The economics of the COVID-19 pandemic: an assessment

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Abstract: The COVID-19 pandemic has created both a medical crisis and an economic crisis. As others have noted, we face challenges just as big as those in the Spanish Flu Pandemic and the Great Depression—all at once. The tasks facing policy-makers are extraordinary. Many new kinds of intervention are urgently required. This issue of the *Oxford Review of Economic Policy* has two objectives. The first is to explore these new interventions: evaluating their use, suggesting how they might be improved, and proposing alternatives. The second is to show that the challenges facing us are global and will require international cooperation if they are to be dealt with effectively. This short introductory essay positions the papers in the issue within an overall conceptual framework, with the aim of telling an overarching story about the pandemic.

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JEL classification: D6, E0, F0, I1, H0, J2, J6.

I. Introduction

The COVID-19 pandemic has created both a medical crisis and an economic crisis. As others have noted, we face challenges just as big as those in the Spanish Flu Pandemic and the Great Depression—all at once. The tasks facing policy-makers are extraordinary. Many new kinds of intervention are urgently required. This issue of the *Oxford Review of Economic Policy* has two objectives. The first is to explore these new interventions: evaluating their use, suggesting how they might be improved, and proposing alternatives. The second is to show that the challenges facing us are global and will require international cooperation if they are to be dealt with effectively.

Just 6 months ago we all knew very little about any of this. Aspects of the story have emerged with greater clarity as more information has been revealed, and as the results...
II. The medical crisis and its economic effects

(i) The medical crisis

Where to begin? Only 6 months ago few economists knew anything about SIR models. Now we all know that the central framework for studying the spread of any infectious disease is the SIR model. And we know that the only way to control a pandemic is to keep the reproduction number, \( R \), the expected number of cases directly generated by an infectious case, below 1. When that happens, each infected person will infect less than one new person on average and the epidemic will come to an end (Cleevely et al., 2020, this issue). But despite the central nature of the SIR model in the epidemiological literature, until recently most versions of that model did not adequately capture the economic costs associated with the interventions that are being made to control the disease.

There are now any number of papers available which begin to do this (see, for instance, Acemoglu et al., 2020 and Eichenbaum et al., 2020). Rowthorn and Maciejowski (2020, this issue) make another welcome contribution to this set of ideas. At the core of these papers is the challenge of how to understand the trade-off between the cost of, on the one hand, the likely illness and deaths—however valued—and, on the other hand, the costs of the policies being adopted to reduce such illness and death. This trade-off is not simple to understand because it is an intertemporal one. Policies adopted now, with immediate costs, have implications for future infections and future deaths, and these implications work themselves out in highly non-linear ways. Clearly how one thinks about this depends on the value which one places on human life. The particular attraction of Rowthorn and Maciejowski (2020)'s paper is that it provides a mapping from the value attached to human life to the severity of lockdown that is justified, allowing clearly for the intertemporal nature of the problem. And it does this in an intuitively clear and elegant manner. (See Figure 8 of Rowthorn and Maciejowski (2020).)

The paper argues that that the optimal response to COVID-19 would have been to lock down the economy very swiftly, to bring \( R \) down below 1, before the infection had taken hold; just one week of delay makes a huge difference. But when saying this we need to be clear how little was known at the beginning. Would it have been optimal to lock down so swiftly, knowing what we knew at the time and given the enormous uncertainty around the parameter estimates? This is difficult to judge, as experience of previous epidemics has shown. For instance, Neil Ferguson and his modelling team at Imperial College, who have played a critical role in influencing the UK’s response to COVID-19, were also responsible for shaping the decision to cull several million UK cattle to bring the 2001 foot-and-mouth disease outbreak to an end: but a more recent study, which found the disease had a shorter infectious period, suggested that such an aggressive approach may not always be optimal (Cressey, 2011; Charleston et al., 2011).

