II. A comparative assessment of the British experience so far

Assessing a country's relative performance in responding to COVID-19 is not straightforward. To begin with, the quality and availability of data vary between countries. We have chosen three measures that we believe to be among the more robust, but acknowledge there are many others available. These are excess death rates, changes in GDP and subjective well-being. We explain why we believe each of them is useful, and then comment on how UK outcomes compare with those of other countries.

1. Excess deaths

Excess death rates during the COVID-19 pandemic provide a measure of the virus's impact on mortality that allows international comparisons to be made which are less subject to distortion than other measures of COVID-related death. The numbers directly attributed to the virus in different countries depend, for example, on the level of testing, and the time between a positive test and death, since different countries apply different cut-off dates.

Excess deaths are also a particularly useful indicator of the extent to which different countries' health systems were put under strain during COVID-19, leading to compromises in healthcare such as cancelled operations and increased ambulance and accident & emergency (A&E) waiting times.[3] The measure captures the effect such strains may have had on, for example, deaths from operable cancers.

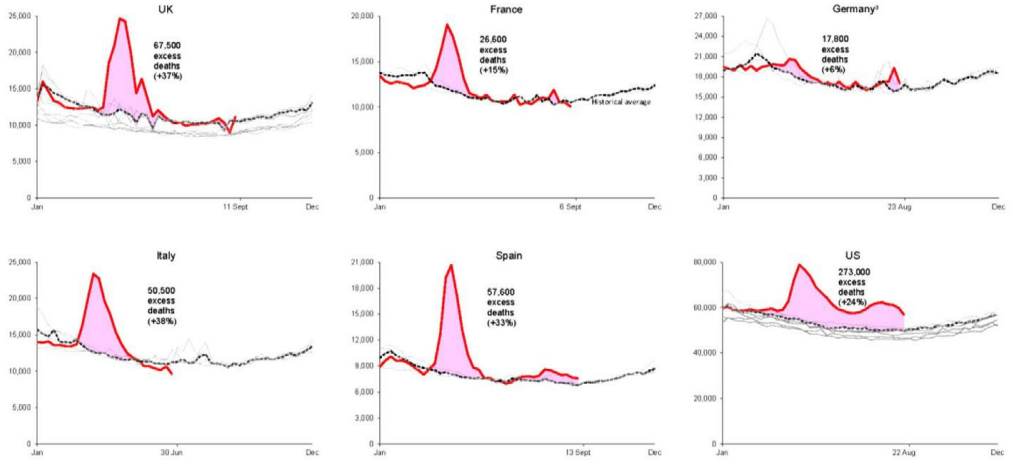
Deaths may also be increased by other features of a country's pandemic experience – for example, if the government's public communication campaign around COVID-19 has led to a reduction in people's use of health services. All in all, excess death rates are a particularly useful measure of a country's overall performance in the pandemic, capturing both the effects of policy decisions that change the prevalence of the virus (such as the stringency of lockdowns) and the capacity and preparedness of the healthcare system to respond to a major shock.

Deaths from all causes during the pandemic, per million population, are compared with averages over a recent period: researchers have typically taken 2015–19 as the baseline where country-level data are good enough. Although, since the start of the pandemic, countries have moved up and down this dismal league according to where they are along the waves of the COVID-19 cycle, the message is clear: the UK has so far consistently displayed one of the highest excess death rates, both per million people and compared with historical averages, when measured against countries of similar income and levels of development.

[3] Morris, 2020a.

FIGURE 1

Deaths per week, and excess deaths in 2020



[a]In 2016–17 and 2017–18, Germany saw very high influenza-related deaths (estimated at 22,900 and 25,100 respectively; see Robert Koch Institut, 2019, 47). Germany's excess death rate in 2020 is lower than it would have been had these pre-2020 years not seen particularly high death rates.

Note: The thick solid lines show deaths per week from all causes in 2020. The multiple paler lines in each graph show the same in the years 2015–19 for Italy, the UK and the US, 2016–19 for Germany and Spain, and 2018–19 for France. The dark dashed lines show averages over these periods. The shaded areas show excess deaths in 2020 above these averages.

