recover as we get vaccinated: experiences from Israel, *Danske Bank Global Macro Research Note*.
- Mischke, J., J. Woetzel, S. Smit, J. Manyika, M. Birshan, E. Windhagen, J. Schubert, S. Hieronimus, G. Dagorret and M. Canal Noguer (2021), *Will productivity and growth return after the Covid-19 crisis?*, McKinsey Global Institute.
- OECD (2021), *Global value chains: Efficiency and risks in the context of COVID-19*, *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing.
- Peng, M. W., Y. Yamakawa and S. Lee (2010), Bankruptcy Laws and Entrepreneur-Friendliness, *Entrepreneurship Theory and Practice*, 34(3), 517-530.
- Phillips, N. (2021, 16 February), The coronavirus is here to stay — here's what that means, *Nature News Feature*.
- Sapir, A. (2020), Why has COVID-19 hit different European Union economies so differently?, *Bruegel Policy Contribution*, 2020/18.
- Sostero M., S. Milasi, J. Hurley, E. Fernández-Macías and M. Bisello (2020), Teleworkability and the COVID-19 crisis: a new digital divide?, *JRC Technical Report*, 2020/05.
- Stantcheva, S. (2021), Inequalities in the Times of a Pandemic, mimeo, *Economic Policy*.
- World Bank (2020), *Doing Business 2020*, World Bank Group.

Paul De Grauwe

Inflation Risk?

Inflation is on the rise again in the industrialised world. This has led to fears of a sustained surge in inflation. This article argues that while such fears may make sense in the US, they do not in the eurozone, where the monetary-fiscal policy mix has been much less expansionary than in the US. The fear expressed by some that the monetary overhang from the large injections of liquidity through quantitative easing might lead to inflation in the eurozone does not stand up to scrutiny either. The conclusion offers some observations on the monetary operating procedures in the ECB. It argues that in the future, when interest rates rise again, the ECB risks transferring all (and even more) of its profits to the banking system. This article proposes a way to avoid this unacceptable outcome.

Inflation is on the rise again in the industrialised world. In the US, the inflation rate reached 5.4% in June 2021; in the eurozone inflation was estimated to be 1.9% in the same month. Should we worry about this surge in inflation? In order to answer this question, one must answer a preliminary one: What are the causes of this increase in inflation?

The short answer is that it has everything to do with the economic recovery from the pandemic that hit the world in 2020. This recovery has been made possible by two things: the release of excess savings accumulated during 2020 and strong expansionary fiscal and monetary policies, especially in the US, where the mix of fiscal and monetary policy has been extraordinarily expansionary. While US GDP growth declined by 5.8% in 2020, the budget deficit increased by 10.7% of GDP. Thus, for every 1% decline in GDP, the US fiscal authorities allowed the budget deficit to increase by almost 2% of GDP. This compares with a decline in eurozone GDP of 7.5% and an increase in the budget deficit of 6.4%. In other words, for every 1% decline in GDP in the eurozone, fiscal authorities allowed the budget deficit to increase by less than 1% of

GDP. Thus, it appears that the fiscal expansion was about twice as strong in the US compared to the eurozone.

A similar story emerges from monetary policies. Both the US Fed and the ECB intensified their asset purchases since the start of the pandemic, thereby flooding the markets with liquidity. But again, the amount of asset purchases was significantly higher in the US than in the eurozone. Since January 2020, the US Fed bought approximately \$2.6 trillion in government securities, about twice the amount bought by the ECB, €1.3 trillion, thereby increasing the amount of liquidity in the US significantly relative to the eurozone.

It appears that since the start of the pandemic, monetary and fiscal policies have been expansionary in both the US and the eurozone, but that the intensity of this expansion has been much higher in the former. This has led some to argue (e.g. Summers, 2021; Blanchard, 2021) that the US fiscal-monetary policy mix is excessive and exceeds the capacity of the economy to absorb it without major price increases. This probably explains why the surge in inflation is much higher in the US than in the eurozone. I conclude from this that while the risk of inflation is real in the US, it is much less so in the eurozone, where monetary and fiscal expansion does not appear to be hitting capacity constraints in the economy.

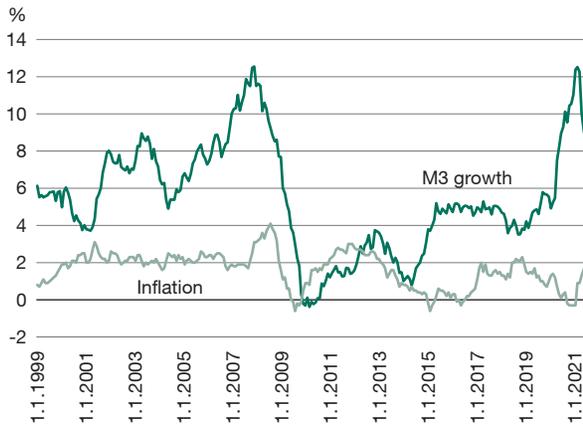
Diehard monetarists will probably object to this conclusion. Quantitative easing (QE) performed by the ECB since 2015 has created a monetary overhang. Does this overhang not create a risk for future inflation? Did Milton Friedman not teach us that inflation is always and everywhere a monetary phenomenon? The fact is that the QE programme of the ECB has led to a surge in the money

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Figure 1
Inflation and M3 growth rate in the eurozone



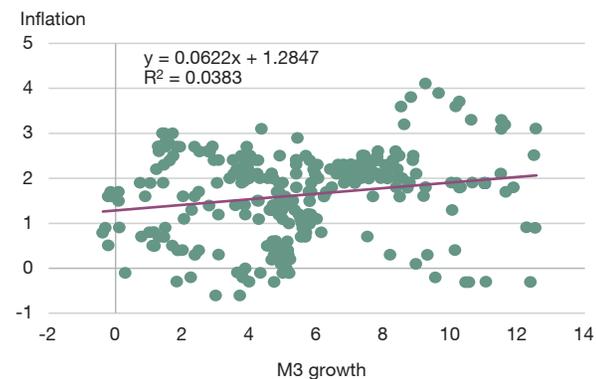
Source: European Central Bank.

stock in the eurozone. This in the end will lead to a surge in inflation, according to this monetarist analysis.

Let us look at the numbers. This is done in Figures 1 and 2. Figure 1 shows the evolution in time of inflation and the growth rate of M3 in the eurozone. We observe first that the relation between these two variables is weak. This is also confirmed by Figure 2, which shows the same numbers in a scatter diagram, with M3 growth on the horizontal axis and inflation on the vertical one. A simple regression line, which is almost horizontal, shows that there is no significant relation at all between money growth and inflation. Of course, one might argue that this figure only measures the short-term relation between money growth and inflation, while the monetarist theory tells us that this relation only holds in the long run. De Grauwe and Polan (2005) looked at the long-run relationship between money growth and inflation (over a 30-year period) for about 100 countries and concluded that, except for countries experiencing hyperinflation, there is no significant long-run relation between money growth and inflation.

Coming back to Figure 1, we observe two waves in the expansion of the money stock in the eurozone. There is the pre-financial crisis wave of monetary expansion that reached yearly growth rates of more than 10% from 2006 to 2008, and there is the post-2015 wave that led to increases in the money stock exceeding 10% in 2020. Both waves of monetary expansion that were sustained over five years or more do not seem to have affected inflation much (confirming our previous observations). The pre-financial crisis wave, however, teaches us that the risk was elsewhere, i.e. in the financial markets. Underlying the strong growth in M3 there was the surge in

Figure 2
Inflation and M3 growth in the eurozone, 1999-2021



Source: European Central Bank.

bank credit that fuelled real estate and other bubbles. Ultimately, this led to the banking crisis of 2007-08. Will history repeat itself?

From the preceding, I conclude that the risk of a significant surge in inflation in the eurozone appears to be limited. This contrasts with the US, where the risk appears to be more serious. However, the large expansion in liquidity both in the US and in the eurozone creates potential risks in financial markets. These might affect the future conduct of monetary policies.

At some point when inflation returns to its normal level, central banks will have to raise interest rates. These interest rate increases create two potential problems that may act as obstacles for these interest rate increases.

The first one relates to the problem just identified. An interest rate increase may destabilise financial markets, in particular the bond markets. Interest rate increases will lower bond prices and affect the balance sheets of many financial institutions (banks, pension funds, insurance companies). Can such an increase in the interest rate be done in an orderly way that minimises the risks of a financial crisis? There is no easy answer to this question. The uncertainty about this may induce central banks to wait too long to raise interest rates.

The second obstacle derives from the way central banks conduct monetary policies. For about 20 years, major central banks (including the Fed and the ECB) have switched to an operating system in which they remunerate banks' reserves held at the central bank. This means that when central banks have to raise the interest rate, it

will affect their profit and loss account. This effect will be particularly pronounced for the ECB. At the end of 2020, bank reserves held at the ECB amounted to a massive €3.5 trillion (mostly the result of the large bond purchase programmes of the ECB). A 1% increase in the interest rate means that the ECB will have to pay out €35 billion to the banks holding these reserves. Going back to normal implies that the short-term interest rate would probably increase to 2%, leading to interest payments to banks of €70 billion. This represents about three times the annual profits recorded by the ECB, €10-€20 billion during 1999-2017 (Chiacchio et al., 2018), and thus would lead to massive losses of that institution. This could make the ECB reluctant to raise interest rates when this becomes necessary.

There is no easy way out of this problem. One possibility would be for the ECB to massively sell government bonds again, thereby reducing bank reserves. This would not only raise long-term bond rates significantly but, more importantly, it would imply that the government debt relief that is implicit when the ECB holds government bonds on its balance sheet would be reversed. This would put new pressure on member states' budgets, especially those with large outstanding debt levels. It could also trigger a new sovereign debt crisis.

My favourite solution to this conundrum would be for the central bank to return to the old operating procedure of not remunerating bank reserves. There is no good economic argument why banks should be remunerated for holding liquid assets. Holders of banknotes are not remunerated either. The current operating procedure that pays bankers for holding liquid reserves will in normal times ensure that all (if not more) of the seigniorage gains that should go to the Treasury are actually transferred to financial institutions. This is an unacceptable outcome. The old operating procedure together with the use of minimum reserve requirements can be made to work again (as it did in the past) and provide for a better tool to conduct monetary policies in normal times.

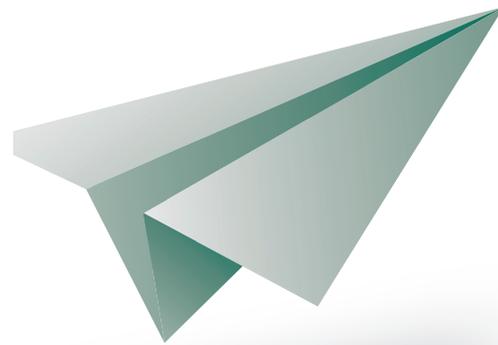
References

- Blanchard, O. (2021), In defence of concerns over the \$1.9 trillion relief plan, *Real Time Economic Issues Watch Blog*, Peterson Institute for International Economics.
- Chiacchio, F., G. Claeys and F. Papadia (2018), Should we care about central banks profits, *Policy Contribution*, 13, Bruegel.
- De Grauwe, P. and M. Polan (2005), Is Inflation Always and Everywhere a Monetary Phenomenon, *Scandinavian Journal of Economics*, 107(2), 239-259.
- ECB (2020), Consolidated balance sheet of the Eurosystem, December 31.
- Summers, L. (2021), The inflation risk is real, <http://larrysummers.com/2021/05/24/the-inflation-risk-is-real/> (29 July 2021).

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Arne Hansen and Dirk Meyer

Debt Relief as a Last Resort for the Lender of Last Resort?

Monetary Financing – Doing It Right

The coronavirus crisis has led to a sharp increase in the debt-to-GDP ratios of the euro area member states. Without external support, access to the capital market could be seriously threatened in the medium term for Italy, but also for other member states. While the Pandemic Emergency Purchase Programme, which is designed as a monetary policy instrument, is regarded by some as a violation of the prohibition of monetary financing, the Next Generation EU recovery fund is likely to direct the fundamental structures of the European Union towards a fiscal union with considerable redistribution elements. This article analyses an alternative strategy, namely debt relief by the European System of Central Banks through an EU debt agency. Such a scheme would be possible without amending the EU treaties and would avoid negative equity at the central banks. The question is under what circumstances would this approach be suitable and proportionate?

The COVID-19 crisis has confronted the European Union (EU) with new challenges. After the special summit of 21 July 2020, member states responded with a financial framework totalling €1,824.3 billion. This framework comprises the multiannual financial framework for 2021-2027 (€1,074.3 billion) and the Next Generation EU (NGEU) recovery instrument (€750 billion). This special budgetary instrument entails elements of a structural departure from traditional EU law (Meyer, 2021). Created on the basis of the EU civil protection legislation clause (Article 122 of the Treaty on the Functioning of the European Union, TFEU), it covers not only the euro area but all EU member states. The aid will not be subject to conditions or in-depth checks. For the first time, the EU will be taking out substantial loans of more than €750 billion. In order to finance these loans on its own, the EU will be given independent fiscal sovereignty. If individual member states fail to repay

their EU loans, the other member states will guarantee these loans proportionately – Eurobonds, albeit under a different name.

