

## **The Covid Tragedy: following the science or the sciences?**

*This text is an extended version of the annual Institute for Fiscal Studies lecture delivered on 24 September 2020 by Lord Gus O'Donnell. The lecture was streamed live on the IFS website [www.ifs.org.uk](http://www.ifs.org.uk)*

In this lecture I want to suggest ways of assessing the government's performance in handling the coronavirus pandemic. I also offer areas where I believe the government can focus efforts now in order to confront the challenges ahead, both domestically and globally. It is too early to make clear judgements on the UK record, but I will outline the kinds of issues that will need to be examined in the inquiry to come. I will not engage in trial by hindsight. There was a time when a sentence starting "I'm not an epidemiologist, but..." was a signal that person should stop talking. I hope I do not fall into this category. The primary intention is to use various ways of assessing performance that can inform what is now needed as we learn to live with the pandemic and its aftereffects.

And I should start by expressing my appreciation of the work of all front-line staff who have made incredible sacrifices to treat patients, to help minimise virus spread and death toll, and to cope with lockdowns. In addition, many civil and public servants have worked tirelessly on implementing government policies in ways that make a real difference to people's lives, from handling a huge number of Universal Credit cases to reopening schools.

My main concern is with whether the right questions were asked at the right times and whether the appropriate structures were in place to ensure that the best possible decisions were made given the considerable uncertainties at each stage. If I have one take-home, it is this: the government lacked—and it still lacks—a policy framework that can properly assess the costs and benefits of different measures. This is in part because the medical sciences have informed strategy far more than have various other branches of science. A vital adjustment is needed to this now, or the government will find itself without a workable strategy, between a rock and a hard place.

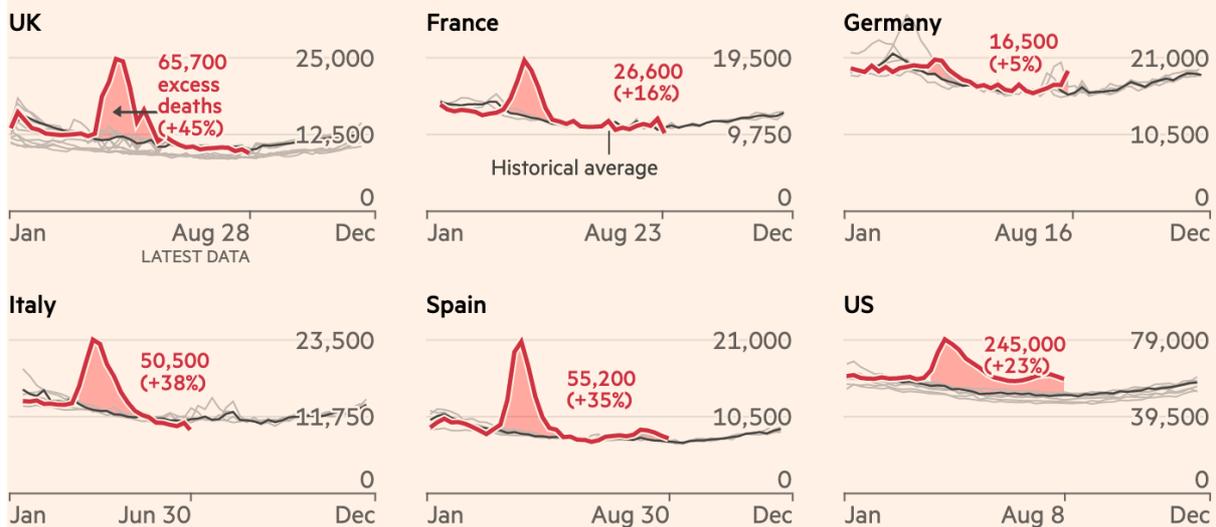
### **1. The UK performance relative to other countries: How are we doing?**

First we should start by looking at the facts behind our performance in dealing with this crisis. I believe in prioritising no single measure, but rather assessing our record according to excess mortality rates as well as economic and wellbeing impacts. Figure 1 shows the level of excess deaths experienced in the U.K. compared to some other countries, thanks to some excellent work conducted by the *Financial Times*.

## Death rates have climbed far above historical averages in many countries that have faced Covid-19 outbreaks

Number of deaths per week from all causes, 2020 vs recent years:

Shading indicates total excess deaths during outbreak



Source: FT analysis of mortality data. Data updated September 11

FT graphic: John Burn-Murdoch / @jburnmurdoch

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Figure 1: Excess COVID deaths in six advanced economies. Graphs provided by the Financial Times.

Excess death rates are a useful measure of the impact of coronavirus on mortality because data are not affected by a variety of factors such as methods of testing for the virus. So far it looks as if the UK has some of the highest excess death rates compared to historical averages out of countries with similar income and development markers. Understanding why this has happened will be crucial, although of course what happens over the next period will determine relative levels of “success”. Many argue that it is because we locked down too late; others say it reflects special differences related to London’s role as an international hub. Decisions like discharging elderly patients from hospitals into care homes without testing should also be scrutinised. There are likely to be divergences because of demographics, the underlying health state of the populations in the different countries, as well as other factors. In time we will learn how much weight to give to each.

Figure 2 shows the change in GDP between Q1 2020 and Q2 2020 compared to five other major economies, which gives an idea of the impact on activity. I include this data as so many people still think in terms of GDP as a success measure. Analysts reason that the UK fall in GDP has been especially marked due to the length of our lockdown and because services, which account for a high proportion of the economy, were especially hit by social distancing measures.



Figure 2: Comparative GDP falls in six advanced economies, Q2 2020 vs Q1 2020 (%)<sup>1</sup>

There is to my mind a rather sterile debate about whether the recovery will be V or U or some other letter-shaped. Early evidence points to a V, but with still a long run loss of output that may not be recovered for many years.<sup>2</sup> But this is a really bad time to be using GDP as a measure of our economic success. As Evan Davies put it on *PM*, “Measuring GDP at a time like this is like measuring a patient’s cholesterol after he has been hit by a bus”. The decline in GDP reflects government decisions to close down parts of the economy, thereby enforcing reduced consumption. Hence we should be cautious about using rules or results derived from previous recessions and applying them to this one. It is likely that a recession effectively induced by government will have very different effects. So much also depends on health and fiscal policy choices, as emerging so-called “epi-macromodels” show.

I prefer to view the impact of the pandemic by looking at how people themselves assess their own wellbeing.<sup>3</sup> Table 1 shows the effect of the virus and lockdown on

<sup>1</sup> Graph shown Delphine Strauss, ‘UK Economy Suffers Worst Slump in Europe in Second Quarter’, *Financial Times*, 12 August 2020, <https://www.ft.com/content/c8b172e2-8f70-4118-9e81-423e9a4b6839>.

<sup>2</sup> ‘UK on Track for V-Shaped Recovery, Says Bank of England Economist’, *BBC*, 30 June 2020, <https://www.bbc.co.uk/news/business-53233705>.

<sup>3</sup> The IFS has conducted research which identifies some of the impacts on mental health, including how mental health has worsened more substantially for particular groups such as young adults and for women, groups which already had lower levels of mental health before the COVID-19 pandemic. See James Banks and Xiaowei Xu, ‘The

subjective wellbeing in the UK. Those used to studying aggregate wellbeing data will be struck by the size of the changes. This is the first time since the ONS began collecting data in 2011 that all markers of personal wellbeing have significantly worsened compared with the year before. Given the nature of the virus and the lockdown, this is perhaps not surprising. The only comparable scale in recent data is the collapse in wellbeing in Greece in the wake of the 2008 crisis, in the context of the crippling choices that country was forced to make.

Table 1: Changes in UK subjective wellbeing metrics.