Lockdowns can only eliminate the transmission of disease if they remain in place more or less for ever, i.e. until a vaccine is available. That is because many people will
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go on being susceptible to infection\(^1\) so that, if lockdown is abandoned, the unstable spread of the disease will again become likely. But because of the enormous economic cost associated with lockdowns, they cannot be allowed to continue more or less for ever. \*Rowthorn and Maciejowski (2020)\* argue that how long lockdown should be made to last depends fundamentally on the valuation attached to life: a lower value implies that a shorter lockdown is desirable. The study is based on a standard but simple epidemiological model, and should be regarded as presenting a methodological framework rather than giving actual policy prescriptions. They argue that a full lockdown of even as little as 10 weeks would only be optimal if the value of life for COVID-19 victims exceeded £10m \*(Rowthorn and Maciejowski, 2020, Figure 8)*. This number is much larger than the figure implied by official guidelines for drug evaluation, which is £200,000 to £300,000.\(^2\) A robustness check, performed by changing the parameter values in the social welfare function used in the policy optimization algorithm, reduces this number to £4m. But that is still a larger number than the numbers used in the official guidelines. The paper also suggests that it would be optimal to dispense with lockdown altogether if the value of life were to drop below £1.68m (see Figure 8).\(^3\)

It is clear that this troubling trade-off between reducing the number of lives lost and rising economic costs raises significant questions about how exactly life should be valued. \*Colmer (2020, this issue)\* discusses just how hard these questions are. He argues that efforts to engage with this issue have lacked clarity. He argues that the choice of numbers used to represent the ‘value of lives saved’ from COVID-19 interventions, more than likely, substantially understate the social benefits. In light of what are very large uncertainties over how much larger the social benefits could be, this raises concerns about how useful traditional benefit–cost analyses can be in contexts such as the current crisis.

If a full lockdown cannot continue indefinitely, it is obvious that alternative interventions will be required to keep R below 1. The ultimate goal must be to discover, manufacture, and distribute a vaccine so as to eliminate the threat of COVID-19 altogether. And as \*Brown and Susskind (2020, this issue)\* argue, countries must cooperate much more actively than at present in their pursuit of this common objective. But before a vaccine or an effective treatment is available for widespread use, another strategy will be necessary to control the spread of the disease in the meantime.

In part, this strategy must involve bottom-up measures adopted by individuals: social distancing, decisions by the most vulnerable to shield themselves, wearing masks, and washing hands. But it must also involve additional top-down interventions imposed by governments. The two are closely related: it is becoming clear that the use of compulsory lockdowns—by the end of March 2020, over 100 countries had one in place—had an important signalling effect at the start of the pandemic, making clear how critical it was for individuals to change their behaviour.

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\(^1\) This puts to one side the possibility that herd immunity, or something close to herd immunity, is achieved by allowing the disease to run rampant throughout the community.

\(^2\) The National Institute for Health and Care Excellence (NICE) assumes £20,000–£30,000 per quality-adjusted year of life. Office for National Statistics life tables and statistics on the age, sex, and underlying health condition of COVID-19 fatalities suggest that the average person dying from the disease loses about ten years of life.

\(^3\) If the authors impose the condition that peak infection must not exceed what the health service can handle, they show that it would be optimal to dispense with lockdown if the value of life were to be below £1.36 million.
Indeed, these behaviour changes may explain why fears at the start of the pandemic about prolonged draconian intervention might have been misplaced (Rowthorn and Maciejowski, 2020). Alongside a full lockdown, though, there are other important interventions available to governments.

To begin with, it is clear that targeted lockdowns, as per Acemoglu et al. (2020), will need to become part of the strategy: rather than lock everyone down, the lockdown is instead stratified by, for instance, location, age group, or other risk factor. Another important intervention is an effective testing strategy: testing individuals for the infection and isolating those who test positive. However, such a strategy must also be workable: countries have finite testing resources and testing capacity can be difficult or impossible to ramp up (Kasy and Teytelboym, 2020, this issue). In Cleevely et al. (2020), the authors question the viability of universal random testing, a strategy in which a random fraction of the entire population would be selected each day for testing. They show that, on reasonable assumptions, this would not be a feasible strategy; it would require testing about 27 per cent of the population every day (or everyone, every 4 days). Instead, the authors argue for stratified period testing: stratified because it is focused on at-risk groups, and periodic because tests would be conducted on each person at regular intervals. The authors show that this approach dramatically reduces the required testing resources. Following on from this, Kasy and Teytelboym (2020) examine the trade-offs involved in allocating testing resources to some individuals but not others; the so-called ‘shadow cost’ of a test. They explore the difficult dynamic balancing that policy-makers face, between using tests to protect people today, versus using tests to identify the prevalence of the disease in the population to benefit people in the future.