In this article, we analyse a potential alternative to the €750 billion recovery programme on the basis of proportionately balanced debt relief for the euro area members and EU member states. We also present a further debt relief scenario.¹ The aim is a limited reduction of the debt in crisis-hit countries, in particular so as to restore their debt sustainability or at least to ensure that it is no longer threatened. Another aim is to avoid a redistribution element and a transfer of powers to the EU level. At the same time, this debt relief must conform to the provisions of the Treaty on European Union (TEU) and the TFEU.

The recovery fund is mainly designed to help the heavily indebted euro area member states. In the past, some of these countries have violated EU debt regulations and for this reason would be likely to lose their access to the capital market if they had to secure suitable loans on their own. For Greece, Italy and Portugal, the debt-to-GDP ratios at the end of 2021 were forecast to be 208.8%, 159.8% and 127.2% respectively (European Commission, 2021a). With this new “EU umbrella”, it will be possible to avert impending sovereign default, accommodate Italy’s request to circumvent the European Stability Mechanism (ESM) with conditions-based aid and avoid having to in-

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¹ For alternative scenarios, see Hansen and Meyer (2020a, 291-303).

crease the ESM's funds as would otherwise be necessary. Moreover, with its Pandemic Emergency Purchase Programme (PEPP), which is passed off as a monetary policy instrument (European Central Bank, 2020a), the European System of Central Banks (ESCB) will in effect assume the role of a lender of last resort for countries.² This raises legal concerns, particularly in light of the German Constitutional Court's ruling on Public Sector Purchase Programme (PSPP, European Central Bank, 2020b) government bond purchases (BVerfG 2 BvR 859/15).³ So what could be a more obvious political and economic measure than a debt relief on the basis of public sector securities purchased by the ESCB as part of the PSPP and the PEPP?⁴ This would also enable the member states to establish appropriate national pandemic programmes without going through the EU budget. These programmes would be financed by national taxes (e.g. a one-off capital levy) or new government loans. This would avoid the problems of the recovery programme and its regulatory consequences as well as the legally questionable purchases of government bonds by the ESCB, which may not be necessary then.⁵

The present article offers an observation of the legal aspects of the considered ESCB debt relief, followed by an analysis of options for conducting such debt relief. After a discussion of the possible economic consequences, two detailed numerical scenarios are presented and their implications are scrutinised.

Legal aspects

The President of the European Parliament, David Sassoli, stated in November 2020, that debt cancellation would be “an interesting working hypothesis, to be reconciled with the cardinal principle of debt sustainability” (Arnold and Hindley, 2020). Along the same lines, in a letter published by some European newspapers in February 2021, a group of more than 100 economists called on the European Central Bank (ECB) to cancel the government debt that it owns or to convert it into perpetual bonds with 0% inter-

est rate (Andor et al., 2021).⁶ The President of the ECB, Christine Lagarde, so far has rejected such ideas because “there is Article 123 of the treaty, which prohibits that kind of approach”, and “anything along those lines would simply be a violation of the treaty” (Arnold, 2020). Obviously, the prohibition of monetary financing in Article 123(1) of the TFEU represents a legal hurdle (Deutscher Bundestag, 2021, 8-10); the article prohibits “the purchase directly from them [the member states] by the European Central Bank or national central banks of debt instruments”. The potential circumvention of the prohibition of monetary financing was scrutinised not least by the German Constitutional Court (BVerfG 2 BvR 859/15) on 5 May 2020 with regard to the PSPP on the basis of various criteria.⁷ This shows that secondary market purchases can also be considered monetary financing and that determining what is legal and what is illegal is not always easy. According to the court, “the decisions on the adoption and implementation of the PSPP ultimately do not amount to a qualified violation of Article 123(1) TFEU given that, based on a proper application of the criteria ..., it is not ascertainable that the purchases ... manifestly circumvent the prohibition of monetary financing” (BVerfG 2 BvR 859/15, para. 197).⁸

But how, in legal and practical terms, would we manage the hypothetical but by all means possible constellation in which, as matters stand, the debts of a considerable number of member states are no longer sustainable and these states are on the brink of losing their access to the capital market and, in response to this crisis, the ESCB as a lender of last resort would (partly) waive the redemption of government bonds – i.e. it would effectively cancel them at its own expense? In this case, it would be appropriate to speak of a debt relief that, in effect, would simultaneously be a form of sovereign debt monetisation or monetary financing (von Lewinski, 2011, 455).

Given the independence of the ESCB and its primary commitment to maintaining price stability (Article 282 TFEU) and the principle of conferral (Article 5(2) TEU), this procedure would require special legitimation. Using a euro zone emergency as a justification, the legal concept of a temporal constitutional exemption could be ap-

2 On the ECB as a lender of last resort for countries during the coronavirus crisis, see Neyer (2020, 18-19).

3 See the findings of a study by Hansen and Meyer (2020b).

4 See Röhl (2020), whose proposal served as an initial impetus for our work. Quite fittingly, the total volume of ESCB sovereign debt purchases under the PSPP and PEPP is close to the expected increase in euro area debt from 2019 to 2021, see German Council of Economic Experts (2021, para. 114).

5 According to the German Council of Economic Experts (2021, para. 114), the “securities purchases constitute a large-scale support measure for the ... financing costs of the member states” so that “even highly-indebted member states continue to be able to fund themselves in the bond market.”

6 Andor et al. (2021) argue “that the word ‘cancellation’ does not appear neither in the treaty nor in the protocol” on the ESCB and that the ECB “can even print money to compensate for these losses”.

7 The ruling (BVerfG 2 BvR 859/15) highlights the purchase limit of 33% and the distribution of purchases according to the ECB's capital key (para. 217) as the two decisive criteria for “an overall assessment and appraisal” (para. 215). This prevents market power that influences prices (para. 201-202) and preferential fiscal policy treatment for select member states (para. 203).

8 In contrast, an empirical analysis by the authors comes to different findings. See Hansen and Meyer (2020b).

plied.⁹ As a derogation on the same level as the TFEU, an amendment (Article 48 TEU) would be necessary to legitimate a single limited exception by legislation. This would, of course, be politically difficult because, alongside the no-bailout clause, the prohibition of monetary financing is one of the key rules of EU economic law. For this reason as well, it would be advisable to act within the scope of current EU law.

Options of ESCB debt relief

In the following, we analyse different ways of conducting ESCB debt relief. The options must fulfil all of the following four conditions:

- a (considerable) reduction in the debt-to-GDP ratios in particular of those euro area member states whose debt sustainability is acutely at risk
- avoidance of negative equity at the ECB and national central banks (NCBs)
- avoidance – as much as possible – of the unequal treatment of member states through redistribution
- compatibility with existing EU laws.

Immediate write-off leads to negative equity

A number of suggestions are based on the purchase of government bonds, which the ECB or the ESCB would convert into perpetual or 100-year bonds on an interest- and redemption-free basis.¹⁰ As a result, the value of the bonds would immediately drop to zero.¹¹ This leads to the problem of booking the losses resulting from debt relief. The central banks of the ESCB have relatively little equity in relation to their total assets. The ECB has €10.825 billion in equity, with €7.584 billion (81.33%) from the euro area member states, of which €1.999 billion (21.44%) is from the Bundesbank (as of 29 December 2020). The Bundesbank itself has equity amounting to €5.720 billion. Since the debt relief that we are considering amounts to tens of thousands of billions of euros, the associated immediate write-offs – if they were implemented in the near term – would lead to a high level of negative equity at the NCBs

9 For more information on national state emergencies, see von Lewinski (2011). Von Lewinski says a financial emergency is only a national emergency if essential state functions can no longer be performed as a result.

10 See, e.g. Páris and Wyplosz (2014) and Stelter (2020, 153-160). Röh (2020, 2) writes about waiving the repayment of government bonds bought by the ESCB.

11 Depending on what approach is taken, 100% of the state debt would technically continue to exist, which means that the debt-to-GDP ratios of the various countries would not be reduced.

and the ECB. It is true that central banks cannot become insolvent because they themselves issue legal tender and can therefore meet any liability by creating money.¹² If they did so, however, they would risk losing trust (damage to their reputation) and political control, while repeating such instances would likely cause inflation.

ESCB write-off bonds or equalisation claims

Equalisation claims or write-off bonds are one way of writing off government debt by way of debt relief combined with extending the loss period. As a rule, equalisation claims serve as a counter entry – mainly on the balance sheets of banks – if an equity gap arises as a result of political interventions. While equalisation claims must be paid off, write-off bonds are written off over a certain – usually long – period, resulting in a debit for the holder and a credit for the issuer. However, equalisation claims also depreciate with inflation and long redemption-free terms; as a result, the debit/credit effects are similar.¹³

The ESCB write-off bonds considered here are interest-free bonds with a variable annual write-off amounting to the central bank's net profit for the year, which would have otherwise accumulated and would have had to be shown on the balance sheet. They thus cannot be traded on the open capital market. The state's debt decreases annually by the amount of the write-off. The financial burden this places on the central bank is passed on to the taxpayer because no profits are transferred to the state budget. Instead of transferring all or large proportions of the net profit for the financial year to the state budget, as is normally the case, the state's debt is reduced earlier.¹⁴ This is possible with a European debt agency. This EU debt agency would have two functions:

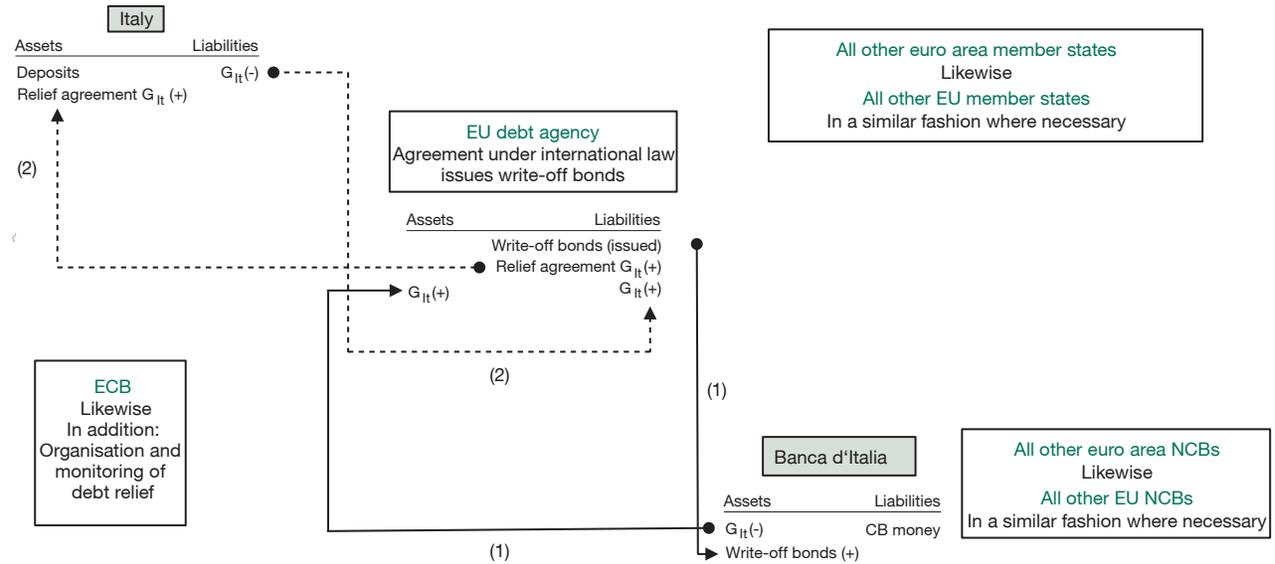
- issue the write-off bonds, thus uncoupling ESCB debt relief from state budgets
- act as a buffer, avoiding negative equity at the central banks by way of write-offs over time while immediately reducing state debt.

12 See German Council of Economic Experts (2018, para. 393-396), on the debate about whether and how central banks with negative equity can continue working.

13 In the past, equalisation claims were used during the German currency reforms of 1948 and 1990. To balance out their losses resulting from an asymmetric conversion of claims and liabilities, long-term equalisation claims against the federal government were transferred to the affected commercial banks. See Deutsche Bundesbank (1995, 1996) and Vogelsang (2011).

14 Immediate and complete debt relief is different from Stelter's approach, which envisages an extension of the relief. See Stelter (2020, 156).

Figure 1
ESCB debt relief: Write-off bonds and relief agreement via EU debt agency



Note: G_{It} stands for government debt securities, Italy; CB stands for central bank.

Source: Authors' own compilation.

