

# WORLD COMMERCIAL REVIEW

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CHRISTINE LAGARDE SAYS  
THE COVID CRISIS CAN  
CREATE A PATH TO EUROPEAN  
INTEGRATION

NEXT GENERATION EU.  
MAARTEN VERWEY, SVEN  
LANGEDIJK AND ROBERT  
KUENZEL PROVIDE AN  
OVERVIEW

IT IS TIME TO ACCELERATE  
A GREEN RECOVERY, DIRK  
SCHOENMAKER ARGUES

THE GLOBAL TRADE AND FINANCE PLATFORM

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# A recovery plan for Europe

Maarten Verwey, Sven Langedijk and Robert Kuenzel provide a brief overview of the economic rationale for collective action and an assessment of the expected impact of the recovery plan proposed by the Commission

**A**s member states start to ease restrictions linked to the COVID-19 pandemic on citizens and businesses, EU leaders and institutions have turned their attention towards the medium-term recovery of their economies. In late May, the Commission presented its proposals for a recovery plan. This column provides a brief overview of the economic rationale for collective action and an assessment of the expected impact of the recovery plan proposed by the Commission.

The ferocity of the COVID-19 pandemic has taken the world by surprise. To date more than six million cases have been confirmed globally and there have been almost 400,000 confirmed deaths. In addition, it has wreaked havoc on health systems and economies in Europe and around the world. Supply-side problems from production and trading restrictions have been compounded by a collapse in economy-wide spending and investment due to physical confinement, concerns about income and job prospects, worsening financial conditions, and pervasive uncertainty about the future course of the crisis (Bénassy-Quéré and Weder di Mauro 2020).

The Commission's Spring 2020 economic forecast suggests that real GDP in 2020 will fall by 7.4% in the EU, with only a partial recovery of 6.1% expected in 2021 (European Commission 2020a). A large majority of member states will still have lower real GDP levels at the end of 2021 than when the COVID-crisis erupted. Risks to the above forecast scenario are strongly tilted to the downside.

In contrast to previous crises, the economic policy response in the EU has been swift and sizeable. The ECB has acted immediately and forcefully through the Pandemic Emergency Purchase Programme. Member states have already extended fiscal support measures of around 3.2% of EU GDP to their economies for the year 2020, and the additional liquidity assistance tops 22% of GDP.

Besides much-needed emergency spending on healthcare, EU governments have activated short-time working arrangements that have supported income streams for employees and eased labour costs for employers. At the EU level, rapid agreements have been reached on a number of important support schemes, including the SURE instrument proposed by the European Commission to support short-time work schemes, the ESM's almost condition-free Pandemic Crisis Support instrument, and the EIB's pan-European guarantee fund.

In the short term, these measures have prevented mass layoffs in Europe. However, as impressive as these measures are, they will not be enough to ensure a rapid recovery and to avoid permanent damage to the EU economy.

*For a genuine recovery, a concerted effort will be required. The package proposed by the Commission marks an important step on the path to recovery*

Even in the EU, short-time work schemes are time-limited and often do not cover the full wages, nor all employment types. Household incomes are likely to suffer, both due to temporary cuts in earnings and permanent job losses — the latter are expected to drive up the unemployment rate to around 9.5% in the euro area and 9% in the EU in 2020 in the baseline scenario. Low-skilled and temporary workers are likely to be hit the hardest.

For companies, liquidity problems will increase the longer production is stalled, and the use of bridge financing from loans is difficult to sustain over time. Piling debt onto already stretched balance sheets is no durable solution, especially in a context of deep uncertainty and continued negative cash flow for many companies.

A fragile corporate sector means a slow and protracted recovery and fewer jobs. Insolvencies cause a waste of physical, human and financial capital. Business failures also disrupt international value chains; in short, they cause large negative second-round effects on investment, employment, growth and prosperity.

Higher short-term healthcare costs, fiscal support measures and the effects of the recession will take their toll on member states' public finances. The Commission's spring forecast expects the average government deficit in the EU to rise from near-balance in 2019 to around 8.5% of GDP in 2020.

Beyond the short term, countries will unavoidably be left with significantly higher debt to be financed in the future — a particular challenge for countries that already had elevated debt and deficit levels before the pandemic struck. This could act as a drag on growth and investment for years to come.

### **The case for EU-level intervention**

To limit the damage to the economy, to minimise downside risks and to advance the recovery, continued policy support is necessary (eg. Bénassy-Quéré *et al.* 2020). A substantial part of this policy support should be organised



at the EU level. Just as the COVID-19 disease effects some people far more than others, its economic impact on countries differs considerably too, depending partly on their sectorial composition.

Economies with large tourism sectors, for example, have been particularly affected. GDP losses in 2020 are expected to be particularly large in Greece, Spain, Italy and Croatia, at around 9.5% each, compared to recessions of between 6% and 7.5% in most other member states. The regional impact is more varied still (Figure 1).

Many of the EU countries hit hardest by the pandemic were already on a relatively weak budgetary footing and had low macroeconomic resilience due to a mix of legacy factors and policy choices. As a result, these countries have been less able extend discretionary support to their economies in the form of additional spending, tax relief and state aid<sup>1</sup>.

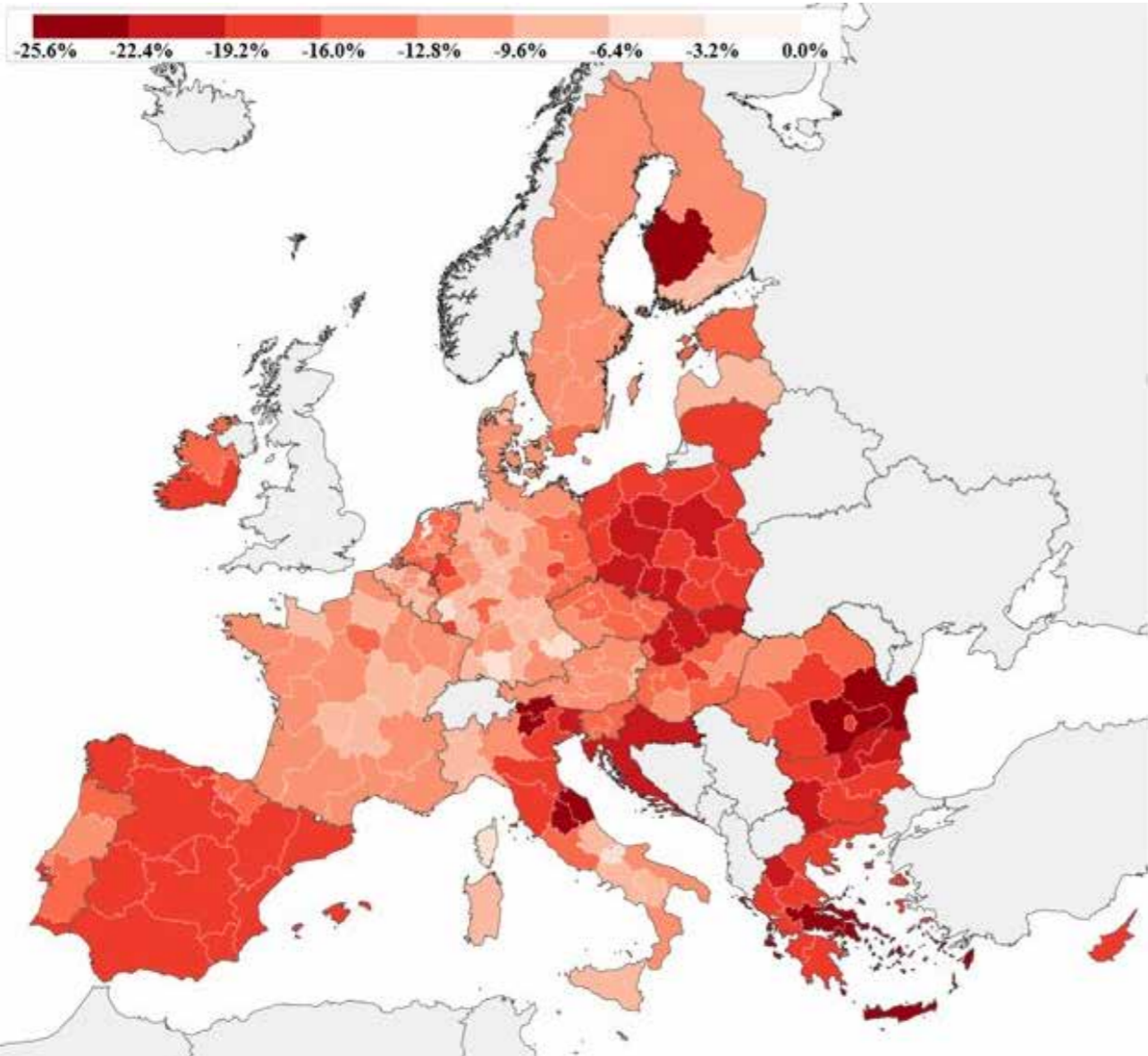
This combination of factors – a more severe recession and a weaker policy response – entails a real risk of increasing economic divergence in the EU. In the longer term, economically weaker countries may also face lower rates of investment and growth, higher and more persistent unemployment, and less favourable debt dynamics.

Not only would this prevent some countries from adequately supporting their citizens and businesses; it would also jeopardise competition, trade and investment across the Single Market. It would drive living standards further apart, and undermine the social, political, economic and financial stability of our Union.

A coordinated EU-level investment stimulus would counterbalance these centrifugal powers, while giving at the same time a strong boost to the recovery in all member states.

**Figure 1. GDP impact at regional NUTS 2 level excluding the impact of policy measures**

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*Note: Shading shows estimated GDP growth in 2020 in %. The analysis is carried out using the RHOMOLO macroeconomic framework, a numerical-spatial general equilibrium model based on regional account data and a set of fully observed bilateral final and intermediate shipments consistent with the national accounts. The economic disturbances implemented in RHOMOLO are consistent with the 2020 Spring Forecast.*

Source: JRC

## **Financing the recovery**

To facilitate informed decision making on the size and allocation of the Recovery Instrument, the Commission has analysed in detail the financial needs of the European economy. These include considerable investment, equity repair and sovereign financing needs<sup>2</sup>.

### **Investment needs**

The Commission estimates that the EU economy's investment needs for 2021 and 2022 are at least €1.5 trillion. These investment needs are combination of investment losses directly resulting from the COVID-19 crisis and existing urgent investment needs related to the green and digital transition.

Investments in the green and digital transition are particularly valuable as they carry the double benefit of providing much needed support for the recovery and preparing the EU for the future.

### **Equity repair needs**

Using firm-level data from the ORBIS database, the Commission estimates that the accumulated losses of non-financial corporates in Europe could wipe out €720 billion of equity under the spring forecast's baseline scenario and as much as €1.2 trillion under the adverse scenario, in which restrictions on economic activity to control the pandemic last longer.

In the baseline scenario, between 25% and 35% of companies would experience a financing shortfall by the end of the year after exhausting working capital and liquidity buffers, respectively. In the adverse scenario, these shares could rise to 35% and 50%, respectively. This means that around 180,000-260,000 European companies employing around 25-35 million people could experience a financing shortfall should the adverse scenario materialise.

The corresponding liquidity shortfall could range between €350 billion and €500 billion in the baseline scenario, and between €650 billion and €900 billion in the adverse scenario. This is after taking into account the existing schemes for solvency support through short-term work schemes. If left unaddressed, many companies will go bankrupt and those companies that manage to survive will see their capacity to invest severely impaired.

### **Sovereign financing needs**

EU sovereigns, meanwhile, will need to finance an estimated €1.7 trillion extra to cover lost tax receipts and increased social spending in 2020 and 2021. These estimates do not yet cover the financing of the additional investments specified above or the expected losses on the liquidity guarantees provided by member states to their corporate sectors.

### **Next Generation EU**

On 27 May the Commission unveiled a recovery package containing a reinforced long-term EU budget for 2021-2027, as well as the new Recovery Instrument, 'Next Generation EU'. Next Generation EU will raise money by temporarily lifting the maximum amount that the EU can request from member states to cover its financial obligations to 2.0% of EU Gross National Income.

This will allow the Commission to use its strong credit rating to borrow €750 billion on the financial markets. This additional funding will be repaid over a long period of time through future EU budgets – between 2028 and 2058. When adding Next Generation EU to the proposed size of the 2021-2027 MFF of €1.1 trillion, the total financial firepower of the EU budget reaches €1.85 trillion, equivalent to around 13% of EU GDP at 2019 levels.

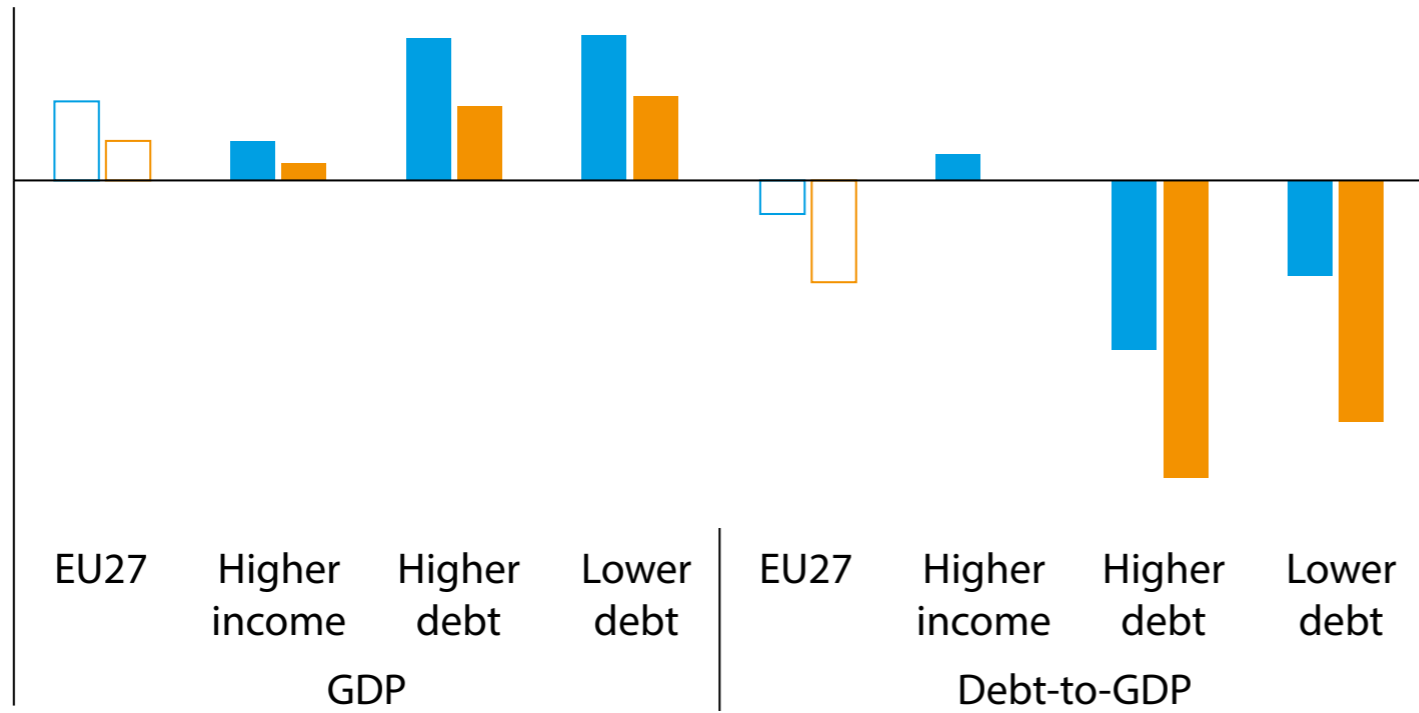
From a macroeconomic point of view, this package has a number of desirable features. The size of the package is clearly macro-relevant. By design, the package ensures full coordination of the investment impulse, adding to its

## Figure 2. QUEST simulation results of impact of Recovery Instrument

Impact of Recovery Instrument on GDP and government debt ratios compared to baseline (pps.)

pps. of GDP

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■ 2024  
■ 2030

Source: Commission services

effectiveness. The package is heavily biased towards public investment. With interest rates at the zero bound, this is a particularly effective way to stimulate aggregate demand.

Finally, the proposed allocation of the package ensures that the funds will flow to those member states that are most in need. A stylised simulation of Next Generation EU using the Commission's QUEST model shows that it could raise real GDP levels by around 2% by 2024 compared to a baseline scenario. Even ten years later, real GDP levels are estimated to be at least 1 % higher. Up to 2 million additional jobs are estimated to be created by 2022, and thanks to a strong denominator effect it would leave EU government debt-to-GDP levels slightly lower, even in the medium to long term.

The package would contribute significantly to reducing the divergences in the Union and thereby to limiting the downside risks for the entire Union. Interestingly, it would also raise GDP growth in higher-income member states by increasing demand for their exports, increasing GDP by more than 1% compared to baseline by 2024 (Figure 2).

For a genuine recovery, a concerted effort will be required. The package proposed by the Commission marks an important step on the path to recovery. ■

### ABOUT THE AUTHORS

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## Endnotes

1. Under its COVID-related temporary state aid framework, the Commission has taken 155 decisions approving 193 national measures notified by 26 member states and the UK. On this basis, the amount of more than €2.19 trillion of total state aid approved so far is a best estimate. Around 45% of state aid approved has been notified by Germany, with measures notified by Italy and France representing around 17% each of the entire amount of state aid approved. Aid notified by Spain represents 4.2% of the total amount.
2. Other financial needs, including for social spending, are also assessed in European Commission (2020b).

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# An uncompromising budget

The EU response to the COVID-19 crisis has so far been weak. Zsolt Darvas considers the Next Generation EU proposal, and feels that an opportunity has been missed to reform the EU budget



**A**part from decisive European Central Bank measures, the EU-wide response to the COVID crisis had been rather weak until the Commission put on the table a drastically new proposal: the creation of a new recovery facility, 'Next Generation EU', that would borrow money in the name of the EU to finance EU-wide expenditures.

The changes to the proposed standard seven-year budget that primarily focuses on long-term structural issues are however generally small, and funding reductions are compensated by new funds from the recovery instrument, suggesting that an opportunity is missed to reform the EU budget.

### **Summary**

The overall proposal has a number of useful aspects and some limitations. Main advantages:

- 'Next Generation EU' financed by long-term EU borrowing would include €440 billion grants, €60 billion guarantees and €250 billion loans, in addition to the standard seven-year budget.
- Two-thirds of the new €440 billion grants would be channelled via the proposed new Recovery and Resilience Facility, which increases transparency. The rest will be scattered all over in existing EU budget programmes, possibly to deploy them faster or to increase the chance of acceptance of the whole package by pleasing member states unhappy about previously proposed cuts.
- 'Next Generation EU' aims at macroeconomic stabilisation while boosting green and digital transitions.
- Funding is increased for external actions, research and health, which is welcome.

- The current 2020 EU budget is increased by €11.5 billion.
- Some useful new own resources are proposed, which help align EU revenues with EU goals and might also trigger behavioural changes, such as lower pollution.
- Leaving out earlier proposals for the 'euro area budget' is not a big loss due to their inferior design; focus should be concentrated on the new recovery facility.
- The boldness of the recovery facility proposal can boost confidence with positive impacts on the economy.

*... the coronavirus pandemic has completely changed the economic and social outlook as the EU is expected to suffer from a very deep recession, jobs and well-being are at risk, and hard-hit regions might fall behind*

## Limitations:

- Though macroeconomically significant, the overall measures announced remain below what the dire economic situation would necessitate.
- Due to the administrative processes, programme design and approval, actual pay-outs will not be frontloaded but spread over a number of years.
- The proposed €250 billion loans are a less useful mechanism than the grants.
- The proposal misses the opportunity for a more fundamental reform of the EU's budget, including the Common Agricultural Policy.
- Only the new own resources that are paid by non-EU entities will help the financing of the general EU budget and loan repayment for 'New Generation EU'. Own resources coming from EU-based entities and governments would only change the distribution of overall national contributions.
- The Just Transition Fund to alleviate the socio-economic impacts of the transition towards climate neutrality is heavily front-loaded to 2021-2024, even though the green transition will have a longer time frame.
- Rebates would stay. This may be designed to alleviate opposition to a more fundamental reform of the MFF and help some countries accept the whole plan.

**Table 1. Comparison of the May 2018 and May 2020 MFF proposals for commitment appropriations (in 2018 constant prices)**

	2018 MFF proposal for 2021-2027	2020 MFF proposal for 2021-2027	2020 Next Generation EU proposal for 2021-2027		
			Grants	Guarantees	Loans
Research and innovation	91.0	87.7	13.5		
European strategic investments	44.4	30.8		56.3	
Single market	5.7	5.8			
Space	14.4	13.4			
Regional development and cohesion	242.2	237.7	50.0		
Recovery and resilience		18.2	310.0		250.0
Economic and Monetary Union	22.3				
Investing in people, social cohesion and values	123.5	116.4			
Agriculture and maritime policy	330.7	340.2	15.0		
Environment and climate action	5.1	15.3	30.0		
Migration	10.0	12.1			
Border management	18.8	17.7			
Security	4.3	4.6			
Defence	17.2	9.5			
Resilience and crisis response	1.2	4.3	9.7		
External action	93.2	89.2	15.5*		
Pre-accession assistance	12.9	12.9			
European public administration	75.6	74.6			
Margins	22.2	9.6			
<b>Total</b>	<b>1,134.6</b>	<b>1,100.00</b>	<b>443.7*</b>	<b>56.3*</b>	<b>250.0</b>

Note: Insufficient information does not allow splitting the 2021-2027 MFF proposal between grants, guarantees and loans. \* The €15.5 billion external action component of Next Generation EU fund also includes guarantees, but their amount is not specified.

Source: Author's compilation based on Commission Communications COM(2018) 321 final (page 30) and COM(2020) 442 final (page 20).

- Little information is provided about EU budget revenues; the earlier proposal to derive an EU revenue stream based on the common consolidated corporate tax base is dropped; nothing is said about what proportion of customs duty revenues could be kept by member states as 'collection costs'.
- The proposal also misses an opportunity to improve on the EU's outdated budgeting methodology.
- The proposal is also still incomplete as underlying calculations and proposed regulations are still to be detailed, perhaps because of time pressure.

### **The MFF saga**

Debates around the EU's seven-year Multiannual Financial Framework (MFF) for 2021-2027 dragged on for more than two years after the Commission made its first proposal without reaching an agreement.

Member states were bickering about macroeconomically irrelevant points such as whether the size of the budget should be 1.00%, 1.08% or 1.12% of gross national income (GNI), which gaps are several factors smaller than any planning error in a national budget.

The most contentious issues led to a dead end: the assessment of EU added value of some spending like in agriculture; concerns about the proper use of some funds; proposed cuts to agricultural and cohesion policy spending; increases in spending on new priorities like the fight against climate change; linking EU funds to the respect for rule of law; the elimination of rebates; establishing new revenue sources; the euro area budget; the increase in national co-financing of cohesion projects etc.

While these disputes remain today, the coronavirus pandemic has completely changed the economic and social outlook as the EU is expected to suffer from a very deep recession, jobs and well-being are at risk, and hard-hit regions might fall behind.

Soaring public debt levels in some countries might trigger [sovereign debt crises](#) with potentially devastating social, economic and political consequences, not only for the countries concerned but for the EU as a whole.

### **EU-wide response so far**

The EU reacted by relaxing [state-aid](#) and [fiscal rules](#) to allow governments to subsidise businesses losing revenues. Such rescues are welcome as they keep the productive and human capacity ready to take off when the recovery starts.

Moreover, stimulus in one country helps other EU countries through spillover effects. However, uneven state supports across the Union risk undermining competition in the single market, as also [argued by Guntram Wolff](#).

The European Central Bank addressed the economic fallout by significantly expanding asset purchases, relaxing bank capital rules, offering credit to banks with a subsidy and accepting an even broader set and less credit worthy collateral from banks.

In contrast, the rest of the European response has been rather weak so far. Not much could have been done with the 2020 annual EU budget because all ceilings had been fixed in 2013, when the 2014-2020 MFF was agreed.

The Commission took several initiatives that were well made, even if they cannot make a big difference for member states' public finances: mobilise all unused funds, allow reallocations between and within programmes, simplify

access criteria, provide liquidity by delaying the repayment of unspent pre-financing and abolish national co-financing of EU cohesion spending.

Overall, the Eurogroup's €540 billion package is feeble.

- €240 billion is a new [pandemic credit line](#) from the European Stability Mechanism (ESM) for eurozone members, which offers cheap loans for 10 years amounting to maximum 2% of GDP of each country to cover pandemic-related healthcare costs. Its usefulness can be questioned, considering that no country has yet applied for it in the two weeks since it became operational.

Applying for an ESM loan could signal that the country has weak public finances ('stigma effect'), which could reduce demand for the credit line. Also, pandemic-related healthcare costs so far have been well below 1% of GDP, so the potential interest saving from a small credit line is miniscule.

- The €100 billion temporary Support to mitigate Unemployment Risks in an Emergency (SURE) for all EU countries is just a [small step forward](#), as it can at best lead to marginal interest savings.
- The European Investment Bank's €200 billion extra liquidity support to hard-hit small and medium-sized enterprises in the EU, though welcome, would not significantly alleviate the fiscal burden of high-public debt countries.

### **The recovery fund proposal and the counter-proposal**

The Franco-German temporary [recovery fund proposal](#) of 18 May 2020 put an entirely new alternative on the table:

€500 billion joint borrowing would finance EU budgetary expenditures for the most affected sectors and regions, involving redistribution between EU countries.

This was rightly hailed as a defining moment in the Union's history as it proposed to implement actual EU spending instead of loans or the usual EU financial trick that trigger large amounts of private investments from little EU money guarantee. This said, €500 billion (or about 3.6% of EU GDP), though a macroeconomically significant amount, was not as high as the severity of the COVID induced crisis would have warranted in my view.

The Franco-German proposal also aimed to integrate the fund into the EU's multiannual budget, foster green and digital transitions, strengthen research and innovation, support structural reforms, and ensure fair taxation and a common consolidated tax base.

A counter-proposal by the so-called 'frugal four' – Austria, Denmark, the Netherlands and Sweden – called for a "modernised EU budget" that reprioritized existing spending. It was in essence a call for a substantial reshuffle of current EU spending. The four countries also called for a temporary recovery fund which only provides loans and avoids any mutualisation of debt; they stated that the overall level of standard MFF (not considering the recovery fund) should not be more than 1.00% of GNI; and insisted that the [EU budget rebates](#) from which these countries benefit must remain.

### **The 27 May 2020 new MFF proposal**

The European Commission revealed its [new MFF proposal](#) on 27 May 2020. The proposal needed to combine two features: medium- and long-term structural spending, which is the main scope of the 'standard' seven-year MFF; and, for the first time in the history of the Union, macroeconomic stabilisation at the EU level. It includes two main elements:



- The standard seven-year MFF for 2021-2027, amounting to €1,100 billion at constant 2018 prices, or €1,240 billion at current prices, which could be around 1.12% of EU GNI<sup>1</sup> and to be financed, as usual, by some direct EU budget revenues and member state contributions.
- The new and temporary 'Next Generation EU' instrument for 2021-2024, amounting to €750 billion at constant 2018 prices, or €809 billion at current prices. Out of €750 billion, about €440 billion would be grants, €60 billion would be guarantees and €250 billion would be loans<sup>2</sup>. The EU would borrow long-term to finance this instrument. While most of the commitments for this instrument would be made in 2021-2024, actual pay-out would spread over more years.

Somewhat misleadingly, the Commission's communication adds a third item, the €540 billion Eurogroup measures discussed above, that mostly constitute of loans and thereby differ from EU budget expenditures. As argued, very few countries can be expected to draw on the ESM credit line and SURE, which are part of these €540 billion earlier measures. Therefore, much less than €540 billion are likely be actually used.

In addition to the above proposals, which apply for the period starting in 2021, the Commission also proposes to amend the current multiannual financial framework 2014-2020 and make an additional €11.5 billion in funding available in 2020, reflecting the urgency of the situation.

### **'Next Generation EU' – the new recovery instrument**

This new facility is, like the Franco-German proposal, a bold, macroeconomically relevant, positive step forward. However, considering the severity of the current crisis, on its own it remains below the levels needed for a stimulus to be efficient.

This instrument is aimed at macroeconomic stabilisation and financed by EU borrowing on capital markets. It almost fully incorporates the Franco-German proposal of €500 billion EU spending, apart from the fact that €60 billion of the €500 billion amount would be guarantees instead of EU spending.

€250 billion loans would also be available in the scheme, though this component is less useful. Some countries could benefit from cheaper borrowing from the EU than from the market, but since interest rate differentials are generally low, the benefit would be small.

However, the most fiscally-stretched countries could still benefit from long-term EU borrowing, since they would have to raise less from the market in the meantime. This can help public debt management. Whether borrowing from the EU budget under 'Next Generation EU' would carry a 'stigma' effect similar to what the literature suggests for borrowing from the IMF remains an open question.