If the number of infections in a population is sufficiently low, or is brought down to a sufficiently low level, then a test-and-trace strategy can be used as an important part of a strategy. With such a policy, infectious individuals and their contacts are identified and isolated so they cannot infect others. The effect of such a policy will enable lockdown to be abandoned much earlier, even although the threat of unstable spread of the disease remains present. Such a policy becomes possible because an effective test-and-trace operation will quickly remove from public circulation anyone who is shown to be infectious. Such an individualized (and very costly) form of intervention enables R to be kept well below 1, even though, without it, and without lockdown, R still remains well above 1. The model in the paper by Rowthorn and Maciejowski (2020) illuminates this process very clearly.

It now appears from both theory and repeated experience that the two best investments a country could have made in the run-up to the COVID-19 pandemic are the production and distribution of ‘personal protective equipment’ (PPE), including face masks, and an effective test-and-trace regime. Looking ahead, there are important concerns about the consequences of existing safety regulations for such a regime: it appears that some businesses, for instance, are not testing their employees with sufficient frequency for fear of being shut down (this explains large but localized outbreaks at, for example, German abattoirs, at the time of writing). More of these outbreaks should be anticipated and can be dealt with, providing that businesses are encouraged to test and isolate their employees, rather than being encouraged not to do this by the threat of being punished (Galeotti et al., 2020).
(ii) The economic effects

What we have just said explains why the economic impact of COVID-19 has been so enormous. The deaths, and the reduction in the work which can be done by those who fall ill, are costly enough. But that is true of any infectious disease, like the flu. What is special about COVID-19 is that it is both very infectious and very deadly. That is why the policies adopted to deal with it—which we have been discussing—have needed to be so radical. At the start of the pandemic, del Rio-Chanona et al. (2020, this issue) estimated that, in the US, the first-order effect of the virus would threaten 22 per cent of GDP, 24 per cent of employment, and reduce wage income by 17 per cent. These figures initially looked almost fantastical. But their predictions have turned out to be surprisingly close to the mark—not only in the US but around the world. But the details of how these costs have played themselves out have varied enormously from country to country. Evidence from Pakistan, for instance, suggests that microfinance in low-income communities now faces a drastic crisis (Malik et al., 2020, this issue). Rapid-response surveys suggest that on average, week-on-week sales among microenterprise owners and household income both fell by about 90 per cent, households’ primary immediate concern in early April became how to secure food, and about 70 per cent of the sample of current microfinance borrowers reported that they could not repay their loans.

Significantly, the economic impact of COVID-19 has also been extremely unequal. Again, Rio-Chanona et al. (2020) correctly predicted that certain sectors would be hit by demand shocks (transport, for instance), others by supply shocks (manufacturing and mining, for instance), and others by both (entertainment, restaurants, and tourism), while some—and in particular, high-wage occupations—were relatively immune. But there are further very significant inequalities too. For instance, there are substantial gender inequalities associated with the pandemic: the requirement to stay at home, for instance, created a major shock to the demand and supply of home childcare (Sevilla and Smith, 2020, this issue). Couples with young children in the UK, for example, now find themselves performing a working week’s worth of additional childcare. The pre-COVID-19 characteristic—that women do the majority of such childcare (on average, about 65 per cent)—has continued, and women have been more likely than men to lose employment due to the pandemic (Sevilla and Smith, 2020). In turn, there appear to be important age inequalities, too: the International Labour Office (ILO), for instance, argues that young people have been ‘disproportionately affected’ by the pandemic, which has disrupted their education and training, and forced them out of work; one in six young people surveyed by the ILO, for example, had stopped working since the start of the COVID-19 crisis (ILO, 2020). And finally, there is growing evidence that the health impacts of COVID-19 are particularly harmful for black, Asian, and minority ethnic (BAME) communities; the UK government, for example, is launching a review to better understand this very troubling feature of the pandemic (Kirby, 2020).