To take just one snapshot, analysis of mortality data by the *Financial Times* in September 2020 shows that the excess death rate in the UK is +37 per cent in 2020 compared with the average death rate over 2015–19. This compares with excess death rates of +15 per cent in France, +6 per cent in Germany, +38 per cent in Italy, +33 per cent in Spain and +24 per cent in the United States.[4] These excess deaths data, and associated averages over recent periods, are shown in Figure 1.

Country-specific demographic, economic and social factors may account for some of these differences. However, many argue that the reason for the UK's notably poor performance in the first phase is that the decision to lock down was taken too late.[5] Others have pointed to London's role as an international hub, which meant that it has been particularly vulnerable to cross-border transmission of the virus. Questions have also been raised

[4]FT Visual & Data Journalism team, 2020. This data set was last updated on 25 September, and reflects the latest data reported by each country prior to that date. The latest data correspond to 11 September 2020 for the UK, 6 September for France, 23 August for Germany, 30 June for Italy, 13 September for Spain and 22 August for the US. Data limitations mean that the historical averages are calculated over 2016–19 for Germany and Spain and over 2018–19 for France.

[5]Dye et al., 2020.

show, this flu playbook was drawn on heavily by SAGE members in the advice they gave to government, until perhaps the final days of February.[35] Even on 10 March, the group still rejected (with no recorded dissensions) the option of a China-style lockdown.[36]

Avoiding a long and stringent national lockdown may have been viable if SAGE, its various subcommittees, the health institutions which some of its members led, and the government were working to maximise the effectiveness of alternative suppression measures. This would have required learning from other countries, such as South Korea, where widespread testing and tracing, alongside isolation and containment strategies, were effective alternatives to the severe lockdowns seen in many other high-income countries.[37] Learning by example may have also brought forward a pivot away from the influenza-type strategy and led to more substantial incorporation of insights from the social sciences – particularly economics and behavioural science.

For example, a test-and-trace system can be highly effective, but only if there are also very well-designed incentives and systems in place to make sure that people isolate when asked to do so. Instead, many SAGE members seem to have held the prior that changing people's behaviours would not be possible at a scale that would substantially reduce the spread of the virus – leading to early high-intervention policies being discounted.[38]

It should not be expected that medical experts are also experts in the study of human behaviour; but what was needed to make up for these deficiencies was greater diversity of thought. The UK ended up losing out on the benefits of an earlier, 'smarter' lockdown, but by the time transmission was increasing exponentially it then also lacked the systems that would make less economically and socially costly measures viable. To work, these systems

[35]Minutes from a meeting of SAGE on 11 February state that 'SAGE agreed that [HM Government] should continue to plan using influenza pandemic assumptions' (SAGE, 2020a). One of the assumptions of such a framework is that once transmission has begun to spread at pace outside the original outbreak area, mitigation measures are likely to have limited impact. Thus, on 21 January, NERVTAG – another key scientific advisory group which advises the Chief Medical Officer and the Department of Health and Social Care on how to minimise risk to the UK population – concluded that if there were 'efficient transmission' of COVID in multiple Chinese cities, 'more stringent method[s]' such as border closures 'would only delay the UK outbreak, not prevent it' (New and Emerging Respiratory Virus Threats Advisory Group, 2020a). Similarly, minutes from a later SAGE meeting on 25 February align with this influenza-style planning, with scientists concluding that 'Interventions should seek to contain, delay and reduce the peak incidence of cases, in that order' and that 'Any combination of measures would slow but not halt an epidemic' (SAGE, 2020c).

[36]Instead, SAGE identified that 'cocooning' or social distancing would be for those 70 and over, as well as those of any age in vulnerable groups. In this same meeting, members concluded that 'public gatherings pose a relatively low but not zero public risk' (SAGE, 2020d).

[37]Rossman, Bell and Reinhardt, 2020.