	Average level						Change: Q2 2020 to	
	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020 (est.) <sup>4</sup>	Q1 2020	Q2 2019
Life Satisfaction	7.72	7.67	7.66	7.67	7.65	7.01	-0.64	-0.66
Worthwhile	7.89	7.88	7.86	7.86	7.85	7.43	-0.42	-0.45
Happiness	7.57	7.52	7.51	7.52	7.39	6.87	-0.52	-0.65
Anxiety	2.9	2.96	2.94	3.00	3.22	4.20	0.98	1.24

So how does this decrease in wellbeing compare with that in similar countries? Table 2 gives some answers, although I stress that it is always difficult to make international comparisons. But the impact in the UK seems particularly bad. It will be important to investigate why countries with similarly tragic experiences of the pandemic, such as Spain and Italy, might have seen negligible declines in wellbeing.

Table 2: Wellbeing decrease around the world (Western Europe, North America and Australia)

Country	Average level		Change
	<a href="#">2017-2019</a> <sup>5</sup>	27 April - 23 Aug <sup>6</sup>	
Spain	6.4	6.3	-0.1
Italy	6.4	6.1	-0.3
Netherlands	7.4	7.1	-0.3
France	6.7	6.3	-0.4
United States	6.9	6.3	-0.6

Mental Health Effects of the First Two Months of Lockdown and Social Distancing during the Covid-19 Pandemic in the UK' (London: Institute for Fiscal Studies, 10 June 2020), <https://www.ifs.org.uk/publications/14874>.

<sup>4</sup> Calculated as an average across weeks between 27 of March and 7 June.

<sup>5</sup> *World Happiness Report* (New York: Sustainable Development Solutions Network, 2020), 19.

<sup>6</sup> 'COVID-19 Public Monitor', YouGov, n.d., <https://yougov.co.uk/covid-19>.

Germany	7.1	6.4	-0.7
Denmark	7.6	6.9	-0.7
Sweden	7.4	6.5	-0.9
Finland	7.8	6.9	-0.9
Australia	7.2	6.3	-0.9
Canada	7.2	6.3	-0.9
Norway	7.5	6.4	-1.1
United Kingdom	7.2	6.0	-1.2

These figures refer to averages and they hide big variations between groups. Work by Abi Adams-Prassl and colleagues has highlighted that in the UK and US those in more precarious jobs have been more likely to be out of work due to the virus, and that the impact on women, likely as a result of school closures and increased care responsibilities, has been more severe. In Germany, meanwhile, neither your gender nor whether you have a university degree are predictive of job security.<sup>7</sup> The IFS has also documented some of the distributional impacts in the UK. Some key results are shown in Figures 3, 4 and 5.

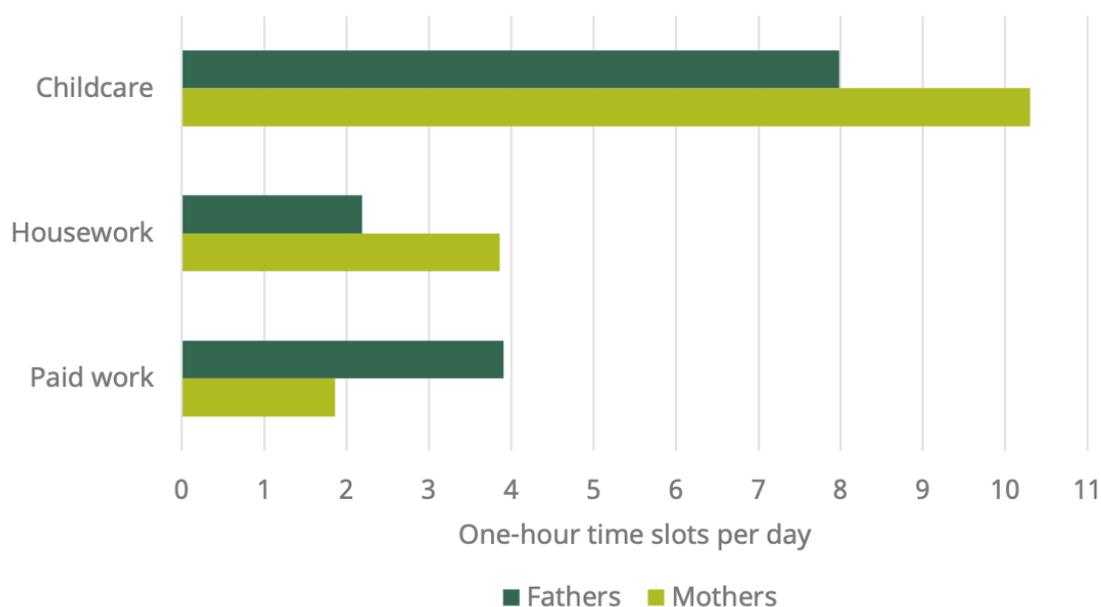


Figure 3: Total time slots reported by mothers and fathers during lockdown. UK data.<sup>8</sup>

<sup>7</sup> Abi Adams-Prassl et al., 'Inequality in the Impact of the Coronavirus Shock: Evidence from Real Time Surveys', *Journal of Public Economics* 189 (September 2020): 104245, <https://doi.org/10.1016/j.jpubeco.2020.104245>.

<sup>8</sup> Almudena Sevilla et al., 'How Are Mothers and Fathers Balancing Work and Family under Lockdown?', IFS Briefing Note (London: Institute for Fiscal Studies, 27 May 2020), <https://doi.org/10.1920/BN.IFS.2020.BN0290>.

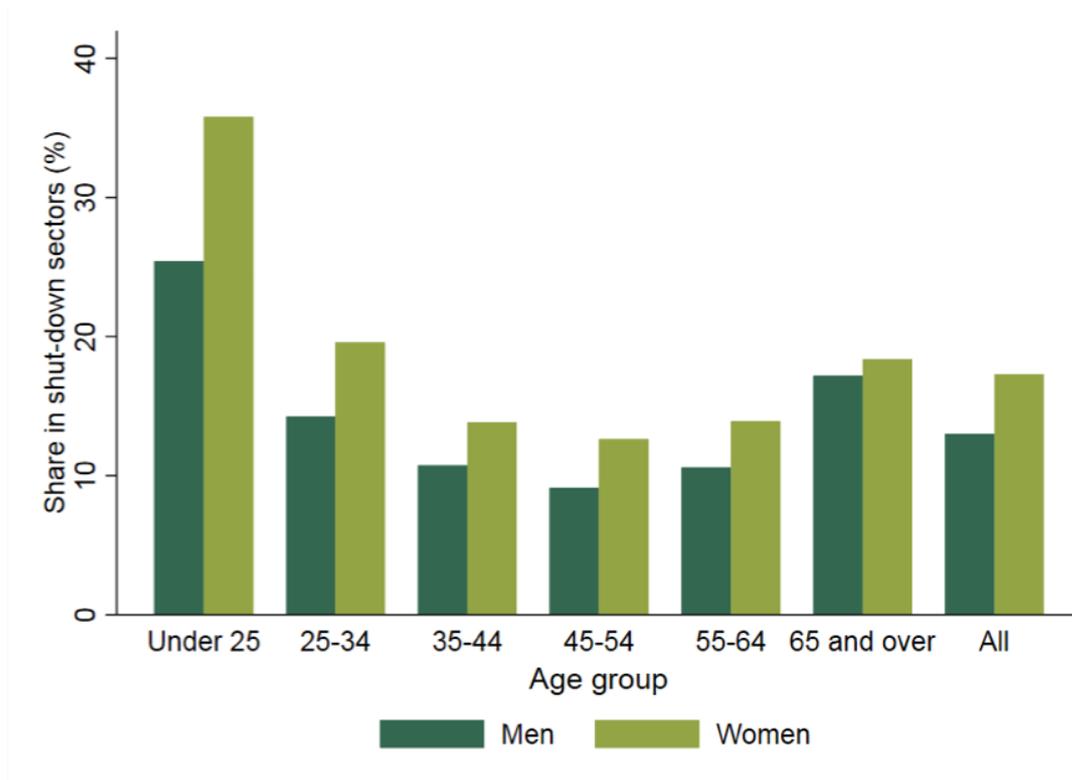


Figure 4: Share of employees in shut-down sectors, by gender and age. UK data.<sup>9</sup>

<sup>9</sup> Robert Joyce and Xiaowei Xu, 'Sector Shutdowns during the Coronavirus Crisis: Which Workers Are Most Exposed?', IFS Briefing Note (London: Institute for Fiscal Studies, 2020), <https://www.ifs.org.uk/uploads/BN278-Sector-Shutdowns.pdf>.