It is so far impossible to evaluate the extent of possible redistribution via 'Next Generation EU' because the communication is not clear on this point apart from stating that *"It will be available to all member states but support will be concentrated in the parts of the Union most affected and where resilience needs are greatest."*

Countries would have to prepare recovery and resilience plans as part of their National Reform Programmes, which would be assessed in the European Semester process. Thereby, the Commission, the Council and the European Parliament will have control over the allocation of the funds. The EU support would be released in instalments depending on progress made and on the basis of pre-defined benchmarks.

### **The three arms of the 'Next Generation EU' instrument**

Arm 1: Supporting member states to recover (€415 billion grants and €250 billion loans)

- The 'Recovery and Resilience Facility' is the largest component of the 'New Generation EU instrument', with €310 billion grants and €250 billion loans. Its goals are to support investments and reforms essential to a lasting recovery; improve the economic and social resilience of member states; and support the green and digital transitions.
- REACT-EU aims to achieve a quick response while the other instruments are put in place. It increases cohesion policy support by €5 billion as soon as 2020 via a revision of the current 2014-2020 MFF and by €50 billion in 2021-2022;
- The already planned Just Transition Fund would be significantly boosted by €30 billion, to reach a total value of €40 billion in 2021-2027;
- The European Agricultural Fund for Rural Development would benefit from an additional €15 billion to support farmers and rural areas in making the structural changes necessary to implement the European Green Deal.

#### Arm 2: Triggering private investments (€56 billion guarantees)

- The proposed new Solvency Support Instrument (€5 billion in 2020 by modifying the current MFF and then €26 billion from the 'Next Generation EU') aims to mobilise private investment in struggling companies by providing partial guarantees against losses. Altogether, €31 billion from the EU budget will provide a guarantee of €75 billion to the European Investment Bank Group, which in turn will leverage this guarantee up to €300 billion investment. Therefore, financial engineering aims to increase actual EU money by 10-fold;

- InvestEU programme, already agreed by the co-legislators, would be boosted by €3 billion to trigger private investment of €240 billion;
- The new Strategic Investment Facility will get another €15 billion as an additional window under InvestEU to support building strong and resilient value chains across the EU and enhance the autonomy of the Union's single market. This could generate €150 billion private investments.

Arm 3: 'Learning the lessons from the crisis': mix of measures related to health, protection, research and external actions (€39 billion mostly for grants, but some of this amount is for guarantees)

- A new EU4Health programme with a total funding of €4 billion, of which €7.7 billion would be financed from the New Generation EU instrument, to enhance EU health crisis prevention, preparedness and response;
- rescEU, the EU's civil protection mechanism to finance investments in emergency response infrastructure, transport capacity and emergency support team, is to be reinforced by €2 billion;
- Horizon Europe is proposed to be boosted by €5 billion to reach a total envelope of €94.4 billion, to increase European support for health and climate-related research and innovation activities;
- To strengthen external actions, €5 billion would be allocated to the neighbourhood instrument (including a new External Action Guarantee) and €5 billion to humanitarian aid.

### **Composition and timing of EU spending**

Disbursement from the Recovery and Resilience Facility is not expected to be frontloaded (Table 2). Only 6% is

expected to be actually paid out in 2021, and about half between 2023-24. REACT-EU, which is supposed to be fully committed in 2021-2022, could help frontloading, but its firepower is less than one-sixth of the Recovery and Resilience Facility. Thereby, the total €440 billion grant component of 'Next Generation EU', which is 3.2% of annual GNI, will be distributed over a number of years, with the largest pay-outs expected in 2023-24.

Two-thirds of the grant component of the 'New Generation EU' instrument are included in the Recovery and Resilience Facility. One third of the grants is used to top up various existing facilities. Though this will make it difficult to disentangle the temporary recovery measures from the more long-lasting 'standard' EU budget expenditures (see Table 1), this method offers some advantages. Existing EU programmes are up and running and can be deployed fast.

**Table 2. Expected annual breakdown of the Recovery and Resilience Facility disbursements**

	2021	2022	2023	2024	2025	2026	2027	Later years
Grants - Commitments	39%	40%	10%	10%	0%	0%	0%	
Grants - Payments	6%	16%	23%	26%	18%	8%	3%	1%
Loans - Commitments	50%	50%						
Loans - Payments	15%	28%	25%	23%	10%			

*Note: The table on page 40 of regulation proposal COM(2020) 408 final.*

*Source: This facility is proposed to include €310 billion grants and €250 billion loans (at 2018 constant prices).*

Moreover, countries that complained about EU expenditure cuts in the 2018 proposal might find it advantageous that the new recovery facility increases these spending categories, which might in turn increase the chances that the whole package is accepted. Allocating more funds to [EU public good](#) such as research in health, resilience, and the green and digital transitions is welcome.

More generally, the recovery facility aims at combining macroeconomic stabilisation with the goals of green and digital transitions, which is welcome too. By attaching green conditions to state aid, governments can promote companies' economic and environmental viability thereby accelerating the adoption of low-carbon and circular technologies, which are important EU goals, as [argued by Dirk Schoenmaker](#). The same principle should be extended to EU-financed programmes.

The new proposal to increase the allocation from the Just Transition Fund (JTF) from €10 billion to €40 billion is welcome, considering that this is positive EU-wide initiative ([Cameron \*et al\*](#)), which had been allocated a rather small amount in the initial January 2020 proposal.

However, the JTF seems to be heavily frontloaded as the increase would be financed by the Recovery and Resilience Facility, which is available for the next four years. While frontloading macroeconomic stabilisation would be important, frontloading JTF is inconsistent with its objective to alleviate the socio-economic impacts of the transition towards climate neutrality.

The green transition it is meant to accompany, will not be that frontloaded; neither its social impacts. Moreover, important changes are needed for the country allocations to avoid [undue concentration](#) of this funding in some member states, as [Cameron \*et al\*](#) argued. The Commission's communication does not foresee such changes.

The proposed increased funding of external actions is a positive aspect and corrects to some extent the timid 2018 proposal. The EU Commission thus proposes to take a greater responsibility for helping our less fortunate neighbours and other parts of the world.

Reinforcing EU's health capacities is obviously welcome, as the coronavirus pandemic revealed that the EU can play an important role in addressing public health crises.

The proposed overall amount of the 'standard' seven-year MFF, €1,100 billion, is slightly lower than the €1,1134.6 billion proposal made two years ago (both are at 2018 constant prices). In the meantime, GNI forecasts were revised downward and the current proposal as a share of GNI (estimated at 1.12%) is practically the same as the 2018 proposal as a share of GNI (1.11%)<sup>1</sup>.

Otherwise, the differences between the May 2018 and the May 2020 proposals are generally small and wherever a somewhat larger cut is proposed, this is compensated by top-ups from the 'New Generation EU' instrument. This suggests that the current opportunity for a more fundamental reform of the EU's budget was missed.

Leaving out the 2018 proposal for the 'euro area budget' is not a big loss, given that its proposed design was [disappointing](#). The so-called Budgetary Instrument for Convergence and Competitiveness ([BICC](#)) seemed to [replicate](#) existing EU budget facilities without a meaningful redistribution across countries.

The pandemic-induced emergency has not led to more wide-ranging changes to the EU's Common Agricultural Policy even though the European value added of support for farmers is questionable (see our [paper](#) with Guntram Wolff). Importantly, CAP is ineffective and possibly counterproductive in achieving the goal of greening European agriculture.

It would have been desirable to reallocate farmers' earnings subsidies to correcting market failures and promoting public goods, such as environment and biodiversity, and, like in the US, insuring against large risks such as earthquakes and animal disease epidemics.

National co-financing of earnings subsidies is another missed reform opportunity.

Little is said about the other major EU budget spending item, cohesion policy, beyond that the Commission is currently adjusting its earlier proposals.

### **The role of new own resources**

Little information is provided about the financing of the EU budget, beyond reaffirming some useful proposals already made in 2018 (a simplified value added tax-based own resource, a non-recycled plastics packaging waste levy and a revenue based on the EU's Emissions Trading System) and naming some new possible revenue sources (a carbon border adjustment mechanism, a levy on large companies and a digital tax).

While the 2018 revenue source proposals were positive (see our [blogpost](#) with Grégory Claeys), there is a [debate](#) on the desirability of carbon border adjustment. Aligning EU revenues with EU goals is sensible and might trigger behavioural changes, such as lower pollution.

The 2018 proposal to derive an EU revenue stream based on the common consolidated corporate tax base is dropped, even though we had a positive view of this proposal earlier. The commission communication contains the somewhat misleading claim that new direct EU budget revenues (called 'own resources') will 'help' the repayment of EU borrowing for the New Generation EU instrument 'in a fair and shared way'. This claim calls for clarification.



Own resources might reduce the contributions by national finance ministries to the EU budget, but do not necessarily reduce the total contribution of the country, if we take into account what companies, which are subject to the own resources, contribute.

[Guntram Wolff highlights](#) that an EU tax on companies would mean that the revenues from such a tax would not accrue to national budgets, implying lower national budget revenues. Some new own resources would even be paid by finance ministries.

Therefore, unless the new resource comes from entities outside the EU, they just change the distribution of total national contributions to the EU budget. Only some of those proposed by the Commission, like the carbon border adjustment mechanism proposal and a new digital tax, would be paid, at least partially, by non-EU based entities and therefore reduce national contributions. Others do not, like the one based on the EU's Emission Trading Scheme and the levy on non-recycled plastic waste.

### **The rebate compromise**

EU budget revenue corrections, or rebates, are granted in a complex and non-transparent system (see [here](#)). The rationale for rebates does not correspond to the original idea of the [1984 Fontainebleau Summit](#), which stated that *“any member state sustaining a budgetary burden which is excessive in relation to its relative prosperity may benefit from a correction at the appropriate time”*: countries that benefit from the rebates are among the most prosperous in the EU and have low public debt levels.

In my view, the largest net contributors might judge that a big share of the EU budget is redistributed to countries for spending that do not constitute European public goods, or that there are risks for their proper use. In this case their attempt to reduce net contributions is understandable.

The May 2020 proposal said that: *“in the present situation, given the economic impact of the COVID-19 pandemic, phasing out of rebates would entail disproportionate increases of contributions for certain member states in 2021-2027. To avoid this, the current rebates could be phased out over a much longer period of time than foreseen by the Commission in its proposal in 2018.”* In other words, rebates remain.

Full elimination of the rebates would increase the net contribution of the Netherlands by 0.15% of GNI, of Sweden by 0.12%, of Germany by 0.07%, while it would not change the net contribution of Denmark and would reduce the net contribution of other countries by 0.05%, in each year (see Table 4c [here](#))<sup>3</sup>.

Perhaps keeping the rebates will be the price for the approval of the New Generation EU instrument. ■

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### Endnotes

- 1. The Commission has not expressed the overall amount of the proposed MFF as a share of GNI. For my calculations, I used the May Commission forecast for 2021 and assumed that real GNI growth will be 1.5% per year in 2022-2027. Under such a scenario, the €1,100 billion seven-year MMF amounts to 1.12% of GNI. The May 2018 proposal foreseen that the then-proposed €1,134.6 billion overall value would amount to 1.11% of GNI. Between May 2018 and May 2020, GNI outlook deteriorated and thereby a lower amount now accounts for the same share of expected GNI as previously proposed larger amount.*
- 2. The Commission's Communication talks about €500 billion grants, but the detailed description reveals that part of that*

would be guarantees.

3. The reason why Denmark would not face any change in net contributions by a complete elimination of rebates is that Denmark is entitled to lower rebates than the Netherlands, Sweden and Germany, but contributes to the rebates of these three countries. Denmark's rebate is projected to be the same as the Danish contribution to the rebates of the three countries in the 2021-2027 MFF. Austria benefitted from temporary reductions in its GNI-based contributions in 2014-2016, but not later, plus benefitted from a reduction in its contribution to the UK rebate, which ends with Brexit. Hence, no rebate is considered for Austria in the post-2020 period.

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# Europe's moment



The coronavirus has shaken Europe and the world to its core. Ursula von der Leyen presents a recovery plan to repair and prepare for the next generation

**E**urope is a story about generations. And each generation of Europeans has its own story. For our Union's founding generation, the story was about building a lasting peace where there was only suffering, pain and destruction. For the generation that followed, it was about pursuing prosperity and freedom by choosing the unity of our single market and our single currency.

Our next story was about reuniting our European family by bringing our brothers and sisters back in from the cold and welcoming them home - to the heart of our Union.

All those generations, and all those historic achievements, were built on the ones before and inspired the ones after. For each generation, the choice has always been a choice between taking the path of least resistance alone or moving forward together – with vision and ambition –towards the same destination.

At these decisive moments, we have always opted to take a leap forward together. Since the boldest measures will always be the safest for Europe. This is what has enabled us to build a Union of peace and prosperity without peer or precedent anywhere in the world.

Today, we face our very own defining moment. What started with a virus so small your eyes cannot see it, has become an economic crisis so big that you simply cannot miss it. Our unique model built over 70 years is being challenged like never before in our lifetime or in our Union's history.

The common European goods we have built together are being damaged. Things we take for granted are being questioned. There is the Single Market that needs to recover. There is the playing field that needs to be made even again. And there are four freedoms that need to be fully restored.

The crisis has huge externalities and spillovers across countries. None of that can be fixed by any single country alone. A bankrupt company in one member state, is a reliable supplier gone for a business in another. A struggling economy in one part of Europe, weakens a strong economy in another part. This is about all of us. And it is way bigger than any of us. This is Europe's moment.

We see the economic, fiscal and social fall-out across our member states. Divergences and disparities widen. Complex questions of sovereignty and burden-sharing have to be balanced. And so in front of us once again is that same binary choice.

*The crisis we have to tackle is enormous. But it is also huge opportunity for Europe. And it is a huge responsibility for us to do the right in this defining moment*

We either all go it alone; leaving countries, regions and people behind, and accepting a Union of haves and have-nots, or we walk that road together. We take that leap forward. We pave a strong path for our people and for the next generation. For me, the choice is simple. I want us to take a new bold step together.

Europe is in a unique position to be able to invest in a collective recovery and a common future. In our Union, people, business and economies depend and rely on each other. In our Union, cohesion, convergence and investment are good for all. And in our Union, we know that the boldest measures truly are the safest for our future.

This is why the Commission is proposing a new recovery instrument, called Next Generation EU – worth €750 billion. It will sit on top of a revamped long-term EU budget of €1.1 trillion. Next Generation EU - together with the core MFF - sums up to €1.85 trillion in today's proposals.

It goes alongside the three safety nets of €540 billion in loans, already agreed by Parliament and Council. In sum, this would bring our recovery effort to a total of €2.4 trillion.

Allow me to explain how Next Generation EU will work. The money will be raised by temporarily lifting the own resources ceiling, to allow the Commission to use its very strong credit rating to borrow money on the financial markets. This is an urgent and exceptional necessity for an urgent and exceptional crisis. This is why Next Generation EU will:

- Invest in repairing our social fabric,
- Protect our Single Market.

- Help rebalance balance sheets across Europe.

And while we are doing this, we need to press fast-forward towards a green, digital and resilient future. This is the future of Europe's next generation. This generation that is globally connected and feels responsible for our world, our planet. With a clear vision to promote human dignity and the rule of law. Determined to hold governments more accountable for fighting climate change and saving our nature. Driven by idealism for Europe and a belief that our Union must strive for better.

So, beyond showing solidarity to overcome the crisis of today, I propose a new Generational Pact for tomorrow. Yes, the effects of this crisis mean that we need to make investments on an unprecedented scale today. But we will do it in a way that Europe's next generation will reap the benefits tomorrow.

Investments that will not only preserve the outstanding achievements of the last 70 years, but that will ensure that our Union is:

- climate neutral
- digital
- social
- and a strong global player also in the future.



To make this happen, Next Generation EU will direct its massive financial firepower to invest in our common priorities through European programmes. My proposal to invest these funds via programmes in our European budget achieves exactly that.

Next Generation EU will restore and rebuild our Single Market - that great generator of innovation, prosperity and opportunity. All member states need to invest in technologies that will spark the recovery through new innovation and clean industries.

Next Generation EU strengthens the European Green Deal and Horizon Europe – and will invest in key infrastructure from 5G to housing renovation. At the same time, we must ensure that the transition to a climate-neutral economy leaves nobody behind. Next Generation EU will therefore multiply the funding for the Just Transition Fund.

In the same vein, no member state should have to choose between responding to the crisis or investing in our people. No member state should have to choose between responding to the crisis or investing in our people. Therefore, Next Generation EU increases Erasmus and youth employment support.

It makes sure that people get the skills and the training and the education they need to adapt to this rapidly changing world. Next Generation EU will help those perfectly healthy companies that have made the right decisions and investments over decades – but that find themselves at risk now because competitors in other member states have better access to public or private money to get fresh capital.

It will invest in key European industries and technologies to make crucial supply chains more resilient. It will ensure Europe remains cutting-edge in key areas like Artificial Intelligence, precision farming or green engineering. And

Next Generation EU will help make our health systems more resilient for future crises. This investment will be a new European common good.

It will show the true and tangible value of being part of the Union. And it will be owned by us all. In total, the Commission will raise €750 billion for Next Generation EU. Of that total, €500 billion will be distributed in grants and €250 billion in loans passed on to member states.

Let me be clear: These grants are a joint investment in our future. They have nothing to do with the past debts of the member states. They will be channelled through the European budget. And this will limit each country's contribution according to a fixed formula.

The grants will be clear investments in our European priorities: Strengthening our digital single market, European Green Deal and resilience. And the EU budget has always comprised grants. This is nothing new. Grants for targeted investment and reforms, for more cohesion and for convergence of living standards in Europe.

And our European Union is living proof that it works. This Union that has increased prosperity and living standards in every member state. And investments made through the EU budget have paid off for all - many times over!

And that is exactly what Next Generation EU will do for all of us. We are investing together in Europe's future – and will pay everything back according to a known and well-tested formula through future EU budgets.

This is why the Commission will additionally propose a number of new own resources. These could be based on the planned extension of the emissions trading scheme. These could be based on a CO<sub>2</sub> border tax to counterbalance

imports of cheap products from abroad which damage the climate. And these could also be based on a new digital tax. Here we need to be ambitious and I am counting on your support.

Now is the time to take the right decision. To those who fear the cost of investment, I say that the cost on inaction will be much more expensive down the road. Together we must lay the foundations for our future. And we must make sure that our response lives up to this clearly defined, accidental and truly extraordinary crisis.

So I say let's put our old prejudices to one side. And let's rediscover the power of the idea of a united Europe. The crisis we have to tackle is enormous. But it is also huge opportunity for Europe. And it is a huge responsibility for us to do the right in this defining moment. We can now lay the cornerstone for a Union which is climate neutral, digital and more resilient than ever before.

Seventy years ago our founding fathers and mothers took the first courageous step to create a Union of peace and prosperity. Today is the time to write our generation's chapter to the story and take another courageous step towards a stronger Union.

We owe it to future generations. Long live Europe! ■

## **Ursula von der Leyen is President of the European Commission**

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*Q&A on the MFF and Next Generation EU*

*Factsheet 1 The EU budget powering the Recovery Plan for Europe*

*Factsheet 2 Key instruments supporting the Recovery Plan for Europe*

*Factsheet 3 Financing the Recovery Plan for Europe*

*Factsheet 4 Adjusted Commission Work Programme 2020*

*This article is based on a [speech](#) delivered at the European Parliament Plenary on the EU Recovery package, Brussels, 27 May 2020*



# A small step forward

Grégory Claeys argues that the EU's SURE plan to safeguard employment is too modest to have a significant impact the COVID-19 crisis

**T**he European Union's new instrument, the so-called temporary Support to mitigate Unemployment Risks in an Emergency (SURE), will provide temporary support of up to €100 billion in loans to EU countries that request financial assistance to fund job-saving initiatives. While the creation of the instrument has generated a lot of interest, its main benefit is to show that, if needed, the EU can create a borrowing capacity and issue a common safe asset.

In terms of having a significant impact on the EU's fiscal response to the COVID-19 crisis, however, SURE is too modest, and should be evaluated as only a part of a more complete recovery plan.

### **What is SURE?**

The EU has been making [back-to-back loans](#) to its member states since the 1970s, but SURE has two original features. First, its stated objective is to ensure that countries can easily and cheaply finance the short-term work schemes heavily used since the beginning of the COVID-19 lockdowns.

Second, to protect the EU's AAA rating, the money raised by issuing bonds on international financial markets will be guaranteed by the so-called 'headroom' of the EU budget (ie. the additional resources the Commission can call on from member countries to service its debt, principal and interest, if a debtor defaults), but also by an additional €25 billion in direct irrevocable callable guarantees from EU countries.

The Commission portrayed SURE as a "*tangible expression of Union solidarity.*" But how generous is it, and what impact can it have in the context of the COVID-19 crisis?

### **The three main advantages of SURE**

- SURE will provide an extra source of financing for EU countries on top of market financing and potential

credit lines from the European Stability Mechanism (ESM). Its loans could be cheaper and possibly longer-term than what some countries, including Greece, Cyprus, Italy, Portugal and Spain, can currently obtain from the market, because the EU should currently be able to borrow on the market at around 0% and pass this rate to member states.

- SURE offers a lighter and more agile governance framework than other EU financial assistance programmes, particularly the ESM credit lines, even under the [simplified procedures](#) of its new 'Pandemic Crisis Support' facility. To access the SURE funds, EU countries would only need to show that the money is deployed for short-term work schemes. Approval just requires a qualified majority in the Council, and there will be no need

*SURE is too modest to have a significant impact on the EU's fiscal response to the COVID-19 crisis, and should be evaluated as only a part of a more complete recovery plan*

to consult each national parliament for every request. Given its novelty, SURE might also be less politically toxic than the ESM in some countries, such as Italy.

- Finally, SURE provides an additional incentive for countries to put in place short-term work schemes and use them during future possible lockdowns. Short-term work schemes help avoid the break-up of labour relationships, which is very **costly** for workers and companies. They have been used extensively in the past two months and have proved crucial to ensure the survival of European firms and to prevent a very quick rise in unemployment.

However, these schemes are very different in different EU countries: countries including Germany, Italy, France and Belgium have well-established schemes; others including Cyprus, Greece, Estonia and Latvia entered the crisis without such schemes and had to improvise. The fact that SURE emphasises the need to have such schemes in place and encourages member states to use them is good in itself. If it were to be prolonged, SURE could also be used to share national best practices on short-term work schemes, for example using workers' idle time for online training to improve their skills.

#### **Four limits of SURE**

- SURE's effect on public finances will be very marginal as the programme is too small (€100 billion) to lead to significant savings in interest costs. Imagine for example that Italy were to borrow from SURE €20 billion at 0% for 10 years, instead of the 1.8% it would pay the markets, at the time of writing. Italy would then save around €360 million per year. Considering its **forecast** deficit of 11.1% of GDP in 2020, ie. around €200 billion, SURE would cover 10% of the new debt incurred this year, and thus reduce borrowing costs on this new debt by 10%. Given the relatively low level of the spread between the two, this would only represent savings equivalent to 0.02% of Italy's GDP.



- There is a risk that a stigma will be attached to the use of the programme. There are not yet studies on stigma effects from EU financial assistance programmes, but (even if they are not fully comparable) there is some [empirical evidence](#) that the announcement of IMF programmes can increase yields. Markets could interpret a request as a sign of weakness and therefore ask for higher rates when countries issue new bonds, thus erasing savings generated by the lower cost of SURE loans.

In addition, unlike an ESM credit line, a loan from SURE would not make a country eligible for the ECB's Outright Monetary Transactions scheme (OMT). One solution to avoid any 'first-mover' stigma would be for a large number of countries, ideally all of them, to use SURE at the same time.

However, there would be two limits to that solution: first, SURE is not financially advantageous for countries that already enjoy interest rates at a similar or lower level to what they could secure using SURE (eg. Germany, France, the Netherlands, Austria). Second, if many countries use it, the relatively small amount of money available would have to be divided between them, reducing the already small savings on interest costs made by each country.

- The main limitation of SURE is that it solves the wrong problem. Access to finance is not an issue for euro area countries at this stage, thanks in particular to the massive intervention by the European Central Bank since mid-March. If access to finance were to become a real problem for some countries, SURE would then be too small.

This was already an issue for one of its predecessors, the European Financial Stabilisation Mechanism (EFSM), which was limited to €60 billion. The European Financial Stability Facility (EFSF) and the European Stability Mechanism (ESM) were created to address this very problem.

- Finally, SURE is not a significant and permanent EU borrowing capacity to be used as a stabilisation tool. Nor is it an “*emergency operationalisation of a European Unemployment Reinsurance Scheme*”, as the [Commission put it](#) when it was announced. At the request of some EU countries, SURE will be temporary and will be dismantled in a couple of years. SURE is also not an insurance mechanism, as it does not involve any ex-post transfers following the materialisation of a risk. As a lending facility, SURE only involves mutualisation of borrowing costs.

## Conclusions

The Commission’s quick proposal and negotiations with member states, establishing SURE within a few weeks, should be commended. SURE also rightly highlights the importance of short-term work schemes and gives EU members an incentive to use them in the current crisis, and maybe also to improve them in the future.

However, the facility will have a small impact on the EU’s fiscal response to the COVID-19 crisis. Its merits should be measured as part of the complete recovery initiative that will be presented by the Commission by the end of the month.

The main advantage of SURE is to show that, if needed, the EU can create a borrowing capacity and issue a common safe asset using the community method, instead of using intergovernmental agreements, as was done with the ESM and the EFSF.

Undeniably, a common debt-management office issuing a common safe asset at large enough scale would be very [useful](#) to the euro area in a crisis. In particular, such an EU debt instrument would help the ECB fulfil its mandate – politically, it would be easier for the ECB to buy European debt than to buy national debts.

However, such a facility would need to be much bigger than SURE. The 18 May Franco-German 'Recovery Fund' [proposal](#) to issue €500 billion of EU debt to increase the size of EU programmes in the next few years goes in this direction. Issuing such a large amount of EU debt should be possible by increasing drastically the headroom of the EU budget. What is needed now is support from the other 25 EU countries. ■

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# Rebooting Europe

European governments have adopted stringent measures to slow the spread of COVID-19. Julia Anderson, Simone Tagliapietra, and Guntram Wolff present a framework for a post COVID-19 economic recovery

## **The issue**

To slow the spread of COVID-19, European governments have adopted stringent containment measures. These have led to a severe recession and policymakers in European Union countries are providing generous support to help companies cope with the immediate consequences. The basic approach has been to provide generous and indiscriminate emergency support to help cash-strapped firms meet their immediate liquidity needs. But as lockdown measures continue and the recession gets deeper, a more comprehensive strategy for the future needs to be designed.

## **Policy challenge**

The success of support measures as COVID-19 lockdowns are relaxed depends on the type of recovery the EU wants to achieve. At the same time, decisions taken today will have long-term implications for the single market and government debt.

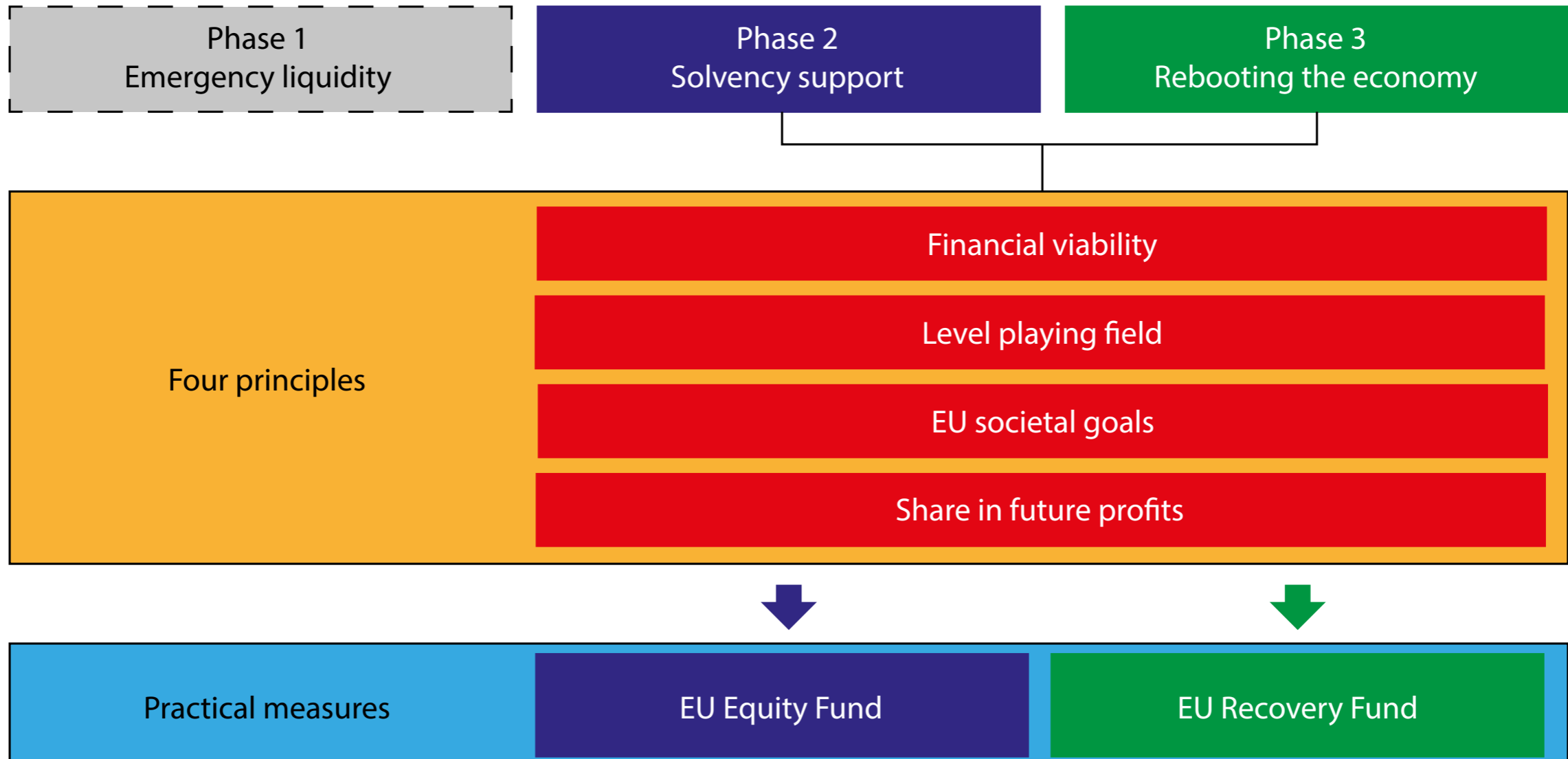
How should further fiscal support provided to companies be structured? What implications will different approaches have for the single market, government budgets and the EU's climate strategy? Difficult trade-offs lie ahead: a speedier recovery could run counter to green ambitions; national rescues could hurt neighbouring markets.