The EU debt agency would be responsible for transforming debt relief. Like the ESM, it would be founded as an international, independent financial institution on the basis of a treaty between the euro area member states. It would therefore be legally independent from the EU. Equipped with a banking licence, the EU debt agency could come under the exemption clause of Article 123 TFEU. According to Article 123(1) TFEU, the direct purchase of government bonds by the European Central Bank or national central banks is prohibited. However, these provisions do not apply to “publicly owned credit institutions which, in the context of the supply of reserves by central banks, shall be given the same treatment by national central banks and the European Central Bank as private credit institutions” (Article 123(2) TFEU).¹⁵ Whether the establishment of an EU debt agency with a banking license fulfils these conditions is likely to be controversial. Alternatively, and for reasons of legal security, a selective and temporal constitutional exemption could be legitimatised on the basis of Article 48 TEU.

The described approach is shown in Figure 1, with Italy as an example. In step (1), the EU debt agency issues write-off bonds (balance sheet expansion) that are exchanged by the Banca d'Italia for Italian government bonds (G_{It}) held there (accounting exchange on the assets side). In step (2), the EU debt agency takes on the government debt (G_{It}) in its balance sheet by way of a relief or revocation agreement. Italy thus receives immediate debt relief, which, on the balance sheet, is reflected by an increase in the value of assets and a drop in the debt-to-GDP ratio. At the same time, the EU debt agency can balance out the government bonds (G_{It}) that were exchanged by the Banca d'Italia for write-off bonds in step (1). On the assets side there is a gap amounting to the commitments from the write-off bonds and the relief agreement; this excess debt is reduced to zero over the long term. Officially, the EU debt agency functions here as an outsourced subsidiary budget for all euro area countries, which solves the problem of temporally incongruent demands of “immediate relief of government debt” and “avoidance of negative central bank equity”.

The same approach is used by the other 18 euro area member countries and the ECB, which convert their (partial stock) holdings of national government bonds into write-off bonds. The ECB would also be responsible for organising and supervising the debt relief process. All EU member states that have not yet introduced the euro are free to reduce their debt accordingly on the basis of their

15 Article 55(c)(ii) of Guideline (EU) 2015/510 explains this in more detail. According to this article, approved business partners must, for example, fulfil the following condition: They must be “publicly owned credit institutions, within the meaning of Article 123(2) of the Treaty, subject to supervision of a standard comparable to supervision by competent authorities under Directive 2013/36/EU and Regulation (EU) No 575/2013”.

national currency, independently of the euro area. With this approach, we do not differentiate between the write-off bonds of the various countries. However, there are differences between the substituted government bonds of the euro area member states in terms of their average duration and risk-differentiated average interest rates. The annual write-off rates are also likely to differ because the profits of the individual NCBs will not be the same.¹⁶ From the perspective of distributional neutrality, it could be particularly important to adopt an appropriate interest rate with regard to the write-off bonds. However, the interest accruing at the NCBs would increase their annual surplus and, in turn, the write-off rate in favour of the depreciation of the write-off bonds (“left-pocket-to-right-pocket transaction”). The approach presented here would only lead to the already existing distribution effects that result from the rules on the allocation of the NCBs’ monetary income (Article 32, ESCB Statute) and the distribution of the ECB’s profits (Article 33, ESCB Statute; Hansen and Meyer, 2020b, 41-42).

Economic aspects of monetisation

ESCB debt relief leads to capital growth in the accounts of the euro area member countries (liabilities are cancelled), while the NCBs and the ECB record a corresponding loss (assets are cancelled), possibly over long periods of time. If we assume that debt relief is based on the ECB’s capital key (see scenario (i) below), redistribution is avoided, except for the waiving of interest, which has an equalising effect. Within a consolidated state-NCB balance sheet (broad scope of consolidation), the items balance each other out, and the change in capital is zero.¹⁷ This distinguishes monetisation through a central bank from a general “haircut” on government debt, which is conducted via the entire bond issue. The latter would also affect holdings in the hands of private entities, which means that the state would experience capital growth on the same scale. There is thus likely to be less resistance to monetisation.

The question arises as to whether any costs at all would be incurred and if so, who would bear them. The loans to the member states provided them with purchasing power to buy

domestic goods and services as well as imports. If we assume that, alternatively, a tax had been imposed, this would have involved costs for the taxpayer and there would have been resistance against such a tax. If this is not the case, the increase in public demand could have led to a crowding out of private demand. However, there is no (additional) inflationary effect because the ESCB has already increased the base money supply when it purchased the bonds.

Two fundamental objections remain, however: the issue of sterilisation and that of non-recurrence. At least potentially, a central bank has the option of sterilising the central bank money created with bond purchases through early sales or redemption at final maturity. The non-marketability of write-off bonds cancels this option. Thus, the higher the debt relief, the more severely monetary policy control is impaired.¹⁸ However, another question is whether the capital market in particular would be receptive to bonds of heavily indebted euro area countries. In general, a reduction of the ongoing asset purchase programmes appears problematic at present and will remain so in the foreseeable future.¹⁹ After all, since the beginning of the government bond purchase programmes in 2010, the – mostly long-term – securities were held until their final maturity and the redemption sums were reinvested. The crucial difference between monetisation by means of debt relief and the current approach of the PSPP and PEPP programmes is that sovereign debt continues to exist and remains visible in the debt-to-GDP ratios. The European Fiscal Compact and the debt brake mean that a “red line” thus remains in effect, both in legal terms and with respect to the capital market.

The monetisation of sovereign debt involves the risk of a renewed increase in debt-to-GDP ratios. Particularly in the euro area, which consists of countries in different financial positions, this could cause conflicts that could establish monetisation as a permanent tool. A perpetuation that is based on the granting of debt relief at the moment when sovereign debt is purchased and involves the collusive behaviour of the Governing Council’s majority and member

16 What is more, as the profits of the NCBs are expected to be lower in the future, the individual write-off process may take a very long time. As an example, for the year 2020, the Bundesbank did not distribute a profit to the Federal Government for the first time since 1979. The Bundesbank’s balanced annual result was mainly due to a greater level of risk provisioning (provisions for general risks were raised by €2.4 billion), see Deutsche Bundesbank (2021a). Meanwhile, owing to negative interest rates, the Bundesbank’s PSPP and PEPP public sector portfolios generated negative interest income, see Deutsche Bundesbank (2021b, 69-70).

17 According to De Grauwe (2021), already the purchase of government bonds by a central bank is “equivalent to debt relief granted to the government” because “the government does not have to pay interest any longer on its outstanding bonds held by the central bank”.

18 In the event of inflationary tendencies, the ESCB would have to absorb the liquidity created through the government bond purchases in another way or curb money creation by commercial banks, e.g. by selling other assets, raising the key interest rates, or increasing reserve requirements. As an alternative, the ECB could issue its own debt certificates as liquidity-absorbing operations, see European Central Bank (2014), Article 9(1) and Article 13. An even more unconventional approach would be to introduce a reserve requirement for lending operations. See Troost and Hersel (2013, 14-16).

19 The sale of larger government bond holdings would cause the rates of these bonds to drop; the value of these holdings would thus have to be adjusted accordingly in the balance sheets of the financial sector. On the other hand, rising effective interest rates would make the issue of new government debt more costly, in particular for crisis-ridden countries.

Table 1

Divergence of PSPP and PEPP cumulative net purchases of public sector securities from the ECB's capital key (as of 31 May 2021)

Countries	Cumulative net purchases of PSPP and PEPP ¹ (billion euros)	Share of cumulative net purchases of PSPP and PEPP (%)	Relative ECB capital key ² (%)	Divergence of PSPP and PEPP cumulative net purchases from relative capital key (percentage points)	Divergence of PSPP and PEPP cumulative net purchases from relative capital key (%)	Divergence of PSPP and PEPP cumulative net purchases from relative capital key (billion euros)
Austria	99.90	3.07	2.93	0.14	4.93	4.69
Belgium	125.77	3.87	3.64	0.22	6.12	7.26
Cyprus	5.73	0.18	0.22	-0.04	-18.11	-1.27
Estonia	0.64	0.02	0.28	-0.26	-92.99	-8.52
Finland	55.06	1.69	1.84	-0.14	-7.85	-4.69
France	681.47	20.95	20.42	0.53	2.57	17.10
Germany	866.58	26.64	26.36	0.28	1.06	9.09
Greece	25.68	0.79	2.47	-1.68	-68.08	-54.78
Ireland	55.89	1.72	1.69	0.02	1.47	0.81
Italy	608.30	18.70	16.99	1.71	10.08	55.69
Latvia	4.22	0.13	0.39	-0.26	-66.70	-8.45
Lithuania	7.43	0.23	0.58	-0.35	-60.53	-11.40
Luxembourg	5.09	0.16	0.33	-0.17	-52.54	-5.63
Malta	1.56	0.05	0.10	-0.06	-54.22	-1.85
Netherlands	181.48	5.58	5.86	-0.28	-4.80	-9.15
Portugal	70.23	2.16	2.34	-0.18	-7.76	-5.91
Slovakia	22.10	0.68	1.15	-0.47	-40.68	-15.15
Slovenia	14.09	0.43	0.48	-0.05	-10.03	-1.57
Spain	421.60	12.96	11.92	1.04	8.69	33.72

Notes: ¹ Cumulative net purchases of public sector securities under the PSPP and PEPP – excluding purchases of supranational issuers, which, however, can also be used indirectly for government financing (ESM bonds). ² Relative capital key (valid since 1 February 2020) of the Eurosystem members.

Source: ECB information on the capital key (<https://www.ecb.europa.eu/ecb/orga/capital/html/index.en.html>), ECB data on the PSPP programme (<https://www.ecb.europa.eu/mopo/implementation/omt/html/index.en.html#pspp>) and on the PEPP programme (<https://www.ecb.europa.eu/mopo/implementation/pepp/html/index.en.html>), own calculations.

states, would make the ESCB into a money printing press in the traditional sense and in accordance with Modern Monetary Theory (MMT).

Scenario analysis

In the following, we look at two alternative debt relief scenarios that differ considerably in terms of procedure and volume. The approach outlined in this article involving ESCB write-off bonds and a relief agreement issued by an EU debt agency is based on the government bonds in the ESCB portfolio. The holdings purchased within the scope of the PSPP and PEPP programmes are published by the ECB.²⁰ Since some of these, however, deviate considerably from the ECB's capital key, the actual portfolio allocation ac-

ording to issuing member states should be chosen as the existing basis for ESCB debt relief. For example, too many government bonds – in terms of the ECB capital key – have been bought from Italy (a difference of 10.1%, equivalent to €55.7 billion), Spain (8.7%, €33.7 billion) and France (2.6%, €17.1 billion), while too few have been purchased from the Netherlands (minus 4.8%, minus €9.1 billion), see Table 1.

The considerable negative differences for some smaller and less indebted countries shown in Table 1, for one thing, are due to the limited availability of purchasable securities. In addition, a low degree of creditworthiness prevented PSPP purchases of Greek and temporarily of Cypriot government bonds. As a result, these countries initially only have limited scope for relief.

Regarding these available government bond portfolios held by the central banks, two debt relief scenarios are considered here:

20 By contrast, there is no transparency about purchases of government bonds as part of the Agreement on Net Financial Assets (Hansen and Meyer, 2020c, 232-233).

Table 2
Effects of debt relief of €795.906 billion as per ECB capital key (forecasts as of 12 May 2021)

Countries	ECB capital key ¹ (%)	Debt relief in accordance with ECB capital key (billion euros)	Debt-to-GDP ratio as of 31 December 2021 ² (%)	Debt-to-GDP ratio as of 31 December 2021 after debt relief ² (%)	Reduction of debt-to-GDP ratio with debt relief (%)	Cumulative budget deficits in 2020-2022 ³ (billion euros)	Coverage of 2020-2022 budget deficits with debt relief (%)
Austria	2.38	18.95	87.19	82.38	-5.52	75.40	25.13
Belgium	2.96	23.58	115.33	110.41	-4.27	103.80	22.72
Cyprus	0.18	1.39	112.27	105.94	-5.64	2.80	49.74
Estonia ⁴	0.23	1.82	21.48	15.06	-29.89	3.90	46.75
Finland	1.49	11.89	71.03	66.24	-6.74	29.80	39.90
France	16.61	132.21	117.42	111.98	-4.63	539.10	24.52
Germany	21.44	170.64	73.02	68.15	-6.67	495.70	34.42
Greece	2.01	16.01	208.83	199.53	-4.45	39.30	40.74
Ireland	1.38	10.96	61.37	58.56	-4.59	49.50	22.14
Italy	13.82	109.97	159.82	153.48	-3.97	465.20	23.64
Latvia	0.32	2.52	47.42	39.28	-17.16	4.30	58.66
Lithuania	0.47	3.75	51.95	44.64	-14.08	11.10	33.75
Luxembourg	0.27	2.13	27.01	23.89	-11.53	2.90	73.53
Malta	0.09	0.68	64.71	59.71	-7.71	3.70	18.35
Netherlands	4.77	37.93	57.95	53.39	-7.86	91.20	41.59
Portugal	1.90	15.15	127.24	120.14	-5.58	29.20	51.88
Slovakia	0.93	7.41	59.44	51.79	-12.87	16.10	46.04
Slovenia	0.39	3.12	79.02	72.67	-8.03	10.50	29.68
Spain	9.70	77.19	119.56	113.12	-5.38	281.60	27.41
EU19 (euro area)	81.33	647.30	102.35	96.94	-5.29	2254.90	28.71

Notes: ¹ Shares of Eurosystem member countries in ECB capital (capital key effective since 1 February 2020). ² Own calculations based on EU Commission forecasts on debt and GDP. ³ Forecasts of the EU Commission. ⁴ Debt relief exceeds the NCB's current holdings of government bonds purchased as part of PSPP and PEPP.