III. The economic interventions

Alongside the dramatic actions taken to mitigate the medical crisis are the extraordinary interventions that have been taken to tackle the economic crisis. Unprecedented discretionary fiscal policies have been adopted around the world. Governments have
put forward swift and significant emergency lifelines to protect workers and businesses. The International Monetary Fund (IMF) first measured these interventions in April 2020, but as countries have stepped up their efforts it has updated its calculations: in May, the total was about US$9 trillion (IMF, 2020). This is a staggering sum: what has been spent or promised amounts to about 10 per cent of world GDP. The breakdown looks like this: direct budget support is currently estimated at $4.4 trillion globally, and additional public-sector loans and equity injections, guarantees, and other quasi-fiscal operations (such as non-commercial activity of public corporations) amount to another $4.6 trillion (IMF, 2020).

These interventions have had an important impact in mitigating the economic crisis. In the UK again, for instance, on some measures it appears that the fall in household incomes is more evenly spread across the income distribution than the loss of jobs is distributed across the earnings distribution (Brewer and Gardiner, 2020, this issue). In turn, unlike during the financial crisis of 2007–8, the financial system has remained strong and stable during the pandemic. As Giese and Haldane (2020, this issue) explain, this was not the case a decade ago, when both bank balance sheets and the prudential regulatory standards that banks had to follow were very different from what they are now. Furthermore, monetary and financial policy have been able to support fiscal policy; the Bank of England, for instance, has expanded its balance sheets by almost a third in 3 months during the crisis (Hauser, 2020).

In the UK, the policy centrepiece has been the Job Retention Scheme (JRS) or ‘furlough’ scheme, where employers receive 80 per cent (up to a limit £2,500 per month) of the wages of employees who are temporarily asked to stop working (Mayhew and Anand, 2020, this issue). This intervention not only reflects the scale of those seen in other countries, but also their imperfections. By early May, 6.3m workers had been furloughed, and it was expected it would rise further to 9m, about a quarter of the UK workforce. Yet as Mayhew and Anand (2020) explain, this bold policy still leaves large gaps and has significant flaws: the scheme, for instance, failed to cover 20 per cent of the UK’s workforce; the data were not available to judge if 80 per cent was the right figure; and it is unsustainable in the longer run.

This final point is key: around the world, many of these remarkable economic interventions were intended to be temporary emergency measures. There was a moment at the start of the pandemic when some commentators appeared to think the crisis might be relatively swift: lockdown would be imposed, but once the peak in infections had passed in a matter of weeks, extraordinary but temporary measures could be relaxed, economies would go through a swift v-shaped recovery, and economic life as it was before the pandemic would return. Historians would look back at the ‘great panic’ of 2020. This now seems extremely unlikely without an effective vaccine. A reasonable base case is that the virus and its consequences will be with us for some time. And so, the coming months are likely to be dominated by continued responses to both the medical and economic crises.

However, if the pandemic is to be more long-lasting, interventions designed for a short-lived crisis must be revisited. With respect to the medical crisis, as noted before, as lockdowns are relaxed, other interventions to keep R below 1 will need to be intensified.

4 Also see Fiscal Monitor.

5 World GDP is somewhere between $80 and $100 trillion, depending on how it is measured.
But in a similar way, our economic interventions must change. As Devereux et al. (2020, this issue) argue, as we move out of lockdown and into a tentative period of recovery, it will be necessary to consider a new set of policy options: extension of short-time work and possible temporary subsidy for re-employment; corporation tax incentives; VAT reductions; and a holiday from taxes on business property. More generally, as noted before, radical fiscal measures that were designed to temporarily keep workers attached to their existing employers must be replaced with alternative, and more sustainable, measures (Mayhew and Anand, 2020).