The hard choices in the next phases should follow a set of four principles, and the recovery effort should be structured around equity and recovery funds with borrowing at EU level.

## **Three phases of economic response to COVID-19**

COVID-19 lockdown measures have led to sharp contractions in economic output, household spending, corporate investment and international trade. European Union countries have seen an estimated average decline in annual

## A framework for a post COVID-19 economic recovery



GDP growth of up to 3 percentage points per month of lockdowns<sup>1</sup>. The EU economy is predicted to contract by a record 7.4 percent in 2020 (European Commission, 2020).

The impact of COVID-19 on the European economy might ultimately turn out to be even greater than currently estimated. The health and economic impacts of the pandemic and the containment measures on sectors and countries have varied significantly.

For example, tourism slowdowns have particularly hit Mediterranean countries and airlines. The construction sector has been more heavily affected in some countries than in others.

*The job now for policymakers is to make clear the principles guiding their recovery strategies. Such principles should consistently inform policymakers' choices between the possible measures and the inevitable trade-offs*

In the fiscal economic policy response to the pandemic, three phases can be broadly distinguished. Phase 1 measures are meant to temporarily freeze economies as they were before the crisis, to shield healthy businesses from bankruptcy and to protect European firms from hostile takeovers by foreign state-backed enterprises. Phase 1 support has been crude and indiscriminate, and rightfully so. The motto is speed over perfection.

The national economic measures taken in phase 1 are characterised by indiscriminate, national-based liquidity support to firms and workers. These measures are meant to keep firms afloat in the face of near-universal cash shortfalls, to prevent unnecessary lay-offs and to deter hostile takeovers (especially from non-EU state-financed enterprises).

As early as 19 March 2020, the European Commission amended the EU state-aid rules with a so-called Temporary Framework to allow governments to undertake such measures. However, the size of fiscal responses in different EU countries has differed widely. For instance, immediate fiscal stimuluses have ranged from 0.9 percent of GDP in Italy and 1.1 percent in Spain to 10 percent of GDP in Germany (Anderson *et al*, 2020).

Phase 2 will be about solvency support. As the lockdowns continue, firms must take on increasing amounts of debt and draw on equity reserves to meet their working capital and investment needs. At the same time, credit standards are tightening<sup>2</sup>. For increasingly-leveraged firms, bankruptcy looms; solvency support through direct recapitalization is needed.

This phase is expected to last roughly until the end of any lock-down measures. Lockdowns may well end only fully once full immunity or a vaccine is available, so possibly well into 2021.



Phase 3 will then be about recovering from the severe contraction phase that the likely on-and-off switching of lockdown measures will leave in its wake.

The European Council of 23 April 2020 tasked the Commission with designing a sizable recovery fund, targeting the sectors and geographical parts of Europe most affected by the crisis. But so far, no clear strategy has been presented. We discuss the key principles that should guide support measures in phases 2 and 3.

One key consideration is that decisions taken in phase 2 – who gets bailed out, how and under what conditions – will determine who is left standing in the recovery phase. Conversely, predictions about the shape of the recovery and about policy measures enacted in phase 3 (such as demand support) could determine whether or not a company can be deemed solvent today.

As countries move to the next phases, taking account of EU cross-border effects will become increasingly important. Phases 1 and 2 have so far largely involved national fiscal policy. However, differences in state-aid disbursements and other support during phase 2 could well leave lasting marks as countries take different and uncoordinated decisions, whether because of fiscal space or preferences.

Decisions taken now will thus shape the single market of tomorrow. In phase 3, economic outcomes will be shaped by budget decisions related to the EU's multiannual financial framework (MFF) and the EU recovery fund, alongside national recovery programmes. A comprehensive strategy for phases 2 and 3 is needed.

### **Four guiding principles for managing phases 2 and 3 the EU energy transition**

Moving from phase 1 onto the next phases is not simply a matter of providing equity instead of debt. While phase 1 injections have been emergency measures, phase 2 requires a long-term plan. It also requires recognition of

difficult trade-offs ahead: speedy economic recovery versus environmental goals; health of the private sector versus public indebtedness; solvency versus social cohesion.

The job now for policymakers is to make clear the principles guiding their recovery strategies. Such principles should consistently inform policymakers' choices between the possible measures and the inevitable trade-offs. Can they ensure that rescue plans designed today do not cause unintended damage tomorrow?

But before reflecting on the principles that should guide future economic support, it is worth highlighting why such support is warranted in the first place. First, governments impose lockdown measures to achieve a public good: a healthy population. It is therefore appropriate that the public contributes to paying for the economic fallout from achieving that public good.

Second, without further support, many jobs will be lost. Third, with numerous companies failing, invaluable tangible and intangible capital will be destroyed. Rebuilding that capital and founding new firms will take many years, during which human capital will be permanently destroyed.

However, governments cannot and should not rescue every company with unlimited amounts of cash. This would be fiscally irresponsible and could cost the single market. A careful balance must be struck between public welfare objectives and the social, economic and political risks of rescue programmes.

We consider four principles to be of utmost importance in this evaluation.

First, only financially viable firms should receive solvency support, with financial viability assessed in terms of both the past and future.

Taxpayers should not support firms that were in bad shape before the virus- induced lockdowns but assessments of financial viability need to go beyond published 2019 financial accounts.

The crisis may well alter consumer preferences and production systems. Public resources must focus on firms with business models that are expected to be viable in the post-crisis economy. Rescue plans should not be about preserving pre-crisis industrial structures. The recovery should be about jump-starting a healthy post-COVID-19 economy, which could mean letting some firms fail.

Meanwhile, a forward-looking approach suggests financing the promising start- ups of the post-crisis economy. A key question here is who should conduct these forward-looking assessments?

We favour a mechanism in which the expertise of private investors is used to support decisions on the allocation of rescue funds. Such a system would be more transparent and accountable than if politicians and their administrations are left to decide unilaterally which companies to help.

Involving private investors would help ensure that investments are viable in the long run, especially if they have a direct interest. Even so, credit tightening might lead to under-investment and the public sector therefore has an important role.

The local knowledge and analytical capabilities of commercial banks is already extensively used to distribute state guarantees and subsidised loans to firms and individuals. Further partnerships will be required for equity- based instruments, especially for the more arduous assessments of the viability of smaller companies.

Second, state support should not undermine competition in the EU's single market.

One of the EU's main strengths is well functioning competition within its single market. Fair competition across borders ensures that the most innovative and productive firms thrive, rather than those that receive the most state support.

Relaxed state-aid rules allow EU governments to inject liquidity into cash-deprived registers (see Box 1 on the Temporary Framework introduced by the European Commission in March 2020 to relax state-aid rules during the COVID-19 crisis). Inevitably, some countries will provide more generous support than others (Germany accounts for approximately half of the approved COVID-19 state aid as of 1 May 2020).

These differences risk distorting competition, especially if they continue during phase 2. At the extreme, fears of competitive disadvantage could trigger subsidy wars between EU countries, leading to huge wastes of public money (Motta, 2020). The more long-lasting differences are, the more the single market and therefore the foundation of Europe's long-term growth will be affected. Quantitative limits on the amounts of aid (eg. the €800,000 cap on grants) impose some discipline (Neven, 2020).

Nevertheless, some countries will deliver less than the maximum authorised amounts, while others will go beyond, taking advantage of the fact that aid provided under the Temporary Framework can be cumulated with other types of state aid<sup>3</sup>. Furthermore, quantitative limits on aid to individual firms do not prevent major differences in the scope of deployment.

Firms that operate in economically less-affected countries will be at a great advantage compared to firms that deal with insolvent suppliers and clients in their daily business. Rules to restrain the behaviour of artificially-competitive firms also work to limit further distortions of the single market. To that end, the Commission's state-aid

amendments prohibit aid-infused firms from engaging in aggressive commercial expansions and from acquiring rivals while they are repaying the state.

These rules are welcome additions to the Commission's arsenal. However, these new rules rely on vague behavioural notions that are not easy to enforce – when is a pricing strategy 'aggressive' and when is it pro-competitive? – and distortionary in their own right<sup>4</sup>.

Third, state support should support and not undermine achievement of broader societal goals.

The EU and its members have set themselves societal goals including climate neutrality and social cohesion. It would be absurd if public funds now subsidised the business models that need fundamental change.

As governments engage in bilateral negotiations with firms, they are in a uniquely strong position to push for the changes that normally require years of rule-making to implement. Support given to firms should be conditional on making the changes required to achieve the EU's societal objectives.

Putting conditions on state aid will require difficult technical questions to be addressed – around monitoring and enforcement, for example.

Political disagreements, for example over conditions on dividends and bonuses attached to equity injections or environmental obligations, will have to be resolved. Indeed, a clear definition of broader societal goals needs to be agreed and supported by the entire EU.

## Box 1: What has been done: the Temporary Framework

As amended on 3 April 2020 and 8 May 2020, the Temporary Framework provides for the following types of aid, which can be granted by EU governments until the end of 2020:

- Measures that help businesses cover immediate working capital and investment needs:
  - Direct grants, equity injections, selective tax advantages, advance payments, zero-interest loans or guarantees on loans for a nominal value up to €800,000
  - State guarantees for loans up to 90 percent of risk on loans and for up to six years
  - Subsidised public loans with favourable interest rates for up to six years
  - Targeted support in the form of deferral of tax payments, suspensions of social security contributions and wage subsidies
- Subordinated debt
- Measure to support coronavirus-related research and development; support for the construction and upscaling of testing facilities to develop and test products (including vaccines, ventilators and protective clothing); support for the production of products relevant to tackle the coronavirus outbreak.
- Measures to recapitalise firms when no other appropriate solution is available.

State aid granted under the Temporary Framework must respect the following conditions, among others:

- Firms must be financially viable as of end-2019
- Firms in the financial services sector are excluded
- The amount of the loans and guarantees per beneficiary is capped at:
  - Double the beneficiary's 2019 wage bill,
  - 25 percent of the beneficiary's total turnover of 2019, or
  - With appropriate justification, the liquidity needs for the coming 18 months for SMEs (12 months for large enterprises).
- Recapitalisations must not exceed the minimum needed to ensure the viability of the beneficiary, and should not go beyond the pre-crisis capital structure.

If the goals in different countries diverge too much, there will be a risk of further market distortions, with some firms held to much higher standards (for example on environmental protection) than others.

In light of these difficulties, and under pressure to act fast, it will be tempting to postpone these discussions until after the crisis<sup>5</sup>. But this would be a rare opportunity missed.

Fourth, taxpayers should receive their share of the rewards of the recovery.

Generous support schemes funded by the taxpayer should give the taxpayer some claims on future profits. Moving beyond emergency rescues, interventions must be framed as worthy public investments, not expensive bailouts<sup>6</sup>.

### **Applying the four principles in phase 2**

Most of the public aid provided so far has been in the form of debt (loans and guarantees) and does not address solvency worries that will get worse as the crisis lengthens. At the microeconomic level, phase 2 will thus be characterised by the need for solvency support: direct capital injections into hard-hit balance sheets<sup>7</sup>.

Phase 2 has been characterised by a lack of EU coordination. While EU negotiations drag on in the background, national policymakers have no choice but to draw from national budgets to rescue their endangered economies. In this phase, EU competition law is the only effective tool for response coordination.

In this context, the principles discussed in section 3 suggest a large European equity fund should be created to ensure a single approach to recapitalisation measures and to protect the integrity of the single market. If well designed, this would not lead to systematic cross-border transfers because equity support would be given on condition of receiving a share of future profits.



A large European equity fund could operate under the control of the European Investment Bank (EIB). It could build on the existing InvestEU plan (previously known as the Juncker Plan), via which the EIB working with private investors and national banks invests in European firms (including SMEs) through a variety of instruments (including equity).

However, the new fund would have to differ from InvestEU in that it would be based on significantly larger borrowing from the EU budget. The currently discussed steps in this direction, such as the newly-established EIB guarantee fund, are insufficient<sup>8</sup>.

The fund would allocate capital according to the four principles set out in section 3. In particular, the centralisation of funds would allow for proportionate allocation and a consistent approach to helping firms in different EU countries, thus limiting distortion.

Reliance on local partners, such as national promotional banks (such as KfW in Germany) and private financial institutions, would leverage local knowledge. Within an EU framework, the expertise of these institutions would help direct funds towards the firms most likely to be viable in the long-run.

Conditions could be attached to the disbursed funds, ensuring accelerated changes towards agreed common societal goals. Better still, the fund could be managed for the public's benefit, and the profits dedicated to financing societal goals, thus providing a clear social sharing of the upsides. European taxpayers would thus not be bailing out firms, but rather investing in them. In terms of instruments, equity or equity-type instruments (eg. transfers with remuneration contingent on future profits<sup>9</sup>) are preferable to pure transfers or subordinated debt instruments because they allow for a share in future profits.

However, care should be taken to limit the distortionary effects of pure equity instruments. Equity should be: (i) without voting rights, (ii) with quantitative limits, (iii) with a timeline for government exit (of these three conditions, only the third is required under the EU Temporary Framework). For SMEs, equity-type instruments may be preferred to pure equity because of the known problems associated with valuing equity stakes in closely-held SMEs.

Table 1 summarises the disadvantages and advantages of the various instruments currently being considered by experts, the European Commission and member states.

If such an equity fund cannot become operational during 2020, it should at least become fully operational in January 2021, when various lockdown measures are likely to still be in place. Short of a pan-European fund, the most effective way to limit the distortionary effects of state subsidies is crude and mechanical: state-aid exemptions must be short-lived and enforcement must be biting. This would risk too little state support, without common societal goals.

### **Principles in phase 3: towards a strong and sustainable recovery**

Even if a COVID-19 vaccine becomes available, it will likely take several years until the level of economic activity of 2019 will be reached, for three reasons.

First, despite all the government support provided, many firms will have disappeared. Valuable physical, financial and human capital will have been lost. Rebuilding new productive structures will take time and investment.

Second, households have suffered a major shock to their incomes and have reduced savings. They will want to rebuild their savings as soon as incomes recover. It is therefore entirely possible that the private savings rate will be higher post lock-down, putting a drag on demand.

**Table 1: Comparisons of different instruments for recapitalisation**

	Potential partner	Government share in upside	Seniority	Ease of implementation with SMEs	Distortionary effect on the single market
Subordinated debt	Commercial banks	No	Low	Reasonable	Lower
Equity-like instrument (SAFE proposal)	National promotional banks	Yes	None	Reasonable	Lower
Equity	National promotional banks, private venture capital & private equity funds	Yes	Lowest	Lowest: difficult to implement and to buy backs, especially in closely-held SMEs	Highest: value of the aid very difficult to assess, especially in uncertain times

Source: Bruegel

Third, global value chains could be significantly disturbed for some time because of the different stages of the virus and vaccination, and because of private and public responses to the experience. This could reduce productivity.

In phase 3, the EU must play a major role – through the MFF and the recovery initiative/fund – alongside national recovery programmes. As phases 2 and 3 are intrinsically linked, measures should be based on the same objectives. In light of that, we discuss the key principles of a recovery initiative/fund.

The recovery initiative/fund responds to the need to counterbalance the huge differences between the abilities of EU countries to boost their economies, arising variable fiscal room for manoeuvre.

Notably, such a fund should prevent two scenarios. First, by relying only on national borrowing, the debt of some countries could become difficult to fund on primary and even secondary markets. A rise in spreads would then render debt unsustainable in a self-fulfilling crisis.

EU borrowing that is loaned to member states supports primary markets and is effectively also a support for sustainability as the interest rate advantage of EU debt can be substantial. Grants obviously would provide stronger insurance. Second, fearing market reactions, countries could borrow too little, supporting their economies insufficiently and doing long-term damage to both EU economic performance and political cohesion.

The EU recovery initiative/fund would thus be crucial in the recovery phase. It should be based on four guidelines.

First: the recovery fund needs to focus on broader EU societal goals.

The EU has committed to lead the transition to a healthier planet and a new digital world (von der Leyen, 2019), and it is important that both demand and supply-support measures promoted under the recovery initiative/plan will be consistent with these broader societal goals.

The planning work done so far on the European Green Deal, and on a new EU industrial policy, should represent the starting point for the design of the recovery. Trade-offs certainly exist between policies exclusively aimed at minimising the socioeconomic damage left by the crisis, and those also aimed at promoting broader societal goals.

However, it is possible to design recovery policies that can deliver on both economic and societal goals and reduce the trade-offs<sup>10</sup>.

Second, the recovery fund needs to be financed primarily through borrowed money.

It is optimal to smooth the consequences of a large shock through time, ie. through borrowing. Wolff (2020) argued that EU borrowing is the way forward to fund the costs currently being incurred.

In the monetary union in particular, such EU borrowing would bring significant advantages and strengthen the euro area macroeconomy, while helping overcome the problems of single-market fragmentation that result from primarily national responses. Purely national borrowing would weaken the single market and also render the monetary union more fragile.

Third, the recovery fund needs to strike the right balance between grants, loans and accountability.

Traditional European Commission schemes, from the Juncker Plan to InvestEU, up to the recently-proposed European Green Deal Investment Plan, tend to focus on financial architectures based on guarantees and loans, in order to trigger large-scale private and public investment initiatives. Such initiatives have been received sceptically in the past, given the uncertainties about their real additionality (Claeys and Leandro, 2016; Claeys and Tagliapietra, 2020).

Given the unprecedented uncertainty faced by companies in the COVID-19 crisis, these tools will be insufficient, even though their additionality is clearer now than it was because of the high degree of risk. Overall, EU debt must be large enough to be effective and not rely on leverage alone.

Both are helpful but grants obviously provide more insurance, though they also imply bigger transfers and are politically more charged and their legitimacy more difficult to establish.

Ultimately, a system with large amounts of European grants requires in essence a European spending programme with central control and enforcement. Providing grants centrally while exercising spending decisions nationally is incompatible with legitimacy and accountability.

Fourth, the EU budget's structure and allocation methods should be rethought.

President von der Leyen claimed she can turn the EU's budget into the "*mothership*" of the European recovery (European Commission 2020). The MFF is indeed the EU's main tool for engineering transfers via grants. But in order to deliver on the objective an effective economic recovery aligned with broader societal goals, the EU budget needs a structural rethink.

In particular, it cannot only rely on increased contributions from member states. The 2014-2020 EU budget was predominantly focused on the Common Agriculture Policy (CAP) and Structural and Cohesion Funds (together making up 71 percent of spending; Moes, 2018).

The economic literature shows that the CAP provides good income support, especially for richer farmers, but is less effective for greening and biodiversity and is unevenly distributed. The literature also shows great uncertainty over the real size and effectiveness of cohesion policy (Darvas and Wolff, 2018).

In the wake of COVID-19, the EU budget should be targeted more at the sectors of the future – such as green and digital – and made more efficient and effective. Finally, the way MFF resources are allocated really matters. A significant part of MFF spending should be targeted at the European regions most affected by COVID-19<sup>11</sup>.

To do so, it will be essential to introduce into the MFF allocation methods a set of parameters that prioritise regions that have been impacted most by COVID-19, in both health and economic terms. ■

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#### *Endnotes*

- 1. Each month of lockdown is expected to cause a decline in annual GDP growth of 2.4 percentage points in Germany, and of 3 percentage points in France and Italy.*
- 2. As reported in the 2020 Q1 European Central Bank bank-lending survey. For example, €200,000 of de minimis aid and aid*

under Article 107(2)(b), which permits governments to compensate firms for incurred direct damage.

3. For example, €200,000 of de minimis aid and aid under Article 107(2)(b), which permits governments to compensate firms for incurred direct damage.

4. Knowledge that a rival is barred from aggressive pricing could be an open invitation for tacit collusion.

5. None of the rescue packages given so far to airlines have included green conditions. See <https://storage.googleapis.com/planet4-eu-unit-stateless/2020/04/20200430-European-airline-bailout-tracker-2.pdf>

6. Lonergan and Blyth (2020) argue that 'bailout' is a misnomer in the case of COVID-19.

7. On 9 April 2020, the European Commission proposed to further extend the scope of the Temporary Framework to include direct recapitalisation measures, eg. in the form of equity stakes and subordinated debt. See [https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT\\_20\\_610](https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_20_610)

8. The EIB is in the process of setting up a €25 billion fund to guarantee up to €200 billion worth of loans for purposes related to COVID-19. This is far too little however, and is unlikely to ease market distortions to any noticeable degree. The EIB aims at a balanced allocation across participating countries. But €25 billion spread across member states is scant compensation for the more than €500 billion Germany has allocated to a similar guarantee programme. See Bruegel's database of fiscal measures: <https://www.bruegel.org/publications/datasets/covid-national-dataset/#germany>

9. See the SAFE proposal: <https://voxeu.org/article/implementing-european-pandemic-equity-fund>

10. For instance, Hepburn et al (2020) showed that there is a set of fiscal recovery policy types that offers high economic multipliers and positive climate impact. These include clean physical infrastructure, building efficiency retrofits, investment in education and training, natural capital investment and clean R&D. Among others, the International Energy Agency (2020) and the Energy Transitions Commission (2020) have reached similar conclusions.

11. Wolff (2020) discussed whether and to what extent this creates moral hazard concerns.



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# The EU's financial readjustment



Rebecca Christie and Thomas Wieser consider the EU post-Brexit reckoning with financial markets, and argue that time is of the essence to create highly integrated, functional and fair financial and capital markets

## Executive summary

In the negotiations between the European Union and the United Kingdom over their future relationship, we see a high probability of a weak contractual outcome, given the dominance of politics over considerations of market efficiency. The EU will thus face a great deal of readjustment and regulatory realignment of its market for financial and other services.

The future relationship will start out with closely aligned regulations which will allow equivalence, and therefore seamless transactions, to continue in many sectors for a number of years. As regulatory autonomy has been one of the main Brexit rationales, we expect divergence to increase after a couple of years.

The UK will become a third country for financial service transactions, dependent on temporary equivalence rulings, whereas in the past it could do business under a comprehensive regulatory passport.

London will remain a global financial hub, even as EU companies move operations out of the UK, set up additional licences and distribute activities across the EU. This will result in duplication and thus higher costs in both the UK and the EU as market participants strive to adjust to a future structure that will remain highly uncertain for years to come.

In the EU-UK negotiations on financial services, the aims should be to seek an agreement to provide stability for a defined, though limited, time period; a plan for how to manage divergences and the regulatory barriers that may result; and an EU reckoning with what kind of financial market it wants. This would ensure a stable transition to what we assume will be a structurally very different link than existed when the UK was part of the EU.

The UK has historically been both a business centre and policy leader in the financial sector. In its absence, the EU will need to decide how prominent a role finance should play and where regulatory and supervisory responsibilities should be located.

Brexit can act as a catalyst for the EU to address what its capital markets should look like and how to get them there. The challenges of restructuring and recovery in the wake of COVID-19, of ensuring confidence in the euro and of preserving pensions systems all require highly integrated, functional and fair financial and capital markets, as public budgets are under great stress. These integrated markets do not exist in the EU. Action now is of the essence.

*Brexit has caused much less volatility than forecast;  
a European Commission assessment of financial  
services preparations concluded that no additional  
contingency measures were required*

## Introduction

Brexit is now a reality. The future relationship between the United Kingdom and the European Union remains open and will be decided in negotiations taking place during 2020. These talks can be extended, just as previous deadlines were lengthened in response to political and logistical considerations. The COVID-19 pandemic suggests that these negotiations will take longer than some might have hoped.

In the early phases of the UK's withdrawal from the EU, the financial sector was an area of significant concern. It seemed increasingly unlikely that the UK could remain part of the internal market while leaving the EU, because of the need for regulatory alignment and ongoing European judicial oversight.

This in turn raised questions about financial stability, given fears that contracts and economic actors would have to deal with an unanticipated disruption. Competition to lure companies and EU institutions from the UK to within the EU distracted policymakers from assessing what the economic consequences of increased financial fragmentation would be.

But Brexit has caused much less volatility than was widely forecast. The European Commission in 2019 assessed financial services preparations and concluded that no additional contingency measures were required (European Commission, 2019)<sup>1</sup>, while pledging to monitor conditions and adjust as needed.

Up to now the UK has benefitted from 'passporting', which allows free and permanent operations throughout the whole EU for financial services companies based in one member state. Passporting rights are permanent for all countries in the single market and span a range of activities from deposit taking to investment services and fund management (European Parliament, 2017).

As the UK transitions to the status of third country, or one that is not under the legal regime of the EU treaties, it will no longer be eligible for such smooth cross-border acceptance. Instead it will need to establish other relationships, which will necessarily be more limited.

The EU already provides for regulatory 'equivalence' with non-members. This essentially means that as long as both parties regard each other's regulations as being equivalent, trade can flow more freely than would otherwise be the case in designated areas. This sort of arrangement is established on a case-by-case basis for specific sectors.

Most importantly, it can be withdrawn unilaterally at relatively short notice. Because there is no clear global definition of equivalence, governments have wide latitude to act as they see fit.

The UK has a robust financial rulebook that, at the point the Brexit transition period ends, will be fully aligned with the EU. This means that equivalence will be readily available at the beginning. It seems highly unlikely that the new agreement between the EU and the UK, still foreseen to be concluded by the end of 2020, will be able to regulate in detail how the financial sectors of the EU and the UK would interact with each other at the regulatory and supervisory level.

We expect it will take three to five years for political, technical and transitional work to lead to a new equilibrium in financial-sector relations between the UK and the EU, taking into account possible negotiating extensions, 'technical details' left to be resolved after the main agreement is concluded and sector-specific transition timelines.

While it would be nice for the process to work faster and more efficiently, realistically markets and politicians tend to ease into new equilibrium rather than creating a new system overnight.

In the EU-UK negotiations on the future relationship, much of the rhetoric may focus on the drama of what extensions are needed and by when they must be requested, coupled with fears or warnings of a new 'no-deal' situation. Despite all the political rhetoric we have little doubt that ultimately there will be an agreement, also on financial services, preventing a cliff edge.

The eventual agreement will, however, have to set the scene for a divergence of regulation between the UK and the EU. It will need to address the issues of:

- Determination of regulatory equivalence at the start of the new relationship between the UK and the EU;
- Mutual recognition of financial regulatory and supervisory frameworks; and
- Establishment of mechanisms for granting and reviewing such determinations.

Granting equivalence is not an across-the-board solution for a new relationship between the two partners for the financial sector as a whole. It will need to be established sector by sector, regulation by regulation. Over time, as indicated already by UK politicians, there will be changes to UK legislation and/or regulatory decisions that will deviate from EU standards and rules. At that point, whether for technical, substantive or political reasons, equivalence will therefore in all probability expire or be withdrawn in the sectors or areas where divergence has opened up.

London, which has been the hub of EU capital markets, will not be the same, but neither will it wither. The EU will have to decide how much of what historically has been done in London should be duplicated inside its borders, and how much it is willing to outsource to the UK or other third-country jurisdictions, such as New York.

We expect a slow but inevitable shift to the EU of a certain part of financial services activity that for now is still conducted from London. This will reinforce the relocations that have taken place over the last two years or so.

The think tank New Financial identified 332 firms that have relocated at least part of their financial business away from London (Hamre and Wright, 2019), with Dublin being the most popular destination and target of 28 percent of the moves. Paris, Frankfurt, Amsterdam and Luxembourg have also seen inflows, with a number of other cities in the EU also benefitting from the changes. Financial companies want to keep their operational options open.