Source: ECB information on the capital key (<https://www.ecb.europa.eu/ecb/orga/capital/html/index.de.html>). Own calculations based on the AMECO annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs. Spring 2021 Economic Forecast as of 12 May 2021.

- scenario (i): debt relief based directly on the credit volume of the €750 billion NGEU recovery fund
- scenario (ii): debt relief of 60% of the pre-crisis 2019 GDP, based on the European Fiscal Compact and the Maastricht Treaty.

The focus is on the effects on the debt-to-GDP ratios and the potential coverage of the budget deficits of the euro area member states. Our calculations assume *ceteris paribus* and are based on data and forecasts of the European Commission.²¹

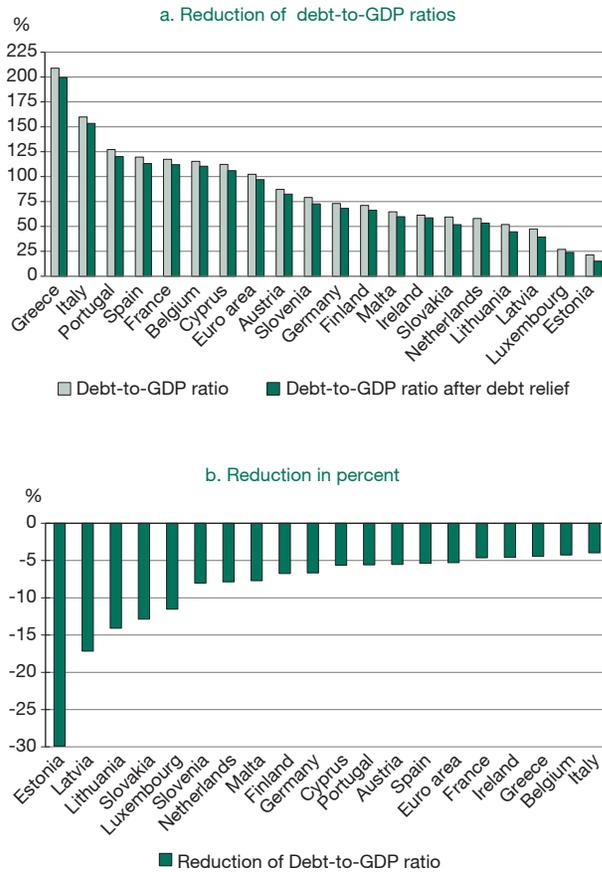
²¹ With regard to the following scenarios (i) and (ii), it should be noted that by using some working assumptions, the budgetary and economic impacts of the NGEU recovery instrument were already incorporated into the European Commission's forecasts (European Commission, 2021b, 41-42).

Debt relief as a substitute for the NGEU recovery fund

As a possible alternative to the recovery fund, scenario (i) involves debt relief totalling €795.906 billion for all EU member states. This amount results from the power of the Commission "to borrow funds on capital markets on behalf of the Union up to €750 billion in 2018 prices" (Council of the European Union, 2020, Article 5(1)).²² This approach is based on the assumption that debt relief will be conducted in 2021, i.e. when payments from NGEU begin. With debt relief, the entire budget would be transferred to the countries at that time. In contrast to NGEU, there would be no implicit transfers through disproportionate access to grants and loans by the euro area member countries because distribution is carried out in accord-

²² Debt relief volume as an NGEU substitute is calculated on the basis of an annual deflator of 2% as $750 \times (1.02)^3 = €795.906$ billion for the year 2021.

Figure 2
Effects of debt relief as per ECB capital key on debt-to-GDP ratios (as of 31 December 2021)



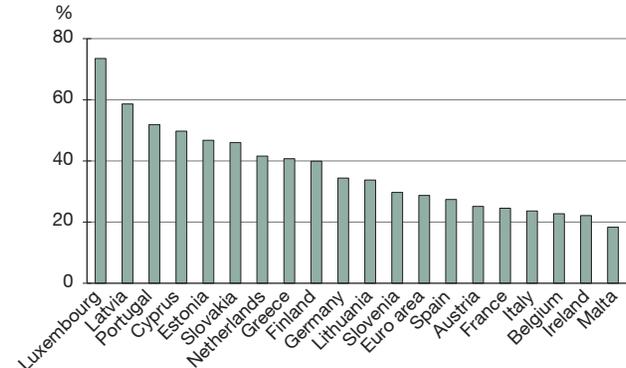
Note: Debt relief volume of €795.906 billion.

Source: Own calculations based on the AMECO annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs. Spring 2021 Economic Forecast as of 12 May 2021.

ance with the ECB's capital key. For the euro area, this results in a volume of €647.3 billion (see Table 2). Measured by past debt levels, some small countries such as the Baltic states would benefit from this. These countries have lower debt-to-GDP ratios anyway, some well under 60% (see Figure 2). However, the reduction effect is much lower for the heavily indebted countries Greece (the debt-to-GDP ratio drops from 208.8% to 199.5%), Italy (from 159.8% to 153.5%) and Portugal (from 127.2% to 120.1%). As for the euro area as a whole, debt relief would reduce the share of government debt in relation to GDP from 102.4% to 96.9%.

The goal of considerably reducing debt levels is therefore not achieved, in particular for those euro area countries

Figure 3
Coverage of cumulative budget deficits in 2020-2022 by means of debt relief as per ECB capital key



Note: Debt relief volume of €795.906 billion.

Source: Own calculations based on the AMECO annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs. Spring 2021 Economic Forecast as of 12 May 2021.

whose debt sustainability is acutely compromised. However, as shown in Figure 3, debt relief would considerably cover the cumulative budget deficits of the years 2020 to 2022 in Portugal (51.9%) and Greece (40.7%). For Spain (27.4%), France (24.5%) and Italy (23.6%), deficit coverage would be a great deal lower. More than one quarter of the cumulative budget deficits 2020-2022 of the euro area as a whole would be covered. The portfolio of Estonian government bonds held by the ESCB, however, would be too small (by approximately €1.2 billion) for the implementation of debt relief in accordance with scenario (i).²³ In order to provide equal treatment, the missing bonds would have to be bought immediately or gradually on the secondary market. This could, however, coincide with a distortion of risk premiums and even additional capacity for debt.²⁴

Debt relief referring to the European Fiscal Compact and the Maastricht Treaty

Scenario (ii) is an extreme theoretical scenario. In contrast to scenario (i), there is no absolute target figure for debt relief. Instead, relief is measured for all countries by GDP

²³ If a decision were made to conduct debt relief only through the holdings of the NCBs, these figures would likely increase somewhat because eight-ninths of the purchases are conducted by the NCBs and one-ninth by the ECB. On the allocation of portfolios of PSPP and PEPP, see Article 6 of Decision (EU) 2020/188 of the ECB as well as Article 1(2)(a) and Article 5 of Decision (EU) 2020/440 of the ECB.

²⁴ The government bonds still needed for debt relief are likely to continue decreasing due to further PSPP and PEPP purchases. The calculations used in this analysis are based on holdings as of 31 May 2021.

Table 3
Effects of debt relief of 60% of the 2019 GDP (forecasts as of 12 May 2021)

Countries	Debt relief to the amount of 60% of the 2019 GDP ¹ (billion euros)	Debt-to-GDP ratio as of 31 December 2021 ² (%)	Debt-to-GDP ratio as of 31 December 2021 after debt relief ² (%)	Reduction of debt-to-GDP ratio with debt relief (%)	Cumulative budget deficits in 2020-2022 ³ (billion euros)	Coverage of 2020-2022 budget deficits with debt relief (%)
Austria ⁴	238.56	87.19	26.57	-69.53	75.40	316.39
Belgium ⁴	285.78	115.33	55.71	-51.70	103.80	275.32
Cyprus ⁴	13.38	112.27	51.45	-54.17	2.80	477.86
Estonia ⁴	16.86	21.48	-37.89	-276.39	3.90	432.31
Finland ⁴	144.18	71.03	12.94	-81.78	29.80	483.83
France ⁴	1462.56	117.42	57.29	-51.21	539.10	271.30
Germany ⁴	2069.46	73.02	13.96	-80.88	495.70	417.48
Greece ⁴	110.04	208.83	144.89	-30.62	39.30	280.00
Ireland ⁴	213.66	61.37	6.46	-89.47	49.50	431.64
Italy ⁴	1074.54	159.82	97.89	-38.75	465.20	230.98
Latvia ⁴	18.24	47.42	-11.42	-124.08	4.30	424.19
Lithuania ⁴	29.28	51.95	-5.23	-110.08	11.10	263.78
Luxembourg ⁴	38.10	27.01	-28.61	-205.95	2.90	1313.79
Malta ⁴	8.16	64.71	4.71	-92.73	3.70	220.54
Netherlands ⁴	486.12	57.95	-0.40	-100.69	91.20	533.03
Portugal ⁴	128.34	127.24	67.07	-47.29	29.20	439.52
Slovakia ⁴	56.34	59.44	1.30	-97.81	16.10	349.94
Slovenia ⁴	29.04	79.02	19.88	-74.85	10.50	276.57
Spain ⁴	746.88	119.56	57.29	-52.08	281.60	265.23
EU19 (euro area)	7169.52	102.35	42.41	-58.56	2254.90	317.95

Notes: ¹ Own calculations based on EU Commission data. ² Own calculations based on EU Commission forecasts on debt and GDP. ³ Forecasts of the EU Commission. ⁴ Debt relief exceeds the NCB's current holdings of government bonds purchased as part of PSPP and PEPP.

Source: Own calculations based on the AMECO annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs. Spring 2021 Economic Forecast as of 12 May 2021.

for 2019, i.e. the year before the onset of the coronavirus crisis.²⁵ In accordance with the European Fiscal Compact, a debt-to-GDP ratio of 60% is a reference value that member states should not exceed.²⁶ Based on this, debt relief of 60% of the 2019 GDP is analysed in this scenario. Totalling €7,169.5 billion for the euro area, this debt relief, as expected, results in a considerable improvement in the debt-to-GDP ratios (see Table 3). After debt relief in 2021, Greece is the only country, out of seven previously, to have government debt that exceeds its GDP. The Greek debt-to-GDP ratio falls from 208.8% to 144.9%. The previously problematic levels in Italy (from 159.8% to 97.9%) and Por-

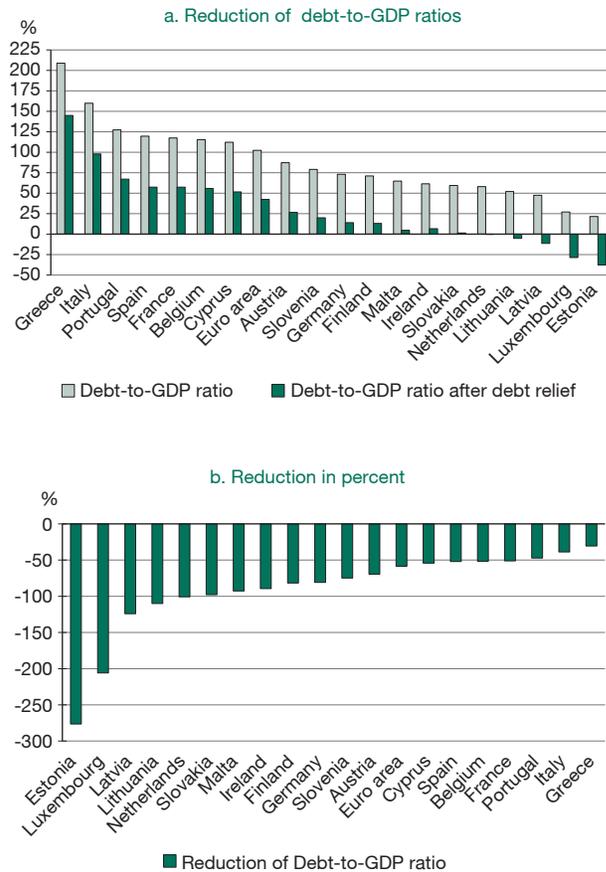
tugal (from 127.2% to 67.1%) would be reduced substantially. All other countries would have a debt-to-GDP ratio of less than 60% after debt relief, including Spain (from 119.6% to 57.3%), France (from 117.4% to 57.3%) and Germany (from 73.0% to 14.0%). For the euro area as a whole, such debt relief reduces the debt ratio from 102.4% to 42.4% and the cumulative budget deficits 2020-2022 would be covered about threefold (see Figure 5). Since the financial burdens resulting from the coronavirus crisis will not be over soon, countries will welcome this surplus coverage.