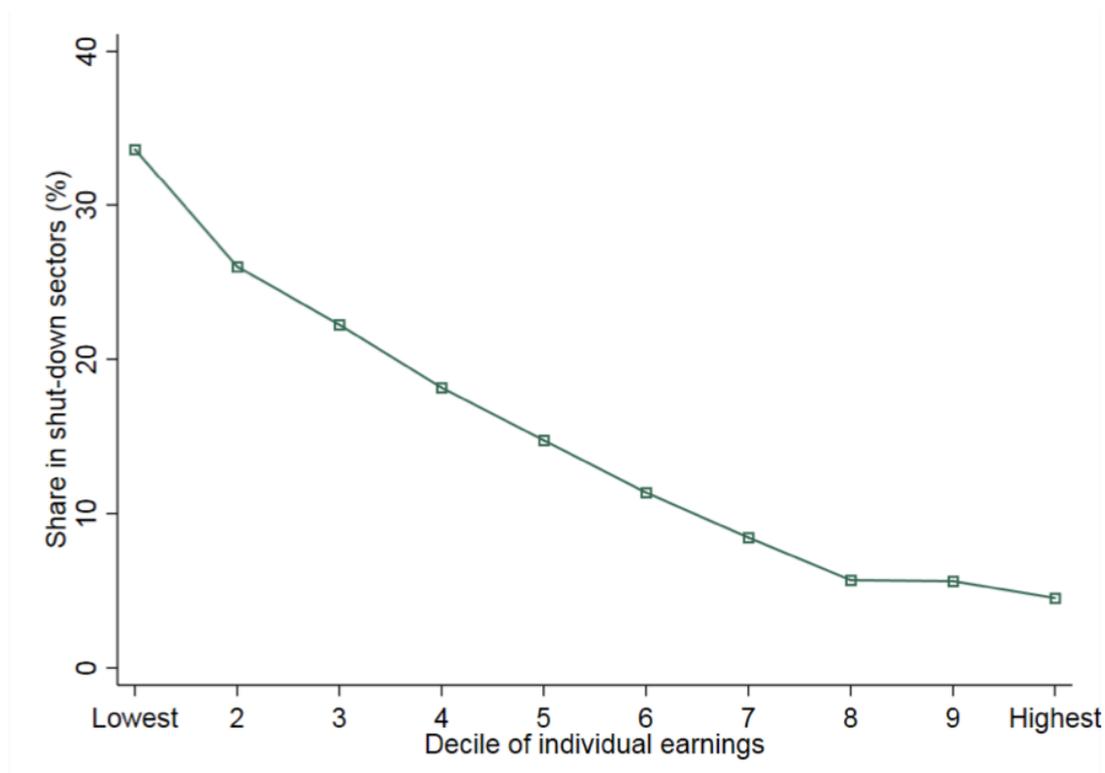


Figure 5: Share of employees in shut-down sectors, by individual earnings. UK data.<sup>10</sup>

The virus has clearly affected poorer groups much harder in all three dimensions: health, economic and wellbeing. There are also significant distributional differences between men and women and between different ethnic groups.<sup>11</sup> One particularly worrying effect is the differential effect on children. The pandemic could reverse many of the hard-earned gains in closing gaps in educational outcomes between rich and poor students.<sup>12</sup>

In time, we will learn which distributional effects are similar across countries and may perhaps be an inevitable and unfortunate consequence of managing the virus. But these results should feature large in the government's mind when considering issues like how to maintain support for workers beyond the furlough scheme and/or whether to increase the level of universal credit. Indeed, as I will go on to argue, Ministers would do well to use wellbeing metrics much more systematically in assessing the costs and benefits of future policy choices.

What might explain the UK's relatively poor performance? Remember that in October 2019 the UK was ranked second for pandemic preparedness by the Global Health Security Index—a collaboration between the Nuclear Threat Initiative, Johns

<sup>10</sup> Joyce and Xu.

<sup>11</sup> Richard Blundell et al., 'COVID-19 and Inequalities', IFS Deaton Review (London: Institute for Fiscal Studies, June 2020), <https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-5890.12232>.

<sup>12</sup> Sevilla et al., 'How Are Mothers and Fathers Balancing Work and Family under Lockdown?'

Hopkins University and the Economist Intelligence Unit—with the most prepared being the United States.<sup>13</sup> As for state capacity, our civil service has been assessed as the best in the world by the recent InCiSE Index, the most comprehensive assessment currently available.<sup>14</sup>

While we do not have the kind of data that a future government inquiry will be empowered with, we can nonetheless sketch out the issues that need to be considered and put forward some hypotheses that should be tested.

## **2. Why the UK did badly**

My experience with handling crises tells me that the following factors are crucial:

- (1) Collecting the right evidence;
- (2) Structures and processes in place that draw on experts from across disciplines and—crucially—incorporate the views of practitioners who are to implement them as well as communities with lived experience;
- (3) Strong political leadership with a strategic plan to make timely decisions and communicate them clearly;
- (4) Institutions capable of implementing decisions effectively and quickly, with due accountability.

### **2.1 Collecting evidence**

The importance of rapidly collecting the right evidence was brought home to me during the 2008 Global Financial Crisis. We had a lot of data, but it was flawed, most notably as concerned the riskiness of various assets. Similarly, I was shocked by how little the “experts”, in this case the banks and regulators, really knew. The solution was to work out what evidence we needed and then to either generate or collect it. This phase of crisis management has to come first and be centrally controlled. But it often requires the collaboration of multiple local bodies. In the UK, the existence of a large public health agency in Public Health England coupled with the strength and size of the NHS should have given us an advantage over more decentralised countries that use more private provision. And in the ONS we have one of the world’s best statistics agencies. So what factors led to us being unable to begin random testing much earlier, despite increasingly urgent calls from the

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<sup>13</sup> ‘Global Health Security Index’, October 2019, <https://www.ghsindex.org/wp-content/uploads/2020/04/2019-Global-Health-Security-Index.pdf>.

<sup>14</sup> ‘InCiSE 2019 Results Report’, 2019, <https://www.ghsindex.org/wp-content/uploads/2020/04/2019-Global-Health-Security-Index.pdf>.

World Health Organisation from January onwards?<sup>15</sup> The various epidemiological models need good databases so many of these experts will have realised these needs. The models are also based on numerous behavioural assumptions, so devising ways of monitoring behavioural responses should have been an early task.

There is no doubt that little was known about this virus at the early stages: its impact on health, how that varied with factors like age and co-morbidities, how it was passed on, how infectious it was, and how best to control its spread. But by the end of January, Ministers had enough information to know that a storm might be coming. We also had a small advantage of a few weeks in being able to learn from other countries who were ahead of us in experiencing the virus, but it is not clear how far such learning took place. As the virus spread, we were able to establish certain key facts like the very great variations in its impact depending on age. Young people are far, far less at risk. Taking this consideration to its logical conclusion, early on Andrew Oswald and Nattavudh Powdthavee were recommending that the lockdown should be confined to those above a certain age given the enhanced health risks they faced and the social and economic consequences of closing schools.<sup>16</sup>

All this suggests that the failure to ramp up testing much earlier was important. There is a legitimate argument that our testing systems were not ready. However, this excuse does not apply to our tracing strategy, which was also crippled but which would require a relatively low-tech set of measures to ramp up.<sup>17</sup> We are still having problems with the availability of tests, which may now lead to the breakdown of a central pillar of the government's COVID strategy. There also seems to be a medical consensus that, while testing can never be 100% accurate, we

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<sup>15</sup> Hans Henri P. Kluge, 'Statement – Novel Coronavirus Outbreak: Preparing Now as One', World Health Organization, 25 January 2020, <https://www.euro.who.int/en/media-centre/sections/statements/2020/statement-novel-coronavirus-outbreak-preparing-now-as-one>.