[38]Freedman (2020a), tracing the process of events before the UK lockdown was introduced using the published minutes of SAGE meetings, concludes that 'Sage's main concern was public compliance if [harsh] measures were introduced too early, and that self-isolating would be hard to maintain over a long period of time'. See also Abbasi (2020) and Freedman (2020b).

would have required building preparedness from late January at the speed and scale of a country on war footing. SAGE is not an operational body, and so it was not itself responsible for the apparently weak efforts here. But the basis of its advice should have pivoted from the influenza playbook sooner, and its members – many of whom do lead key operational bodies – could have levelled with government earlier about the different policy options available and the urgency of pursuing a clear strategy.[39]

Aside from the moments when studies developed in universities drove government policy, this advice from SAGE was presumably the key scientific evidence guiding the government's COVID-19 response strategy. It will be the task of a future inquiry to understand exactly how this advice was incorporated into government policy. Without doubt, policy should never be made on the basis of one, particularised, form of scientific knowledge. It is incumbent upon government ministers and their advisers to set up processes so that they are able to weigh up different forms of expertise. It will be important to ask whether structures were in place to balance SAGE advice with other evidence, such as economic and 'within-health' spillovers of the lockdown strategy.

An inquiry will be able to examine the nature of the committee structure 'above' SAGE, involving key decision-makers, and the extent to which they weighed its evidence against that provided by others. Only time and a thorough *ex post* look at the evidence will tell. At this stage, there are several initial indications that structures allowing for a critical distance between SAGE advice and policy decision-making were insufficient. One of these is institutional and drawn from Gus O'Donnell's professional experience in government. COBR meetings, which take place in the Cabinet Office Briefing Rooms (COBR), are standardly used in the UK to deal with short-term critical incidents. COBR, of which SAGE is a subcommittee, is often chaired by the Prime Minister, with other key ministers in attendance, as well as the heads of devolved administrations and relevant government agencies or bodies, as appropriate. COBR meetings are often highly effective in short-term crises.

However, COBR continued to be convened well into May, by which time various implicit political tensions had become apparent – for example, concerning the powers of city mayors and the heads of the devolved administrations. These meetings came to an end abruptly, perhaps partly because of these growing tensions. In any case, ad hoc committees are unlikely to be capable of developing and delivering a coherent strategy and policy

[39]It is not clear that SAGE did offer this urgency to government. As Freedman (2020b) notes, SAGE minutes 'show that as the epidemic took hold the government was largely following Sage's advice. It could and should have questioned the advice more, not least because other countries were acting after 9 March with greater urgency. But the "science" encouraged the UK to be relatively slow in imposing stringent measures'. To take one example of this scientific caution, at a 21 February meeting, NERVTAG recommended that the threat level should not be raised from 'moderate' (New and Emerging Respiratory Virus Threats Advisory Group, 2020b). See also Grey et al. (2020).

is positively correlated with adherence to lockdown measures.[62] Confidence in government is also positively correlated with life satisfaction; and life satisfaction with conformity to lockdown rules.[63] We cannot say how England would have fared in a world where the UK government had handled these dynamics better, but this research suggests that the government's job has been made only harder with the erosion of trust.

Indeed, governments must be especially cautious about how their decisions affect public trust and well-being. Actions that weaken them may undermine the potential for public policy to have its desired impacts (suppressing the *R* rate; stimulating the economy). COVID-19 can ultimately only be contained by changing people's behaviours, or a vaccine. Without the latter, political action that jeopardises state capacity to change behaviours can be costly. In that sense, had it drawn more substantively on evidence from the social sciences, the government might have better appreciated the value of political communication to bolstering the efficacy of policies designed to minimise virus transmission.

A final point to note is that Boris Johnson's Cabinet went into this crisis with comparatively limited experience in positions of power. At the start of the pandemic, Cabinet members had an average of just 19 months of Cabinet-level experience. Fourteen of the 22-strong team had been in Cabinet for less than a year, and only one – Michael Gove – was a veteran of David Cameron's 2010 Cabinet. Representation of veterans in Cabinets has generally weakened in recent decades.[64] There have, of course, also been three general elections in the course of four-and-a-half years, as well as significant churn among the top positions in the civil service.