However, it would be highly problematic that, for reasons of equal treatment, it would be necessary to grant five countries what, in some cases, would be a considerable additional debt margin (e.g. €19.6 billion for Luxembourg and €10.8 billion for Estonia), as the debt relief exceeds the debt of these countries (see Table 3 and Figure 4). In

25 By using the pre-crisis GDP as a reference value, one can avoid giving unfavourable treatment to those countries particularly affected by the crisis. See also Stelter (2020, 153-160).

26 See Article 4 of the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (2012).

Figure 4
Effects of debt relief of 60% of the 2019 GDP on debt-to-GDP ratios (as of 31 December 2021)



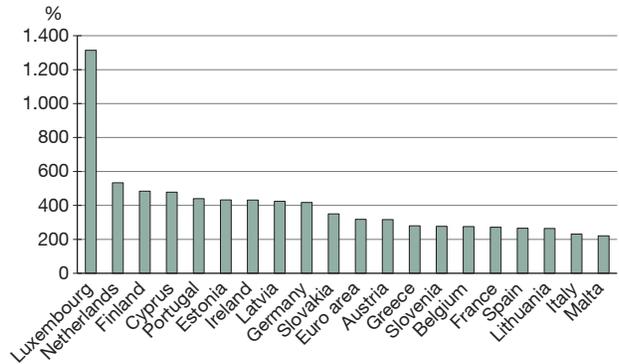
Source: Own calculations based on the AMECO annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs. Spring 2021 Economic Forecast as of 12 May 2021.

addition, the holdings of government bonds in the portfolios of the central banks do not suffice to implement the designated debt relief for any country. In terms of figures, there is a lack in particular of German (€1,202.9 billion), French (€781.1 billion) and Italian (€466.2 billion) securities. The adverse incentives involved in eliminating this lack of securities – which is considerably more common and more pronounced than in scenario (i) – are likely to be prohibitively high.

Conclusions

In the wake of the coronavirus crisis, there has been a considerable rise in the debt-to-GDP ratios of euro area countries. Without external help such as the PEPP gov-

Figure 5
Coverage of cumulative budget deficits in 2020-2022 by means of debt relief of 60% of the 2019 GDP



Source: Own calculations based on the AMECO annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs. Spring 2021 Economic Forecast as of 12 May 2021.

ernment bond purchases of the ESCB, some southern European countries in particular face the risk of losing access to the capital market. This article thus seeks to find an approach that gives the countries more own scope of action and that accords with EU treaties but that does not – unlike the NGEU recovery fund – introduce redistribution elements and shift powers to the EU level. To this end, the article analyses debt relief by the ESCB which is conducted through an EU debt agency on the basis of government bonds purchased by the ESCB under the PSPP and PEPP programmes.

Despite its immediate effect, this form of debt relief would prevent negative equity at the central banks, but there would be major legal hurdles to consider. A temporary exception would require legislative authorisation because the prohibition of monetary financing (Article 123 TFEU) is a key rule of EU economic law. In addition, the conducted scenario analysis has identified trade-offs with regard to practical implementation. Debt relief based on the recovery fund volume (€750 billion in 2018 prices) and allocated in accordance with ECB capital shares would by and large be neutral from a distributional point of view, but it would hardly bring on more sustainable debt ratios. In contrast, debt relief of 60% of the pre-crisis 2019 GDP, which is based on the European Fiscal Compact, would significantly reduce debt ratios, but this would also give many countries considerable extra debt capacity. The result is a trilemma consisting of the wish to ensure equal treatment, significant debt relief, and avoidance of adverse incentives. The latter is impeded in particular by the fact that,

as the scope of the relief increases, it would be necessary to continue replenishing the government bonds held by the ESCB.

There is also the unanswered question as to how, in the event of inflationary tendencies, the additional liquidity resulting from the PSPP and PEPP purchases can be re-absorbed. Improved conditions could quickly lead to an increase in aggregate demand and bank lending. In addition, the credible non-recurring nature of such debt relief would be decisive for the future reputation and independence of the central banks involved. National consolidation efforts after the relief are also likely to be of key importance. If, however, the use of an ESCB debt relief as a last resort brings along a risk of the permanent monetisation of government debts, inflation and capital flight could eventually lead to a dead end.

References

- Andor, L., P. Magnette, T. Piketty et al. (2021, 8 February), Cancel the public debt held by the ECB and 'take back control' of our destiny, *EURACTIV*.
- Arnold, M. and D. Hindley (2020, 20 November), Debt cancel culture and the ECB, *Financial Times*.
- Arnold, M. (2020, 8 December), Soaring eurozone government debt reignites call for cancellation, *Financial Times*.
- Consolidated version of the Treaty on European Union (2012), *Official Journal of the European Union*, C 326, 13-45.
- Consolidated version of the Treaty on the Functioning of the European Union (2012), *Official Journal of the European Union*, C 326, 47-199.
- Council of the European Union (2020), Council Decision on the system of own resources of the European Union and repealing Decision 2014/335/EU, Euratom, ST 10046 2020 INIT of 24 September 2020.
- De Grauwe, P. (2021, 15 February), Debt cancellation by the ECB: Does it make a difference?, *LSE EUROPP Blog*.
- Deutsche Bundesbank (2021a, 3 March), Bundesbank increases risk provisioning, Press release.
- Deutsche Bundesbank (2021b), Annual Report 2020.
- Deutsche Bundesbank (1996), Function and significance of the equalisation claims granted to east German banks and enterprises, Monthly Report March, 35-53.
- Deutsche Bundesbank (1995), Equalisation claims arising from the currency reform of 1948, and the Fund for the Purchase of Equalisation Claims, Monthly Report November, 55-69.
- Deutscher Bundestag (2021, 2 February), EU-Sachstand: Aktuelle Schuldenentwicklungen in der Eurozone sowie Debatte um einen Schuldenschnitt Italiens, Referat PE 2, EU-Grundsatzangelegenheiten, Fragen der Wirtschafts- und Währungsunion.
- European Central Bank (2020a), Decision (EU) 2020/440 of the European Central Bank of 24 March 2020 on a temporary pandemic emergency purchase programme (ECB/2020/17).
- European Central Bank (2020b), Decision (EU) 2020/188 of the European Central Bank of 3 February 2020 on a secondary markets public sector asset purchase programme (ECB/2020/9).
- European Central Bank (2014), Guideline (EU) 2015/510 of the European Central Bank of 19 December 2014 on the implementation of the Eurosystem monetary policy framework (ECB/2014/60) (consolidated version of 1 January 2021).
- European Commission (2021a), AMECO annual macro-economic database of the European Commission's Directorate General for Economic and Financial Affairs, Spring 2021 Economic Forecast as of 12 May 2021.
- European Commission (2021b), European Economic Forecast: Rolling up sleeves, Spring 2021, *Institutional Paper*, 149.
- German Council of Economic Experts (2021), Overcoming the Coronavirus Crisis Together – Strengthening Resilience and Growth, Annual Report 2020/21.
- German Council of Economic Experts (2018), Setting the Right Course for Economic Policy, Annual Report 2018/19.
- German Federal Constitutional Court, Judgment of the Second Senate of 5 May 2020 - BVerfG 2 BvR 859/15 -, paras. 1-237, (PSPP Judgment).
- Hansen, A. and D. Meyer (2020a), Ein Schuldenerlass als Ende mit Schrecken? – Das ESZB als Kreditgeber der letzten Instanz für Staaten, *Zeitschrift für Wirtschaftspolitik*, 69(3), 277-307.
- Hansen, A. and D. Meyer (2020b), Das PSPP-Staatsanleiheprogramm – Empirische Daten und Regelwerk stellen das Urteil des BVerfG teilweise infrage, *ifo Schnelldienst*, 73(10), 37-46.
- Hansen, A. and D. Meyer (2020c), ANFA and the Asset Purchase Programmes of the Eurosystem: Non-monetary Policy Operations that Restrict the ECB's Monetary Policy?, *Journal of International Banking Law & Regulation*, 35(6), 231-242.
- Meyer, D. (2021), Next Generation EU – Neues Eigenmittelsystem weist in eine Fiskalunion, *Europäische Zeitschrift für Wirtschaftsrecht*, 32(1), 16-22.
- Neyer, U. (2020), Die Rolle des Eurosystems als Lender of Last Resort in der Coronakrise, *ifo Schnelldienst*, 73(8), 16-20.
- Pâris, P. and C. Wyplosz (2014), *PADRE: Politically acceptable debt restructuring in the Eurozone*, Geneva Reports on the World Economy Special Report 3, International Center for Monetary and Banking Studies and Centre for Economic Policy Research.
- Protocol (No 4) on the Statute of the European System of Central Banks and of the European Central Bank, *Official Journal of the European Union*, C 202/230 (ESCB Statute).
- Röhl, K. F. (2020), Ein Alternativkonzept zur Konsolidierung der Staatsschulden im Euroraum und zur Finanzierung des European Recovery Fund.
- Stelter, D. (2020), *Coronomics – Nach dem Corona-Schock: Neustart aus der Krise*, campus.
- Treaty on Stability, Coordination and Governance in the Economic and Monetary Union (2012), T/SCG/en.
- Troost, A. and P. Hersel (2013), *Was passiert, wenn die EZB Verluste macht? Die Gefahren für die SteuerzahlerInnen und Inflation sind erfreulich begrenzt!*, Arbeitsgruppe Alternative Wirtschaftspolitik e. V.
- Vogelsang, M. (2011), Ausgleichsforderungen und Bilanzlücken bei Banken: Kann das Instrument der Jahre 1948 und 1990 an die heutigen Anforderungen angepasst werden?, in A. Michler and H.-D. Smeets (eds.), *Die aktuelle Finanzkrise: Bestandsaufnahme und Lehren für die Zukunft*, De Gruyter Oldenbourg, 275-292.
- von Lewinski, K. (2011), *Öffentlichrechtliche Insolvenz und Staatsbankrott*, Mohr Siebeck.

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Reducing the Mobility of SARS-CoV-2 Variants to Safeguard Containments

Escape variants can cause new waves of COVID-19 outbreaks and put vaccination strategies at risk. To prevent or delay the global spread of these waves, virus mobility needs to be minimised through screening and testing strategies, which should also cover vaccinated people. The costs of these strategies are minimal compared to the costs to health, society and the economy from another wave.

When the coronavirus pandemic started in 2019/2020, a number of countries reacted early, closing down public life and reducing private contacts before contagion fully took off. Countries that failed to do this saw large spikes in cases, stretching or overwhelming their medical capacities. Likewise, countries that ignored warning signals of a second wave were hit hard in autumn 2020. A third wave, caused by the more contagious B.1.1.7 SARS-CoV-2 variant, has unfolded. This variant was first recognised in Kent, United Kingdom, from where it spread quickly across the UK and beyond. It spread to countries with more travel to the UK earlier than others. Germany was affected relatively late, while Portugal and Ireland were affected early because of more intensive travel links.

Another variant, P1, is also spreading rapidly in Brazil and countries with strong travel connections to Brazil, such as Chile.

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People travelling play a central role in spreading new variants of SARS-CoV-2, with devastating consequences. Stopping a new variant from entering from abroad, or at least slowing it down, would facilitate containment and limit the human, social and economic costs. The experience with B.1.1.7 shows how slower entry of a variant to a country delays the deterioration of the health situation and the introduction of strict and costly lockdowns.

Public policy in advanced economies is focusing on vaccination in the hope this will bring down the number of severe cases and deaths while allowing restrictions to be lifted (Dagan et al., 2021). By the end of 2021, large parts of the populations of Israel, Chile, the US, the UK and the EU will have received the vaccine and will be largely immune to the wild strain and some variants of SARS-CoV-2.

However, additional waves of contagion must be expected, caused in particular by escape variants against which current vaccines are less effective (McCormick et al., 2021). Even if vaccination continues as currently foreseen, the virus will not be fully eliminated. With incomplete uptake of vaccines, waning immunity and imperfect transmission prevention, it will persist in certain sub-populations (Phillips, 2021). Moreover, in many countries, vaccination is proceeding slowly if at all. The persistent prevalence of the virus in various sub-populations and various places provides a breeding ground for mutations. With advances in vaccination and immunisation, variants that escape the immune response will have an evolutionary advantage. The emergence of escape variants has been documented in several regions, and a similar evolution has also been observed in vitro (Andreano et al., 2020).