For instance, with respect to the JRS in the UK, from the beginning of July, the scheme becomes more targeted and is due to finish at the end of October: Mayhew and Anand (2020) argue that, rather than go cold turkey at this point and remove employment subsidies, there is a case for the introduction of a variant of the German-style working time accounts scheme. Nevertheless, there are difficulties ahead here. The structure of the economy which re-emerges may well be somewhat different from what it was in the past. To take one small example, it is likely that much more office work will be done remotely, setting up pressures for change in both the commercial property market and the residential property market. To take another example, some jobs are likely to just disappear, for example in retail. Although cold turkey seems like a bad idea, a generous furlough scheme which keeps workers in place where they have no future is also not a good idea. What is required, Mayhew and Anand, (2020) argue, is a comprehensive active manpower policy in its place to efficiently match job-seekers to available jobs.

IV. Reforming business and finance

Other substantial challenges also lie ahead. Some of the new-found economic interventions have created new risks for the corporate sector. For instance, another key policy in the UK has been the variety of COVID-19 loans which have been made available to firms. It is not clear how these are working: many firms appear to be unable to access them, and time will tell what the default rate on these loans will be—it seems likely that default rates will be high, and the systemic consequences are likely to be large. As Johnstone-Louis et al. (2020, this issue) argue, massive bailouts of companies may end up being needed. These will impose substantial obligations on the corporate sector to respond and to lead the economy out of the crisis. When similar bailouts were provided for commercial banks after the financial crisis of 2007–8, the banks ended up imposing significant costs on the rest of the society in that they prioritized the rebuilding of their balance sheets ahead of looking after their customers. This is something which needs to be avoided. And there is a more general point: to offset the large debt overhang problem that has emerged and avoid the wave of bankruptcies that threaten economies, financial institutions will be expected to provide substantial amounts of new equity funding as well as accepting dividend cuts.

The COVID-19 pandemic has also led to more fundamental calls to reform business and finance. The last crisis—the financial crisis of 2007–8—was clearly the fault of business, and the financial sector in particular. This time round, business cannot be blamed for causing the pandemic. But it can be blamed for leaving economies so
vulnerable to its consequences. With many companies having less than 3 months of reserves to cover their operating costs, they have been forced to cut costs draconianly, be bailed out by governments, and slash their workforces. There is a case for arguing that stress testing should be extended beyond the financial sector as a whole to business more generally, and relate to a broader range of events than the macroeconomic ones on which they have been focused to date, for example pandemics, weather, and technology-related risks (Giese and Haldane, 2020).

To some, the pandemic has exposed a failed system of corporate governance. As economies begin to recover, many are appealing to the idea of ‘building back better’. But this requires a clearer conception of what exactly it is they want to build—and it is unlikely to be a corporate sector that generates profits on the back of environmental degradation, rising inequality, or social exclusion. Fixing this needs a recognition that business’s reason for being is to serve others than itself, its investors, or executives, and that their interests are derivative of, not the determinant of, its success in so doing (Mayer, 2013, 2018, Morris and Vines, 2014). Good business can drive profits; profits do not necessarily drive good business, and good regulation does not solve the problem without good business.

But business cannot do this on its own. The pandemic has shown that business needs government, as well as government needs business. Mazzucato and Kattel (2020, this issue) argue that we should forge new relations between government and the private sector. The innovation and experimentation that will be required to recover must come from the private sector, but this must take place in the context of governance arrangements that address social concerns and avoid the types of problems that have arisen in relation to, for example, data usage. Neither privatization nor public ownership have proven adequate to the task; ‘government actively shaping markets rather than simply fixing failures’ is how Mazzucato and Kattel describe an alternative approach. And as Collier and Mayer (2020, this issue) note, public-sector funding will be needed along-side private finance, in particular in relation to the small and medium-sized enterprises (SMEs) that are most at risk of failure, especially in the most depressed and disadvantaged areas of a country. Channelling public funding to SMEs in these areas may involve more than the existing banking system can provide. The authors describe why this is the case in the UK and put forward suggestions for the development of new funding institutions to cope with it.