<sup>16</sup> Andrew J. Oswald and Nattavudh Powdthavee, 'The Case for Releasing the Young from Lockdown: A Briefing Paper for Policymakers', April 2020, [https://www.andrewoswald.com/docs/newFinalCOVIDpaper-on-releasing-the-young-OswaldPowdthavee2020\(1\).pdf](https://www.andrewoswald.com/docs/newFinalCOVIDpaper-on-releasing-the-young-OswaldPowdthavee2020(1).pdf); See also Elizabeth J. Williamson et al., 'Factors Associated with COVID-19-Related Death Using OpenSAFELY', *Nature* 584, no. 7821 (20 August 2020): 430–36, <https://doi.org/10.1038/s41586-020-2521-4>.

<sup>17</sup> The government has denied that its tracing strategy was "abandoned." Minutes published from a SAGE meeting on 18 February 2020 point out that Public Health England could only cope with five new cases a week, with increased maximum capacity capable of coping with only fifty new cases a week. Meanwhile, public health researchers have said that contact tracing was abandoned far too early. See 'Response to Channel 4 Dispatches', Department of Health and Social Care Media Centre, 3 June 2020, <https://healthmedia.blog.gov.uk/2020/06/03/response-to-channel-4-dispatches-britains-coronavirus-catastrophe-did-the-government-get-it-wrong/>; Chris Baraniuk, 'Covid-19 Contact Tracing: A Briefing', *BMJ*, 13 May 2020, <https://www.bmj.com/content/369/bmj.m1859>; 'Addendum to the Eighth SAGE Meeting on Covid-19', 18 February 2020, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/888776/S0376\\_Eighth\\_SAGE\\_meeting\\_on\\_Wuhan\\_Coronavirus\\_\\_Covid-19\\_\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/888776/S0376_Eighth_SAGE_meeting_on_Wuhan_Coronavirus__Covid-19__.pdf).

should be carrying out far more tests to ensure those with the virus do not spread it as much.<sup>18</sup>

I cannot help to emphasise one area where the UK is in a good position. The ONS has been collecting wellbeing data since 2011 and this will allow us to monitor how the virus and varying degrees of lockdown are affecting people's wellbeing. Since the virus has health, social and economic impacts, measures like wellbeing which give us an idea how the combination of these factors are affecting how people are feeling, are particularly useful. I argue that while the government may be alert to the endemic problems of loneliness, anxiety and so on, it is not using this evidence systematically, as part of a coherent framework. If it were to, we could be world-leading in our ability to monitor the three key dynamics of pandemic impact that I have identified. Moreover, given the clusters of data and research excellence in this area in the UK, we would be well-placed to enhance cross-national dialogue between behavioural experts and governments on this key issue.<sup>19</sup> In 2008 Gordon Brown asked me to assemble the best economists in the world to advise him on how to handle the banks during the global financial crisis. Perhaps we should have used Zoom to foster dialogue between the world's leading behavioural specialists to advise governments how to deliver changes in behaviour that would reduce the risks of reinfection at the lowest economic and social costs.

## 2.2 Structures and processes

This is where it seems that the government made a key error. All the attention was focussed on Sage as a group of scientists providing expert advice to allow Ministers to say they were "following the science". My experience with Sage-like bodies was that they were extremely useful in answering specific questions. The makeup of Sage was at first dominated by medical professionals.<sup>20</sup> Therefore, they were probably expert at answering questions specific to the medical sciences. However, and crucially, this was a "mixed" crisis involving health issues and economic and

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<sup>18</sup> Jasmina Panovska-Griffiths et al., 'Determining the Optimal Strategy for Reopening Schools, the Impact of Test and Trace Interventions, and the Risk of Occurrence of a Second COVID-19 Epidemic Wave in the UK: A Modelling Study', *The Lancet Child & Adolescent Health*, August 2020, S2352464220302509, [https://doi.org/10.1016/S2352-4642\(20\)30250-9](https://doi.org/10.1016/S2352-4642(20)30250-9).

<sup>19</sup> A recent study by Krekel et al. shows that happier people are more likely to conform to lockdowns. While the reasons for this can be debated, it seems plausible that people with higher life satisfaction are more motivated to behave pro-socially. These initial findings should be informing government policy about how best to ensure compliance in local (or future national) lockdowns. For example, government messaging that blames young people for irresponsible behaviour may be inaccurate and/or counterproductive. Christian Krekel et al., 'Are Happier People More Compliant? Global Evidence From Three Large-Scale Surveys During Covid-19 Lockdowns', Discussion Paper Series (Bonn: IZA Institute of Labor Economics, September 2020), <https://doi.org/10.31234/osf.io/65df4>.

<sup>20</sup> Ian Sample, 'Who's Who on Secret Scientific Group Advising UK Government?', *The Guardian*, 24 April 2020, <https://www.theguardian.com/world/2020/apr/24/coronavirus-whos-who-on-secret-scientific-group-advising-uk-government-sage>.

social factors arising from decisions made to reduce the COVID death count. Medical scientists were likely to have certain priors, for example that the coronavirus would be experienced as a flu-like “wave”. Sage does not seem to have been willing to investigate alternative suppression measures, which found success in places like South Korea. Its work also appears to have been laced with assumptions about human behaviour.<sup>21</sup> The size and scientific representation of Sage has since expanded, and collectively the various Sage groups now number upwards of 200 experts. Today the issue is likely that such a group is too big to be effective, and the time and accountability gaps between advice and implementation will continue to suffer.

To contain the virus, you needed to know the impact of each lockdown measure on the spread of the disease. But you also needed to know the other effects of such measures. For example, closing schools is a step that carries profound consequences: it affects the quality of education, it has huge impacts on parents who are trying to work from home, and it affects the wellbeing of children deprived of social interaction and learning. So multiple analytical approaches need to feed into such advice as goes to ministers. And ministers need guidance about the nature of the trade-offs involved, as well as how to make consistent decisions as part of an overarching strategy.

How can politicians decide on the right mix of policies without knowing the costs and benefits of each measure? The answer is that these are tough choices and will inevitably be made with very limited information. But that is the nature of many decisions put to prime ministers: decision-making under uncertainty is the lot of government. Officials can help by spelling out the costs and benefits of each measure, accepting that all the estimates are uncertain. But to do so effectively you need some form of common currency which can be used to help decide on the inevitable trade-offs. Richard Layard et al, and I am one of the “al”, laid out a framework for handling such decisions based around the impact of each measure on individuals’ subjective wellbeing.<sup>22</sup> An updated version of the paper is being published in the *BMJ*.<sup>23</sup> One stark result of the early work was to show that the lockdown measures appeared to be consistent with the government placing an extremely high value on extra years of life, considerably in excess of the figures usually used by government in similar circumstances.

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<sup>21</sup> The source of the notorious concept of “behavioural fatigue”, like the “herd immunity” strategy, has not been fully identified. Kamran Abbasi, executive editor of the *BMJ*, has written on this elusive concept and its possible role at a key point of the government’s response to the crisis. See Kamran Abbasi, ‘Behavioural Fatigue: A Flawed Idea Central to a Flawed Pandemic Response’, *BMJ*, 6 August 2020, <https://doi.org/10.1136/bmj.m3093>.

<sup>22</sup> Richard Layard et al., ‘When to Release the Lockdown: A Wellbeing Framework for Analysing Costs and Benefits’, Occasional Paper (London: Centre for Economic Performance, April 2020), <http://cep.lse.ac.uk/pubs/download/occasional/op049.pdf>.

<sup>23</sup> Richard Layard et al., ‘Taking a Wellbeing-Years Approach to Policy Choice’, *BMJ*, forthcoming.