With an escape variant, contagion persists in the vaccinated population itself and new escape-variant waves

could spread very quickly if a large part of the population has been vaccinated and moves about without restraint. New restrictions, up to complete lockdowns, might therefore become inevitable, until a new vaccine is developed and administered, and immunisation against the new variant is successful.

Any strategy that relies on vaccination only will therefore be insufficient. While everything should be done to speed up the supply of vaccines and their roll-out, a strategy that recognises and slows down the emergence of new variants and limits their spread is needed. Such strategies must encompass the part of the population that has acquired immunity against the wild strain, through vaccinations or through infections.

Preparing for this potential danger requires a strategy with three central goals: (1) minimising the rate at which escape variants develop, (2) detecting them early and (3) minimising the mobility of the virus. While all three goals are in principle technically feasible, they run against basic human and social needs, in particular in open societies. Measures to meet the goals must therefore be designed in a way that renders them acceptable. These measures will also be substantially cheaper economically than sustained contagion waves.

Minimising the rate at which escape variants develop: Minimising SARS-CoV-2 incidence

Low incidence is the best protection against the breeding of new variants. Roughly, the probability that an escape variant emerges is proportional to the number of infected people, and the expected time until a variant emerges is inversely proportional to the number of infected people. Reducing the number of infected people delays the expected emergence of a new escape variant. Low case numbers also have clear advantages for public health, society and the economy (Priesemann et al., 2021; Ollivier-Barton et al., 2021). Moreover, at low case numbers, contact tracing contributes efficiently to containment, allowing the health authority to concentrate on the remaining infection chains (Contreras et al., 2021). Lastly, local outbreaks of new variants are detected early and not hidden within a generally high incidence.

However, even with low case numbers, escape variants can emerge. Once this has happened, a new variant's effective reproduction rates in the immunised and non-immunised parts of the population depend not only on the characteristic basic reproduction numbers R_0 and R_0' , but also on the contact and hygiene behaviour in the two parts of the population. Assuming that the immunised population is less careful about protecting itself, a potent variant could

spread very quickly, because the effective reproduction rate is very high. If such an outbreak is not detected and fought early, development of a new vaccine will be too late, after the wave has taken its toll.

Early detection of escape variants: Screening and surveillance

The early, local detection of virus variants is important to slow their global spread. Regular screening of a representative sample of the population, as established in the UK for example, provides a better basis for informed scientific evaluation of the pandemic than only the current, more symptom-based testing. Screening would contribute to an early warning system for the emergence of new outbreaks and new variants, with data shared rapidly across the globe (Cyranoski, 2021).

For COVID-19, testing should also include immune and vaccinated people, because infection of vaccinated individuals by escape variants could be particularly fast because of their higher numbers of contacts. Testing reports should list the immunisation status of those tested (e.g. date and type of vaccine, earlier infection). This facilitates detection of outbreaks among the vaccinated population – a key indicator for an escape variant.

To reach a representative part of the population, testing should be organised at schools and workplaces where it would be embedded in an organised setting and can be implemented as part of a daily or weekly routine. In addition, testing at schools and workplaces would target population groups that have regular contacts outside the household. Incentives for regular testing matter for compliance. For employers, the desire to avoid interruptions of production activities caused by employee illness, quarantine or long COVID provides an incentive for testing.

Governments need to take legal steps to facilitate workplace testing and perhaps even impose it. In schools, teachers have an interest in testing to avoid self-infection. Complete testing of entire groups with single PCR test, where all samples are jointly and anonymously evaluated, could forestall concerns about privacy, ensure higher accuracy than individual self-tests, and reduce costs. Overall, easily accessible testing, together with systematic virus genome surveillance, is a core activity to detect new variants early.

Reducing the virus spread: Testing and quarantine

If an escape variant emerges and spreads, it makes a huge difference whether, at the time it is recognised, the number of infected individuals is 10 or 1000. Assuming

an R of 1.4 and a serial interval of four days, then starting from 10, rather than 1000 individuals, buys almost eight weeks to implement mitigation strategies and adapt vaccinations.

The difference between 10 and 1000 initial carriers can be achieved by installing a testing strategy that prevents 99% of virus carriers from entering a region. Systematic testing of travellers would be a central part of this. Such testing must encompass immunised and non-immunised people, as both groups might transmit the virus.

A strategy to prevent a virus's rapid spread via human mobility should in principle apply to within-jurisdiction travel as well as cross-border travel. Some might object that we do not ordinarily test for as yet unknown diseases. However, escape variants are different from as yet unknown viruses. They are sufficiently similar to the variants we know to be detectable through testing. That opportunity should be used.

Is this strategy feasible?

None of our suggestions involves a major economic cost. Relative to the cost of travel, a standard test would increase the cost of a flight by perhaps around €40 – and would require the time it takes the individual to get tested. The costs are thus not zero but are small relative to the costs of further waves of contagion: the economic costs of lockdowns and similar restrictions, let alone an uncontrolled pandemic, are many times the costs of the measures we propose (Cutler and Summers, 2020).

The real challenge is societal. Testing requirements run counter to a sense of individual rights deeply rooted in Western societies. The dismantling of borders and border controls are considered major advancements.

However, frictionless travel comes at a cost and involves risks of contagion. Once contagion takes off, the implications for individual freedom are much more serious than the restrictions from testing requirements attached to travel. Certification requirements for cross-border movements of people do not prevent travel. For transport of food and animals, such requirements are considered normal.

The political challenge is to communicate to the public that testing for viruses does not end mobility but is a way of keeping societies open. The proposed testing strategy buys limited time. To use this time sensibly, public health measures are necessary to slow down the spread and flatten the curve, while increasing research and production capacity for effective vaccines (for example with market design; see Castillo et al., 2021).

Conclusion

Overall, it is of critical importance to prevent future waves of escape variants hitting unprepared societies in the coming months. The basic requirement is rapid progress on vaccination and low case numbers across the world (Priesemann et al., 2021). This should be complemented by a rigorous testing strategy that stops viruses from spreading while keeping borders open to human travel. In this way, repeated lockdowns and their large health, economic, social and personal costs, which dwarf any costs related to testing, can be avoided. Given the risk of future waves, Western societies in particular must learn that unprotected travel can have much larger social costs than hitherto accepted and must hence start rigorous prevention against the spread of SARS-CoV-2 variants.

References

- Andreano, E., G. Piccini, D. Licastro, L. Casalino, N. V. Johnson, I. Paciello, S. Dal Monego, E. Pantano, N. Manganaro, A. Manenti, R. Manna, E. Casa, I. Hyseni, L. Benincasa, E. Montomoli, R. E. Amaro, J. S. McLellan and R. Rappuoli (2020), SARS-CoV-2 escape in vitro from a highly neutralizing COVID-19 convalescent plasma, *bioRxiv*, 2020.12.28.424451.
- Castillo, J. C., A. Ahuja, S. Athey, A. Baker, E. Budish, T. Chipty, R. Glennerster, S. D. Kominers, M. Kremer, G. Larson, J. Lee, C. Prendergast, C. M. Snyder, A. Tabarrok, B. J. Tan and W. Wiecek (2021), Market design to accelerate COVID-19 vaccine supply, *Science*, 371(6534), 1107-1109.
- Contreras, S., J. Dehning, M. Loidolt, J. Zierenberg, F. P. Spitzner, J. H. Urrea-Quintero, S. B. Mohr, M. Wilczek, M. Wibral and V. Priesemann (2021), The challenges of containing SARS-CoV-2 via test-trace-and-isolate, *Nature Communications*, 12, 378.
- Cutler, D. M. and L. H. Summers (2020), The COVID-19 Pandemic and the \$16 Trillion Virus, *JAMA*, 324(15), 1495-1496.
- Cyranoski, D. (2021), Alarming COVID variants show vital role of genomic surveillance, *Nature*, 589, 337-338.
- Dagan, N., N. Barda, E. Kepten, O. Miron, S. Perchik, M. A. Katz, M. A. Hernán, M. Lipsitch, B. Reis and R. D. Balicer (2021), BNT162b2 mRNA, Covid-19 Vaccine in a Nationwide Mass Vaccination Setting, *New England Journal of Medicine*, 384, 1412-1423.
- McCormick, K. D., J. L. Jacobs and J. W. Mellors (2021), The emerging plasticity of SARS-CoV-2, *Science*, 371(6536), 1306-1308.
- Oliu-Barton, M., B. Pradelski, P. Aghion, P. Artus, I. Kickbusch, J. V. Lazarus, D. Sridhar and S. Vanderslott (2021), SARS-CoV-2 elimination, not mitigation, creates best outcomes for health, the economy, and civil liberties, *Lancet*, 397(10291), 2234-2236.
- Phillips, N. (2021), The coronavirus is here to stay – here's what that means, *Nature*, 590, 382-384.
- Priesemann, V., M. M. Brinkmann, S. Ciesek, S. Cuschieri, T. Czypionka, G. Giordano, D. Gurdasani, C. Hanson, N. Hens, E. Iftekhar, M. Kelly-Irving, P. Klimek, M. Kretzschmar, A. Peichl, M. Perc, F. Sannino, E. Schernhammer, A. Schmidt, A. Staines and E. Szczurek (2021), Calling for pan-European commitment for rapid and sustained reduction in SARS-CoV-2 infections, *Lancet*, 397 (10269), 92-93.

Friedrich L. Sell and Jürgen Stiefl

Missing the Popular Vote: Pitfalls in US Democracy and Reform Proposals

Only a few years ago, it was a widespread belief that globalisation would trigger processes of democratisation worldwide. However, even old and established democracies such as the United States have recently revealed serious weaknesses. This article shows that the US election system is heavily distorted and recommends profound and transparent Electoral College reforms in the election of US presidents. Furthermore, the article highlights the implications the challenges facing American democracy have for Europe.

Recall the clash between former United States Secretary of State, Colin Powell, and the French Minister of Foreign Affairs, Dominique de Villepin, at a session of the Security Council of the United Nations in February of 2003. Whereas de Villepin pointed at the long-lasting history of his country and the significance of the French revolution in 1789, Powell stressed the fact that the US may still be considered the oldest democracy in the (Western) world. These memories do match quite well with the actual desire of so many Americans to get back to what the people in the US had seized already centuries ago.

The United States is still an impressive democracy whose system of “checks and balances”, its independent institutions (such as the Supreme Court), and loyal civil servants have helped save the country from the Trumpist attack. However, the US election system has recently revealed serious weaknesses. This applies not only to US presi-

dential elections, but to congressional elections as well. Though more complex in detail, election systems are built on the idea of winning the (preferably absolute) majority, but not necessarily the popular vote. Notice that combining the criteria “democracy” (direct vs. indirect) and the “right to vote” (majority principle vs. proportionality principle) yields four basic types of elections. The election of the US President is de facto an indirect one, organised under the rules of the majority principle. Members in the House of Representatives, conversely, are also appointed following the majority principle, but in a direct way.

The mentioned weaknesses can be identified easily: during the 2016 presidential election, Hillary Clinton was defeated by Donald Trump, although she won the “popular vote share” (percentage of votes gained on a national level) by three percentage points. At the same time, particularly since the beginning of the new millennium, “gerrymandering”, a smart and at the same time manipulative technique to redesign the size and form of districts for the election of members of the House of Representatives, has had a significant upswing. This goes along with severe and negative consequences for the relevance of the popular vote: Again in 2016, 49.5% of the popular vote in the state of Wisconsin elections for the House of Representatives went to the Democrats and only 45.9% went to Republicans. Regardless, the Republicans won five and Democrats won three out of the eight districts (Illinger et al., 2018). This means that Republicans won a seat share of 62.5% while Democrats won only 37.5%. As these two remarkable events stick out in comparison to the recent elections in 2020, this article focuses on the 2016 episodes.