Milton Friedman was prescient when he said that ‘only a crisis, actual or perceived produces real change. When that change occurs, the actions that are taken depend on the ideas that are lying around’. ‘That’, he said, ‘is our basic function: to develop alternatives to existing policies, to keep them alive and available until the politically impossible becomes the politically inevitable.’ The only question is how many crises will it take until we realize that he was quite wrong when he said that ‘there is one and only one social responsibility of business . . . to increase profits so long as it stays within the rules of the game’?
V. An emerging-market and developing-country perspective

At the time of writing, COVID-19 had already begun to reach low-income and middle-income countries. Such countries face an enormous challenge in dealing with this crisis, because the institutions of government and of public administration are much less well developed in these countries than in advanced countries. This issue of the *Oxford Review of Economic Policy* contains only one paper which discusses this challenge, by Gerard et al. (2020, this issue), but that paper provides an eye-opening account of tasks that policy-makers will face in these countries. It seems that these countries may need to use a much broader patchwork of interventions than high-income countries. And the authors provide a view of what this patchwork might need to look like.

Job retention programmes already exist in some countries; some governments have leveraged id-linked bank accounts opened for financial inclusion purposes to provide direct support to the poor; and even populations that live at the margins of social protection systems—like migrant workers—are being reached through associations that work with them. Yet, as the authors show, any government response will be imperfectly targeted, with important inclusion and exclusion errors: government responses based on social insurance programmes will miss the informal sector; social assistance programmes are always specific to a particular dimension of poverty, and their delivery is often plagued with leakages; and involving local governments or non-state actors runs the risk of resources being diverted by local elites or used for clientelism.

Nevertheless, the authors conclude that fewer even imperfectly targeted transfers will reach some ‘left-behind’ households through family, informal, or formal sharing structures. The paper provides important examples of how, and in what way, this might happen and is already happening.

The authors conclude that the challenge of mitigating the economic effects of the pandemic is enormous in low-income and middle-income countries. Any solution will be flawed in many ways because speed is of the essence. But, they say, governments, donors, and civil societies have made major gains in the last 30 years in building infrastructure to reach the poorest. If internal and external financing can be found—and this is a big if—then developing countries might be able to use this to create the economic space for an effective public health response. But the challenge really will be enormous.

VI. International cooperation

The COVID-19 pandemic has created a global medical crisis, not just a national one. In Brown and Susskind (2020), the authors show that the international response to the pandemic has fallen short, primarily because of a lack of effective global cooperation. Many of the tasks involved in controlling an infectious disease like COVID-19 are global public goods—a public good that spills across national borders with far-reaching consequences as a result—that can only be delivered through global cooperation. The paper discusses the discovery of vaccines as an example of the kind of cooperation that is needed: only one success, if shared with others, is needed to bring the pandemic to an end. But cooperation would also have to be strengthened because it is not enough
just to discover a vaccine: it has to be mass manufactured and, if the disease is to be eradicated in every country to avoid further waves of the disease emerging in the future, distributed equitably. Brown and Susskind (2020) discuss just why many activities like this have been underfunded and under-provided until now, and they discuss how this might be remedied.

The pandemic has also created a global economic crisis. Indeed, it has caused the greatest collapse in global economic activity since the collapse of the South Sea Bubble in 1720. As noted before, some advanced countries have mounted a massive fiscal response, both to pay for disease-fighting action and to preserve the incomes of firms and workers until the economic recovery is under way. But there are many emerging market economies that have been prevented from doing what is needed by their high existing levels of public debt and—especially—by the external financial constraints which they face. McKibbin and Vines (2020, this issue) argue that there is a need for international cooperation to allow such countries to undertake the kind of massive fiscal response that all countries now need, and that many advanced countries have been able to carry out. They show what such cooperation would involve and they use a global macro-economic model to explore how extraordinarily beneficial such cooperation would be. Their simulations of the model suggest that GDP in the countries in which the extra fiscal support takes place would be something like two and a half per cent higher in the first year, and that GDP in other countries in the world be more than 1 per cent higher. And the percentage increase in employment in the countries in which there is extra fiscal support would be very much larger than the percentage increase in GDP.