Sage by its nature and composition has been concentrated on the medical health aspects of the pandemic response. I hope we discover that there was a higher committee that gratefully received Sage's work and then brought it together with the economic and social estimates to allow for sensible decision-making. It is not clear that COBRA served this role effectively. And in time I hope we will see the analysis that backed up the decisions on each aspect of lockdown and easing. It does not help that Sage has been shrouded in mystery, and that the UK, unlike other countries, does not have an independent scientific knowledge centre whose data is available and which the public trusts. My biggest fear is that no such framework existed or exists. So the government was not able to give a value to years-of-life-saved by lockdown measures versus other values, such as the trade-offs involved that would impact people with non-COVID-related illnesses as well as individual wellbeing. My guess is that the main learning from this crisis will be the need to establish such a framework.

Another way of thinking about this is to ask what was the government's strategy on COVID as opposed to its tactics? And a Prime Minister who has won the EU referendum and a general election understands the benefits of having a clear strategy. I hope we are now at a point where such a strategy can be made clearer, both for policymakers to use and the public to understand. It will ensure greater consistency and transparency in political decision-making.

To direct such strategy you would also need an executive committee structure that can critically assess the enormous amount of data and opinion being directed at it. In my experience the ideal committee structure for issues which involve numerous departments is that used by the National Security Council, introduced by the Coalition Government in 2010. The NSC structure involves senior experts and officials explaining the nature of a security challenge, their reasoning as to what decisions are required, and their evidence base. Politicians then cross-examine the other members to test the evidence and recommendations. Then politicians debate the issues, which allows the non-elected members to understand the political factors that have influenced their final decisions.

In the early days of the virus, COBR meetings were called which are useful for short-term crises. This was a way of bringing in the heads of the devolved nations. But a longer-term crisis like we now face requires a structure more like the NSC. At present, the government has two key committees: one to look at strategy, chaired by the PM, and one to ensure implementation of that strategy, chaired by Michael Gove. Personally, I would have had one meeting chaired by the PM to minimise risk of slippage between strategy and delivery. These structures matter and might

explain why there are so many criticisms around the lack of a clear strategy and certain delivery failures.

Structures and processes, however, are only effective with the right kind of leadership.

### 2.3 Strong political leadership

I have already established that government had sufficient information to allow it to make better preparations during the crucial period from mid-January onwards. A recent Channel 4 *Dispatches* programme brought to light some concerning evidence indicating delays to key strategic decisions, even after the seriousness of the pandemic had become clear. The government has forcefully rejected many of the claims made by *Dispatches*. Ultimately, only an independent inquiry with unfettered access to records will allow us to reach a full conclusion on whether—as a spokesperson put it—government has “always taken the right steps at the right time, guided by scientific evidence”.<sup>24</sup>

From 23<sup>rd</sup> March, the government’s message was: stay home, protect the NHS, save lives. The problem was that the campaign attached to this simple slogan had some adverse consequences. Conformity to the lockdown was remarkably high, initially approved of by 9 out of 10 voters, and the guidance even brought a spike in self-reported wellbeing, with people satisfied by official guidance and able to adapt to a new normal. Yet this dynamic led people to stay at home who should have sought out medical help,<sup>25</sup> and the consequences will be with us for some time. The NHS was “protected” by diverting resources from other health issues to COVID. The net impact of this is still unclear, but the use of excess deaths is at this stage a sensible outcome measure.<sup>26</sup>

Perhaps predictably, the government chose in its daily press conferences to emphasise the direct COVID effects, mainly cases and deaths. Even here there were problems that relate back to the absence of a good evidence base. Daily charts

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<sup>24</sup> ‘Response to Channel 4 Dispatches’.

<sup>25</sup> M Vollmer et al., ‘The Impact of the COVID-19 Epidemic on All-Cause Attendances to Emergency Departments in Two Large London Hospitals: An Observational Study’ (London: Imperial College London, 30 June 2020), <https://doi.org/10.25561/80295>.

<sup>26</sup> Camille Maringe et al., ‘The Impact of the COVID-19 Pandemic on Cancer Deaths Due to Delays in Diagnosis in England, UK: A National, Population-Based, Modelling Study’, *The Lancet Oncology* 21, no. 8 (August 2020): 1023–34, [https://doi.org/10.1016/S1470-2045\(20\)30388-0](https://doi.org/10.1016/S1470-2045(20)30388-0); James Illman, ‘Coronavirus Response Could Create “Very Serious Unintended Consequences”’, *HSJ*, 5 April 2020, <https://www.hsj.co.uk/policy-and-regulation/coronavirus-response-could-create-very-serious-unintended-consequences/7027321.article>; Jessica Morris, ‘Chart of the Week: The Alarming Drop in Referrals from GPs to Hospital Services since the Covid-19 Outbreak’, *Nuffield Trust Data Story* (blog), 18 June 2020, <https://www.nuffieldtrust.org.uk/resource/new-chart-of-the-week-the-alarming-drop-in-referrals-from-gps-to-hospital-services-since-the-covid-19-outbreak>.

showed hospital deaths but this was misleading, as many were taking place in care homes.<sup>27</sup> The data on new cases remain problematic as the level of testing keeps changing. Attention focussed on the R number but a single national average was always going to be of limited value. A sympathetic read of this is that data were presented in this way for ease of understanding by the public. Sir David Norgrove of the UK Statistics Authority put it more critically in a letter to Matt Hancock on 2 June, where he stated that “The aim seems to be to show the largest possible number of tests, even at the expense of understanding”.<sup>28</sup> More generally, politicians got themselves into the bind of trying to achieve better outcomes according to the more publicly salient rather than scientifically thought-out metrics. This reminds us that what comes to matter is what you choose to measure.

We will need to explore how far these biases towards the direct COVID effects led to poor decisions. Politically, there was the understandable objective to avoid pictures of hospitals being overrun with no space for COVID patients. The indirect costs were always going to be less visible. Journalists found themselves in a predicament, but generally made only rare attempts to cover the indirect COVID effects caused by the diversion of health resources and the lockdown. They thus amplified the policy biases by holding government to account within its chosen approach.

The result was that the virus trumped all other concerns for the public, who out of some combination of national solidarity and fear abided by the rules at remarkably high rates.<sup>29</sup> The Prime Minister being taken into intensive care demonstrated that the virus could affect anyone but it reinforced certain misperceptions. Polling in May showed that people put their chances of being hospitalised if they catch COVID-19 at 40% (median guess).<sup>30</sup> Meanwhile, the key Imperial study from Prof. Neil Ferguson and his colleagues had assumed a hospitalisation rate of just 4.4%. The rate is likely to have been much lower. Public communication of risk was always going to involve trade-offs. But the effects of government strategy and media attention have inevitably skewed the picture drastically. Even after lockdown was

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<sup>27</sup> ‘Coronavirus: UK Deaths Pass 26,000 as Figures Include Care Home Cases’, *BBC*, 29 April 2020, <https://www.bbc.co.uk/news/uk-52478085>.

<sup>28</sup> David Norgrove, ‘Statistics on Testing’, 2 June 2020, [https://uksa.statisticsauthority.gov.uk/wp-content/uploads/2020/06/02.06.2020\\_SDN\\_Matt\\_Hancock\\_MP.pdf](https://uksa.statisticsauthority.gov.uk/wp-content/uploads/2020/06/02.06.2020_SDN_Matt_Hancock_MP.pdf).

<sup>29</sup> Jonathan Jackson et al., ‘The Lockdown and Social Norms: Why the UK Is Complying by Consent Rather than Compulsion’, *British and Irish Politics and Policy* (blog), 27 April 2020, <https://blogs.lse.ac.uk/politicsandpolicy/lockdown-social-norms/#Author>; B Jeffrey et al., ‘Mobility Data from Mobile Phones Suggests That Initial Compliance with COVID-19 Social Distancing Interventions Was High and Geographically Consistent across the UK’ (Imperial College London, 29 May 2020), <https://doi.org/10.25561/79387>.