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Table 1
Results of the presidential election of 2016

States	Electors	Absolute votes		Vote share in %	
		Clinton	Trump	Clinton	Trump
Alabama	9 (R)	729,547	1,318,255	35.63	64.37
Alaska	3 (R)	116,454	163,387	41.61	58.39
Arizona	11 (R)	1,161,167	1,252,401	48.11	51.89
Arkansas	6 (R)	380,494	684,872	35.71	64.29
California	55 (D)	8,753,788	4,483,810	66.13	33.87
Colorado	9 (D)	1,338,870	1,202,484	52.68	47.32
Connecticut	7 (D)	897,524	673,197	57.14	42.86
Delaware	3 (D)	235,603	185,127	56.00	44.00
District of Columbia	3 (D)	282,830	12,723	95.70	4.30
Florida	29 (R)	4,504,975	4,617,886	49.38	50.62
Georgia	16 (R)	1,877,963	2,089,104	47.34	52.66
Hawaii	3 (D)	266,891	128,847	67.44	32.56
Idaho	4 (R)	189,765	409,055	31.69	68.31
Illinois	20 (D)	3,090,729	2,146,015	59.02	40.98
Indiana	11 (R)	1,039,126	1,557,286	40.02	59.98
Iowa	6 (R)	653,669	800,983	44.94	55.06
Kansas	6 (R)	427,005	671,018	38.89	61.11
Kentucky	8 (R)	628,854	1,202,971	34.33	65.67
Louisiana	8 (R)	780,154	1,178,638	39.83	60.17
Maine	3 (D)/1 (R)	357,735	335,593	51.60	48.40
Maryland	10 (D)	1,677,928	943,169	64.02	35.98
Massachusetts	11 (D)	1,995,196	1,090,893	64.65	35.35
Michigan	16 (R)	2,268,839	2,279,543	49.88	50.12
Minnesota	10 (D)	1,367,716	1,322,951	50.83	49.17
Mississippi	6 (R)	485,131	700,714	40.91	59.09
Missouri	10 (R)	1,071,068	1,594,511	40.18	59.82
Montana	3 (R)	177,709	279,240	38.89	61.11
Nebraska	5 (R)	284,494	495,961	36.45	63.55
Nevada	6 (D)	539,260	512,058	51.29	48.71
New Hampshire	4 (D)	348,526	345,790	50.20	49.80
New Jersey	14 (D)	2,148,278	1,601,933	57.28	42.72
New Mexico	5 (D)	385,234	319,666	54.65	45.35
New York	29 (D)	4,491,191	2,790,073	61.68	38.32
North Carolina	15 (R)	2,189,322	2,362,632	48.10	51.90
North Dakota	3 (R)	93,758	216,794	30.19	69.81
Ohio	18 (R)	2,394,164	2,841,005	45.73	54.27
Oklahoma	7 (R)	420,375	949,136	30.70	69.30
Oregon	7 (D)	1,001,964	782,269	56.16	43.84
Pennsylvania	20 (R)	2,926,441	2,970,733	49.62	50.38
Rhode Island	4 (D)	252,525	180,543	58.31	41.69
South Carolina	9 (R)	855,373	1,155,389	42.54	57.46
South Dakota	3 (R)	117,458	227,721	34.03	65.97
Tennessee	11 (R)	870,695	1,522,925	36.38	63.62
Texas	36 (R)	3,877,868	4,685,047	45.29	54.71
Utah	6 (R)	310,676	515,231	37.62	62.38
Vermont	3 (D)	178,573	95,369	65.19	34.81
Virginia	13 (D)	1,981,473	1,769,443	52.83	47.17
Washington	8 (D)	1,742,718	1,221,747	58.79	41.21
West Virginia	5 (R)	188,794	489,371	27.84	72.16
Wisconsin	10 (R)	1,382,536	1,405,284	49.59	50.41
Wyoming	3 (R)	55,973	174,419	24.29	75.71
		65,794,399	62,955,212		

Note: (R) stands for the Republican Party and (D) for the Democratic Party. Source: National Archives (2020).

Table 2

Partial results of the presidential election of 2016: Majority principle vs. proportionality principle

States	Electors	Absolute votes		Vote share in %		Proportionality principle ¹	
		Clinton	Trump	Clinton	Trump	Clinton	Trump
Arizona	11 (R)	1,161,167	1,252,401	48.11	51.89	5	6
Florida	29 (R)	4,504,975	4,617,886	49.38	50.62	14	15
Michigan	16 (R)	2,268,839	2,279,543	49.88	50.12	8	8
Minnesota	10 (D)	1,367,716	1,322,951	50.83	49.17	5	5
Nevada	6 (D)	539,260	512,058	51.29	48.71	3	3
New Hampshire	4 (D)	348,526	345,790	50.20	49.80	2	2
North Carolina	15 (R)	2,189,322	2,362,632	48.10	51.90	7	8
Pennsylvania	20 (R)	2,926,441	2,970,733	49.62	50.38	10	10
Wisconsin	10 (R)	1,382,536	1,405,284	49.59	50.41	5	5
		16,688,782	17,069,278			60	61

Notes: ¹ Hypothetical results. (R) stands for the Republican Party and (D) for the Democratic Party.

Sources: National Archives (2020); authors' own calculations.

The biasing effect of the Electoral College

In the 2016 presidential election, Donald Trump won the “swing states” of Michigan, Wisconsin and Pennsylvania by an extremely small margin of 77,744 votes.¹ But, looking at the results in all 50 US states and the District of Columbia, Hillary Clinton won the total popular vote by 2,839,187 votes over Trump. This means that a vote for Trump counted 36 times more than a vote for Clinton. This does not seem like a sign of a strong democracy.

Table 1 shows the result of the 2016 presidential election by state. With the exception of Maine, all the electors were chosen by “the-winner-takes-all” principle. The third and fourth columns present the absolute number of votes gained by Clinton and Trump respectively. The latter, as a matter of fact, gained (only) 62,955,212 votes against those 65,794,399 of Clinton. The last two columns show the results according to the popular vote (share). Summing up the Electoral College reveals that Trump received 304 electoral college votes, while Clinton received only 227.²

Two proposals for the correction of biasing effects in the Electoral College

Scenario 1: The Maine/Nebraska principle

In this first alternative scenario, the number of electors who are assigned to one (or the other) presidential

candidate will be determined solely by the popular vote share that the candidate achieves in the respective state. Hence, the proportionality principle displaces the majority principle and the winner-takes-all principle.

To make the difference clear, Table 2 first presents the original score in the elections of 2016, taking nine prominent states as an example. The reason for selecting these nine states in particular is that they have an interesting property in common: They all have a very close vote split, almost 51% to 49%, between the two candidates.³ Clinton won the states of Minnesota, Nevada and New Hampshire and therefore (only) 20 electors; yet with a minimal margin, Trump won Arizona, Florida, Michigan, North Carolina, Pennsylvania and Wisconsin, which yielded 101 electors. But, if one looks at the absolute votes in this sample, the difference between Trump and Clinton amounted to only 380,596. That is only 1.1% of 33,758,060 (16,688,782 plus 17,069,278). Nothing else could demonstrate to this extent the distortion created by the majority principle.

In the last two columns of Table 2, we calculate the distribution of electors between Clinton and Trump if the proportionality and not the majority principle would have been at work.

Extending the Nebraska-Maine or proportionality principle to all 50 US states and the District of Columbia, the final result would have handed Clinton the election with

¹ The exact percentage score was in Michigan: 50.12% (T) / 49.88% (C), Wisconsin: 50.41% (T) / 49.59% (C) and Pennsylvania: 50.38% (T) / 49.62% (C).

² Notice that we do not report the results achieved by other parties. In California, for example, the Libertarian Party won 478,499 votes and the Green Party 278,657 votes.

³ In 2016, similar to many earlier elections for US Presidency, the turnout was slightly above 50%. The percentages calculated here, hence, only apply to the distribution of effective votes between Clinton and Trump.

269 electoral college votes to Trump’s 262.⁴ As a consequence, she should have won the US presidential election in 2016. This outcome better mirrors her advantage of three percentage points in the popular vote share over Trump.⁵

Scenario 2: Direct election of the president

A direct election, applying the majority principle, is a widely used method, for example, for electing mayors. The winner is the candidate who receives more than half of the valid votes. This sort of battle is easy to organise given that it requires only the absolute number of votes from every state.

In 2016, Clinton would have clearly won according to this simple rule: She won 65,794,399 direct votes whereas Trump received only 62,955,212.

Gerrymandering is undermining representation

In 2020, the decennial census was organised in all of the 50 US federal states. The information from the census is used by state legislatures and/or consulting commissions to redesign the existing voting districts for future elections of Members of the House of Representatives. The districts should, in principle, be compact, contiguous to each other and encompass the same size and structure as the population (Szikalai and Heberger, 2020). Past experience, however, shows that politicians often use redistricting for gerrymandering.⁶ For an illustration of how gerrymandering functions, we examine the example of the state of Wisconsin in 2016.

We depart from the simplifying assumption that there are two parties (no independents, voter turnout of 100%) and a total of 24 incumbents. Thirteen of these vote for Democrats, 11 vote in favour of the Republican Party. Hence, in the popular vote, the Democrats win 54.2% of the vote share compared to the Republicans’ 45.8%. New districting regulations distribute these 24 incumbents over eight units of election. In Figure 1, these districts are depicted – in a simplified interpretation – as eight vertical parallels: Districts 1 through 3 contain three Democratic voters only. Districts 4 through 7 contain one partisan of the Demo-

4 Notice that these two figures must add up to 531 (269 + 262), as the factual electors won by Clinton and Trump were 227 and 304 respectively, totalling 531.
 5 When including “others” into the calculation, the score changes slightly, but still sees Clinton at the lead with 258 electors, Trump with 252 electors and 28 electors assigned to the “others”. See Ahsan (2020).
 6 This term originates from the former governor of Massachusetts in 1812, Elbridge Gerry. Almost artistically, his fantasy led him to create districts that resembled a salamander (Illinger et al., 2018) with the clear purpose of securing his re-election.

Figure 1
Gerrymandering in Wisconsin, 2016

D	D	D	R	R	R	R	R
D	D	D	D	D	D	D	R
D	D	D	R	R	R	R	R

Notes: The real districts of Wisconsin look much more like a salamander. R stands for the Republican Party and D for the Democratic Party.

Source: Authors’ own compilation.

crat Party and two partisans of the Republican Party. District 8 contains three partisans of the Republican Party only. As we can easily discern, the Democrats (Republicans) win three (five) out of eight districts and hence send fewer (more) representatives to Congress. This is equivalent to a “seat share” of 37.5% (62.5%). It is understood that the “seat share” does not fairly represent the “vote share” (see above). This scenario mirrors almost exactly the situation of the state of Wisconsin in the electoral year 2016, and it is a strong example of active gerrymandering.

The Republicans won five districts (4-8), giving in with respect to the first three districts. Here, the Democrats have a win of 100% in each. This is what is called in literature “packing and cracking” (Konishi and Pan, 2020): give the opponents a large majority in a minority of districts (“packing”) and focus on securing a majority in the districts with the lowest margin at hand (“cracking”). As a result, Republicans (Democrats) win five (three) out of eight districts for a “seat share” of 62.5% (37.5%), although their popular vote share is much lower (45.8%) compared to the Democrats (54.2%) and, of course, the minority (majority).

How can this unfair districting system be corrected? Biberbrauer and Polborn (2020) have a suggestion rooted in sub-game perfect solutions of non-cooperative game theory. Each party is invited to appoint party supporters in a round-by-round process and delegate them to the different districts until the total number of supporters (from both parties) is exhausted. The dynamics of action and reaction are meant to let both parties neutralise each other. Each party is allowed a number of supporters according to their popular vote share. The party that begins has, in principle, a so-called first mover disadvantage, because it cannot react to the opponent’s last move. This strategy is illustrated in Figure 2.

Notice that the Democrats use their first move to delegate one partisan to each district (1-8). Thereby, they “consume” eight of their 13 partisans. In the second stage, Republicans do the same and consume also eight of their 11 partisans. In the third stage, Democrats delegate their remaining five partisans; Republicans follow

Figure 2
Correcting for gerrymandering in Wisconsin, 2016

D	D	D	D	D	D	D	D
R	R	R	R	R	R	R	R
D	D	D	D	D	R	R	R

Note: R stands for the Republican Party and D for the Democratic Party.

Source: Authors' own compilation.

and finish the game with the delegation of their last three partisans. What is the result? Democrats (Republicans) win five (three) of the eight districts, so their seat share is now 62.5% (37.5%), which comes much closer to the vote share of 54.2% (45.8%). Moreover, the sequencing in the score of the parties is now correct: Democrats beat Republicans both in the vote share and in the seat share.

If one is still unsatisfied with this result, have a look at the alternatives: the seat shares might be 75% vs. 25% (with six seats for the Democrats and two for the Republicans). This would be too unrepresentative of the vote share (54.2% vs. 45.8%). If Democrats (Republicans) win four (four) of the eight districts, the seat shares would be split 50/50, resulting in a draw, which would violate the majority principle. Although intellectually appealing, Bierbrauer and Polborn's (2020) concept suffers from one fundamental deficit: Non-cooperative game theory can hardly deliver political feasibility. What is needed here seems to be a coalition in favour of fairness and democracy. Coalition of whom? In the best case scenario, it would be a coalition of all individuals affected by the consequences of (biased) elections.

A proposal for the internalisation of (external) gerrymandering effects

Public finance, as an essential part of economic theory, is primarily dedicated to the role of government in providing public goods to the private sector. Whenever individuals are being affected (whether positively or negatively) by actions of other economic agents, this issue is investigated under the label "external effects" (e.g. Luckenbach, 2000; Ribhegge, 2007) and the possible strategies for their internalisation. Experts speak of "non-pecuniary, technological external effects" (Luckenbach, 2000, 146): Activities in consumption and/or in production of one group of agents have a negative (social costs) or positive (social benefits) effect on the activity (in consumption and/or in production) level of another group of agents. This mechanism should not be confounded with (monetary) spill-over effects stemming from ordinary market processes, where rising or falling prices due to demand or supply shifts are a natural outcome of new relevant information or expectations.