Historically, most European politicians have seemed to want to keep finance at arm's length, with London's dominance providing the EU with an efficient centre for financial and capital markets. As the EU now loses this convenience, policymakers will need to confront longstanding questions about how to make EU markets more efficient and stable, and how to ensure that cross-border flows of finance work to the benefit of member countries.

Brexit offers an opportunity to reshape EU financial infrastructure for the better. If policymakers take up the challenge, the EU may emerge with a more unified and functional financial market that enhances confidence in the euro area and will better serve the EU economy. Otherwise, the markets – and the broader economy – may sputter along without living up to their potential.

The EU's priorities in the coming decades include tackling climate change, ensuring the viability of pensions, and dealing with the financial turbulence induced by COVID-19. Without a fully integrated and single financial and capital market, the EU will not be able to meet these challenges and mitigate the negative fallout of the crisis.

Public finances, under severe strain in many EU countries for the foreseeable future, will need to work closely with the private sector as they will not be able to shoulder these multiple burdens and challenges by themselves. The time to take political decisions on these financial market issues is therefore now.



To make these decisions, the EU will have to transcend what we have seen over the past 20 years, namely attempts by national politicians, regulators and supervisors to retain as much market segmentation as possible. When it comes to financial services, the EU faces the additional challenge of how to push forward on something that is important but not urgent.

In 2020, the immediacy of the COVID-19 pandemic makes structural financial regulation feel even more abstract, and it thus becomes harder to prepare for the future. The EU will need to overcome this inertia to build the finance sector it needs.

### **The negotiation period**

With the UK out of the Union, EU and British officials have started debating what the future relationship between the two countries will look like once the transition period ends. At time of writing, this is set for the end of 2020, with extensions of the status quo pre-arranged in some areas of financial services where operational continuity is a priority.

Assuming that the uncertainties associated with COVID-19 abate over the year then negotiations will go on. But there will be no solution to financial services until the very end. Additionally, initial debate may focus on procedural issues such as interim deadlines by when various extensions need to be requested, rather than on the substance of the future arrangement.

During this time, there is little likelihood of significant market volatility associated with Brexit, as most of the contingencies and possibilities have been known for quite some time. Firms have taken their precautionary measures, and fallback solutions are in place.

In the years between the referendum and the UK's departure, financial firms made the necessary preparations to brace for a hard Brexit (ECB, 2020; European Commission, 2019). Those preparations can be called on to the extent the future arrangement is not fully worked out when the UK takes on true third-country status.

London will not lose its important global position, but it is seeing changes in its position in relation to Europe. The scale of the broader financial industry is enormous. The UK is home to nearly €11 trillion in banking assets.

EU clients account for roughly 20 percent of total UK banking revenue, suggesting that up to 20 percent of these assets could be on track to relocate, while the rest, related to UK and non-EU clients, might stay in London (Calò and Herzberg, 2019). Beyond banking, Brexit could also ultimately lead to a reallocation of as much as 40 percent of turnover in interest rate derivatives and 14 percent of other financial intermediary assets.

*London will not lose its important global position,  
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Calò and Herzberg concluded these shifts will have a bigger impact on the recipient cities than they will on London, increasing fragmentation risks while also possibly easing concentration risks across the industry.

The scale of such a shift also raises the question of whether this will affect the global importance of London itself. It appears likely that London will keep its importance at the global level, while weakening as a single point of concentration for European markets as firms distribute themselves into and across the single market.

The future for EU financial markets is therefore more decentralised. There is no single financial centre rising up to replace London. Instead, companies are spreading out across Europe to cities that specialise in specific lines of business or offer other benefits.

The industry will lose some of the one-stop-shop advantages of having its financial market workforce all in one place, and it may become more dependent on communications and travel infrastructure. But diversification also has its advantages.

Just as banks learned to keep their headquarters and back-up facilities in separate physical locations, they may now see advantages in terms of function and human capital in splitting up their operations. These shifts are well underway and will continue in parallel to the official track of the EU-UK negotiations.

### **What will the EU-UK agreement look like?**

The European Commission's negotiating mandate, published on 3 February 2020, makes clear that equivalence is *"the key instrument"* that each side will use to regulate financial interactions. The Commission calls for supervisors to cooperate and communicate, while essentially leaving all doors open in terms of what the final outcome will be: *"The envisaged partnership should reaffirm the Parties' commitment to preserving financial stability, market integrity,*

*investor and consumer protection and fair competition, while respecting the Parties' regulatory and decision-making autonomy, and their ability to take equivalence decisions in their own interest. This is without prejudice to the Parties' ability to adopt or maintain any measure for prudential reasons"* (European Commission, 2020).

In plainer English, stability is good, and being able to act unilaterally in the name of stability is better.

The final deal will keep both of those objectives in mind. It may well result in something that goes beyond piecemeal equivalence for individual rules and market segments. Politics matter, so there will be a need for trade-offs between otherwise unrelated dossiers. The outcome will depend on the political priorities of both sides.

For example, the EU might seek a favourable agreement on access to fishing waters by offering a more stable contractual relationship on financial services for a certain period of time, compared to mere equivalence.

One possibility for a more favourable agreement could be to give full and unequivocal financial-sector equivalence for at least five years, which could only be withdrawn in the case of serious divergences by one of the partners. There has been some hope that financial services could be put on a separate track, but we think it is unlikely that political negotiators will allow it to become delinked from other important sectors (for example, see *The Guardian*, 2020).

Equivalence is not a single state, but rather a patchwork of arrangements that replace only some of the things that are dealt with by passporting within the EU. The industry views selective and time-limited equivalence decisions as the most likely outcome, with a tail risk that political conflict will mean that no such arrangements can be worked out (Asimakopoulos and Wright, 2020).

'Permanent equivalence' was floated in Britain's opening gambit in the future relationship negotiations (*Financial Times*, 2020a). When the UK published its initial negotiating position at the end of February 2020, it took a more pragmatic line.

The future relationship should be legally binding and follow precedents set in the EU's trade agreements with Japan and Canada. At the same time, it "*could include appropriate consultation and structured processes for the withdrawal of equivalence findings*" (UK, 2020).

The EU will have a lot of latitude when deciding how to proceed. As the industry-commissioned Norton Rose (2017) analysis of equivalence noted, there is no international standard for how to determine equivalence or which benchmarks to use. Regulators will not want their cross-border reach to be limited only to areas where such standards exist, however.

As Klaus Löber, head of the European Central Bank's oversight division for payments and infrastructure has pointed out, authorities can sometimes justify applying their rules in an extraterritorial fashion if they feel cooperation is lacking. Pressure to do this is magnified in industries seen as too important to rely exclusively on deference (Löber, 2019).

To be effective, the new EU-UK agreement will need an arbitration process that produces rapid results. Ideally this process would require demonstration of economic cause for such a withdrawal of equivalence, and will take advantage of independent expertise.

The EU has a better track record of looking at economics and expertise when granting equivalence than when withdrawing it, when technical and diplomatic factors can come into play. For example, in the period leading up to Brexit, the EU chose not to focus on technical solutions while the political backdrop was still so much in flux.

Neither the EU nor British negotiators wanted to give away the end game any earlier than was necessary. Political constraints have therefore limited technocratic problem-solving, and we expect that this will continue while the bulk of the future arrangement is still undefined.

In 2019, the European Commission put the world on notice that equivalence is not guaranteed. First, it allowed some provisions in relation to Switzerland to lapse on 1 July 2019 as part of a broader stalemate in renewing a series of trade agreements. Later in July, the Commission moved to withdraw equivalence for Argentina, Australia, Brazil, Canada and Singapore in the specific field of credit rating agencies.

The UK will have to join the rest of the world in undergoing equivalence evaluations. These take time: the Commission works in consultation with supervisory agencies to assess whether the rules applied in the country under consideration are equivalent to those applied in the EU, and to verify that they are legally binding, ensure effective supervision and achieve the same results as the EU rules.

The decision to let Swiss equivalence expire created headlines because of Switzerland's finance ties to the EU and the natural questions about what would happen and what this would imply for the UK. The particular provisions most affected were those that prevented stocks traded in the European Union being traded on stock exchanges of third countries that are not recognised as having prudential and business conduct requirements equivalent to those in the EU (Baltensperger, 2019).

In a worst-case scenario, Swiss stocks that traded in the EU could have been banned from trading on their home exchange. In fact, not much happened. Swiss regulators ordered their companies to trade only on Swiss exchanges, thus removing the requirements related to trading on EU exchanges. Relationships were established for middlemen and associated fees (*Financial Times*, 2019), and trading on Swiss exchanges was broadly unchanged.

That was about it. Given the numbers and volumes of EU and UK equities respectively, this benign outcome might be difficult, if not impossible, in the case of a withdrawal of equivalence between the two. Other market segments might face even higher hurdles, depending on the sector.

This suggests that many prospective regulatory barriers could be overcome with additional paperwork and money on the part of firms and clients. Equivalence, passporting and the single market were designed to reduce costs and administrative burdens, however. Thus cross-border activity may become permanently more expensive, which may hurt the growth prospects of the broader economy.

### **Longer-term outlook**

Ongoing equivalence matters in terms of stabilising expectations over time, not only in terms of trading conditions at a certain point in time. The point of Brexit, as often argued, is legal and constitutional independence. This only makes sense if you want to exercise it, which we assume will be the case, especially given the messaging from the Bank of England and the Johnson government (*Financial Times*, 2020; UK, 2020).

Given that, sectors profiting today from equivalence may lose their privileges, possibly incrementally, once agreement is in place and the future relationship is underway. Different financial sectors will be affected differently. In some cases, such as credit ratings agencies, firms will need EU-registered entities for their ratings to be recognized in the EU. The European Securities and Markets Authority was required to withdraw recognition of UK ratings companies on the date of Brexit, so the necessary workarounds have already been put in place.

The UK has put in place two types of transition period for financial services firms for when the current passporting regime ends at the end of the main Brexit transition period (foreseen at the end of 2020). For European companies planning to wind down their British business after Brexit, existing contracts will automatically be covered by the

Financial Services Contracts Regime, which applies for a maximum of 15 years for insurance contracts and five years for all other contracts.

For firms that wish to continue doing UK business after losing the EU passport, the UK has also established a temporary permissions regime to apply after the transition period ends (FCA, 2020). The UK Financial Conduct Authority asked firms to notify it of their plans to use this temporary permissions window before Brexit took place, and said it would consider whether and how to reopen the notifications window later.

One way for the EU to improve its financial market oversight would be to reinforce the European Securities and Markets Authority (ESMA), which was created in 2011 and already has direct supervisory duties in some market segments. A broadening of the scope of ESMA's authority requires reform of its governance and funding, which currently limit its independence and capacity (Sapir *et al*, 2017).

Many national politicians, financial services companies and interest groups thrive on market segmentation, and would resist strongly the establishment of a supervisory system for capital markets similar to that now in place for banking, even though it would make for fairer competition, increase legal and economic convergence and move the EU towards a genuine capital markets union.

Adjustment might prove to be more of a challenge for those service providers that are not financial, but whose services are closely linked to financial products, such as accounting and the legal profession. In the run-up to Brexit, UK law firms actively applied for licences in EU jurisdictions, such as Ireland, in order to have more options in terms of maintaining client relationships (Law Society of Ireland, 2019).



EU institutions and European international financial institutions will need to work with EU service providers. The European Stability Mechanism, for example, has shifted its contracts from UK law to Luxembourg law. If a wave of companies follows suit, firms that operate in the UK and in the EU will need to make sure they can manage all of the extra complexity from using multiple systems.

The legal industry faces considerable shifts to make sure it has the capacity to handle all of the new cross-border contracts and technical changes that will result from the UK's change in European status. Under some scenarios, this transition could greatly complicate working relationships, especially for London-based clients.

Will they continue to be able to use a London-based lawyer to manage their EU affairs, or will they need to switch to partners in Brussels or Dublin to make sure everything works smoothly? In the past, Europe has been willing to travel to London, but now Londoners might need to make the journey in reverse.

Courts could also see an increase in legal battles over which jurisdiction has precedence, and whatever substantive matters may be disputed, once the UK is no longer automatically bound by the EU Court of Justice. International firms could face additional hurdles managing their human capital because the final EU-UK deal is unlikely to include full freedom of movement.

This means workers who are posted from one jurisdiction to the other will need visas and other administrative support that was previously unnecessary, increasing costs and giving companies incentives to consolidate in new financial hubs, to the extent that EU cities can establish knowledge centres and standardise professional qualifications.

One reason this transition is difficult to navigate is that many of the services the UK has provided were done cross border efficiently and well. London has been a home in particular to non-bank financing channels. This is the area in which cross-border relations will require the most attention.

Brexit thus forces Europe to consider what else its financial sector needs to have. The EU has already been grappling with dependence on bank financing and a general situation in which there are too many banks and too few capital market options (Pagano *et al*, 2014). After Brexit, the question of how to encourage and support capital markets activity will take on new resonance.

It is too simple to say that the UK is home to 'more finance' and the EU has a preference for 'less finance'. The financial sector and the real economy are intertwined to a great extent. Europe might have a general distrust of 'speculation', but it has long counted on cross-border finance to be one of the single market's strongest enablers.

The EU's economic success thus depends crucially on how the EU organises itself without the UK. The less progress there is towards a more efficient and integrated capital market in the EU, the greater the negative effects on the EU will be.

To move ahead, the EU should take action in the following areas:

- Clear-eyed analysis of where Europe's financial stability requires certain functions to remain in-house, and where the EU would be weaker if it fences itself off from global financial channels. Ringfencing is not new with the debate on the EU-UK relationship, but it will take on new resonance.

- Vigilance on operational risks, particularly settlement snags that could arise because of unexpected blockages in the financial plumbing.
- Recognition of the current tension between home and host countries, particularly in the context of cross-border issues including resolution planning, capital set-asides and operational risk management. This will require a balance between consistent pan-European rules and a fair framework for a multipolar union.

A functional system will require a fair degree of flexibility to be workable, but it must not have so much leeway that it becomes effectively unaccountable. If the aim is to have a smoothly functioning internal market and capital market, it will be necessary to move towards more centralised oversight in a number of financial sectors, including equity trading and issuance.

- Completion of the euro area banking union, including full deposit insurance across the currency union. Brexit might not affect this debate directly, but it should offer a new momentum to address existing weaknesses in the current system.

Current vulnerabilities will take on a new prominence as the EU financial system reshapes itself: the bank-sovereign link that the euro area has tried so hard to break could inadvertently strengthen if national champion banks in bigger EU countries take up a larger proportion of the EU financial sector. Deposit insurance would build worldwide confidence in the euro, while continued fragmentation will hold back the currency's global role.

- Data-sharing policies that are practical, effective and adequately protective. Data-transfer questions will be a particular point of contention, as they cut across multiple sectors and industries. To the extent that

new barriers inhibit information exchange, regulators will be more likely to require industry retrenchment. Furthermore, the EU has a strong tactical incentive to withhold data adequacy recognition for the UK in this area, given its usefulness as a bargaining chip.

- Renewed consideration of whether non-euro countries will join the banking union. There would be considerable operational constraints for countries outside the Eurosystem to shift financial supervision to the European Central Bank, so the hesitation of countries such as Denmark and Sweden is understandable.
- Action to increase trust among EU nations. It is hard to imagine how Europe can emerge from Brexit stronger than before if it continues on its current course of setting up self-protective national barriers alongside new cross-border supervisory structures. COVID-19 underscores and amplifies these concerns.
- Renewed focus on anti-money laundering initiatives. Once again, the change to the financial system arising from Brexit could be an opportunity to strengthen the EU financial system across the board, not just by absorbing business from London.
- Consider emerging sectors such as financial technology (fintech) and sustainable finance, where regulatory divergence might have a broader impact because markets are evolving quickly, and weigh how much regulatory competition to allow within the EU.

As discussions on the future EU-UK relationship continue, uncertainty remains a central policy issue. At a minimum, financial firms face extra legal and administrative costs to make preparations and continually review them to avoid unpleasant surprises. At worst, a neglected part of the financial infrastructure could break down and set off a shock that unravels much of the careful work that went before.

As of this writing, operational risk and settlement risk seem to have been thoroughly vetted by lawyers and financial managers. But the nature of crisis is that it often comes from unexpected directions. Political considerations require policy technicians to leave many loose ends, in order to allow negotiations to take their course.

Financial sector risks in the wake of COVID-19 will become greater. This will in itself bring about change to the structure of all sectors concerned, and will require further changes in supervision, regulation and international cooperation.

The adjustments will force the EU to confront longstanding questions about how member states work together. Historically, European politicians have been able to keep finance at arm's length, because of London's dominance as a market centre.

The EU now loses this shield. But the EU also has an opportunity to reshape its financial infrastructure for the better. If policymakers take up the challenge, the EU may emerge with a more unified and functional financial market, which enhances confidence in the euro area and will better serve the EU economy. ■

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# Sustainable finance in the COVID-19 era



The current crisis has given a reminder about the need to strengthen our societies. Cosmina Amariei argues that sustainability will remain an enduring policy in the (post) COVID-19 era

## **Context**

The spread of the COVID-19 virus brought the European economy to a standstill and heightened market volatility. This unprecedented shock has been hitting certain sectors hard and exacerbating the vulnerabilities of many governments, businesses and households.

Most exit strategies are gradual and informed by the evolving public health situation in the member states. Fiscal and monetary stimulus packages are being rolled out in an effort to attenuate the negative consequences. Prudential buffers have been lowered in order to allow the financial sector to channel funds to corporates.

Even though markets have witnessed a remarkable rebound, supervisors warn against the potential decoupling from the real economy. There are also concerns that financial insecurity among individuals will become more widespread, with an impact on their saving, consumption and investment decisions.

## **Market developments**

Asset owners and asset managers will continue to face a lower-for-longer yield environment, with positive returns harder to generate especially in the fixed income space.

In the initial phase, repositioning took place through defensive strategies in equities (high quality, low volatility, momentum), with targeted environmental, social and governance (ESG) factors, in addition to investment-grade credit/government bonds and cash/liquid buffers.

The main objective was protecting investment capital from any permanent loss. Many investors also stayed the course and did not make drastic changes.

In the near future it is expected to go beyond traditional asset classes, with an increasing demand for alternatives/ real assets, as well as to rethink the mix of alpha-seeking, index- and factor-based strategies. A total portfolio approach organised around risk and return streams could become the norm, in comparison with the classical segmentation of the investment universe by asset classes, regions or sectors.

The corporate landscape is likely to change. While many companies will remain in survival mode, certain sectors/ companies deemed strategic could benefit from public assistance. For many small and medium-sized enterprises (SMEs), capital markets are still not an actual option and they will rely on other financing mechanisms.

*Sustainability will remain an enduring policy and market theme in the (post) COVID-19 era*

This crisis will trigger more downgrades, a possible surge in bankruptcies and a wave of industry consolidation. Hence, a common thread among investors will be the focus on strong fundamentals (P/B rather than P/E ratios<sup>1</sup>), namely companies with sound balance sheets, resilient business models and sectors with high intangible assets intensity.

But opportunities could emerge for otherwise stressed corporates, with upside potential from a resumption in activity combined with policy/financial support.

Despite a rapidly evolving situation, some investors were still able to separate temporary shifts from structural changes in the markets and maintained (or even accelerated) their ESG commitments, namely 'not only talk the talk but walk the walk'.

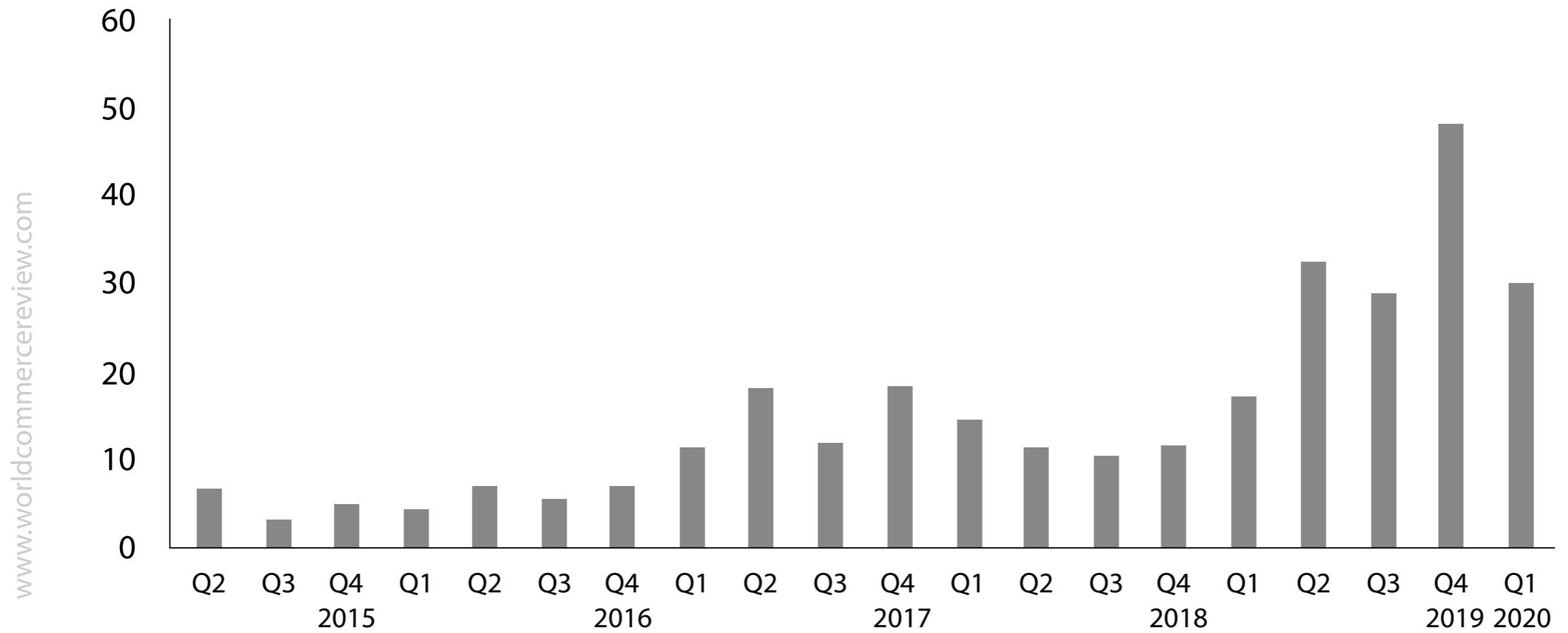
Multiple industry reports highlighted that the majority of sustainable funds and indices outperformed their mainstream counterparts in the first quarter of 2020. The ESG component was the strongest contributor to the performance even after correcting for other variables.

In practice, highly rated ESG companies tend to be less cyclical. In addition, the inflows into sustainable funds remained strong (see Figure 1), compared to outflows from conventional funds. This confirms that certain sustainable strategies could offer better risk-adjusted returns and improve portfolio resilience.

### **Environmental, Social and Governance**

In the midst of the pandemic, an important question emerged: Is there any apparent trade-off between crisis management measures and pursuing the sustainable finance agenda? Many stakeholders argued for the European

**Figure 1. Quarterly European sustainable fund flows (€ billion)**



Total AuM: €621 billion (March 2020).

Source: Morningstar Direct, Manager Research.

Green Deal to remain central for a robust recovery and growth in the EU, and this was recently reinforced in the Commission's Communication on *Europe's moment: Repair and Prepare for the Next Generation*.

In order to meet the 2030 climate and environmental targets, around €470 billion additional annual investments are needed (see Figure 2). As initially announced, the European Green Deal Investment Plan aims to mobilise at least €1 trillion in public and private funds for achieving climate neutrality by 2050.

At present, many bottlenecks actually lie in the unsatisfactory pipeline of sustainable projects/assets across the EU. Nonetheless, this should actually be seen as an opportunity to build competitive advantage in new industries, taking into account future trajectories and needs.

**Figure 2. Overview of investment gaps (€ billion, per year)**

Green transition	470
Climate mitigation and energy 2030 targets	340
Wider environmental objectives, beyond climate	130
Digital transformation	125
Strategic investment (for EU autonomy on critical value chains)	20
Social infrastructure	192

Source: European Commission, SWD (2020) 98 final, Brussels.

Beyond that, it has to be acknowledged that the larger challenge is the investment case in relevant sectors. Some companies cannot economically justify 'radical' green investments. The financing of the 'pure' green players is imperative but not sufficient.

Inflows into climate-related investment funds could play a greater role in targeting solutions that are not yet competitive. Climate stewardship by asset managers<sup>2</sup> should be oriented towards clear outcomes, and institutional investors<sup>3</sup> with a long-term outlook, for example insurance companies and pension funds, could use their track record when delegating external mandates.

In the longer run, most corporates will have to demonstrate a clear pathway in terms of capital investments, operational expenditures, revenue generation and low-carbon solutions for end-consumers. If the externalities of their economic activities are not adequately priced in, or in the absence of adequate economic incentives, sustainable investments may not reach the desired levels.

A recovery in the green context could lay the groundwork for more issuance of green bonds, supported by an EU standard and an accreditation/supervision regime for external verifiers. Moreover, equity markets could be the 'perfect' candidate for supporting the transition to carbon neutrality, in particular by stimulating innovation and skills upgrades that lead to the adoption of greener technologies, with shorter payback periods.

More broadly, understanding the impact of ESG factors on corporate performance, and consequently portfolio construction, security selection and risk management, is essential. The Social and Governance dimensions will be brought to the forefront, in particular impact on employees, customers, supply chains and local communities but also scrutiny over dividends, share buybacks, executive remuneration and investors' engagement.

To ensure environmental and social interests are fully embedded into business strategies, a new initiative on sustainable corporate governance was announced by the Commission for 2021; this should also account for the diversity in ownership and control structures across the EU.

This crisis could mark a turning point for social bonds. The current outstanding amounts (with proceeds invested in healthcare, housing, education and entrepreneurship) is small but growing. Still, much like greenwashing, the risk of social/governance washing must be avoided by expanding the EU taxonomy, especially if there are 'strings attached' to public support.

When it comes to ESG ratings/scores, investors report divergence across providers and advocate an overhaul of the practices. In addition, trading venues refer to expanding their capacity in tracking ESG metrics.

### **Corporates, investors & supervisors**

Corporate disclosure is a fundamental bedrock for sustainable finance. Establishing standards for non-financial information at the EU level (mandatory or voluntary) is the way forward in order to achieve greater consistency, comparability and reliability.

The scope of companies to be covered is another central aspect. Once a certain level of maturity has been achieved, the Commission should consider creating a public centralised database at the EU level, with both financial and non-financial information, linked to a unique identifier for the reporting entity.

At present, large companies tend to report more comprehensively on ESG factors and dominate investors' portfolios compared with SMEs, for which such a regime should be adequately calibrated. Failure by SMEs to provide non-



financial information may have a negative impact on their business opportunities as suppliers to large companies, or limit their ability to benefit from private capital for certain green or innovative projects.

Nonetheless, raising the bar for disclosure for smaller, non-listed companies – with a focus on double materiality and third-party assurance – may politically be a ‘hard sell’ under the current economic circumstances.

Transparency, proportionality, aligned incentives between corporates and investors, and ultimately performance will contribute to mainstreaming sustainability. Financial advisers, asset managers and institutional investors have a fiduciary duty to act in the best interest of their clients/end-beneficiaries, and therefore should be equipped to seize the investment opportunities and manage the risks arising from ESG factors.

More specifically on retail investors<sup>4</sup>, further analysis on (and detailed guidance on how to cope with) the potential variation in investment preferences will be needed, namely standardisation vs. customisation of products/solutions. This comes on top of already well-known problems, such as unbalanced asset allocation, biased advice and closed distribution channels.

The EU ecolabel criteria for financial products should be ambitious enough but at the time not stifle market adoption. For institutional investors, COVID-19 could accelerate interest in mandates aligned with the Sustainable Development Goals (SDGs). And again, robust data on the universe of investments is key for portfolio-level analysis and double-materiality assessments.

ESG risks are characterised by deep uncertainty, non-linearity and endogeneity. Pricing them requires moving from backward- to forward-looking approaches, for example through scenario analysis. Climate-related stress testing is still at a nascent stage (with a few exceptions) for the industry and supervisors, with many identifying challenges

related to firm-specific data availability, methodological difficulties and insufficient mapping of transmission channels.

In addition to adapting/upgrading their sectoral reviews, the European Supervisory Authorities (ESAs) could provide comprehensive technical advice. It is essential to accelerate the efforts on monitoring interconnected exposures to stranded assets and any emerging risk differential.

The use of prudential regulation ('green supporting factor' or 'brown penalising factor') should be exercised with great caution and be evidence-driven. Similarly, other sectoral policies, such as adequate carbon pricing, subsidies and tax incentives linked to taxonomy-eligible activities, should be more carefully re-examined.

Outside of the supervisory dimension, representatives from the ECB alluded to the impact of climate-related risks on monetary policy, and how to potentially integrate these parameters in asset purchase programmes or collateral framework.

### **Concluding remarks**

Sustainability will remain an enduring policy and market theme in the (post) COVID-19 era.