<sup>30</sup> Ipsos Mori and King’s College London, ‘Getting Used to Life under Lockdown? Coronavirus in the UK’, 29 May 2020, [https://www.ipsos.com/sites/default/files/ct/news/documents/2020-05/kings\\_charts\\_28.5.20.pdf](https://www.ipsos.com/sites/default/files/ct/news/documents/2020-05/kings_charts_28.5.20.pdf).

eased, most continued to see the risk of increased deaths from COVID as a more serious threat than any other—medical, social, or economic.

This means that, as the UK transitioned to the “stay alert” strategy, the government was asking people to exercise far greater personal autonomy in making daily decisions based on their individual risk profile. Communicating this has been a far greater challenge for policymakers than what was required for a blanket national lockdown. As Cass Sustein shows in his forthcoming book *Too Much Information*, governments should focus on conveying information in a way that can best serve human well-being. At a very basic level, would “physical distancing” not have been a far better term than “social distancing”?<sup>31</sup> Listening to the radio waves and studying the polls, it seems that confusion and frustration increases with each new announcement of lockdown rules. Some of this is probably unavoidable, but a more effective public campaign might involve getting people to think pro-socially about the implications of their actions, rather than laying out the exactitudes of the latest set of rules, which in any case change far too often and at short notice. “Don’t kill Granny” seems a better bet than a rule of six. It’s hard to see how encouraging people to snitch on their neighbours can build up social capital. While the jury is out on Sweden’s lockdown strategy, and its profile is far different from the UK, it seems less beset by behavioural and communication issues arising from top-down lockdown rules.<sup>32</sup> The contrast between the two newspaper headlines published



Figure 6: Front pages of *The Times* and *The Daily Telegraph* on 28th and 29th August 2020

<sup>31</sup> It is telling that the World Health Organization shifted to the term “physical distancing” in April. Harmeet Kaur, ‘Forget “social Distancing.” The WHO Prefers We Call It “Physical Distancing” Because Social Connections Are More Important than Ever’, *CNN*, 18 April 2020, <https://edition.cnn.com/2020/04/15/world/social-distancing-language-change-trnd/index.html>.

<sup>32</sup> Maddy Savage, ‘Did Sweden’s Coronavirus Strategy Succeed or Fail?’, *BBC*, 23 July 2020, <https://www.bbc.co.uk/news/world-europe-53498133>.

just one day apart in Figure 6 neatly summarises the conflicting tensions that emerge for the UK-type approach.

Approval ratings for the leaders of Scotland and the UK are somewhat counterintuitive when we look at the relevant coronavirus data in the nations of our union. Scotland's excess death rate is only slightly below that of England, and significantly above that of similar countries (Figure 7). Indeed, given Scotland's very low population density compared to England and its distance from the epicentre of the early crisis in London, Nicola Sturgeon's popularity is in spite of Scotland's handling of the pandemic. Yet today the difference in approval ratings between Johnson and Sturgeon is stark, as is the polling on how effectively people believe the UK and Scottish government have handled the crisis.<sup>33</sup> This tells us first that Johnson used up his political capital quickly after his hospitalisation. The Cummings debacle is where much of that capital was expended, and alongside other failings points to something we knew already: optics matter.<sup>34</sup>

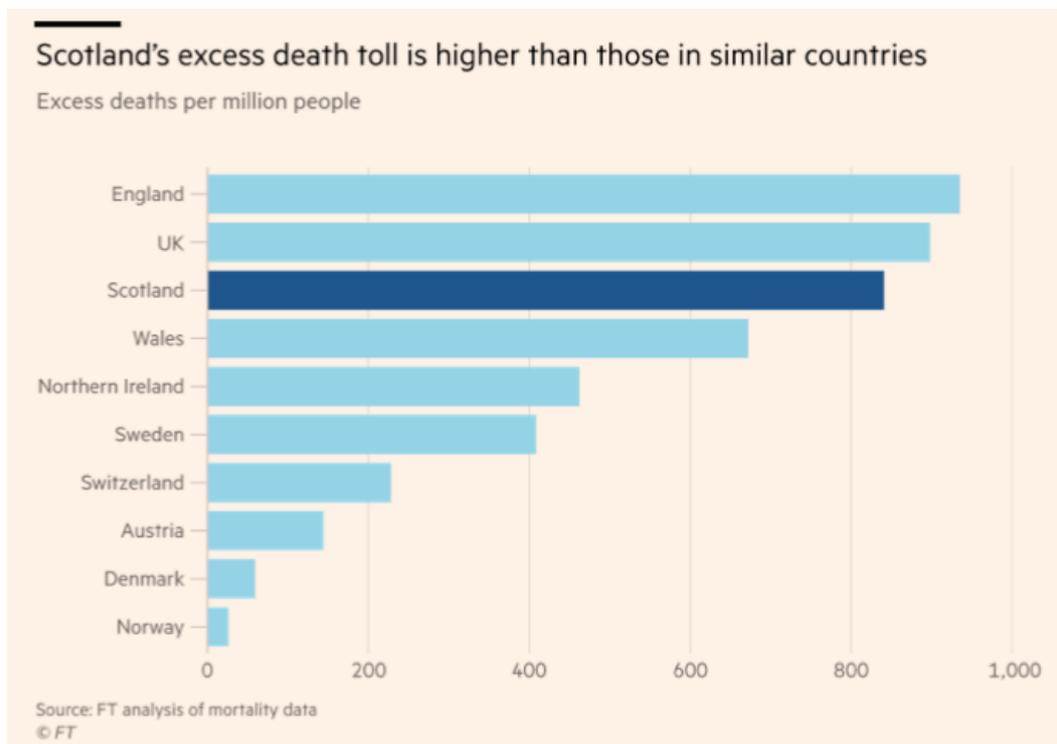


Figure 7: Scotland's excess death data.<sup>35</sup>

<sup>33</sup> Adam McDonnell, 'Three Quarters Approve of the Scottish Government's Handling of COVID 19' (YouGov, 1 May 2020), <https://yougov.co.uk/topics/health/articles-reports/2020/05/01/three-quarters-approve-scottish-governments-handli>.

<sup>34</sup> Daisy Fancourt, Andrew Steptoe, and Liam Wright, 'The Cummings Effect: Politics, Trust, and Behaviours during the COVID-19 Pandemic', *Correspondence* (London: The Lancet, 6 August 2020), [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)31690-1/fulltext#sec1](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)31690-1/fulltext#sec1).

<sup>35</sup> Graph shown in Mure Dickie and John Burn-Murdoch, 'Scotland's Coronavirus Record Flattered by Contrasts with South', *Financial Times*, 2 June 2020, <https://www.ft.com/content/a3fe315f-610a-4086-a6bc-a466a7f33aa1>.

The UK government, empowered to make many of the key decisions facing the country, was always going to find itself bearing the brunt of public criticism, whether or not it deserved that blame. As it has in the past, the SNP gain leverage from claiming success when things go well, while blaming lack of devolved power and the UK government for failures. Given this dynamic, the UK government will almost without fail be cast as the “risk-taker”. To avoid this, leaders in Westminster would have been far better placed to build and communicate a framework of the type I have been advocating. Without it, what transpires is a facile trade-off between COVID deaths avoided and gains to GDP.