It is then the obligation of economic policy to design internalisation strategies to reduce (raise) external costs (benefits). Kirsch (2004, 31-33), one of the most respected representatives of the school of political economy, has developed a smart mechanism for the internalisation of external costs: all those individuals who would suffer (or enjoy) the consequences of a decision should participate in the decision-making process itself. The idea is, generally speaking, to involve those who are directly affected by an issue.

Gerrymandering, in a sense, is comparable to the occurrence of external costs: The voters whose weight in the vote share is not reflected sufficiently in the seat share as a consequence of the partisan districting policy of either Democrats or Republicans are affected negatively. This was the case of Wisconsin – *pars pro toto* – as shown above.

There already exists some sort of model for the idea of Kirsch in reality. In some of the affected states, we find "re-districting commissions" that either come up with their own suggestions for the legislation or otherwise function during the process of redesign as consulting/advisory agencies. "Participating clauses" – beyond the existing "compactness clauses" for the design of districts – should be established, if they have not been already. Herewith, a large number of stakeholders in the process of elections to the House of Representatives would come into play. It goes without saying that these stakeholders must include not only bipartisans and partisans, but also independents (Bierbrauer and Polborn, 2020). Therefore, the practised system in California and Iowa, where so-called non-partisan districting committees act in an advisory role, is a good starting point but not the final solution (Konishi and Pan, 2020, 1185).

In essence, the concept of Kirsch (2004) develops further what Dudenhöffer (1984, 190) already claimed in his remarkable PhD thesis: Consumers should be given the right to decide upon issues regarding the usage of the public good "environment". Substituting "consumers" for "voters" and "environment" for "democracy" underlines this analogy.

Strengthening democracy in Europe

What sort of implications do the challenges facing American democracy have for Europe? Are there parallels in Europe? In the first place, one has to distinguish between parallels to Trumpism vs. parallels with problems facing the US electoral system.

Poland and Hungary nowadays have political leaders who are "affine" to the pitfalls of Trumpist populism. The EU Commission continuously asks them to respect the rule of law, the *acquis communautaire* and the independence

of the traditional democratic powers in their country (judicial, legislative and executive). In a way, one sees the Trump era mirrored in some EU countries. There are fears that they could follow suit. If Europe has learned anything from the Trump era, it is that it is better in international affairs to have a Plan B of your own when your former “partner” is on a “my-country-first” trip.

What about the transparency and credibility of democracy in Europe? These two issues are not independent of each other: Transparency is a means to achieve credibility. Progress has been made with regard to the role of the European Parliament in the appointment process of (the head of) the EU Commission. The incumbent in EU member states now seems to better recognise the different existing political streams and groups. Hence, transparency of the voting process has been increased. The same applies to the Governing Council of the European Central Bank (ECB), ever since it agreed to publish the protocols of their sessions and thereby improve the transparency of its decision-making process. But there is still no final consensus about the criteria for the determination of “country shares” (number of seats by country) in the European Parliament itself. The public should be better acquainted with the different positions and their respective costs and benefits. European institutions, like the European Council or the Governing Council of the ECB, follow strict majority (if not unanimity) rules when it comes to making economic and monetary policy decisions. At least in the case of the ECB, it is still a controversial issue whether countries like Malta or Cyprus should have the same voting power as Germany, Italy or France.

Redistricting may become an issue during the reform of the electoral system in Germany, given the fact that the federal German parliament, the German Bundestag in Berlin, has become “too crowded”. One idea is to build fewer, but larger voting districts. A commission of partisans, bipartisans and independents should help to avoid gerrymandering effects.

Conclusions and the scope for future research

Only a few years ago, it was a widespread belief that globalisation would trigger processes of democratisation worldwide. The Arab Spring, which began in Tunisia in late 2010, was only one of the deceptions experienced. Moreover, it appears that even old and seemingly established models of democracy, as the one installed in the United States, came under fire. However, it is not less but more democracy that is needed.

In this article, we recommend profound and transparent Electoral College reforms in the election of US presidents. Using the presidential election of 2016 as an example, a thorough analysis of the results reveals that the actual voting

system – de facto a mix of the majority principle with indirect democracy – is heavily distorted. A candidate, like Clinton in 2016, may win in the popular vote by a margin of three percentage points and may still be defeated in the Electoral College – which is what counts.

We have put forward two alternative reform proposals to overcome these deficits: One scenario retains “indirect democracy” for the election of the US President by the members of the Electoral College, but strictly links the appointment of the latter to the proportionality principle. The second scenario makes the election of the US President an issue of direct democracy, applying the majority principle. Both scenarios, in our view, do better than the actual election system. They foremost fulfil the criteria of transparency and feasibility.

We also found serious problems with the current gerrymandering policy, i.e. the redesign of new voting districts every 10 years. The results of elections to the House of Representatives are very distorted by this procedure. Reform discussion is under way, and this article puts forward ideas about how to include and integrate the most important stakeholders.

There are more discussions on this issue that are not touched upon in this paper. One refers to the US Senate. This important parliamentary body of the US Congress is under scrutiny, too. It is worthwhile to think about the following: The US Senate could also hold elections every four years, simultaneously with the presidential elections. By doing so, it would ensure that every elected president is able to rely on majorities in both Houses of the Congress, thereby making presidential reform agendas and projects that have a higher probability of being enacted. And this is precisely what the incumbent expects from pure or hybrid systems of direct democracy.

References

- Ahsan, S. M. (2020), The Idea of Jurisdictional Representation in a Federation: A Proposal and Illustrations from Recent Canadian and US Elections, *CESifo Working Paper Series*, 8676.
- Bierbrauer, F. J. and M. Polborn (2020), Competitive Gerrymandering and the Popular Vote, *ECONtribute Discussion Paper*, 034.
- Dudenhöffer, F. (1984), *Mehrheitswahlentscheidungen über Umweltnutzungen: Eine Untersuchung von Gleichgewichtszuständen in einem mikroökonomischen Markt- und Abstimmungsmodell*, Peter Lang.
- National Archives (2020), Electoral College Results, <https://www.archives.gov/electoral-college> (18 January 2021).
- Illinger, P., C. Endt and J. Hosse (2018, 2 February), Wie die USA ihre Demokratie zerschneiden, *Süddeutsche Zeitung*.
- Kirsch, G. (2004), *Neue Politische Ökonomie*, 5th edition, Lucius & Lucius.
- Konishi, H. and C.-J. Pan (2018), Partisan and bipartisan gerrymandering, *Journal of Public Economic Theory*, 22(5), 1183-1212.
- Luckenbach, H. (2000), *Theoretische Grundlagen der Wirtschaftspolitik*, 2nd edition, Vahlen.
- Ribhegge, H. (2007), *Europäische Wirtschafts- und Sozialpolitik*, Springer.
- Szikalai, B. R. and K. Heberger (2020), Apportionment and Districting by Sum of Ranking Differences, *CERS-IE Working Paper*, 9/2020.

Bidenomics: Content and Prospects

Six months into Joe Biden's presidency, a Google search for "Bidenomics" returns 256,000 hits. Unfortunately, such a search does not tell us the meaning of the term, or even whether a coherent concept exists. At root, President Biden and his team envisage a more expansive economic role for government. Biden was elected to the Senate in 1972, having come of political age in the era of Lyndon Johnson's "Great Society" of spending programs on education, healthcare, urban renewal and anti-poverty. Biden's infrastructure proposal envisaged \$2.3 trillion of new spending on roads, bridges, broadband and climate change abatement. This was twinned with his \$1.8 trillion American Families Plan for healthcare, childcare, eldercare and education programs.

Over the summer, the infrastructure package was downsized to \$600 billion of new spending. The revision was deemed necessary to bring Republican legislators on board and retain the support of moderate Democrats from heavily Republican states, such as Senator Joe Manchin of West Virginia.

Infrastructure renewal is something on which both parties in principle can agree. It will bring jobs to underserved communities. It appeals to passengers held captive on planes at airports operating above capacity. But embarrassment over the condition of America's airports is of long standing, as is awareness that some communities and regions have inadequate access to broadband and other infrastructure. What is new is recognition that infrastructure inadequacies handicap the U.S. in competition with China, now seen by Democrats and Republicans alike as an economic rival and geostrategic threat. This concern is what makes possible support for an infrastructure bill by members of a Republican Party temperamentally opposed to spending on anything other than military and police.

Paying for this infrastructure initiative is another matter. Republicans oppose higher taxes on corporations, capital gains and the wealthy. The bipartisan deal therefore foresees financing infrastructure spending through public-private partnerships, where future revenues from, *inter alia*, toll roads are sold off to investors in return for underwriting construction costs.

This, clearly, is business as usual rather than a revolution in the role of the state, though it represents a healthy turn away from the doctrinaire belief that the market solves all problems. But it is revealing that most climate change measures had to be stripped out of the infrastructure deal in order to garner Republican support (and retain the support of Senator Manchin). This does not exactly indicate that the United States has entered a new era of enlightened bipartisanship and reality-based policy.

More revolutionary would be the creation and expansion of federal programs providing universal preschool, subsidized childcare, nutritional assistance for children, free community college and home-based care for the elderly, as envisaged by Biden's American Families Plan and also by a more ambitious bill tabled by the progressive Senator Bernie Sanders. These initiatives have been likened to Franklin Roosevelt's New Deal, which created unemployment insurance, a minimum wage and federally funded pensions. They would be a sea change for a country traditionally reluctant to contemplate anything resembling the European welfare state.

Whether any of this will happen remains unclear. Some view the question through the lens of successive American economic and political orders. First there was the "New Deal Order",

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when it was taken for granted that the government would provide public goods and services. In the 1980s, this gave way to the “Neoliberal Order,” when Ronald Reagan ushered in an era of limited government and market fundamentalism. Perhaps the pendulum is now swinging back, as Biden imagines, toward a “New New Deal Order.”

Certainly the pandemic has alerted many Americans to the precariousness of their lives. It shone a light on the role of government in protecting people against risks from which they cannot protect themselves. In this sense, COVID-19 may have the same effect as the Great Depression, the economic catastrophe that bred support for the original New Deal.

That said, the 1930s Depression worsened for four full years, whereas recovery from the COVID-19 crisis commenced in less than one. To be sure, the pandemic has been a public health catastrophe for the United States. No doubt, its memory will engender support for better funding for the Centers for Disease Control and other public health agencies. Less certain is that it will weaken the ethos of “rugged individualism” that is baked into America’s political and social DNA, or that it will beget meaningful support for a more expansive welfare state. An obvious litmus test was the referendum in California last November on whether gig workers should be classified as employees rather than independent contractors, requiring rideshare firms to pay payroll taxes and entitling workers to unemployment relief and related employee benefits. The proposition was roundly defeated at the polls despite being decided at the height of the pandemic.

FDR, when seeking to push through the New Deal, faced resistance from Republicans who saw his programs then, like Biden’s now, as creeping socialism, and from Southern Democrats opposed to federal interference in local affairs. He overcame opposition from the latter by giving state and local officials control of federal funds, which Southern politicians used to favor their white constituents. FDR agreed to exclude farm workers from the Fair Labor Standards Act in order to gain the vote of Southern Democrats representing farmers who relied on cheap Black labor. He allowed Southern Democrats to dictate that the cheap electricity produced by the Tennessee Valley Authority would flow to racially segregated communities. Such was the regrettable price of Roosevelt’s economic revolution.

Leading to the question of what quid pro quo Biden will have to offer to win over skeptics of his American Families Plan. Support of a bare majority of 51 Senate Democrats (including the vice president’s vote) can presumably be maintained for a de minimis version of the bill, which could be passed using the process known as “reconciliation”. But getting conservatives to support a more ambitious version will require more.

The debate over election reform offers a hint. The issue here is Republican-dominated state legislatures limiting access to the ballot for disadvantaged, primarily Black communities that vote Democrat. The Biden Administration chose to abandon more far-reaching federal legislation overriding such measures in favor of Senator Manchin’s more limited bill as the price of securing Manchin’s support for the infrastructure deal. We may see more such horse trading when the Senate turns to Biden’s Families Plan.

But there are two differences between the 1930s and today. First, Biden is more committed than FDR to the cause of racial justice, or so it seems. Second, whereas 1930s Northern liberal opposition to racial discrimination was only skin deep, allowing Northern Democrats to cast a blind eye on Southern segregationism, today’s progressive Democrats are not prepared to ignore electoral injustice along racial lines. Social compromises designed to attract Republican and Conservative Democratic votes for Biden’s economic program will only peel off progressive support.

Bidenomics remains a work in progress; the preceding is all subject to change. But if this diagnosis is accurate, it suggests that Bidenomics faces a narrow path, and that it may end up being less than a New New Deal.

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