At the EU level, the Action Plan on Sustainable Finance (March 2018) put forward an extensive list of legislative and non-legislative initiatives related to the taxonomy, disclosure, suitability and fiduciary duties, low-carbon benchmarks, non-financial corporate reporting, credit and sustainability ratings, green bond standards and ecolabels for retail financial products.

These will be continued with a Renewed Strategy (December 2020) focusing on the overall ecosystem, implementation of the toolbox and systemic risk implications.

The current crisis has given a brutal reminder about the need to strengthen the preparedness and resilience of our societies as a whole.

The next three to five years will certainly be crucial in terms of the impact on the real economy, ie. translating sustainability in a consistent manner at the operational level, and mobilising significant private capital flows to support recovery and growth in Europe. From a policy perspective, synergies with the capital markets union (CMU) initiative should also be further explored. ■

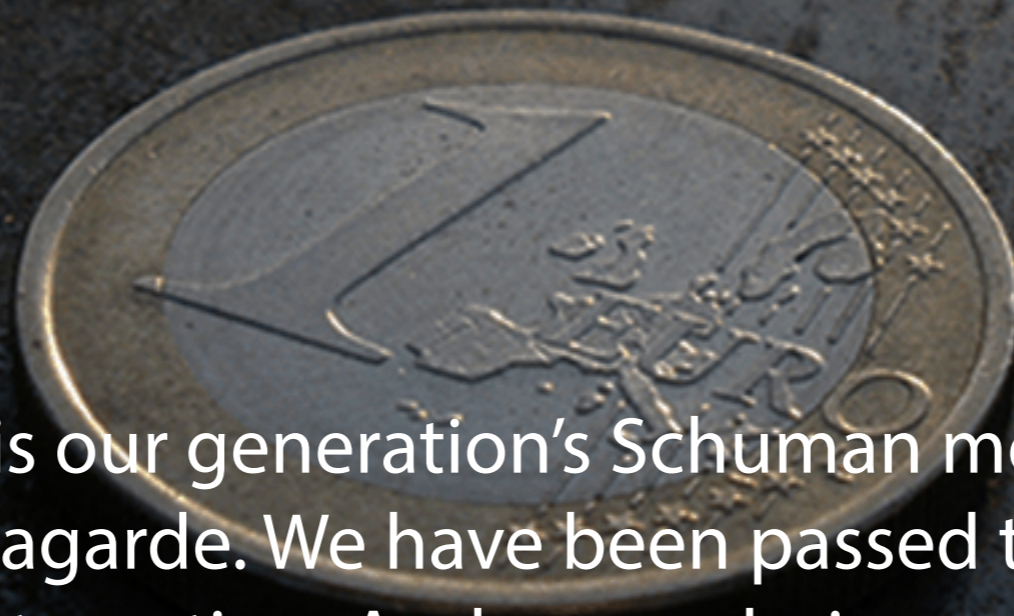
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#### *Endnotes*

- 1. Price-To-Book Ratio (P/B) and Price-to-Earnings Ratio (P/E).*
- 2. At end 2019, the total net assets of UCITS and AIFs amounted to €17 trillion (EU-28).*
- 3. At end-2019, the total assets of insurance companies and pension funds amounted to €14 trillion (EU-28).*
- 4. At end-2019, the total financial assets of households amounted to €37 trillion (EU-28).*

*This commentary is part of a dedicated series, as a follow-up to the CEPS–ECMI Task Force Report on [“Asset Allocation in Europe: Reality vs Expectations”](#) released in April 2020.*

# The path to integration



This crisis is our generation's Schuman moment, says Christine Lagarde. We have been passed the baton of European integration. And we are being asked to act by strengthening Europe

**W**e have marked the 75<sup>th</sup> anniversary of the end of the Second World War in Europe, and the 70<sup>th</sup> anniversary of Europe's response to that cataclysm: the Schuman declaration that set us on the path towards deeper European union. The declaration famously maintained that *"Europe will not be made all at once, or according to a single plan. It will be built through concrete achievements which first create a de facto solidarity."*

Schuman's idea was that Europe needed to become so deeply integrated – and so interdependent – that solidarity would become self-interest. And, thereafter, it would become natural to build stronger common institutions that reflected the depth of those ties.

By and large, this is the path that integration has followed. When Europeans saw that the common market was not delivering in the 1980s, we launched the Single Market. When we realised the Single Market was vulnerable to competitive devaluations, we launched the euro.

And when the euro members recognised that the single currency was vulnerable to self-fulfilling crises, new institutions were established and new instruments were developed – such as the European Stability Mechanism (ESM), the ECB's Outright Monetary Transactions programme (OMT), and the banking union that still needs to be completed.

Whenever our *"concrete achievements"* were threatened, we did not backtrack: we made them stronger – because they had created the de facto solidarity that Schuman promised. European integration paved the way for prosperity, stability and peace.

The coronavirus pandemic today is both confirming and testing this thesis. We are seeing once more how interdependent we have become. If not all countries are cured from this crisis, the others will suffer – and not just in terms of health, but economically too.

Trade within the euro area accounts for 45% of GDP. The success of the Single Market means that supply chain integration is three times tighter within the euro area than with the rest of the world. As a result, analysis by the ECB finds that a common shock is amplified by about 30% – meaning all countries have to act together to mitigate large crises effectively.

*The recovery presents a further opportunity, too: to engage citizens in the process of defining our common interest and the areas where Europe should be stronger*

So the question we face today is this: can we respond to the economic shock we are facing – which is unprecedented in peacetime – in a way that reflects our fundamental common interest, as those generations of Europeans did in the past?

We have seen some encouraging signs of European cooperation. State aid rules were quickly relaxed and fiscal rules suspended, empowering a strong fiscal response to underpin wages and incomes. About 16% of employees in the four largest countries are now enrolling in short-time work schemes and government-supported temporary layoffs.

In parallel, the actions of the ECB, European banking supervision and national governments have dovetailed to put the banking sector in a stronger position to plug the liquidity gap facing firms, preventing an even sharper loss of capacity and jobs. Bank lending increased by almost €120 billion in March, the largest monthly flow on record.

However, when it is safe to do so, Europe will have to move to the next phase of its crisis response. The focus will need to shift from providing backstop support to enabling the recovery. This will present a new set of challenges. The ECB will play its part in line with its mandate. We will do everything necessary within our mandate to support the recovery and we remain undeterred in delivering on our price stability objective.

On the fiscal side, the measures adopted in the euro area so far have been quite diverse, ranging from around 2% of GDP to more than 40%. In about half of euro area countries, government guarantees make up the largest share of the fiscal support.

But the costs of the crisis continue to rise and, as we move forward, the form of fiscal support will likely change: discretionary spending may increase, automatic stabilisers will kick in further and – in more severe scenarios – the loan guarantees supporting firms could be called.

The ECB estimates that – in our medium scenario of a drop in GDP of around 8% – the additional government financing needs in the euro area this year resulting from the recession and the required fiscal measures may exceed 10% of euro area GDP. This would put the additional debt issuance due to the pandemic in the range of €1 trillion to €1.5 trillion in 2020 alone.

We need, as a union, to be prepared for this future. Since no one is to blame for this crisis, we must ensure that there are no undue constraints on our policy responses. Not all countries have to react in the same way. But each needs to be able to respond as necessary. Otherwise, we risk widening asymmetries and exiting this crisis with greater economic divergence.

This underscores why a common European fiscal response is so desirable. First, it will help bridge the gap for member states and counter that risk of divergence. Given the fiscal needs already on the horizon, it needs to be swift, sizeable and symmetrical.

Second, it will help guide us towards the Europe we want to build after the crisis. We have been given a chance to take a leap forward: to reimagine our social contract, reconsider Europe's strategic autonomy, and recognise the risks of not taking the environment seriously. These are all areas where acting together is in our common interest.

Let me give just one example: we have now experienced the consequences of a systemic ecological crisis, and we are also likely to face a period of weak private investment as firms repair their balance sheets. Public investment will have to fill the gap. It makes sense to use this opening to accelerate the transition to a green economy and hit our climate targets.



The recovery presents a further opportunity, too: to engage citizens in the process of defining our common interest and the areas where Europe should be stronger.

In sum: this is our generation's Schuman moment. We have been passed the baton of European integration. We are seeing our de facto solidarity all around us. And we are being asked to act, as those before us did, by strengthening Europe in response.

I am confident that we will recognise our historical responsibility and rise to the challenge. ■

## **Christine Lagarde is President of the European Central Bank**

*This article is based on [remarks](#) made at the Online Edition of The State of the Union conference organised by the European University Institute*

# Towards a European Reconstruction Fund

How should Europe respond to the economic crisis?  
Luis Garicano argues that the Commission issue consolidated annuities to finance a €1 trillion economic reconstruction package

**T**he idea that Europe's response to the economic crisis should be based on the issuance of common perpetual bonds has been slowly gaining ground, but proposals that entail substantial increases to member states' debt risk hampering growth for decades to come.

This column argues that the time has come for genuine European spending financed through European borrowing. It examines the legal and financial issues around the possible implementation of a proposal for the Commission to issue consolidated annuities ('EU Consols') to finance a €1 trillion economic reconstruction package.

After being first proposed by Francesco Giavazzi and Guido Tabellini (2020), the idea that Europe's response to the economic crisis should be based on the issuance of common perpetual bonds has been slowly gaining ground. They first highlighted that issuing at ultra-long or perpetual maturities would take advantage of the low-yield environment, eliminate refinancing risk, and send a strong signal of European unity to the market.

Nevertheless, their proposal would entail a substantial increase to member states' debt. Both authors suggest member states should issue perpetual bonds backed by their joint tax capacity. Given how high debt levels are in many countries, this would threaten to hamper growth for decades to come. It operates under the same logic as the three instruments (the ESM, the EIB, SURE) in the Eurogroup's deal – namely, that European issuances should only be used to generate more debt in member states.

The time has come for genuine European spending financed through European borrowing. To this end, Guy Verhofstadt and I recently proposed that the Commission issue consolidated annuities (or 'EU Consols') to finance a €1 trillion economic reconstruction package (Garicano and Verhofstadt 2020). Our proposal, in line with the European Parliament's 17 April [resolution](#), would see the money spent (and not lent) along the EU budget's future-oriented priorities.

We propose that to prevent any increases in the financial contributions of member states, the additional EU-level (interest) expenses must be paid for with new revenue sources at the EU level.

Since then, this proposal has been taken up by the Spanish government and is one of the contending landing zones for the Reconstruction Fund debate. Building on our previous articles, in this column I expand on the proposal's legal and financial implementational aspects.

*The establishment of a European Reconstruction Fund that would secure the financing needed for a swift recovery of the Union's economy would be carried out by means of Article 122 (1) TFEU*

## The economics

The grand bargain that we put forth to member states is that they can keep their contributions to the EU's next seven-year budget – a matter of constant bickering – at current levels. In exchange, we ask them to drop their reluctance to allow the creation of new, modern EU-wide streams of revenues that could bring between €26 billion and €38 billion a year.

These new revenues would be used to pay the interests on the EU Consols. Of the potential sources of revenue that have been discussed (including the Financial Transactions Tax and the Carbon Border Adjustment Mechanism), we put to use four that have already been designed and proposed by the Commission:

1. The Emissions Trading System (ETS): today, all of the revenues from the ETS are kept by member states. To ensure that they do not lose any existing revenues, we follow President Michel's February proposal: only ETS revenues in excess of the average amount member states received in the 2016-18 period (about €8 billion) would flow into the EU Budget.

ETS revenues are the most volatile of our proposal, but we can work with existing estimates of €20 billion in total annual revenues in Phase IV of the program (WWF 2020). For reference, in 2018, it generated €15 billion, growing more than 150% with respect to 2017. Net, the ETS would entail €12 billion in annual EU revenues.

2. Plastic-based contribution: the European Court of Auditors estimates this would amount to €7 billion a year from a €0.8 per kilo call rate. Applying the maximum call rate allowed for in the proposed Regulation (€1.0 per kilo), we can increase revenues by 25% to yield around €9 billion a year.

3. Digital tax: the Commission's 2018 proposal for a 3% tax on revenue on large tech companies is the only new revenue we propose that has not been formally proposed as a new 'Own Resource'. Assuming a 100% call rate on the revenue estimates of the 2018 proposal, the digital tax could bring in around €5 billion. According to the Commission's impact assessment, however, potential revenues could be as much as €10 billion (European Commission 2018).

4. Common Consolidated Corporate Tax Base (CCCTB): approving the CCCTB as proposed by the Commission in 2018, and applying a 3% call rate on member states' revenues, would generate €12 billion a year, according to the European Court of Auditors.

This would be the only new revenue to the EU budget that would reduce existing revenues that member states already have. However, we would expect this reduction to be offset by a general increase of revenues due to the harmonised tax rates.

Taking into account the perpetual nature of the Consol's principal, how much leverage could these new sources of funding allow for? We see three main precedents of publicly syndicated long-term bonds that could help us ballpark the coupon of the EU Consols:

1. Israel in 2020: Israel secured \$1 billion in dollar funding through 100-year bonds to combat the COVID-19 crisis. Five times oversubscribed due to the unprecedented context and nature of the issuance, they priced at a 4.5% coupon.

2. Austria in 2017: Austria raised €3.5 billion by issuing a 100-year bond at a 2.1% coupon, which now trades at a 1% yield. It is the sovereign bond with the longest maturity in the EU.

3. European Stability Mechanism (ESM) in 2018: the ESM issued almost €1 billion in 40-year bonds at a 1.85% coupon, which now trades at a 0.7% yield. It is the longest-dated debt issued at the European level.

The first conclusion to draw from these precedents is that our trillion euros would have to be issued progressively and not all at once. Putting this aside, and taking into account the above, the Commission's AAA rating, and the ECB's support, we find it fair to conservatively estimate a 2.5% coupon on the annuities (Alogoskoufis and Langfield 2020).

With all the key financing figures in mind, Table 1 shows the issuance potential of different combinations of new resources and coupon rates.

**Table 1**

New EU revenues	Billion €	Interest rate					
		0.5%	1.0%	1.5%	2.0%	2.5%	3.0%
Digital + CCCTB	17	3,340	1,670	1,113	835	668	557
ETS + Plastic	21	4,238	2,119	1,413	1,060	848	706
ETS + Plastic + Digital	26	5,178	2,589	1,726	1,295	1,036	863
ETS + Plastic + Digital + CCCTB	38	7,578	3,789	2,526	1,895	1,516	1,263

## Inside or outside the budget?

Under our proposal, the Commission would use its existing powers to borrow in the markets and would start issuing annuities when the next long-term EU Budget begins in 2021. The proceeds would finance a new European Reconstruction Fund. The spending of the fund would be aligned with the EU budget's priorities, also potentially co-financing EU programmes in lieu of national authorities.

When designing the Reconstruction Fund, it is essential that we stay away from intergovernmental solutions such as the establishment of a Special Purpose Vehicle (SPV), as some countries are currently proposing. Acting in such a way is not only plagued with issues regarding the lack of democratic accountability, judicial protection and burdensome decision making – as is well understood by now – but also has four crucial implementational difficulties:

Externally assigned revenue: in the EU Budget, earmarking is not permitted. There are some exceptions (deemed 'assigned revenue'), but it is difficult to see how a Reconstruction Fund could fall into any of the categories for which the exception is permitted (see the Financial Regulation).

Furthermore, the size of the instrument would pose problems as regards the autonomy of the Union's law, as it would legitimately raise the question: is this not a parallel budget to which no EU rules apply? The possibility of establishing the Reconstruction Fund on the basis of certain Own Resources permanently earmarked to feed it therefore seems legally unwise if left outside the EU Budget.

Time: we have eight months before the next seven-year EU Budget starts. It is imperative to act fast. Past experience proves intergovernmental agreements are not a speedy option, as shown by the ESM, which took years to finalise.



Accounting: even if we followed the example of the European Financial Stability Facility (EFSF) – an SPV set up while the ESM Treaty was being finalised – and established a provisional fund while the intergovernmental treaty is negotiated, a central accounting issue would arise. For accounting purposes, the debt issued by the provisional fund, and the guarantees provided to it by member states, would have to be consolidated into the national accounts (Eurostat 2019). Correspondingly, the gross debt of member states would increase substantially, defeating the very purpose of the fund.

Legal certainty: the national law of the member state in which the SPV is located would apply, leaving the door open for said country to unilaterally change its applicable law. This could have an impact on the fund's governance, the execution of the guarantees and even the possibility for shareholders (the member states) to withdraw under ordinary private-law conditions. This uncertainty would surely translate into higher interest payments for the annuities, as is the case of systemically higher yields paid for by the EFSF with respect to the ESM (ESM 2019).

At the same time, to make the Fund work within the EU Budget, the current budgetary treatment of outstanding European debt – a legacy of the sovereign debt crisis – must be changed. In 2010, when the European Financial Stabilisation Mechanism (EFSM) was established, the Commission decided that the entire balance of its loans should fit within its yearly budgetary 'headroom'.

This means that the total loans outstanding in any given year must be below the difference between the budget's spending ceiling and its 'Own Resources ceiling', which determines the maximum amount of money the EU can mandatorily request from member states in any year (today fixed at 1.20% of GNI). The idea was that this would provide creditors the maximum degree of certainty that the Union would repay its obligations. However, the decision severely hampers the EU budget's ability to issue debt and counter the economic effects of the crisis.

Because of it, the EFSM alone, with its €47 billion in loans, consumes the entirety of the EU budget's headroom, forcing the Commission's SURE programme to be backed beyond the headroom (and the Own Resources ceiling) by member state joint pro rata guarantees.

It is hard to argue in favour of this decision in economic terms. After all, the only money that the budget of a particular year should guarantee is that which has to be paid in that year. Neither do legal considerations apply, as no specific impediments can be found in the EU Treaties.

Because of this, we propose that this budgetary treatment of EU loans be put to rest, and that only the interest be guaranteed in the budget of any given year, with only these counting towards the Own Resources ceiling. The rest of the payments would be simply assumed by the Union, in the same way member states assume their respective debts.

The consequences of such a change would be felt immediately. Under our proposal, for instance, the required increase of the budgetary headroom would be relatively small: €26 billion only amounts to 0.19% of EU27 GNI (assuming a 7% GDP drop from the economic crisis; IMF 2020).

### **How to set it up within the EU legal framework**

The establishment of a European Reconstruction Fund that would secure the financing needed for a swift recovery of the Union's economy would be carried out by means of Article 122 (1) TFEU. By utilising this legal basis, the Council would be allowed to take, *"in a spirit of solidarity,"* the *"measures appropriate to the economic situation."*

This temporality safeguard is not only politically tenable but further reinforces the validity of Article 122 (1) TFEU as the appropriate way to finance the reconstruction from Covid-19, an exceptional occurrence for which no member

state is to blame. Acting in this way would attain the Union's goals as established in Article 3 (3) TEU, most notably *"to promote economic, social and territorial cohesion, and solidarity among member states."*

Unlike the EFSM and SURE, Article 122 (2) TFEU would not serve as the European Reconstruction Fund's legal basis. Its narrower conception of solidarity exclusively entails loans. The gravity of the current situation, however, calls for a different kind of action, setting aside the logic of European borrowing for loans.

Providing a long-term legal basis for the European Reconstruction Fund would require the use of Article 352 TFEU, better known as the 'flexibility clause', which served as the basis for the Commission's proposed integration of the ESM into the EU legal order. Although legally sound from the outset, it certainly is not as politically attractive as Article 122 (1) TFEU.

First, it is too broad as it does not require an exceptional 'economic situation' to justify its deployment. Second, it does not provide for such a temporality safeguard. And, third, the flexibility clause hinges on unanimity and cumbersome national procedures (see, for example, the [Bundesverfassungsgericht's Lisbon decision](#)).

### **Compatibility with Article 310 TFEU**

Under Article 310 TFEU, the EU Budget must be balanced and expenditure must equal revenues. This is an obligation that is, however, nuanced by the following provision, Article 311 TFEU, which stipulates that "the Union shall provide itself with the means necessary to attain its objectives". As argued by Grund *et al.* (2020), this is a moment in which all over the globe national governments are looking for extra funding.

Therefore, setting up a Fund that maximises the efficiency and efficacy with which financing operations are carried out is justified. This would allow the Union to guarantee the financial stability of the single currency by preventing

further strain on member states' finances. It is important to highlight that actions taken through Article 122 (1) TFEU are strictly temporary, and exceptional, in nature.

### **Compatibility with Article 125 TFEU – the 'no bailout clause'**

By acting "*in a spirit of solidarity*", the member states would not need to impose conditionality for the funds provided. This is justified given the lack of blame and moral hazard, unlike in the sovereign debt crisis, for a pandemic that affects the Union as a whole.

Article 122 (1) TFEU is, however, an exception to the famous 'no bailout clause'. It must therefore be justified to take these extraordinary measures. It is worth noting that in *Pringle*, the Court of Justice ruled that the obligation enshrined in the 'no bailout clause' meant member states must remain subject to the logic of the markets when incurring in debt.

As long as they are not incentivised to set aside or reduce budgetary discipline, Union action is allowed. Several safeguards are in place to guarantee this is the case. First, the fund and its spending would not be managed by member states. Instead, it would be managed by the Commission, the guardian of the Treaties, in accordance with the Union's priorities. Second, the Fund's establishment does not entail the mutualisation of existing nor future debt beyond what is necessary for the achievement of the instrument's goal: to provide, in a spirit of solidarity, assistance to member states in light of the outbreak.

### **Compatibility with 123 TFEU**

Some have expressed concerns over the supposed impossibility for the ECB to purchase EU Consols given their perpetual maturity and the self-imposed limits currently in place for its various quantitative easing programmes.

The risk, this reasoning goes, is that by doing so, the ECB would breach Article 123 (1) TFEU's prohibition on monetary financing. The European Court of Justice's case law on the matter paints a different picture. In both *Gauweiler* and *Weiss*, the Court stated that the ECB, when conducting monetary policy, is granted broad discretion to accomplish its objective of maintaining price stability.

Only two limits, in relation to Article 123 (1) TFEU, would apply: that the ECB shall not directly purchase the government's debt; and that its actions, similarly to the logic discussed above as regards the 'no bailout clause', should not de-incentivise member states from conducting sound budgetary policies. At any rate, the Court would recall, the ECB has the possibility to sell, at any time, the bonds it purchases.

Crucially, no exact safeguards to be put in place by the ECB were defined by the Court. It deliberately left the matter wide open, stating that in a potential review of a programme's legality, it would take into account the context and economic situation on which decisions had to be taken (including the actions put forth by other central banks). The ECB could, therefore, make full use of its powers in a flexible way so long as this did not exceed what is necessary to achieve its goals.

At a time in which a pandemic has ravaged our Union's economy, it is difficult to argue that the Court's interpretation would change. This is even more so the case in light of the ECB's secondary objective as per Article 282 (2) TFEU: to support the general economic policies of the Union. ■

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# An opportunity for change

The European Commission has been asked for a recovery fund proposal. Massimo Motta and Martin Peitz see a unique opportunity to develop a truly European programme that helps restructure the EU economy



**T**he European Commission has been asked to develop a proposal for a new recovery fund of more than €1 trillion. Given the substantial support needed by most sectors in the present circumstances, it is crucial to identify the ones which are most important to proper functioning of the EU economies.

Based on the principle of subsidiarity, this column formulates two general criteria to identify these sectors: those for which (i) the volume of cross-border trade within the EU is large, or (ii) externalities across member states are important. Support schemes should be oriented towards the future and not try to preserve the status quo ante.

The EU has been criticized for not reacting quickly enough to the COVID-19 crisis and for providing neither a vision nor instruments to deal with its economic impact. Short term emergency funding has so far been mostly provided through aid programmes by the individual member states.

However, on 23 April 2020, the European Council agreed in principle on a *Roadmap to Recovery* and on establishing a new fund with the volume of more than €1 trillion to help overcome the severe economic crisis that the EU – as well as most of the world – has entered. The European Commission has been asked to develop a proposal for how to use this recovery fund.

We see a unique opportunity to develop a truly European programme that helps restructure the EU economy. The recovery fund may be instrumental for the economy to recover, but this requires new directions and bold restructuring instead of preserving the old economic landscape.

We see this funding proposal as complementary to other proposals aimed at reducing short-term pain and massive immediate firm closures, especially in those countries hit hard by the crisis and in a poor fiscal position (see, in

particular, Bénassy-Quéré *et al.* 2020a, Grund *et al.* 2020, Lamadrid and Buendía 2020). The general argument why governments should intervene and avoid massive firm closures is laid out in Didier *et al.* (2020).

Boot *et al.* (2020) make a proposal for how the EU can channel funding to firms in distress because of the COVID-19 crisis. Here, we focus on the purpose of the recovery fund that goes beyond the short term (see also Bénassy-Quéré *et al.* 2020b).

*The Commission should use aid programmes to help make the EU fit for the future. The fund should be forward-looking, and not aimed at restoring the pre-crisis status quo. It is an opportunity to improve our economy and achieve long-run EU objectives. We should not miss it*

## Why an EU programme for certain sectors instead of aid by individual member states?

Allocation of competences between the EU and the member states is defined by the principle of subsidiarity. When aid to particular sectors is at issue, there are two circumstances under which responsibility should be at the EU level.

First, when there are affected sectors whose volume of EU trade is such that the scope of the market is truly European. This includes products such as cars as well as services such as flights.

Second, when there are externalities across member states, so that a national programme would not fully internalize the benefits that would arise at the EU level. This includes security of supply, infrastructure relevant for cross-border trade, and environmental issues which spill over national borders.

An EU programme is likely to reduce competition distortions and domino effects by which member states escalate the support for their home industries when the respective sector features cross-border trade within the EU. We elaborated on this reason in our VoxEU column published on 18 April ([Motta and Peitz 2020](#)).

If member states support individual companies, there exists the risk of distorting competition, even though such aid requires the approval by the European Commission. Since some member states have already approved national support schemes for specific companies (e.g. for airlines), a European programme for the respective sector can mitigate this risk.

The airline industry is a case in point. France and the Netherlands have already announced measures of recapitalisation in support of AirFrance/KLM (which already benefit of liquidity and employment support measures available to all companies). Lufthansa and its subsidiaries are in talks about state support with the governments of Germany, Austria, Belgium, and Switzerland.

Such measures will distort competition to the detriment of other EU airlines, and may push other member states to support national airlines. We find it difficult to understand what is the rationale for state intervention into this industry that goes beyond short-term liquidity support.

For example, why do Italian governments continue to support Alitalia, which was losing up to €2 million a day well before the COVID-19 crisis, to provide a service that private airlines could offer more efficiently?

If any support should be given to this industry, then it would be desirable for the European Commission to put forward a restructuring and support plan for the airline industry that is compatible with the EU's climate policy objectives, avoids competition concerns, and thus aligns the support programme with other policy goals.

This plan would need to account for the fact that the industry outlook will likely be different after the crisis, as tourism may take time to pick up, but above all because physical meetings are likely to be replaced by virtual meetings and thus reduce the volume of business travels. A restructuring of the airline industry should go hand-in-hand with a commitment to introduce a kerosene tax at the EU level.

The automotive industry is another case in point. Germany, Spain, France, and Italy have a significant automotive industry (but also smaller countries such as the Czech Republic and Slovakia). A rule-based European solution here would hopefully prevent national go-it-alones and an escalation of aid. It should also make support contingent on fulfilling EU-wide objectives such as climate policy, as we argue below.

Whatever sectors are selected for aid, an advantage of an EU-wide system compared to national programmes is that all firms in that particular sector would be eligible for aid, which would eliminate a source of distortion, namely, that only firms from some member states may receive aid within the sector.

One of the advantages of the Commission playing a central role in designing a European aid programme is that it would reduce horse-trading between member states. To some extent, our trust in the Commission also comes from the fact that over the years the Commission has (in general) been able to resist the recurrent pressure to relax state aid control and to include exceptions to competition (eg. in merger control) for many sectors.

Apart from competition policy reasons we can also think of other policy objectives that are linked to EU-wide goals of society and may justify a leadership role by the European Commission. Individual member states may not have the resources or, because of cross-country externalities, may not be willing to provide sufficient resources to pursue objectives such as climate and digital ones, or resilience in times of crisis, which generate benefits in other member states (see also Bénassy-Quéré *et al.* 2020b).

### **What should be guiding principles and what pitfalls are to be avoided? And how can this funding be used to make Europe a better place in the future?**

While the recovery fund's €1 trillion is a large sum, neither would it be sufficient to cover all the claimed needs by so many firms in so many industries, nor would it be desirable to develop specific support schemes for all the sectors of the economy.

Under the EU umbrella, several sector programmes can be launched after consultations to ensure different preferences of individual member states are voiced. It is also important for the countries without a significant domestic industry in the respective sector to take part in the consultations since they might also suffer from distortions of competition, and would, therefore, be interested in avoiding them.

Criteria for support should be well thought out: assigning it to firms and industries on a first-come-first-serve basis, or according to the strongest lobbying power, or proportionally to the pre-crisis turnover would certainly not be a good idea.

When setting up support schemes, the Commission should identify core competences and infrastructures that should be improved and identify sectors that are of EU-wide importance in this respect. Focusing programmes on specific societal goals and identifying relevant sectors, will ensure that the possibilities for horse-trading in such transfer programmes is limited.