So far, such cooperation has been notably lacking, in striking contrast with what happened in the wake of the global financial crisis of 2007–8. The necessary cooperation needs to be led by the Group of Twenty (G20), just as happened in that crisis, since the G20 brings together the leaders of the world’s largest economies. But this cooperation must also necessarily involve a promise of international financial support from the IMF, otherwise international financial markets might take fright at the large budget deficits and current account deficits which will emerge, creating fiscal crises and currency crises and so causing such expansionary policies which we advocate to be brought to an end.

McKibbin and Vines (2020) do not discuss the case of the poorest countries in the world. But the problem just described has created huge problems for countries in sub-Saharan Africa. These are discussed in detail by Adam et al. (2020, this issue). The authors capture quite what a catastrophic external position these countries are now in, something which is likely to require them to embark on massive fiscal austerity at just the wrong time. They show very clearly just how much of an increase in overseas development assistance (ODA) would be required to help these countries deal with the medical and fiscal problems which the COVID-19 pandemic has thrust upon them. In particular, they show that merely keeping the degree of domestic fiscal adjustment within reasonable bounds—i.e. ones which seem politically feasible—would require about an extra $50 billion of ODA. That would, in effect, mean a doubling of the aid which these countries receive. They would need three times as much aid if the aim was to fully isolate them from the COVID-19 shock.

The pandemic is also likely to have dramatic consequences for global progress on mitigating climate change. As Hepburn et al. (2020, this issue) note, in the short term the policy response has curtailed economic activity and thus also slashed greenhouse gas emissions. But once restrictions are relaxed, emissions will be likely to soar once again. In the medium
term, then, there is an opportunity, when designing discretionary fiscal policy, to consider interventions that are likely both to promote economic recovery and displace the current fossil-fuel intensive economic system: Hepburn et al. (2020) identify possible policies that score highly on both economic multiplier and climate impact metrics. In the longer term, COVID-19 could also result in changes to human habits and behaviours, business, and global institutions, which will have impacts—positive and negative—on the likelihood of reaching net zero emissions before temperatures rise to catastrophic levels.

The pandemic raises many other significant international issues. For instance, as Fernández-Reino et al. (2020, this issue) note, the pandemic has increased public awareness of the extent to which the economy relies on a low-wage workforce. But given that many of these occupations are also heavily dependent on migrant workers, this is likely to have substantial implications for immigration policy: now, and in the future, not just in the UK but elsewhere, too. In turn, there are the enormous problems the pandemic has created for the international trading system. It has had a dramatic impact on international trade between countries: a drop by about 38 per cent in France, and 25 per cent in Turkey and Germany, for instance, relative to historical averages (Demir and Javorcik, 2020 this issue). And already protectionist pressures have reared their head, as Brown and Susskind (2020) also describe. There is a need to ensure that global cooperation in trade policy goes hand in hand with global cooperation on health and macroeconomic policy.

The last time the world faced challenges as serious as those which we now face was at the end of the Second World War. At that time there was an extraordinary burst of institutional creativity. The Bretton Woods conference in 1944 led to the creation of the IMF, in order to ensure international financial stability. It also led to the establishment of the World Bank as an institution which would lend money to what were then the emerging market economies of Europe and Asia. Soon afterwards the Marshall plan also started to provide money for countries in need. The next year, in 1945, saw the foundation of the United Nations (UN); the World Health Organization became part of the UN in 1948. A 1946 conference in San Francisco led to the establishment of the General Agreement on Tariffs and Trade, which, nearly 40 years later became the World Trade Organization.

After the First World War things were very different. Although the League of Nations was established in 1920, it never really gained the necessary authority. First the world slid into the Great Depression of 1930s. Then the world lurched into the Second World War.

The post-Second World War institutions have served the world remarkably well. Now, following the COVID-19 pandemic, they need strengthening and reinvigorating. But they still provide a framework within which international cooperation can take place. Because the pandemic is such a very large event we need to realize that the world faces a very large choice. We can do what the world did in the late 1940s, when the institutional choices which were made helped to support the golden age of global growth during the 1950s and 1960s. Or we can instead allow what happened in the 1930s to happen all over again. That is the decision which we now face.

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