Now, I fear that I have pointed out too many grey clouds and too few silver linings. We have a good example of clear political leadership in the UK from the Chancellor, Rishi Sunak. He accepted the advice of economic advisers both inside and outside the Treasury that unprecedented action was needed.<sup>36</sup> The furlough scheme was put together quickly and has largely achieved its objective of keeping people attached to their employer. The scheme supported a colossal 9.6 million jobs. This will allow many of them to go back to employment. Of course, there will be many for whom the end of the scheme will mean unemployment, and here the government will need to learn from past programmes as well as other countries.<sup>37</sup>

The Chancellor’s task is now to move to a more sustainable fiscal situation in the longer term. This will not be easy and the margins of error we are working to means staying flexible and accepting that whatever course is chosen now may need to be modified as we learn more about the economic impact of the crisis. For example, research suggests that economic activity declined significantly prior to official lockdowns.<sup>38</sup> This shows that these blunt instruments of government policy are not

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<sup>36</sup> A policy I have been less convinced by is the Eat Out To Help Out scheme. As one might have intuited, initial research suggests that while the scheme propped up a failing hospitality sector, it may have also led to a spike in COVID cases in some regions. As Toby Phillips puts it in his report, “the party comes with a hangover”. Toby Phillips, ‘Eat Out to Help Out: Crowded Restaurants May Have Driven UK Coronavirus Spike – New Findings’, *The Conversation*, 10 September 2020, <https://theconversation.com/eat-out-to-help-out-crowded-restaurants-may-have-driven-uk-coronavirus-spike-new-findings-145945>.

<sup>37</sup> Richard Layard and Stephen Nickell have proposed a job retention scheme be put in place from the beginning of November (i.e., after the termination of the furlough scheme) for those sectors where demand is artificially suppressed by COVID regulations but which would function fully once there is a vaccine, for example much of the hospitality sector. Under their proposed work-sharing system, the government would provide a subsidy for an employer to keep on all its workers, but those workers would each be employed for only 50% of normal hours. If the subsidy is pitched at the right level, workers keep their jobs, employers avoid the costs of rehiring, and the government does not have to pay the unemployment benefits that would arise had those workers been laid off. My thanks to Richard and Stephen for discussing with me this preliminary work.

<sup>38</sup> Raj Chetty et al., ‘How Did COVID-19 and Stabilization Policies Affect Spending and Employment? A New Real-Time Economic Tracker Based on Private Sector Data’ (Cambridge, MA: Opportunity Insights, n.d.), <https://opportunityinsights.org/wp-content/uploads/2020/06/tracker-summary.pdf>; Emily Badger and Alicia Parlapiano, ‘Government Orders Alone Didn’t Close the Economy. They Probably Can’t Reopen It’, *The New York*

sufficient to stimulate the economy; and it is exceedingly difficult to predict what the economic and social effects of further lockdowns might be. So now is the time for discretion not rules. It is helpful that many countries face the same problems and are responding in similar ways, allowing for much looser fiscal policies.<sup>39</sup>

Where the government decides this extra money goes brings me back to one of my main messages. The right policy responses must involve maximising the economic and social benefits while minimising the health repercussions. This means that fiscal stimulus is inevitably best used if directed to particular parts of the economy and population, for example younger people whose jobs and livelihoods are more precarious and who are also least at risk of the virus. The Chancellor's leadership at the early stages of the crisis may be buoyed because his measures propped up the whole economy; distributional effects were second order.<sup>40</sup> Now is the time for more targeted policy. Effective leadership can take the government some of the way, but again I stress that what is really needed is a proper framework, perhaps one that utilises subjective wellbeing measures. Moreover, I must also stress that the best thing that the government can do for the business community now is to get a Brexit deal and so avoid the perfect storm of "no deal" and a second wave of COVID.

## 2.4 Institutions capable of implementing decisions

When I became Cabinet Secretary in 2005, I instituted a series of capability reviews of departments. These examined their strengths and weaknesses using external assessors; the results were published together with action plans to improve on the weak areas. They were intended to support transparency and accountability. They did not survive beyond my time, being replaced by departmental improvement plans, themselves eclipsed as the Civil Service struggles with the challenges brought about by Brexit.

When the crisis struck, a lot of the burden fell on Public Health England (PHE); and indeed there have been political attempts to blame PHE for many of the problems with the COVID response. PHE was established in 2013 as part of the Lansley

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*Times*, 9 May 2020, <https://www.nytimes.com/2020/05/07/upshot/pandemic-economy-government-orders.html>.

<sup>39</sup> Some of these ideas have been discussed by Richard Hughes et al. at the Resolution Foundation. See Richard Hughes et al., 'The next Generation of UK Fiscal Rules' (London: Resolution Foundation, October 2019), <https://www.resolutionfoundation.org/app/uploads/2019/10/Totally-net-worth-it.pdf>; Richard Hughes et al., 'Doing More of What It Takes: Next Steps in the Economic Response to Coronavirus' (London: Resolution Foundation, April 2020), <https://www.resolutionfoundation.org/app/uploads/2020/04/Doing-more-of-what-it-takes.pdf>.

<sup>40</sup> This is not to say that such programmes did not have distributional impacts: in a forthcoming article, Adams-Prassl et al. show that "not all workers are furloughed equally." See Abi Adams-Prassl et al., 'Furloughing', *Fiscal Studies*, forthcoming, <https://drive.google.com/file/d/173cuSrweSe9kIMW0q98EDth5-ow5zsQa/view>.

reforms; it is an executive agency reporting to the Department for Health and Social Care. It has operational autonomy, but Ministers specify its objectives in annual remit letters. Tellingly, the most recent letter has preparing for our departure from the EU as the first objective. Ministers will no doubt have given it a new set of priorities when the virus struck. Notably, PHE focuses on the behavioural work on prevention, which includes strategies to help us eat better and exercise more.<sup>41</sup> Since containing the pandemic is achieved mostly by changing behaviour, PHE should have played a key role in the response. Instead, ministers have announced that it is to be abolished, with a new National Institute for Health Protection being set up in Spring 2021—supposedly modelled on Germany’s Robert Koch Institute—which will be home to the NHS test and trace team and the Joint Biosecurity Centre. The behavioural work, which is arguably the most important part, will go somewhere else, as yet unspecified. This impulse goes firmly against the collaborative human science approach I have been advocating for in this lecture.

At this stage, we cannot reach firm conclusions about which parts of the government machine are responsible for the various operational failures in areas like testing and the supply of personal protective equipment (PPE). On the testing side, it is hard to understand why PHE rejected the use of non-government laboratories.<sup>42</sup> Other countries, like South Korea and Germany, successfully used a much more decentralised approach to testing. In addition to some operational failings, Ministers have frequently broken one of the cardinal rules: they have over-promised and under-delivered. Talk of moonshots shows they have not learnt this lesson yet. That puts enormous pressure on the system and results in behaviours which “hit the target but miss the point”, like sending out lots of home tests which are not returned.

It is not clear to me that abolishing PHE makes much sense. Does the government not like the executive agency model? This cannot be the reason, as the new body will have the same status. There are good examples of bodies that are set objectives by government and then given operational autonomy to deliver, not least the Bank of England. It is much more likely that the problem lies in how a central authority liaises with multiple local and private providers. In addition, perhaps too much faith was put in digital solutions, led out of the newly established NHSX, without realising the efficacy of using experienced track and tracers to contact people and persuade them to quarantine. Clearly both people and technology are needed. It is telling

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<sup>41</sup> Responsibility for behavioural work is perhaps unhelpfully split between various bodies, including the Department of Health and Social Care and the Behavioural Insights Team.

<sup>42</sup> Sophie Barnes, ‘Labs Whose Offers of Testing Help Have Been Ignored by the Government Give Services to GP Surgeries’, *The Daily Telegraph*, 10 April 2020, <https://www.telegraph.co.uk/news/2020/04/10/labs-whose-offers-testing-help-have-ignored-government-give/>.

that this is 2020 and we have a track and trace system in place but—at least until its launch today—no app.

Of course, we should not forget that there are also many success stories where departments have risen to the challenge. I have already noted the Treasury and HMRC's furlough scheme. Over at DWP, by April, 4.2 million people were in receipt of universal credit, a rise of 1.2 million cases in the course of a month.<sup>43</sup> When I look back at my now very dated capability reviews it does not surprise me that it is these departments that have done well. Over the years the need to respond to major policy changes usually made in budgets, like the introduction of various tax credits and a minimum wage, has required them to be good at implementing radical changes very quickly. Meanwhile, those institutions like PHE which should come into their own in a "what if" scenario have generally failed. Is this because ministers failed to uphold the mandate of these institutions when crisis struck; or because agencies failed to do the necessary preparatory work? Answering these questions can inform how we should build more effective and resilient public institutions in the future.