The Commission should use aid programmes to help make the EU fit for the future. The fund should be forward-looking, and not aimed at restoring the pre-crisis status quo. It is an opportunity to improve our economy and achieve long-run EU objectives. We should not miss it.

Concretely, if, for instance, support programmes for the car industry are envisioned, they should be based on climate objectives. For example, transfers for R&D in emission-free vehicles could be part of the funding programme.

Funding programmes should go beyond funding only those industries in which selective funding by some countries would distort competition. Physical and digital infrastructure build-up could also be part of a funding proposal because of cross-border externalities.

Another dimension for funding programmes would be resilience regarding certain supply chain disruptions in the global supply chain outside the EU and demand shocks within the EU. Since private companies have little incentives to build up capacities that will only be used in unlikely events, there may be a need for government-sponsored markets for reserve capacities (as is already done in energy markets).

This may take the form of a government paying for the option to procure certain products at specified terms, whereby the party signing such a procurement contract has to regularly prove that it is able to deliver as agreed in

case an emergency arises. This applies in particular, to parts of the pharmaceutical and medical equipment sectors. Such a EU-wide programme is essential to be able to respond when the EU at large faces a shock to security or health.

Infrastructure needs may be interpreted broadly. Thus, it is conceivable to have an EU programme that supports firms in the arts and culture. Such cultural offers can be considered essential for the social fabric of Europe. ■

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# Racing against COVID-19

A long-term solution to COVID-19 includes vaccine development. Reinhilde Veugelers and Georg Zachmann propose a vaccines strategy for Europe to meet the challenge of future pandemics

**T**he fast development of vaccines is an essential part of the long-term solution to COVID-19, but vaccine development has high costs and carries the risk of high failure rates. There are currently too few promising projects in the clinical trial pipeline to guarantee at least one vaccine soon. More projects need to pass through the development pipeline in parallel. Vaccines should ultimately be widely available to all who need them at low cost.

Private life sciences companies under-invest in vaccine development, especially when compulsory licensing and/or price regulations are imposed. Public funding is needed to reduce the risks of investing in vaccine development, and also to balance compulsory licensing and/or price regulations with incentives for private firms.

The public funding being put into identifying COVID-19 vaccines is too limited to carry enough projects through so that at least one vaccine, and preferably more, become available at large scale and low cost. Public budgets for these efforts need to be multiplied up several times over.

We propose a staged support scheme to tackle the COVID-19 vaccine challenge and a moon shot programme to meet the challenge of future pandemics. We calculate the public budget needed to ensure supply of COVID-19 vaccines. Although substantial, the budget represents a bargain compared to the avoided health, social and economic costs.

### **The COVID-19 vaccine challenge**

To stop the COVID-19 pandemic, reopen the economy and prevent the pandemic from restarting, the world needs vaccines. Given how difficult and costly it is to engineer natural immunity, vaccines are critical for helping to build herd immunity to manage the disease.

But so far, no vaccines (or therapies<sup>1</sup>) for COVID-19 have been approved by regulatory agencies. The genome of the virus was sequenced very quickly and put in the public domain, meaning that researchers were within a matter of weeks able to identify several promising vaccine candidates. Start-ups, legacy drug makers and research labs have stepped forward with plans to develop vaccines or treatments for COVID-19.

National and international public authorities have pledged funding for treatments and vaccines. There is much hope that a COVID-19 vaccine will be available soon – most optimistically in the next six months, though the most frequent prediction is 18 months<sup>2</sup>.

*The list of COVID-19 vaccine projects grows by the week, helped by the genetic code of the virus being made available very early on*

But many questions remain. Are there enough projects in the pipeline to ensure a vaccine soon? Once successfully developed, can a vaccine be manufactured quickly on a large scale? Will it be available at a fair price? Can open access and fair prices be ensured without discouraging private developers? Who should fund the development and production costs?

We address these questions by examining success rates from previous vaccine-development projects and matching this, in terms of numbers of projects and funding, with what is currently in the pipeline for COVID-19. To ensure the successful development of COVID-19 vaccines in the European Union, we propose an EU publicly funded support scheme.

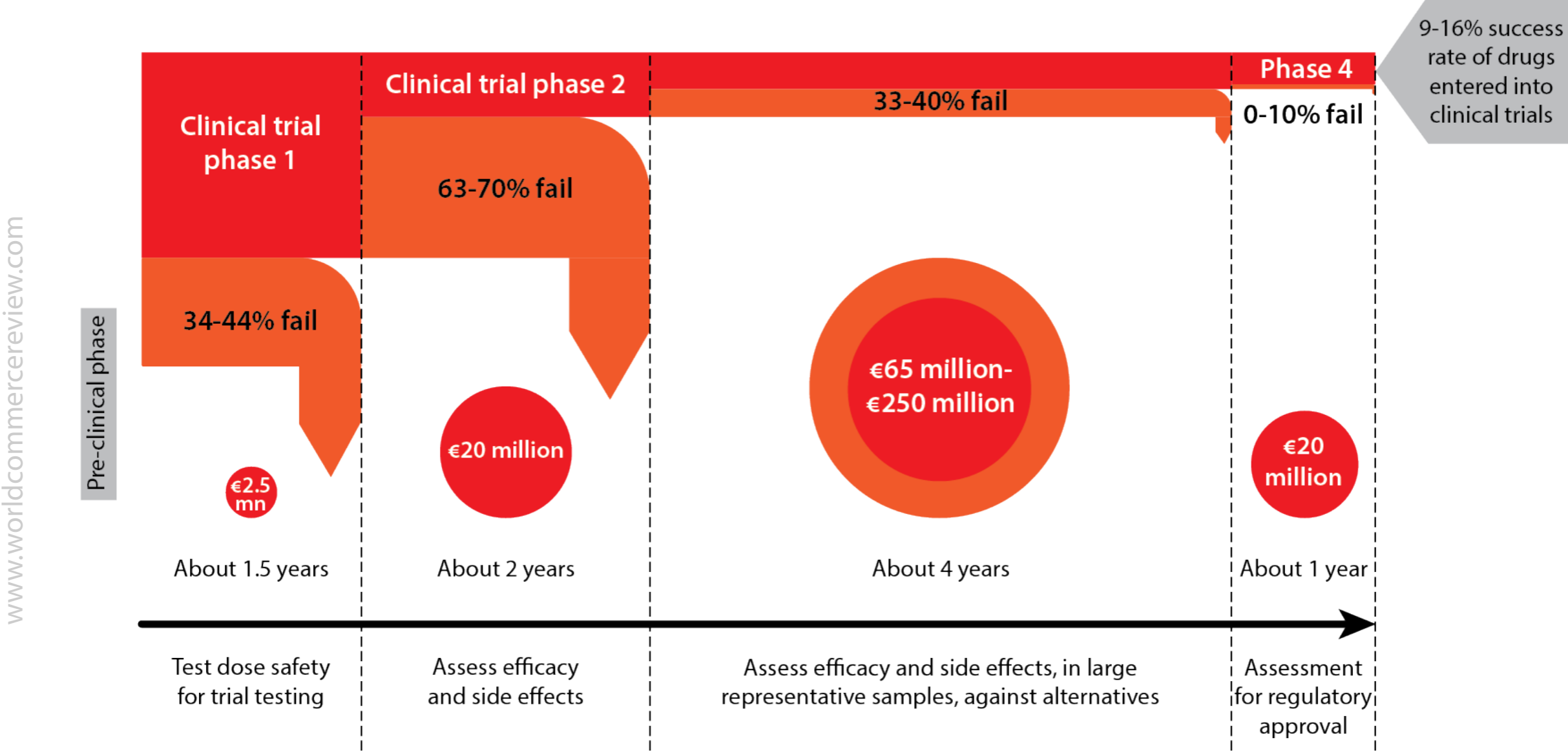
### **The long road to vaccine development**

Drug development (for both treatments and vaccines) typically follows a clear path (Figure 1). At each stage, the development of a drug might be stopped for technical, medical or economic reasons. The different stages are characterised by different probabilities of success, and strongly varying costs and durations.

Figure 1 shows that the average success rate for drug development is about 10 percent to 15 percent. The high-risk rates imply that society needs many candidate substances at the outset of clinical trials to be sufficiently sure of getting a suitable product in the end.

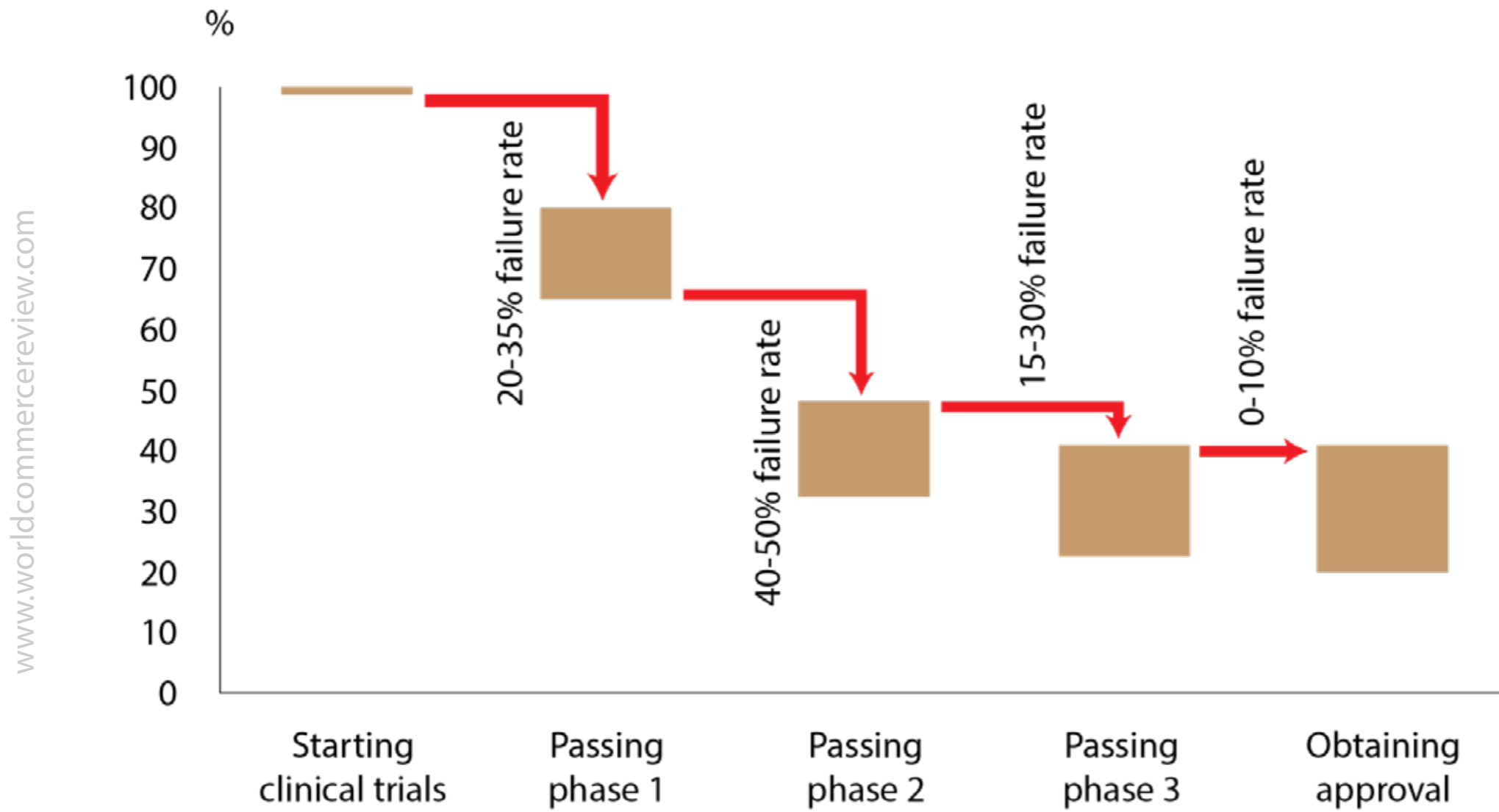
For vaccines, the success rates are higher than for medical drugs in general<sup>3</sup>. Success rates for vaccines that entered clinical trials can range from 20 percent to 40 percent (Figure 2). In particular, vaccines for new diseases, such as COVID-19, are more likely to pass the critical and expensive phase 3 because there are not yet benchmarks against which efficacy needs to be proved.

**Figure 1. A typical trajectory of drug development<sup>4</sup>**



Source: Bruegel. Note: Reported success rates are averages from six review studies, with the minimum and maximum values eliminated. For a list of the review studies, see the References. See also [https://en.wikipedia.org/wiki/COVID-19\\_drug\\_development](https://en.wikipedia.org/wiki/COVID-19_drug_development)

**Figure 2. Success rates for clinical trials of development for vaccines**



Source: Bruegel based on review studies (see the References).

In addition, the time span for vaccine development can also be expected to be shorter than the average for drug development<sup>5</sup>. All regulatory authorities for medicines have fast-track procedures. Vaccines go through such fast tracking because they are typically developed in response to emergencies, often with no available benchmarks to prove efficiency against.

Also, agencies can authorise emergency use, allowing vaccines that are still in the process of clinical trials to be made available to some patients. This is however only for restricted exceptional cases, such as for medical personnel, and never on a large scale.

Repurposed substances – substances already approved for other diseases – can reuse past results and typically go much faster through clinical trials, with lower costs and higher success rates<sup>6</sup>.

### **Who develops vaccines?**

Exploratory research and the pre-clinical and early stages of clinical trials can be done by researchers in research institutes or small firms. At later stages, however, particularly phase 3 and commercialisation, large life sciences firms typically take over.

They have the financial resources for these more expensive stages, experience of managing large clinical trials and regulatory approval procedures, and they have the commercialisation capability (manufacturing, distribution and marketing)<sup>7</sup>.

In the last few decades, the vaccine industry has been through a major consolidation, leaving only a handful of large life sciences firms active on the market. The largest life sciences companies for vaccine production (in terms

of vaccine revenues) are GSK, Merck, Sanofi and Pfizer (Statista, 2020). Johnson & Johnson, through its subsidiary Janssen Pharmaceutica, currently has the largest number of vaccine projects in preclinical trials (Statista, 2020).

### **How is vaccine development financed?**

National and international public research money typically funds the initial exploratory research phase, often done by university labs or research organisations. Funders include the US National Institutes of Health, and the European Union through its multi-annual research programmes<sup>8</sup>. Philanthropists, such as the Bill & Melinda Gates Foundation, are prominent funders. Also, big life sciences companies provide some funding for vaccine research.

The vaccine development phases, typically done by private companies, are funded either by large life sciences firms themselves or through company partnerships. Their returns from investing in vaccine development depend on the exclusive ownership they can obtain of the right to use the ultimately approved substance or technology.

As ownership of knowledge and claims can be identified clearly in drug development, patents are very effective in protecting the intellectual property and ensuring exclusive ownership during the patent lifetime. Patents are used heavily in this industry.

Typically, platform technologies and mechanisms of action (how to treat a certain illness with a certain substance) are patented early on in the process. The owners of the patents for successful drugs/vaccines might be the original applicants, but developers can also acquire patent rights by buying or licensing from others during the development process.

External funding for development is available mostly through public-private partnerships. Particularly for the later more expensive clinical trial stages, public funding if provided at all, is through co-funding with private developers.



In the US, the public part of these partnerships is channelled through the Biomedical Advanced Research and Development Authority ([BARDA](#)). At the EU level this is channelled through the Innovative Medicines Initiative ([IMI](#)), a public-private partnership between the EU and the European Federation of Pharmaceutical Industries and Associations (EFPIA). Debt and equity funding for vaccines and other initiatives is also provided via the European Investment Bank's InnovFin Infectious Diseases Finance Facility (IDFF).

Another recent major funder of vaccine development is the global Coalition for Epidemic Preparedness Innovations (CEPI), set up in 2017 with a targeted \$1 billion fund. Its financing partners include the Gates Foundation and a number of countries. The EU, through IMI, is also a partner (<https://cepi.net>).

### **Specific challenges for COVID-19 vaccine projects**

On top of the high overall failure rate of clinical trials of vaccines, COVID-19 poses specific challenges (*The Economist*, 2020).

First, there is no current close substitute vaccine available from other corona- or other viruses, which could be repurposed quickly for COVID-19. The 2003 outbreak of SARS (severe acute respiratory syndrome), also caused by a coronavirus, was controlled after four months, impeding the development of a vaccine. In hindsight, this was unfortunate, as a SARS vaccine could have helped to accelerate the development of a COVID-19 vaccine.

Another challenge is the scale at which the vaccine, when available, needs to be produced and made available throughout the world to provide herd immunity. A vaccine made for the world has never been done before. The Gates Foundation is already trying to address these large-scale manufacturing challenges by funding new factories for potential coronavirus vaccines<sup>9</sup>.

Nevertheless, existing technologies to develop and manufacture vaccines can be used as a platform for a COVID-19 vaccine. Some COVID-19 vaccine projects are based on proven approaches to vaccines, which use modified forms of the virus. The advantage of this approach is that it is well tested, with a stock of expertise, including for manufacturing. However, as it involves cultivating live cells, manufacturing cannot be quickly scaled up.

Other projects use newer approaches focusing on genetically engineered synthetic vaccines that activate the body's immune response. The active ingredient in these vaccines can be the virus's DNA or RNA (the genetic instructions for building proteins), or the proteins/spikes that let the virus enter into human cells.

These vaccines can be quickly developed, as scientists only need the virus's genetic code, which was made available very quickly for COVID-19. Such synthetic vaccines should in principle be faster and cheaper to manufacture at large scale. However, they face a higher risk of failure in clinical trials. There are no human DNA or RNA medicines on the market yet<sup>10</sup>.

Because each approach carries specific risks, a variety of approaches will be needed to get a successful vaccine for COVID-19 through development. Vaccines developed through different approaches might also be better suited to specific population subtypes.

### **The pipeline of COVID-19 vaccine projects**

The World Health Organisation by March 2020 had identified more than 40 promising COVID-19 vaccine projects<sup>11</sup>. CEPI by the end of March had identified 78 active projects (Thanh Le *et al*, 2020). The list grows by the week, helped by the genetic code of the virus being made available very early on. See the Appendix for more information on current vaccine development projects.

Almost all of the projects are, at time of writing, still exploratory or at the preclinical stage. The only projects to have started clinical trials (as recorded on the [ClinicalTrials.gov](https://www.clinicaltrials.gov) website) are Moderna and Inovio in the US and CanSino Biologics in Hong Kong. Two mainland Chinese projects have also started clinical trials<sup>12</sup>.

All of these started clinical trials in March 2020 and have thus not yet produced results from tests on actual patients, which is when the major dropouts occur (Figures 1 and 2). Europe has several projects at the exploratory research or preclinical stages, but no projects in clinical trials at time of writing. The German project CureVac is probably the closest to starting clinical trials.

The projects cover various technological trajectories. Projects using the newer but riskier genetic engineering technologies are for the moment in the lead: Moderna and CureVac are using mRNA (Messenger RNA) technology and Inovio DNA technology in clinical trials. These approaches have a clear advantage in speed of development, but come at a greater risk of not getting a vaccine successfully through clinical trials, as DNA and mRNA synthetic engineering technologies have never been trialled successfully on humans.

Among the large life sciences companies, only Johnson & Johnson, Sanofi and Pfizer are actively involved in developing a COVID-19 vaccine, in partnership with small biotech or research organisations. GlaxoSmithKline (GSK) and Merck, each with substantial experience in vaccine development, are not yet directly involved, although GSK is providing its adjuvant 'booster' technology to other developers, including Pfizer.

Nevertheless, engagement in vaccine development by large life-science companies cannot be taken for granted. While research institutes stay mostly confined to the early research stages, small biotech firms are the typical lead developers for COVID-19.

The few trials at the time of writing are being carried out by companies that are small and/or inexperienced in phase 3 clinical trials and that lack large-scale vaccine manufacturing capability. In addition, as small biotech companies do not have deep pockets, external funding for the more expensive later development stages still needs to be secured.

Of the COVID-19 clinical trial projects underway, external funding for phase 1 has been secured by Moderna (from the US National Institutes of Health and CEPI) and Inovio (from CEPI and the Gates Foundation).

However, neither has yet secured funding for the most expensive later stages, nor secured large-scale manufacturing capacity. For the preclinical and exploratory research projects funding has been secured only for the early stages, if at all. All would have to seek partnerships with large life sciences companies, or with public and philanthropic funders.

The German CureVac project is a notable exception. It had the good fortune to secure a substantial amount of European public funding from the European Investment Fund to cover its total development costs. Johnson & Johnson has also secured enough funding for the whole pipeline, with the US Biomedical Advanced Research and Development Authority providing half of their funding. Box 1 provides an overview of what the EU is currently funding for COVID-19 vaccines.

### **Are there enough projects and funding in the pipeline for a COVID-19 vaccine soon?**

Based on failure rates of past vaccine development projects (Figure 2), we can predict how many projects<sup>14</sup> are needed at the start of the COVID-19 clinical trial pipeline, in order to have close to certain chance (say 99 percent) of at least one successful vaccine.

## Box 1. EU COVID-19 vaccine funding

Prior to the COVID-19 pandemic, the EU already provided €500 million for vaccine and vaccination research through the Horizon 2020 research programme (2014-2020). It has also co-funded the development of vaccines through IMI (see section 2) and the European Investment Bank.

To respond to COVID-19, the EU has provided emergency funds to support research and development of diagnostics, therapeutics and vaccines. A rapid reaction has been made possible by the standing budget line for emergency health research that the Commission maintains as part of the Horizon 2020 annual work programmes.

- IMI in March 2020 started a fast-track call for projects on development of coronavirus therapeutics and diagnostics. Preventive vaccines were explicitly excluded from this call. The EU provided €45 million for this call, with the same amount expected to be provided by the private partners in IMI.
- Initially €10 million, subsequently increased to €47.5 million, was provided for research projects to respond to the COVID-19 pandemic. Of the 18 research projects short-listed for funding in March 2020, two were for a potential vaccine:
  - €3M for Sweden's Karolinska Institutet. Its project will start animal testing soon, with first trials on humans expected to begin in 2021 (<https://news.ki.se/vaccine-development-against-coronavirus-enters-next-phase>).

- €2.7M for a consortium led by Denmark's AdaptVac, for the development and clinical testing of a novel vaccine. The company said it aims for the vaccine to complete initial human clinical testing within 12 months (<https://www.adaptvac.com/news>).

- The March 2020 round of the European Innovation Council Accelerator call, with a budget of €164 million, includes a fast-track for coronavirus relevant proposals; see [https://ec.europa.eu/info/news/startups-and-smes-innovative-solutions-welcome-2020-mar-13\\_en](https://ec.europa.eu/info/news/startups-and-smes-innovative-solutions-welcome-2020-mar-13_en)
- The European Institute of Technology Health opened in April 2020 a call to EIT partners to send proposals for COVID-19 projects with rapid implementation. EIT Health will fund each project with up to €600,000. Vaccine and drug development are not supported under this call. See <https://eit.europa.eu/our-activities/opportunities/apply-now-eit-health-covid-19-support>

### **CEPI funding and the EU contribution to CEPI**

In January 2020, CEPI (Coalition for Epidemic Preparedness Innovations) announced the start of programmes to develop COVID-19 vaccines. On 6 March, CEPI [called](#) for \$2 billion in additional funding these programmes<sup>13</sup>. CEPI's total investment in COVID-19 vaccine R&D, at time of writing, is \$29.2 million. The EU has contributed to CEPI via Horizon 2020.

If there is a probability of between 20 percent (pessimistic scenario) and 40 percent (optimistic scenario) that COVID-19 vaccine projects that start clinical trials will reach the final stage (Figure 1), between nine projects (optimistic scenario) and 21 projects (pessimistic scenario) are needed. With only two COVID-19 vaccine projects having started clinical trials in the US so far – five when including the Chinese projects – it is not yet sure there will be at least one vaccine at the end, even in an optimistic scenario<sup>15</sup>.

If the cost of the various clinical stages are similar to the costs for drugs in general<sup>16</sup>, then the costs covering the full development of a vaccine associated with a 99 percent probability of success will be from €500 million in the optimistic scenario of needing only nine projects starting clinical trials to around €2 billion in the pessimistic scenario in which 21 projects are needed.

These amounts would cover only clinical development and regulatory approval, and not the early research and preclinical trial phases. Costs of production and supply of the vaccine are also excluded.

However, it is not a winner-takes-all race in a search for one successful vaccine. Different vaccines might be needed. Multiple pathways to a vaccine are important, as this will help to reduce the risks. Multiple vaccines might also address the large-scale production challenge and will prevent monopoly bargaining positions at the end of the pipeline, which would impede large-scale availability at low prices. Multiple vaccines would also be better address differences in effectiveness in view of differences in immunity or tolerance for different groups of the population.

If enough substances are brought forward to enable success with a probability of 99 percent, statistically there will be on average four successful projects. To be 99 percent sure of getting at least three different success cases<sup>17</sup>, about 20 projects should start clinical trials in an optimistic scenario (taking the upper bound of success

probabilities), and 40 projects should start clinical trials in a pessimistic scenario (taken the lower bound of success probabilities). This would increase the cost range to around €725 million (optimistic) to €3 billion (pessimistic).

### **The need for public support**

The social value of a universally accessible COVID-19 vaccine is huge. The health, human and economic cost of COVID-19, which would be avoided if there was a vaccine, is difficult to appreciate. Even if only early estimates are considered of a global loss of GDP of 6 percent in 2020 (IMF, 2020) from COVID-19, the cost would be about \$5 trillion.

Compared to what is socially desirable, private companies are likely to underinvest or invest too slowly in the development of a COVID-19 vaccine. Private companies and their investors, when deciding to engage in COVID-19 projects, will balance the development costs and risks against the returns they expect, making comparisons to alternative possible projects.

Companies can decide to shift developers from other, commercially more promising, work to COVID-19 or vice versa. If private life sciences companies do not believe governments will allow them to charge high enough prices for a vaccine, in order to recover the costs and risk of development, they will only work with limited resources or not at all on the development of a vaccine for COVID-19, preferring to focus on other more profitable development projects.

Fully focusing their expertise and attention on COVID-19 requires a proper balancing between government intervention and incentives for private firms. Yet, the private business case for vaccine development is not straightforward, explaining why the share of private R&D expenditure on vaccines compared to other drugs is small<sup>18</sup>.



Private developers and private funders will want to be compensated by the expected returns on vaccine sales in case of success, but vaccines, compared to other drugs, might carry greater commercial risks. Vaccines for highly communicable diseases with serious negative health effects, such as COVID-19, need to be made widely available to all in need.

This makes the potential market for these vaccines huge, and would generate the reputational gain from giving the world a COVID-19 vaccine it so desperately needs, but these returns on a COVID-19 vaccine might not be sufficiently interesting for private drug companies, compared to the high cost and risk, and compared to alternative projects.

There are several reasons why the private profits to be made from developing a COVID-19 vaccine will be drastically below the vaccine's social value:

- Patients will be much more willing to pay for drugs that help them directly, than for vaccines that help them in case of an outbreak, and which have positive immunity effects against others.
- These externalities imply that vaccines for highly communicable diseases such as COVID-19 cannot simply be sold to the highest bidders. These vaccines should be available on the basis of social needs, not individual willingness and capacity to pay. Generating herd immunity to eradicate the pandemic requires access to vaccines for all social classes in rich and poor countries and this would require fairly low prices.

For these reasons, COVID-19 vaccines are more likely to be purchased by government agencies and at low prices. Commercial developers must worry that they cannot negotiate prices freely with governments, increasing the commercial risks.

- Finally, the existence of front-runners in COVID-19 vaccine development represents a commercial risk to other developers. It implies a significant uncertainty over the size of the market.

With private returns drastically below the COVID-19 vaccine's social value, public intervention is needed to ensure that a socially-sufficient number of vaccine projects are under development at a socially-sufficient speed. Public intervention is also needed to have vaccines being manufactured and distributed to all that need them and soon (Blanchard, 2020).

This public intervention can take the form of public funding of development, funding or provision of manufacturing facilities, conditions on access to the proprietary technology of the successful vaccines through compulsory licensing, and/or controls on the prices of the vaccines.

Some countries have already said they will look into compulsory licences for COVID-19 vaccines<sup>19</sup>. The problem with these interventions is that they need to be balanced against the incentives for private developers. For this reason, public de-risking of vaccine development and fair access should go hand-in-hand.

An additional concern with public intervention is that individual countries might have an incentive to under-invest in public support for a COVID-19 vaccine compared to what is globally socially optimal.

Individual countries might bet on acquiring foreign solutions when they become available, instead of spending their own financial, medical and research resources. The countries that are able to provide finance should collaborate, with a commitment to supply the successful vaccines to all countries in need.

## Our proposal

Although the pipeline of COVID-19 vaccine projects at the exploratory and preclinical stages is substantial, and there are public funding initiatives, more projects are needed and more public money than currently should be put into getting them through clinical trials.

Based on past clinical trial success rates, we calculated that at least nine projects starting clinical trials are needed (to have a 99 percent probability of at least one vaccine, using the upper bound of success rates). Ideally, more projects are needed to ensure multiple vaccines.

The current public funding we have been able to identify is too limited to enable a sufficient number of competing projects, in order to be sufficiently sure that vaccines can be available quickly. Missing in particular is a commitment to public funding of projects through their later, more-expensive stages of development.

With a few exceptions (including CureVac, Johnson & Johnson and Sanofi-GSK), and disregarding for now the Chinese projects, typically backed by the Chinese state, none of the preclinical projects have secured funding for the later stages of development, should they succeed in their early phases.

Although Europe has projects in the pipeline, it has no projects yet in clinical trials. Most European projects are not assured yet of public funding for the later, more expensive stages of development. As it stands currently, European citizens cannot be sure they will be likely to have affordable access to a vaccine soon, particularly if vaccines successfully developed in the US or China face export restrictions, even though the EU and its members are willing to increase funding for the development of COVID-19 vaccines<sup>20</sup>.

To address the possible shortfall, an EU funding scheme should be put in place to increase the number and speed of projects to get a COVID-19 vaccine through clinical trials. The scheme would involve a series of awards or grants, organised as an open continuous call until the critical number of projects is reached.

The aim would be to identify at least three suitable vaccines at the end of the pipeline, with more than 99 percent probability. Public funding would cover the costs of each phase and would be conditional on projects starting the phase. Table 1 sets out the scheme of awards.

Project proposers at each stage would have to agree when receiving an award that on final success, the patented technology will be made freely available for manufacturing. This compulsory licensing would be balanced by the full public funding of the development costs, thus not jeopardising the incentives for private applicants to engage in development of a COVID-19 vaccine.

The total budget required for the scheme would range from €725 million in an optimistic scenario to about €3 billion in a pessimistic scenario. The total is driven up by the projects in phase 3, representing 80 percent of the total budget in the pessimistic scenario, or somewhat more than half in the optimistic scenario. Even though the staging of the scheme would help reduce the risks, the required budgets are nevertheless substantial and above what could typically be done within the EU budget.

One way to raise the amount of money to finance the scheme would be to build on the idea of corona or recovery bonds, which could use the EU budget as a financial vehicle to borrow funds on the market and leverage them for large-scale investments.

**Table 1. COVID-19 vaccines public funding scheme**

Numbers and amounts of awards needed for each stage to ensure that at least three vaccines complete all clinical phases, under optimistic and pessimistic assumptions

<b>Optimistic scenario (high success probabilities, low cost estimates)</b>				
	Assumed success rate	Size of the award	No. awards at this stage	Total cost of awards
Phase 1	40%	€2.5 million	18	€45 million
Phase 2	51%	€20 million	13	€260 million
Phase 3	85%	€65 million	6	€390 million
Approval phase	100%	€10 million	3	€30 million
<b>Pessimistic scenario (low success probabilities, high cost estimates)</b>				
Phase 1	20%	€2.5 million	40	€100 million
Phase 2	32%	€20 million	25	€500 million
Phase 3	63%	€250 million	10	€2,500 million
Approval phase	90%	€10 million	5	€50 million

Source: Bruegel (see Figure 2)

The EU would not have to be the sole funder. With a pledging event, it could collect a pool of money from public and philanthropic donors. But the EU should use its capacity to take the lead in setting up the financing, by pledging a substantial share of the total amount required.

It would be a valuable signal if the EU would already today commit to providing funds, even if the detailed rules are only spelled out tomorrow. To save time, the organisation of the scheme should be done by an agency with a track record in organising funding schemes for vaccine development. IMI comes to mind, particularly if it can collaborate closely with the European Investment Fund and particularly with CEPI, in which it is already a partner.

Why would such a scheme be needed, compared to what the EU is already doing?

- Compared to the normal pipeline of projects funded by the European Commission, a focus on development rather than research is needed, and not only on the initial stages, but through to the end of the pipeline. This requires bigger than normal public funding.
- The division into different phases would mean the bigger amounts only need to be activated for those projects that reach the more expensive later phases. Staging would avoid the need to commit large funds upfront.
- Under our proposal, contenders would be sure from the start that there is a scheme available for funding all stages in case of success, including the more expensive later stages. Some projects might have been able to secure full funding from private sources, but only those with a high enough probability of being first. Full funding from private sources cannot be assured for all the projects that are needed by society at the start, in order to generate multiple successful vaccines.

- The scheme would be run as an open, continuous call, not with fixed call deadlines, and with awards given out in parallel rather than serially. Offering the awards in parallel would reduce the overall timeline. The same applicants can also apply simultaneously to the various calls with multiple projects at different phases.
- Our proposal does not back one winner initially, nor does it bet on one winner at the end. It is calibrated to ensure multiple successful projects at the end. Supporting multiple projects at the start would reduce the high risk of clinical trial failures and ensure at least three vaccines.
- The compulsory licensing condition will mean vaccines become available for production and distribution at competitive market rates. This compulsory licensing is a clear condition ex ante in return for the full public funding of the development costs.

It should therefore not reduce the incentives for applicants to engage in a COVID-19 vaccine project. It also lessens the commercial uncertainty surrounding the use ex post of compulsory licensing for COVID-19 by at least some countries, which might deter private companies from engaging in the development of a COVID-19 vaccine.

For COVID-19, it is critical that vaccines should be available at large scale and low cost. Our scheme does not include public support for the manufacturing and distribution of the successful vaccines. However, it does contribute to addressing this critical challenge.

- Ensuring multiple vaccines at the end, combined with compulsory licensing, will lead to a competitive supply of vaccines at no/low licensing cost, avoiding supply restrictions and marked-up prices from firms with market power.

The scheme thus avoids the need for public funding ex post to provide subsidies so vaccines can be bought by all who need it. It also avoids having to deal with the complexity of designing a socially optimal subsidy scheme, to match willingness to pay with needs, and to deal with problems of segmenting markets and parallel imports. It should also remove the incentives for private big pharmaceuticals firms to go it alone, in the hope of being the first to win the market in search of monopoly rents.

- In addition, the organising agency can set up a taskforce dedicated to finding the capacity and funding for manufacturing at large scale for the successful candidates. It can do this from the start of the scheme to save time, even when it is not yet clear which projects will be successful<sup>21</sup>.
- The agency could also plan the optimal distribution of the vaccines to where they are needed most within the EU.

Although the scheme would be an EU initiative activating EU funds to ensure that EU citizens have quick access to COVID-19 vaccines, the initiative should not become a 'fortress Europe'.

- The agency running the scheme should seek out international collaboration with other similar initiatives. Having a significant European instrument might provide leverage in ex-ante negotiations of international cross-licensing agreements (with the US or China).

An agreement to cross-license final vaccine technologies would reduce the number of projects needed under each programme, reducing the financial burden. Such negotiations are easier to do ex ante than after one of the partners has already found a vaccine.



- This agency could also coordinate with the appropriate organisations, such as the World Health Organisation, to allocate the vaccines worldwide to where they are needed most.
- The EU would have with this scheme a tool to provide the compulsory licensing terms for the successful vaccines it generates, not only within the EU but also to all those around the world who need it. The initiative would thus show the EU as a beacon in dark times when leadership is critically needed to organise global coordination and deal with the COVID-19 pandemic.

In addition to this series of awards to address COVID-19, we call for a moon shot programme in order to be better prepared for the next pandemic. This would support research into new and faster approaches to vaccine development, universal vaccines and broad platforms for vaccine development.

This programme can involve a normal grant competition. It could be done within the regular EU framework programme, but would be best done with international coordination, for example with CEPI or the Gates Foundation, which in summer 2018 (together with Larry Page) launched a \$12 million fund for universal vaccine projects. One could easily imagine a budget of double that for an EU moon shot at 'vaccines for the future' ■

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#### *Endnotes*

*1. This contribution focuses on the economics of the development of vaccines, but many parts of the analysis would also apply to treatments for COVID-19. Vaccines and treatments are anyway complementary (see Eichenbaum et al, 2020).*

2. "Dr. Anthony Fauci, the head of the National Institute of Allergy and Infectious Diseases (NIAID), poured cold water on Trump's estimate, saying it would be more like a year to a year and a half." See <https://edition.cnn.com/2020/03/31/us/coronavirus-vaccine-timetable-concerns-experts-invs/index.html>
3. Fewer studies look at the success rates by type and phase, leading to less-robust estimates of success rates for vaccines at the different clinical trial stages. An extreme example is a study by Pronker et al (2013), quoted by Gouglas et al (2018), who reported: "In general, vaccine development from discovery to licensure can cost billions of dollars, can take over 10 years to complete, and has an average 94% chance of failure." The success rates we have used are based on a large set of studies, with the lowest and highest extremes eliminated.
4. The research phase before the pre-clinical and clinical development phase is not considered here. This exploratory phase may take many years and involve many dead ends. Also not included are production and commercialisation. The costs of the production and commercialisation stages vary widely.
5. For instance, it took just ten months for the vaccine for Ebola to go from phase 1 to phase 3 trials (The Economist, 2020).
6. Hydroxychloroquine, used to treat malaria, is an example seen by many as a potential treatment for COVID-19. It has not been fully trialled as a COVID-19 treatment.
7. As an exception, a clinical trial for treatments for COVID-19, planned to involve 3,200 patients in eight European countries with severe COVID-19 infections, was started in March 2020 by the French national health research agency Inserm. This example shows that even phase 3 can be done without big pharmaceutical companies, and can be done with international coordination.
8. For a list of EU-funded research projects on vaccines, relevant for COVID-19, see <https://erc.europa.eu/news-events/magazine/frontier-research-service-coronavirus-epidemic-response>
9. This is being done though the money could be wasted if vaccines are not developed. See Brianna Moné, 'Bill Gates is funding new factories for 7 potential coronavirus vaccines, even though it will waste billions of dollars', Business Insider, 3 April 2020, available at <https://www.businessinsider.nl/bill-gates-factories-7-different-vaccines-to-fight-coronavirus-2020-4/>

10. For a more detailed description of the various approaches, see, for example, Cohen (2020), Thanh Le et al (2020) and The Economist (2020).

11. See [https://www.who.int/blueprint/priority-diseases/key-action/Novel\\_Coronavirus\\_Landscape\\_nCoV\\_Mar26.PDF?ua=1](https://www.who.int/blueprint/priority-diseases/key-action/Novel_Coronavirus_Landscape_nCoV_Mar26.PDF?ua=1). The WHO is not directly funding projects, but is involved as coordinating international exchange of information, developing and sharing common blueprints, and international cooperation to accelerate diagnostics, therapies and vaccines.

12. The two Chinese projects are from Shenzhen Geno-Immune Medical Institute, a very recently established institute, funded by the Shenzhen government. There is no information available on their COVID-19 vaccine projects on the WHO site, nor on the Institute's English website. In addition, Xinhua reported on 14 April 2020, the start of two more COVID-19 vaccine clinical trials in China, but neither is reported on [ClinicalTrials.gov](https://clinicaltrials.gov). One of these trials is from Sinovac (see the Appendix), and the other is from the Wuhan Institute of Biological Products, a subsidiary of state owned SinoPharm.

13. See [https://cepi.net/news\\_cepi/2-billion-required-to-develop-a-vaccine-against-the-covid-19-virus-2/](https://cepi.net/news_cepi/2-billion-required-to-develop-a-vaccine-against-the-covid-19-virus-2/)

14. This section is focusing on the likelihood of securing vaccines. In terms of how long it will take for vaccines to be available, we are aligning on the most frequent prediction of about 18 months.

15. The number of projects needed increases non-linearly with required success rates. In other words, getting in the optimistic scenario to an 80 percent success probability would require only three projects compared to the nine projects required for a 99 percent success rate. Five projects would already give a 93 percent success rate. We believe that in the case of COVID-19, society cannot afford a probability that is not as close as possible to certainty.

16. As we don't have reliable estimates of the costs of vaccine-development projects, we use the numbers from general drug development reported in Figure 1: €2.5 million for phase 1; €20 million for phase 2, €65-250 million for phase 3 and €10 million for approval.

17. CEPI's ideal scenario is to have funding for three successful projects at the end of the pipeline: [https://cepi.net/news\\_cepi/2-billion-required-to-develop-a-vaccine-against-the-covid-19-virus-2/](https://cepi.net/news_cepi/2-billion-required-to-develop-a-vaccine-against-the-covid-19-virus-2/)

18. Established pharma companies only devote about 5 percent of their total R&D expenditures on vaccines. See CCVI (1993).

19. Germany, Canada, Australia and Chile have all taken steps or are weighing up moves to issue compulsory licences more easily. AbbVie gave up its global intellectual property rights for Kaletra, an HIV drug being assessed as a COVID-19 treatment, after Israel issued a compulsory licence that enables the country to use it against coronavirus without the patent holder's consent. See Donato Paolo Mancini and Hannah Kuchler, 'AbbVie drops patent rights for Kaletra antiviral treatment', *Financial Times*, 23 March 2020, available at <https://www.ft.com/content/5a7a9658-6d1f-11ea-89df-41bea055720b>

20 European Commission president Ursula von der Leyen said on 15 April she would host an "online pledging conference" on 4 May 2020. See [https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT\\_20\\_664](https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_20_664)

21. As the Gates Foundation is doing; see footnote 9.

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# EU state aid policies in the time of COVID-19

Massimo Motta and Martin Peitz suggest imposing strict conditions on the state aid that is needed to reduce the impact of the COVID-19 pandemic

**S**tate aid is essential to reduce long-run harm to the EU economy as a result of the COVID-19 crisis. However, non-harmonised programmes across EU member states generate serious risks to the functioning of markets, particularly if they go beyond short-term liquidity provision or employment support.

This column suggests imposing strict conditions on state aid for recapitalisation of firms and argues in favour of an EU-wide programme for critical sectors. Such a programme would prevent harmful market distortions and maintain a level playing field for EU companies.

In recent days, a lot of media attention has been devoted to the different instruments that may allow EU member states – and in particular those most affected by the coronavirus outbreak – to raise funds for the economic policy response to the crisis (eg. Galí 2020).

The crucial issue is how to use such funds – however they are raised – to provide support to European businesses. We focus here on the severe distortionary risks created by state aid policies which are heterogeneous across EU member states.

State aid to firms should be used only when there are market failures. That is, when there are good reasons to believe that the market would not result in efficient and/or equitable outcomes. It should also be effective, and proportional to the aims it intends to achieve.

In the EU context, there is also the risk that public support for national companies creates trade and competition distortions within the internal market, and for this reason the European Commission has been given powers to control state aid.

In the current situation, markets have disappeared on a daily basis, and in most sectors firms' assets are rapidly depleting, thereby further undermining their ability to obtain funding. Thus, there are no doubts that state aid is necessary to avoid long-run consequences for European firms, workers, and their human capital.

In line with this, the European Commission adopted a 'Temporary Framework' to state aid schemes aimed at ensuring firms' access to liquidity and finance, and at preserving employment (European Commission 2020a,2020b). This framework already provides some limiting principles, establishing the temporary nature of such public interventions, and to favour their effectiveness and their incentivising nature.

*The longer the participation of the state, the bigger should be the dilution for current shareholders. If a hybrid instrument allowing converting debt into equity was the chosen form of state support, similar principles should apply*



For instance, firms which were already in difficulty by 31 December 2019, and hence before the crisis, cannot have access to most measures. Credit guarantees for loans beyond €800,000 cannot apply to more than 90% of the loan; the loan principal should normally not go beyond certain amounts (25% of yearly turnover, or twice the yearly wage bill). Lastly, wage subsidies given to workers which would have otherwise been laid off because of the crisis should not exceed 80% of the monthly gross salary.

While such state aid in support of liquidity is certainly justified, we note that not all member states will be able to provide the same level of support to their firms, creating the risk of market distortions. Although we understand this option is not feasible at the moment, it would have been much better if such liquidity interventions had been offered by an EU-wide fund, so as to maintain the level playing field among EU companies.

The European Commission is now considering the extension of the state aid temporary framework well beyond liquidity support and employment preservation, so as to include the recapitalisation of businesses (European Commission 2020c).

In some circumstances, short-run liquidity support may not be enough, and lack of finance may have long-run consequences. For example, a firm which just about keeps up with its payment obligations may have to abandon or postpone investment and innovation plans. To the extent that such plans meet important EU policy objectives – for instance in energy transition and digital agenda – aid which allows to roll them out may exceptionally be allowed.

There are several risks if public money is used well beyond providing firms with liquidity and helping them to maintain their human capital intact. In particular, there are the risks of tilting the level playing field and of a 'domino effect'.

If only some firms in a given industry are eligible for aid, while others are not – something inevitable when aid is provided by some countries and not by others (for instance because only some member states can afford such aid, or because different states support different industries) – competition will be necessarily distorted. A firm that is generously funded by its home country becomes artificially more competitive, to the detriment of other equally or more efficient rival companies.

As a result, the latter may be relegated to niche markets, or even forced out of business. Or, to the extent that some of these rivals come from a home country which can afford offering state aid as well, a subsidy race among member states may be triggered, with significant waste of public money.

A truly EU public support programme would not suffer from these risks, since funding decisions would be made at a European level, based on commonly agreed goals. In addition, all companies operating in a sector covered by such a programme could be beneficiaries, independently of the country they originate from.

It goes without saying that an EU programme should also be well targeted and take into account that market conditions after the crisis may be different than before it.

Absent a programme at the EU level, distortions are hard to avoid. The European Commission should then limit state aid schemes which go beyond liquidity and employment support as much as possible and impose stringent conditions onto them.

In our view, firms which receive state aid must have constraints on their managerial remuneration, must not distribute dividends, and should not engage in mergers and acquisitions.

If recapitalisation takes the form of partial state ownership, this should be temporary, and fully repaid after a period of at most, say, two years. Shares should be assessed at the market valuation after the crisis has hit but before the rumour of state aid support has spread.

The longer the participation of the state, the bigger should be the dilution for current shareholders. If a hybrid instrument allowing converting debt into equity was the chosen form of state support, similar principles should apply.

Further, and importantly, a credible restructuring plan should be approved before any such recapitalisation, also to avoid that public money goes into firms and industries which are unlikely to be viable in the long run. After the crisis, market conditions will not return to the ex-ante status quo in many industries, including transportation and tourism.

On 27 March, the German Parliament enacted a law that allows partial state ownership as part of its state aid programme. The press has reported that the German government expects hundreds of companies to seek such support.

In other countries, governments are also envisaging public recapitalisation of firms (eg. in support of airlines). And we should not forget that even before the coronavirus outbreak, several member states had called for a relaxation of EU antitrust and state aid rules so as to foster national champions.

If these developments are not discouraged, we shall see an unprecedented volume of state aid which is likely to disrupt the internal market with dramatic long-run consequences.

The founders of the EU understood very clearly that the internal market should be protected from member states favouring their own companies. The Treaty introduced provisions to this effect, and awarded the European Commission the task of state aid control. Now it is the time for the Commission to raise its guard, and make sure that those principles are fully respected.

As believers in the European project, we argue in favour of a well-funded EU aid programme backed by EU money. Such a programme should pay particular attention to sectors such as energy and mobility that are of European importance and faced important structural changes even before the current crisis.

Notwithstanding the legal constraints to raise European debt, this is the right time to push for such a proposal (Benassy-Quere *et al.* 2020). A key advantage of an EU programme over national ones backed by so-called Eurobonds is that the former would avoid the moral hazard problems some fear in the latter case, and may therefore receive wider support among member states. ■

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# A green recovery



Dirk Schoenmaker argues that governments can attach green conditions to aid to mitigate the COVID-19 crisis and accelerate the green economy

**G**overnment policy faces various challenges. Before the COVID-19 outbreak, the European Union set ambitious targets to reduce carbon emissions. Now in the midst of the pandemic, the EU has temporarily lifted state-aid rules allowing governments to steer companies through the crisis and to minimise job losses using public money. This column suggests combining these policies by attaching green conditions to state aid. In that way, we can aim for a green recovery.

Governments have multiple goals including economic growth, social inclusion and environmental preservation (Schoenmaker, 2020). The COVID-19 pandemic has had a sharp negative impact on the economic and social fronts (deteriorating health, reduced income and job losses).

By contrast, environmental performance is ironically improving, as carbon emissions and materials use decline because of reduced production and transport during the COVID-19 lockdowns. Nevertheless, the pre-crisis levels of environmental degradation are likely to return when the lockdowns are lifted and economic growth resumes.

But it doesn't have to be this way. Governments, in particular in Europe with the Green Deal, have been working on the energy and circular transition in the medium term. By attaching green conditions when granting state aid and guarantees during the COVID-19 crisis, governments could push companies to accelerate the adoption of low-carbon and circular technologies after the crisis is over, and thus aim for a green recovery.

The European Commission (2020a) has temporarily lifted state-aid control rules to ensure that the disruptions caused by the COVID-19 pandemic do not undermine the economic viability of companies. State aid can take the form of wage subsidies, tax and social contributions relief, financial support, and loans and guarantees via banks.

By limiting unnecessary company failures and job losses, the Commission aims rightly for a swift economic recovery after the COVID-19 pandemic is ended. Meanwhile, several countries have pledged large state-aid packages to steer companies through the COVID-19 crisis.

### **Green state aid**

Both economic and environmental viability are important for companies' survival in the long run. Green conditions for companies that receive state aid will change their business models. It will also affect market outcomes. To allow the smooth functioning of the internal market, we suggest therefore that the Commission designs and monitors green conditions as part of their temporary framework for state aid measures during the COVID-19 pandemic (European Commission, 2020a).

*To avoid repeating [past] mistakes, governments should not provide state aid or guarantees to sectors that are economically or environmentally not viable in the medium term*



The green conditions can be based on the Green Deal targets to reduce carbon emissions in 2030 by at least 50% and in 2050 by 100% (ie. carbon neutrality), compared with 1990 (European Commission, 2019). In addition, new targets are set for the design of sustainable products and circular production processes to reduce the use of virgin materials in the new Circular Economy Action Plan (European Commission, 2020b).

When granting state aid, governments should require companies to implement these reduction targets for carbon emissions and materials usage in their business models after the crisis. In this way, state aid expenditures will not only promote the economic viability of companies, but also their environmental viability. This will accelerate the adoption of low-carbon and circular technologies.

Companies are struggling for survival and need to receive the state aid quickly. To reduce the upfront administrative burden, governments can choose to apply a light green test when granting the state aid, combined with a tougher green test ex post. If a company breaches the agreed green conditions, the state aid would have to be partly or fully repaid, depending on the severity of the breach. We also propose to target key sectors that are carbon- and material-intensive to keep bureaucracy to a minimum.

The following sectors have relatively high carbon and material footprints (Schoenmaker and Schramade, 2019):

- Transportation: road, air and water transport are predominantly fossil-fuel driven;
- Manufacturing: many manufacturers still employ energy- and material-intensive technologies;
- Construction: many builders still use non-recyclable and energy-intensive materials, such as cement;

- Energy: the shift from fossil-fuels to renewable energy is very gradual.

### **Examples**

An earlier example of state aid with green conditions was the support for the American car industry during the Global Financial Crisis. President Obama (2009) granted large sums of state aid to General Motors on the condition that the company accelerated the development of an electric car. General Motors now has several electric cars in its range.

Current examples include state aid to the severely affected airline and travel industries. Airlines could be requested to speed up investment in carbon-efficient aircraft after the crisis, while airline manufacturers could be requested to speed up the development of such carbon-efficient and carbon-neutral aircraft.

Travel companies, such as TUI, which received €1.8 billion in state aid from Germany, could be asked to reduce their carbon footprints by 50% by 2030. They can achieve such reductions by offering their clients more carbon-efficient air travel and greater usage of train travel.

Banks can set similar green conditions when extending loans to their borrowers in these sectors (with or without public guarantee) during the COVID-19 crisis. The underlying arguments are the same: economically and environmentally viable companies carry a lower credit risk. Leading banks already have experience with applying green lending criteria (Schoenmaker and Schramade, 2019).

### **From old to new sectors**

Some high-carbon companies and sectors might find it difficult to adapt to the new low-carbon and circular

environment. These companies or sectors (such as the fossil-fuel sector) are reminiscent of the European textile and shipping sectors in the 1990s. These sectors received state aid, which only delayed their disappearance.

To avoid repeating these mistakes, governments should not provide state aid or guarantees to sectors that are economically or environmentally not viable in the medium term.

In these cases, governments must use their resources to retrain the workers. While the kneejerk reaction of governments is often to help the business that is in trouble and/or to protect the jobs involved, it is better to focus on helping the people – retraining and finding new employment – and changing the system.

The Danish labour market, for example, is known for its high level of flexibility when hiring, social welfare system and active employment policies. Together, these three components constitute what is known as the 'Flexicurity Model' (Jespersen *et al*, 2008).

There is also a direct role for governments themselves in sectors that rely heavily on public investment and/or planning procedures, including the energy, transport and building sectors. Birol (2020) proposed to speed up the energy transition by putting clean energy jobs at the heart of stimulus packages.

Other opportunities would be to expand public transit systems, including a European network of high-speed trains, and stimulating circular construction practices, which also require newly trained workers. Retraining efforts can also be (partly) directed to these areas.

To speed up recovery after the Global Financial Crisis, several countries shortened planning procedures to advance large building and infrastructure projects. Accordingly, governments can speed up the planning and execution of

renewable energy projects (both power generation and distribution), public transport projects (replacing road and air travel) and circular building projects.

Governments are rightly compiling state aid packages to promote a swift recovery after the COVID-19 pandemic is ended. Our four recommendations to foster a green recovery are:

- Apply green conditions to state aid for companies in sectors with high carbon and/or material footprints;
- Apply similar green conditions to new and extended bank loans (with or without public guarantees) to these sectors;
- Refuse state aid for companies and sectors that are not able or willing to adopt low-carbon and circular technologies, and retrain their workers for new employment;
- Speed up planning procedures for renewable energy, public transit and circular building projects and infrastructures.

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# The ESM can finance the COVID fight now

EU member states are debating how to finance the fight against COVID-19. Aitor Erce, Antonio Garcia Pascual and Ramon Marimon argue that using the ESM to provide the funds needed is a workable way forward

**M**ember states are currently debating how to finance the fight against COVID-19. As time is pressing, practical and readily implementable solutions are needed now. Using the ESM to provide the funds needed is a reasonable and workable way forward. Italy, Spain and other states would benefit from using the ESM access to AAA funding to reinforce their debt dynamics: a combination of loan size, maturity and interest rates would strengthen debt sustainability.

This column shows the stabilisation power of an ESM-ECB intervention, using existing instruments and the just announced ESM Rapid Financing Instrument, showing the case of Italy as an example. Combining ECB support with ESM funds would deliver a more resilient euro area, better placed to engage in a post-virus economic recovery. The announced EIB guarantees and the SURE unemployment re-insurance will also help countries. However, these measures are not a supplement, but a complement, to the already feasible ESM financing discussed.

The COVID-19 pandemic outbreak is creating severe health and economic emergencies for Italy and other EU member states. Gathering all the necessary financial resources to fight it without the support from Europe not only would be inefficient, but a social risky bet.

Why will some European countries be able to confront the crisis on their own while others will not? Focusing on the case of Italy, the fundamental reason is pre-existing vulnerabilities, which limit fiscal space and magnify the impact of the economic sudden stop.

**1. High public debt.** As COVID-19 hit Italy, public debt,  $d$ , stood at 136% of GDP, the second highest in the euro area after Greece. Italy's debt dynamics were already on a knife-edge, stabilising at levels such that even small changes in growth or interest rates could make Italian debt unsustainable.

**2. Low growth.** In 2019, Italy's growth rate,  $g$ , was 1.2% and prior to the outbreak, the IMF projected Italian growth to be the lowest in the EU over the next five years, with estimated potential growth at just 0.5% (IMF 2020: Art IV consultation).

**3. High financing costs and needs.** In 2019, Italy's 'effective' interest rate,  $r$ , was 2.7%, the highest among the medium and large euro area countries, reflecting the fact that Italy is BBB-rated largely as a result of its high debt,  $d$ , and low growth,  $g$ . A direct implication is that Italy's financing costs and needs are very high. Italy's annual financing costs amount to 3.6% of GDP and its annual gross financing needs (GFNs) are over 25% of GDP<sup>1</sup>.

*Support will take different forms and use different instruments, with a common goal: to avoid that coronavirus overburdening any European country or region*



These three elements – high  $d$  and  $r$ , and low  $g$  – are the key to Italy's economic weaknesses. Before the COVID crisis, Italy was the only country of the euro area with  $(r-g)>0$ . Hence, its debt will not decrease with time, as it would with  $(r-g)<0$ , but must be reduced to arrive to a stable debt/GDP ratio,  $d^*$ , and a primary balance  $pb^*$  (the fiscal balance before interest payments) satisfying the public-debt equation:  $pb^* \approx (r-g) d^*$

Other factors should also be accounted for, as either weaknesses or strengths of the Italian economy, such as the following:

- **A high primary balance is a strength.** Italy has historically had high primary balances (1.7% of GDP in 2019). However, political fragmentation may be an obstacle to maintain a primary balance above 1% of GDP in the future (it should be noted that EU support may be key to maintain the historical Italian consensus). Cautiously, the IMF projects over the medium term a primary balance of 0.9% of GDP.
- **More committed investors now compared to the sovereign debt crisis.** The ownership of debt remains to a large extent domestic. The good side of this is that domestic investors are less footloose than international investors. Nonresident investors now account for (just under) 30%. In addition, the ECB holds about 28% of Italian debt, it will increase over time, and it will be reinvested for the foreseeable future. This means that the so-called capitulation risk, while present, may be lower than in 2010-13.
- **Vulnerable banks.** While banks have built sizeable capital and liquidity buffers, many still suffer from low profitability, excess capacity, and high NPLs. The ability of banks to support the economic recovery may be more limited than in other regions.