### **Winter is Coming: Challenges and Opportunities Ahead**

There has been a lot of debate about the long-term societal changes that might result from the crisis. My own view is that such changes will be quite limited, but that some learning has taken place during lockdown that has formed new behaviours and modes of human cooperation. As policymakers, we must study these intently. The shift to virtual working will not be universal, but many have realised that it can be quite effective and avoids the slog of daily commuting. Some will have discovered the joys of volunteering and helping neighbours. Many will have experienced doing without various activities and products. But, if and when a successful vaccine is found and rolled out, will any of these changes stick? I hope so, but expect a return to the status quo ante in most cases.

There is here a clear place for government, which must decide on the role that it plays in guiding recovery, or how to "Build Back Better", as both politicians and campaign groups refer to this unique challenge. Recently I had the honour of launching the Law Family Commission on Civil Society, which is to generate new approaches to making the most of the UK's civil society over the course of the 2020s. The need for such thinking is clear and there appears to be appetite in government too, with a more limited government review currently being conducted by Danny Kruger at the request of the prime minister. I hope that the

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<sup>43</sup> Kevin Peachey, 'Coronavirus: Universal Credit Claims Hit Monthly Record', *BBC*, 20 May 2020, <https://www.bbc.co.uk/news/business-52721657>.

government takes seriously both reports in the context of the building back and levelling up agendas.

Mapping civil society and building social capital serve both our longer-term but also immediate interests as a nation. As winter approaches, the challenge will be to prepare for the possibility of an upsurge in coronavirus, a downturn in the economy, and the fallout of a no-deal Brexit. Without adequate preparation, these events—yet again—hold the potential to fall hardest on those who can least afford it.

As it has already, the social sector will play a vital part in mitigating hardship. But this is to undervalue its role. Civil society is home to a mine of data about local communities, which remains woefully absent in central government understandings about social and civic ties, including the role they served during lockdown. It seems obvious that it is these networks that government would best tap into to confront some of the challenges we collectively face: explaining the health implications of obesity, the benefits of more exercise, or combatting endemic levels of loneliness. Here much of the work is about making implicit data explicit and more utile for public policy—not with the intention of rolling back the state, but to allow government to allocate resources in ways that will most enhance the wellbeing of those worse affected by this crisis. For example, this data can help us understand what the best incentives and systems are to get individuals to self-isolate. If those testing positive ignore the result because they cannot afford to self-isolate, not even a genuinely world-beating test and trace system can succeed.

Making better use of highly decentralised and implicit civic data brings us to the opposite issue: cases where the UK's centralised form of government has not allowed us to reap the touted benefits of centrally pooled data. This, for example, should have brought advantages to our early understanding of the pandemic: many countries around the world envy our NHS because it generates really useful data that can quickly be used to improve health outcomes. It remains uncertain where in fact this centralisation has helped. Germany, rightly held up as the most successful example of coronavirus response of the major European economies, has a healthcare system with many decentralised features, such as town hospitals that are often controlled by local mayors and a regionally-empowered laboratory infrastructure.

That is not to say that regionalisation and decentralisation will always be an asset. At the other extreme, Spain, whose regions have ten times the health budget of the central government and whose national health ministry has only 500 staff,

shows how federalisation can cause serious problems for pandemic response.<sup>44</sup> And here it feels appropriate to mention the UK's own political makeup. While regional decision-making is going to be a vital tool of the policy kit in the coming months, it is already the case that devolved authority in the UK nations has helped to exacerbate the tensions held between different centres of power. Germany illustrates that this does not need to be so, and that it is possible to follow the science while working within and respecting existing contours of central and regional authority. But looking from Spain to the United States to Brazil, it seems unavoidable that working through our own various political divisions as a union of nations is part and parcel of any agenda to build back better. We should cast aside ideas of British exceptionalism and look to the likes of New Zealand, Singapore and Korea on how we can do things better.

### **Global Governance and the UK's Role**

And finally, I am conscious that as I deliver this lecture parts of the world, and perhaps soon this country, are facing record upticks in daily coronavirus infections, which show little sign of abating. Even more than in 2008, it is clear that the fortunes of the UK are bound up with those of the global community. Unlike 2008, the G-20 and the G-7 currently lack the wherewithal to provide leadership on the cross-cutting issues this pandemic brings. There is perhaps no more fitting contrast between London's ExCeL Centre in 2009, when Gordon Brown hosted the G20 London Summit—the largest gathering of world leaders in London since 1946—and 2020, when it was home to a largely unused Nightingale Hospital. Lamentably, the World Health Organization lacks the support of the United States, which until President Trump cut funding provided more than double the contributions of the next biggest funder.<sup>45</sup> It is not clear that the WHO has the legitimacy or expertise to deal with the attendant non-medical issues that this lecture has paid attention to. The need for global governance reform that allows for better engagement between the various branches of scientific knowledge is palpable, but it is unlikely anything will happen until after the US election. Even then, such reform remains a hope and not an expectation.<sup>46</sup>

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<sup>44</sup> Daniel Dombey, 'Covid: Why Spain Is Hit Worse than the Rest of Europe', *Financial Times*, 10 September 2020, <https://www.ft.com/content/6a5e61f5-7a35-4ad9-b57d-98f1dfa107ad>; Daniel Dombey, 'Pedro Sánchez Throws Covid Gauntlet down to Spain's Regions', *Financial Times*, 30 August 2020, <https://www.ft.com/content/947d94aa-abdd-456d-85bc-363d64520869>.

<sup>45</sup> 'World Health Organization Funding in One Map: How Much Each Country Contributes', [howmuch.net](https://howmuch.net/articles/who-contribution), 28 April 2020, <https://howmuch.net/articles/who-contribution>.

<sup>46</sup> The collaboration between Gavi (the Vaccine Alliance), The Coalition for Epidemic Preparedness (CEPI) and the World Health Organization is a promising signal of international collaboration. However, considerable uncertainties remain around this programme, and key countries like the United States and China are not currently backing the initiative. See Seth Berkley, 'COVAX Explained', Gavi: The Vaccine Alliance, 3 September 2020, <https://www.gavi.org/vaccineswork/covax-explained>.

The virus will not wait for the right global leaders to emerge, and so neither should we. In this lecture I have provided a fairly humbling assessment of the British pandemic response. It is imperative to look back critically at where things went wrong. But there is also reason to be optimistic about our ability to confront the next challenges better. In particular, the UK is home to one of the world's most promising vaccine development projects. We can only hope that the medical researchers at Oxford, as well as Imperial, Cambridge, various other research and manufacturing facilities and various industry partners, are successful.

As I have been at pains to explain in this lecture, it is not just the medical sciences that will be key in tackling the next stages of the pandemic. Analysts have alerted us to the various ancillary challenges that come with the rollout of any vaccine: manufacturing and storage capacity as well as transport infrastructure are vital and at present lacking. These infrastructural issues will best be dealt with by engaging concurrently with the humanistic questions: who will get the vaccine first? Who will pay, and who profit from it? How do we ensure high take-up of an approved vaccine, while also conforming to our values as a liberal democracy? Having a vaccine is not vaccination, and building public trust domestically and globally will be vital.

Forty years ago, the UK played a key role in the genesis of the field of medical ethics. Today, we host an array of institutions that are contributing to similar debates around the development of Artificial Intelligence. It seems to me that one highly plausible explanation of the British experience of the last seven or so months—political deference to the medical rather than the broader human sciences—can be recalibrated for the next stage of pandemic response. This will allow for more productive engagement between the various branches of science, as well as attention to the core social and ethical issues at stake. In sum, the landscape of British scientific endeavour and the liberal democratic values that its institutions hold themselves to are a vital national asset. They may well position the UK to provide a positive and equity-enhancing contribution to this global challenge.