## Baseline scenario: debt sustainable with risks

In our baseline scenario there is no COVID-19 crisis. We adopt the same medium-term macroeconomic scenario as the IMF ([March 2020, IMF Art.IV](#)). As described in Table 1, we only depart from the IMF's assumptions on the interest rate path, we project medium-term interest rates based on the benign market conditions prevailing pre-COVID shock. Under these assumptions, Italy's public debt was sustainable but vulnerable to macroeconomic and market shocks.

In addition to the large public debt, debt rollover risk was high, since debt maturities alone over the next four years amounted to €1.83 trillion, roughly the size of Italy's GDP (Table 2 shows key summary statistics from a debt sustainability under the baseline, COVID-19 stress, and alternative ESM funding scenarios).

**Table 1. Macroeconomic and financial scenarios**

Macroeconomic variables						
<b>BASELINE</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025-30</b>
Real GDP growth, %	0.4	0.7	0.7	0.6	0.6	0.6
Inflation, y/y, in %	1.0	1.0	1.2	1.4	1.5	1.5
Primary balance, % GDP	0.9	0.9	0.9	0.9	0.9	0.9
<b>COVID-19</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025-30</b>
Real GDP growth, %	-7.6	5.2	0.5	0.6	0.6	0.6
Inflation, y/y, in %	-0.2	0.7	1.0	1.2	1.4	1.5
Primary balance, % GDP	-7.5	-4.0	1.0	0.9	0.9	0.9

## Interest rates

<b>BASELINE</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>
Italy 1y	0.0	0.0	0.0	0.6	1.1	1.4
Italy 3y	0.2	0.2	0.2	0.7	1.3	1.8
Italy 5y	0.6	0.6	0.6	1.1	1.8	2.3
Italy 10y	1.0	1.0	1.0	1.9	2.7	3.2
<b>COVID-19</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
Italy 1y	1.0	1.0	1.0	1.3	1.6	1.9
Italy 3y	1.5	1.5	1.5	1.7	1.9	2.3
Italy 5y	2.0	2.0	2.0	2.2	2.3	2.8
Italy 10y	3.0	3.0	3.0	3.1	3.2	3.7
<b>COVID-19 + ESM + OMT</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
Italy 1y	0.0	0.0	0.0	0.6	1.1	1.4
Italy 3y	0.2	0.2	0.2	0.7	1.3	1.8
Italy 5y	0.6	0.6	0.6	1.1	1.8	2.3
Italy 10y	1.0	1.0	1.0	1.9	2.7	3.2
<b>COVID-19 + ESM + OMT aggressive</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
Italy 1y	-0.7	-0.7	-0.7	0.6	1.1	1.4
Italy 3y	-0.6	-0.6	-0.6	0.7	1.3	1.8
Italy 5y	0.4	0.4	0.4	1.1	1.8	2.3
Italy 10y	1.0	1.0	1.0	1.9	2.7	3.2
<b>ESM rates</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>
Italy 1y	-0.7	-0.7	-0.7	0.0	0.7	1.1
Italy 3y	-0.6	-0.6	-0.6	0.2	0.9	1.3
Italy 5y	-0.5	-0.5	-0.5	0.4	1.1	1.6
Italy 10y	-0.3	-0.3	-0.3	0.7	1.5	2.1

Source: ESM, Bloomberg and author's calculations

## COVID-19 scenario: a very risky path

The Italian government announced in March a series of support measures amounting to €24.7 billion and guarantees amounting to €65 billion, and a second aid package of €25 billion to be approved in April (see Appendix for the details of the measures).

Table 1 shows our macroeconomic scenario under the COVID-19 shock. Real GDP contracts to almost -8% in 2020, bounces back in 2021 to +5%, and converges towards a medium-term growth of 0.6%. The primary deficit rises to 7% of GDP and, once recovered from the COVID shock, gradually improves towards a primary surplus of nearly 1% of GDP.

Table 2 shows that after the COVID-19 shock, public debt jumps to 162% and increases gradually towards 165% over the next ten years. We estimate the debt-stabilising primary balance at 1.3% of GDP over the coming years, up from 0.1% of GDP in the baseline — a very large increase in the required fiscal effort to ensure the sustainability of debt.

The annual gross financing needs (debt maturities, interest payments and primary balance) increase by over 10 percentage points of GDP per year to 36% of GDP. After the shock, the Italian Treasury would need to rollover an additional €670 billion of debt over the next four years.

On its own, Italy could stabilise its debt with a relatively high primary balance, as it has had in its recent history — Italy had sustained primary balances above 1.5% of GDP. However, such extra fiscal effort can be socially very costly in the aftermath of the COVID crisis and possibly endanger the recovery.

Instead, using euro area support Italy could put its debt in a clearly manageable path in the medium run, as we show in Table 2. Which form should the financial support of the euro area take?

**Table 2. DSA scenarios: main results**

Scenarios	ESM loan size (bn)	Debt 2020 (% GDP)	Debt 2030 (% GDP)	Cum. market funding 2020-24 (bn)	Avg. GFNs (% GDP)	Avg. PB* (% GDP)	Cum. interest payments 2020-30 (bn)
Baseline, pre-COVID	-	137	129	2.466	25	0.1	565
COVID	-	162	164	3.476	36	1.3	898
COVID + ESM_35 + OMT	35	162	153	2.927	29	0.1	669
COVID + ESM_35 + OMT aggressive	35	162	152	2.903	29	0.0	640
COVID + ESM_120 + OMT	120	162	153	2.767	29	0.1	666
COVID + ESM_120 + OMT aggressive	120	162	152	2.745	29	0.0	639
Euro group 03 April	45	162	153	2.970	30	0.1	670

Source: Author's calculations

## ESM and ECB support: reinforces debt sustainability

It is critical that the euro area shows its determination, beyond the already expressed support by the ECB, as, fortunately, seems to be the case. A European Recovery Programme will require different instruments to address different needs (firms and workers in distress, health security, etc.)

However, there is a crucial need that must be confronted: to make sure that the effort that member states are making to fight, and recover from, the COVID-19 does not become an excessive debt burden or, even worst, another euro debt crisis. To address this, here we evaluate alternatives that combine COVID-related ESM loans and ECB support. We see this as the fastest way to provide low interest funding while the pandemic freezes economic activity.

We evaluate various scenarios (Table 2) which combine different intensities of support by the ESM and the ECB. On the ESM funds, we consider the following alternatives:

- **Loan size.** We consider two alternatives: a smaller and larger ESM loan of €35 billion (2% of GDP) and €120 billion (6.5% of GDP), respectively. The smaller loan is in line with the maximum size proposed by the Eurogroup. Both are well within the existing ESM funds of €410 billion.
- **Loan interest rate and maturity.** We assume a 12-year maturity with a 5-year grace period. We also assume that the ESM maintains a funding strategy with an average maturity between 2 and 3 years. We assume a 10 basis point spread charged on its standard loans (Table 1 shows the assumptions on the ESM funding rates).

In addition, we also assume that the ECB's asset purchase programmes continue as planned and that the ECB's OMT is activated. On the back of ESM support and ECB's asset purchases, we assume that Italian yields are brought back

to levels similar to the baseline (pre-COVID-19). In a separate scenario, we also consider a more aggressive OMT programme, where 1- to 3-year bond yields are compressed towards those of France.

A note of caution. Our assumption regarding the prevailing market rates does not change in a scenario with a big or a small ESM loan; in both cases we use the no-stress, pre-COVID-19 rates. We could have assumed lower medium-term market rates in the scenario with bigger ESM loan. Needless to say, this would make the outcome of the debt sustainability analysis even more favourable toward the bigger size programme.

The upshot of these scenarios is that Italy's debt dynamics improve markedly and become sustainable and, in particular, that the reduction of gross financial needs and interest payments plays a crucial role.

- **Public debt on decreasing path.** Debt/GDP falls by 10 percentage points of GDP from its peak of 162% in 2020 to 152% in 2030. Extending our medium-term macroeconomic assumptions into the longer term would show a further reduction in Italy's debt/GDP.
- **Fiscal effort back to normal.** The annual fiscal effort needed to stabilise public debt is brought back to a level similar to the pre-COVID19 shock: the debt-stabilising primary balance (PB\*) drops by 1.4 percentage points of GDP relative to the stress scenario without support.
- **GFNs considerably lower.** Annual gross financing needs drop by over 7 percentage points of GDP per year, relative to a scenario without European support.

- **Debt issuance at manageable levels for the Italian Treasury.** The cumulative market financing needs over the near term (2020-25) would drop by €730 billion (about 40% of GDP) relative to a scenario without ESM support. This massive improvement substantially reduces the costs of the Treasury monthly issuance.
- **Stronger ESM and ECB support is preferable.** There are differences among the level of ESM and ECB support. Comparing the most supportive scenario (€120 billion loan and aggressive ECB's OMT) to the least supportive (€35 billion loan and less aggressive ECB's OMT), the former delivers €182 billion (10% of GDP) less market funding needs than the latter.
- **Interest payments drop.** Under the most favourable scenario, with strong ESM and ECB support, the cumulative interest payments 2020-30 fall by about €260 billion, over 14 percentage points of (2019) GDP relative to a scenario without European support.

In addition to these results, we also analysed an ESM scenario based on the information leaked by the press on 3 April regarding the latest Eurogroup proposal (negotiations are ongoing). The proposal reported by the media would entail a €45 billion loan at 5-year maturity. The upshot of that scenario is that the results would be very broadly similar to the €35 billion scenario analysed here.

However, the cumulative market financing needs by the Treasury over the next years (2020-24) would increase by over €200 billion (12% of GDP) as the loan maturity considered in the Eurogroup proposal is only 5-year versus 12-year maturity and 5-year grace-period assumed in our scenarios.

### **What are the differences between Coronabonds, ESM loans and ECB purchases of sovereign bonds?**

What shape could euro area coordinated fiscal support take? While following the last Eurogroup meeting, the use of



ESM resources appears to be the preferred alternative for northern European countries, a variety of alternatives are currently on the table.

In this section we explain what differentiates (and what does not differentiate) Coronabonds and similar forms of common issuance (ie. the European Recovery Fund) from an ESM loan and from maintaining the status quo, in which support is obtained using sovereign bond issuance and ECB purchases in secondary markets.

To facilitate the comparison, Table 3 summarises the main aspects of each funding alternative. First, ESM funding could be available rapidly. The ESM is already fully operational and has €410 of available funds, which (with political will) could be tapped without delays.

In contrast, Coronabonds, even if there would be political will, would require a process of design – including legal aspects – and ratification that could last for months. It should be noted that the ESM alternative involves only euro area countries, while SURE or measures involving the EIB would be at the EU level.

In addition, funding through the ESM presents some financial advantages. The ESM can pass on its low (AAA-rating) funding rates at an almost zero spread and it is more legally secure (Pröbstl 2020). Currently, even under the ECB's PEPP program, there is a 150 basis point spread between a 7-year BTP and a German Bund (7-year is roughly Italy's average debt maturity).

An alternative common issuance instrument is likely to have a strong rating. Whether it would reach the level of the ESM, where the capital structure includes committed capital from high rating stockholders covering the maximum lending capacity, would depend on the agreed guarantee structure.

Under a joint guarantee structure, the rating of the new instrument would be similar to AAA. Instead, guarantees according to the ECB capital key could imply a lower credit quality of the guarantee, and thus more expensive borrowing.

A new common instrument, even if designed to be AAA, would lack the liquidity of a well-established market of ESM bonds. This comparatively lower liquidity is likely to translate into more expensive and less effective financing terms.

Second, ESM loans perform a powerful maturity transformation for member states. The ESM funds itself on average between two and three years (at negative yields for an AAA-rated issuer) and provides long-term loans to member states (up to 35 years). The proposal currently under discussion by the Euro group foregoes this important benefit by proposing a maturity of the ESM loans not higher than five years.

Last, but not least, by replacing issuance by domestic DMOs, ESM loans reduce the risk of tensions on primary markets by making lighter the (already very heavy) debt issuance of Italian Treasury.

On the negative side, the conditionality accompanying an ESM loan can be a deterrent for governments, particularly if, as in the case of Italy, they are under political pressure. Against this argument, it seems that the Eurogroup is ready to agree on access to ESM without strings attached if the funding is for the COVID emergency<sup>2</sup>.

The seniority of ESM loans is also seen by some as a potential problem. We believe this risk to be manageable for the three following reasons. First, the size of the ESM loan would be small relative to the stock of debt. Second, seniority could be waived, as with the ESM programme to Spain in 2012. Third, the long maturity of ESM loans dilutes/defers any market concern about seniority (Ghezzi 2012a).

Closely related to the seniority issue are the limits set by the ECB for its asset purchase programmes. In particular, the purchase of more ESM bonds and less national government bonds could be beneficial for member states and the euro area as a whole. Financing euro area countries through ESM bonds reduces the likelihood that the ECB will hit the capital key limit for the borrowing country<sup>3</sup>.

## Conclusions

COVID-19 has changed the lives of European citizens, at least temporarily, and there is widespread consensus that how this crisis is resolved will mark the evolution of the EU and the euro area. Member countries have taken individual initiatives first, but the virus has no nationality and European action is needed.

After the ECB took the lead, the European Commission and the other European institutions – in particular, the ESM and the EIB – are now reacting to the call, which hopefully will become “*our Marshall Plan*” as Mário Centeno, President of the Eurogroup, said (*El País*, 4 April 2020). Support will take different forms and use different instruments, with a common goal: to avoid that coronavirus overburdening any European country or region.

Preventing that the COVID-generated sovereign debt becomes an unnecessary – crisis-ridden – burden must be a central part of this programme. The announced EIB guarantees and the SURE unemployment re-insurance will also help countries.

However, these measures are not a supplement, but a complement, to the already feasible ESM financing discussed here. In this column we have exemplified how combinations of COVID-conditional ESM loans and ECB interventions can be used to support Italy, one of the most COVID-stressed euro area countries.

**Table 3. Principal features of different funding strategies**

	Sovereign bonds	ESM bonds a/	Corona/Euro bonds b/
<b>Availability</b>	Yes	Yes	No
<b>Time to deploy</b>	Readily available	Yes c/	Several months
<b>Issuer</b>	National DMO	ESM	Euro area institution
<b>Beneficiary</b>	Issuing country	Borrowing country	All (in Bofinger et al 2020 proportional to crisis costs)
<b>Payer</b>	Issuing country	Borrowing country	All (in Bofinger et al 2020 proportional to ECB capital key)
<b>Volume</b>	Fiscal space	€410 billion	Crisis costs
<b>Cost</b>	Dependent on country rating	AAA	Depends on guarantee structure (almost AAA for joint and several)
<b>Maturities</b>	Varies by member state. OMT only up to three years	Borrowing 1-10 years Lending up to 35 years	Undetermined
<b>Liquidity</b>	Established market, depending on rating	Established market	Low (new instrument)
<b>Seniority</b>	Pari-passu, but ECB purchases can block CAC recourse	Senior, but 1) it can be waived and 2) long maturity defers seniority	Senior
<b>Fiscal transfers</b>	No	No	No (Giavazzi and Tabellini 2020), Yes (Bofinger et al 2020)
<b>Guarantee structure</b>	None	€700 billion in compromised capital	Multiple alternatives d/

a/ See Benassy-Quere et al (2020) or Erce et al (2020)

b/ See Bini Smaghi (2020), Giavazzi and Tabellini (2020) or Bofinger et al (2020)

c/ Requires the parliamentary approval of three member countries

d/ Alternatives that rely on joint and several guarantees (as in Giavazzi and Tabellini 2020 or Bofinger et al 2020) will be less affected by the credit quality of weaker guarantors

There is the view that the ESM intervention should be saved for a later day, in case that a debt crisis really emerges. However, the fact that the ESM was originally designed as crisis resolution mechanism, cannot mean that it should not be used as an effective crisis prevention mechanism, when it can.

In the same way that countries that have not been heavily hit with by the coronavirus should not procrastinate over their preventive testing, preventive economic measures should be resolute.

ESM and ECB support would reinforce Italy's public debt sustainability, support confidence, and fundamentally alleviate the market funding needs over the next years of the Italian Treasury. ■

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#### *Endnotes*

- 1. In recent years, the Italian Treasury increased the average duration of public debt to nearly 7.5 years. Although this reduces rollover needs, this positive effect was mitigated by higher interest payments.*
- 2. Benassy-Quere et al. (2020) and Erce et al (2020) discuss how to design COVID-related light conditionality.*
- 3. Euro area sovereign bonds contain two-limb aggregation clauses. ECB purchases can reduce their effectiveness by diluting the bonds for which purchases are relatively smaller. This could disrupt liquidity on primary markets at times of distress.*

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## Appendix. Italian fiscal package

Here are the details of the Italian government fiscal support plan:

- (i). Law Decree n. 9/2020 of 2nd March, containing measures for families, workers and business.
- (ii). Law Decree n. 14/2020 of 9th March (strengthening the healthcare system and civil protection).
- (iii). Law Decree n. 18/2020 of 17th of March ("Cura Italia" decree).
- (iv). Additionally, various Decrees of the President of the Council of Ministers and Civil Protection ordinances were used to enact measures for the containment and management of the emergency.

*From the summary presented by the Ministry of Finance on their webpage, the measures taken, presented along with the amounts of funding or guaranteeing involved, are the following:*

- Strengthening the National Health Care System and the Civil Protection Department (3.2 billion)
- Preserving employment levels and incomes (10.3 billion)
- Pumping liquidity to help businesses and households (5.1 billion + 60.5 billion in guarantees).
- Suspending tax payments and providing tax incentives for workers and businesses (1.6 billion)
- Additional measures to support central and local public administrations, including municipalities, are worth €45.5 billion.

*This adds to around €24.7 billion direct measures and above €60 billion in guarantees. In addition, new measures have been announced by PM Conte for April 2020, amounting to €25 billion.*

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# Big data versus COVID-19

All available resources need to be brought to bear on COVID-19. J Scott Marcus asks to what extent can digital technology help, what risks are there in using big data, and what policies can mitigate any limitations that these risks impose?



## **Information that could be made available**

A great deal of COVID-19-relevant information is potentially available in the digital world:

- Users of social networks voluntarily provide extensive personal information, usually including demographics (age, sex) and location;
- Users of mobile networks provide information necessary to receiving and paying for the service, and also provide location information;
- Consumers who seek health information might voluntarily provide additional information.

Location data from mobile devices has been an area of intense interest for governments in the past few weeks. The mobile network knows your location, whether you are in your home country or roaming internationally.

Many countries have worked with the providers of communication services and infrastructure to progressively improve this location information, primarily as a means of improving the accuracy with which mobile users can call for help in the event of emergencies (see Marcus, 2010; Marcus, 2014).

## **Privacy challenges**

However, use of personally identifiable data is restricted in most democratic, developed countries. The European Union implements the General Data Protection Regulation (GDPR) (European Union, 2016), which is based on the recognition of individual privacy as a human right.

That the EU has adopted a coherent overall horizontal framework for privacy is generally positive; however, the framework is relatively inflexible. This lack of flexibility becomes obvious now, when a nimble response is needed to a deep threat to the lives and safety of Europeans.

The use of data that is not personally identifiable is in general unrestricted, and several legal instruments at EU level actively encourage the making available of non-personal data and public sector information as a means of promoting economic efficiency (European Union, 2018 and 2019).

For commercial use of personally identifiable data, the GDPR puts a number of common-sense rules in place. The user must be told how the data will be used, to which third parties it will be provided and how they will use the data, how long data will be retained, and more.

*Big data can play a constructive role in many different ways in helping the EU address the COVID-19 crisis*

The GDPR's scope does not cover use of personally identifiable data collected by governments for purposes of law enforcement, which is a member-state competence.

Common practice in most developed democratic countries involves some combination of these elements:

- Data that is not personally identifiable (including anonymised data), or non-personal data, is subject to few if any restrictions.
- In order to collect data that is personally identifiable but that contains no content, public authorities must meet a fairly modest standard of proof of need. This tends to be the case for call data records (an indication as to who has been called from a telephone or internet device) and for user location data.
- In order to collect data that is personally identifiable and that contains actual content, a fairly high standard of proof of need must be met. Typically, an independent third party such as a magistrate must be convinced that there are valid grounds to suspect the individual, for instance of a past or likely future crime.

In order to understand how these broad principles interact with likely needs in terms of combatting COVID-19, it is useful to reflect on some of the use cases in which big data has been applied.

### **Ways in which big data has been used to date**

There are three main forms of use that have been prominent to date: (1) strategic planning; (2) the tracking of (possibly infected) individuals; and (3) the provision of advice to concerned and possibly infected individuals.

## Strategic planning

One of the most immediate and most promising uses of big data in combatting COVID-19 has been as a means of prediction, analysis, and strategic planning for national governments and national health authorities.

Epi-risk, for example, is a predictive model that looks at how the disease moves from one city to another as a function of air travel and commuting patterns. It draws on statistics on the number of known cases and deaths provided by national authorities, and on integration with air traffic data provided by the OAG database. The hope is that additional data from social networks can also be integrated.

According to the lead researcher, *“What we do as computer scientists and computational epidemiologists is provide [the doctors, nurses, and public health people in the field] with intelligence to anticipate the move of the enemy”* (Waltz, 2020a).

As another example, an analysis of the evolution of the disease in China (Li *et al* 2020) may serve to clarify the degree to which individuals who were not known to be infected contributed to the spread of the disease. The authors found that undocumented cases (ie. cases that had not been reported) were only half as contagious as documented cases.

Nonetheless, because some 86% of cases probably went unreported, they estimated that between 82% and 90% of all Chinese cases nationwide from 10–23 January were infected by people whose infections were undocumented. To estimate mobility between Chinese cities around Chinese New Year (which was 25 January in 2020), the researchers extrapolated from 1.7 billion records of 2018 travel records recorded by e-commerce merchant TenCent. This serves to demonstrate that big data can play a crucial role in valuable analyses.

Strategic planning in Austria, Italy and Germany has used mobile location data provided by mobile network operators. Mobility data from Deutsche Telekom is used to estimate the degree to which the German population is complying with requests or orders to stay at home.

In Italy, data provided by mobile network operators Telecom Italia, Vodafone and WindTre demonstrates that movements exceeding 300-500 metres in the Lombardy region are down by some 60% since 21 February, the date on which the first case in the region was identified. In Austria, A1 Telekom Austria Group is feeding mobility data into a third-party tool that is more typically used to estimate how crowded a ski area will become, but in this case can be used to estimate the effectiveness of social distancing (Reuters, 2020).

A common feature of all these strategic uses of big data is that they generally do not rely on personally identifiable data, or use anonymised data. This avoids most if not all privacy concerns.

This approach can be said to be much *“less invasive than the approach taken by countries like China, Taiwan and South Korea, which use smartphone location readings to trace the contacts of individuals who have tested positive or to enforce quarantine orders.”* (Reuters, 2020).

Indeed Austrian privacy advocate Max Schrems observed that, *“As long as the [mobile location data] data is properly anonymized, this is clearly legal.”* (Reuters, 2020).

### Tracking of individuals

Taiwan is generally credited as having implemented effective measures to contain COVID-19, despite being among the countries initially thought to be most at risk. They had learned valuable lessons from the severe acute respiratory syndrome (SARS) epidemic in 2003, and benefitted from a high level of preparedness.

One of the most effective sets of measures was a system to track individuals thought to possibly be infected. As early as 27 January, the responsible government agencies integrated data about the past 14-day travel histories of individuals thought to be at risk because of their travel history, with information linked to their health identification cards.

Individuals at high risk because of recent travel to affected areas were monitored electronically through their mobile phones. All hospitals, clinics, and pharmacies in Taiwan were given access to the travel histories of potential and actual patients (Wang *et al* 2020; Waltz, 2020b).

If measures like these were attempted in Europe, they might raise far greater concerns than the strategic measures because the individuals must be individually identified, and because the measures involve combining data normally collected for different and unrelated purposes.

This has been a central concern for an experimental system implemented by Oxford University. The plan is for individuals to download an app that would provide their location to the UK National Health System. The project would thus be voluntary, unlike in China, and the UK government has said it will delete the data and will *“not make the movements of infected individuals fully public, as has been done in South Korea”* (Valentino-DeVries, 2020).

### **Advice to possibly infected individuals**

In contrast to these relatively successful stories, the bungled announcement of a website to *“sharply expand testing for the virus”* by President Trump on 13 March clearly showed the need to properly manage expectations and to address possible problems in perception. In a press conference, Trump incorrectly said that Google would provide a website to enable diagnosis of COVID-19 at scale.

Trump seemed to be referring to a small pilot project for the San Francisco area being worked on by Verily, a life sciences subsidiary of Google's parent company Alphabet. The work is at a very early stage. The Trump announcement was so far off the mark that Google felt obliged to issue a prompt correction/retraction (Shear and Wakabayashi, 2020).

The announcement needs to be understood as a political response to criticism of a US administration that has been under intense fire for allegedly having failed for too long to take the COVID-19 crisis seriously.

Verily was immediately deluged with requests, which generated a wave of criticism. A key concern, one of many, was that users had to log on using a Google account in order to access the site at all. This immediately raised concerns about possible use of personal data for advertising and for other unwanted commercial purposes (Wakabayashi and Singer, 2020).

### Legal considerations

The use of big data in fighting COVID-19 is unlikely to be held up by legal obstacles:

- Strategic use of big data places little or no reliance on personally identifiable data. It is in consequence unproblematic.
- Under the EU treaties, health is a shared competence where the EU supports or complements the member states. If there is a tension between EU public health and privacy rules, one might reasonably expect privacy rules to take a back seat for a limited period of time.

- Many EU countries are already operating under conditions of national emergency, permitting governments to bypass normal legal protections for the duration of the national emergency.

Indeed, the European Data Protection Board (EDPB) made a public statement on 19 March 2020 that is fully in line with these principles (EDPB, 2020). They note that the GDPR already permits competent public health authorities and employers to process personal data when necessary for reasons of substantial public interest in the area of public health, as is the case during an epidemic.

Emergency measures are permissible, but only for the duration of the emergency. Data subjects need to be informed about the main features of the processing activities that are being carried out. Adequate security measures and confidentiality policies need to be in place. Anonymous use of mobile location data is permissible; however, the use of personally identifiable mobile location data should be avoided if possible, and if used must be subject to appropriate safeguards.

The real impediments to the use of data to combat COVID-19 probably have little to do with the legality of the measures put in place; they have instead far more to do with the risk of a loss of public confidence if use of personally identifiable data over-reaches, if personally identifiable data is allowed to be re-purposed for other unrelated purposes, or if the rationale for the use of the data is poorly communicated.

### **Implications for public policy**

The implications for EU public policy are fairly clear. Big data can play a constructive role in many different ways in helping the EU address the COVID-19 crisis.



The use of **non-personally identifiable data** (including aggregated and/or anonymous data) will tend to be unproblematic, but the rationale should nonetheless be clearly thought through and clearly communicated.

To the extent that **personally identifiable data** is employed (without prior informed consent of the individual), national public authorities should take great care to ensure that a number of key common sense conditions (which are fully in line with the GDPR) are fulfilled:

- Data may be used only for the justified purposes intended. Use of personally identifiable data for commercial purposes that would not otherwise be permitted without informed consent should be strictly prohibited. The use of data for unrelated public purposes (tax enforcement, for example) should likewise be eschewed.
- Any personally identifiable data should be carefully protected against intrusion by hackers using good cybersecurity technology.
- Needlessly broad data collection should be avoided, since it creates risks (eg. of identity theft).
- Retention periods should be carefully considered. During the current epidemic, it will be important to understand the risk of re-infection. Some data might also be useful in fighting future epidemics, so a short deletion period is not necessarily the most appropriate policy approach for all data of this type.

For personally identifiable data, it is especially important that there be a clear and accurate public statement from government about what data is being collected, why it is being collected, with whom (if anyone) it will be shared, how it will be secured, and how long it will be retained. Otherwise, there is a significant risk of loss of public confidence in the measures undertaken.

If EU researchers are afraid to collect necessary data for legitimate purposes, member states should be prepared to enable a sensible and flexible response. For example, a member state might promptly issue 'comfort letters' to reassure researchers they will not be prosecuted for good-faith use of personally identifiable data in the context of projects that constitute valid and valuable research.

At the EU level, the public statement just issued by the EDPB (EDPB, 2020) possibly provides all of the clarity that is needed at the moment. ■

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