A recent Institute for Government report points out that ministers with less than a year's experience have generally not had the opportunity to take part in live planning exercises or build relationships with stakeholders beyond their department.[65] This, the report argues, may explain why the government did not use established communication structures – for example, by regularly briefing the public on policy decisions with major implications for the health service without giving notice to NHS leaders. Frustration with government consultation and communication processes ultimately led the senior leadership of NHS Providers, which represents NHS Trusts, to write to Matt Hancock to request that government adhere to established protocol.[66]

Cumulative ministerial experience is clearly no panacea for lack of government capability, but it is undeniable that there has been a period of comparative instability in the top ranks of the UK government since David

[62]Bargain and Aminjonov, 2020; Besley and Dray, 2020; Marien and Hooghe, 2011.
[63]Layard et al. 2020, 6–7 and 18; Krekel et al., 2020.
[64]Cooper, 2020.
[65]Davies et al., 2020, 7.
[66]Hopson and Cordery, 2020.

Cameron's resignation after the 2016 EU referendum. The impact of this inexperience would be impossible to measure, but recognising this as a potential point of vulnerability may open up pathways to reform that mitigates the impact of political inexperience.

VI. Economic policy

A further aspect of political leadership relates to the distributional consequences of decisions that politicians make. 2020 has seen the most significant interventions by the state in the economy since the Second World War. By May, UK government debt had exceeded the size of the national economy for the first time since 1963. The decision for a second England-wide lockdown brought a further economic shock, leading the Chancellor to announce an extension of the flagship Coronavirus Job Retention, or 'furlough', scheme until March 2021. By November, the Office for Budget Responsibility estimated that the deficit for 2020–21 would peak at between £353 billion (upside scenario) and £440 billion (downside scenario).[67]

The sheer scale of economic support measures being undertaken across the world means that a very large public debt burden will be a fixture of advanced economies for a long time to come. Significant tax rises are a close-to-inevitable consequence of this. Injecting these vast sums of money into the economy inevitably has distributional effects. A now significant literature shows that the multiple rounds of quantitative easing (QE) used after the 2008 global financial crisis by the central banks of high-income countries brought greater gains for asset owners than it did for workers. QE is being used again in 2020; however, it is being combined with a variety of additional economic support measures for workers, such as the furlough scheme, which in its first iteration supported 9.6 million jobs.[68] Without doubt, this scheme has been invaluable for supporting workers and keeping firms viable during the first lockdown; it will continue to play that vital role in 2020 Q4 and 2021 Q1.

Nonetheless, the furlough scheme's effects have been complex, and initial research has shown some of the distributional effects, which could possibly have been mitigated had certain design features been different.[69] For example, workers on higher incomes, and men (unconditionally) are more likely to have

[67] Office for Budget Responsibility, 2020, 151.

[68] HM Revenue and Customs, 2020.

[69] Note, for example, that in the UK and the US, but not in Germany, women and those without university degrees were more likely to be out of work. Moreover, in Germany, the *Kurzarbeit* scheme allowed employees to continue to work at least some hours while still benefiting, proportionally, from state support. In the UK, this was not allowed under its furlough scheme, and firms could apply for support only when the worker(s) in question were doing zero hours of work. As Adams-Prassl et al. (2020b, 597) note, 'In principle, flexible reductions in hours seem preferable as a minimum number of hours may be necessary to sustain critical business operations'. Moreover, the rigidity of the UK system may have led unintentionally to widespread fraud in furlough claims. Real-time survey work by Adams-Prassl et al. (2020a, 612) shows

probably influenced by the tenor of the government's lockdown campaign: parents, pupils and teachers were, like the rest of the population, responsive to messaging that induced fear about any physical contact. Research published in May showed that fewer than half of parents would send their child back to school if they had the choice, with lower-income parents being even less willing to do so.[77] Political decision-making – for example, around the fear factor stimulated via the public campaign – is part of a lengthy causal chain which may unwittingly result in the further widening of socio-economic disparities.

We acknowledge that in the highly activist policy environment such as we have seen since March 2020, most decisions required working on limited established precedent and under high uncertainty. But this environment made the need for a framework for policymakers to evaluate the myriad trade-offs of policy decisions even more important. It is difficult to see how decisions taking full and proper account of the various costs and benefits were possible without sustained input from social scientists. The economic recovery from the pandemic will require policies that give higher distributional weighting to minority groups whose livelihoods have been especially affected by the pandemic.[78] It would have been far better had these increased disparities in livelihood been mitigated in the first place.

VII. Institutions

Institutions, according to a classic definition, are 'the rules of the game in a society, or more formally, are the humanly devised constraints that shape human interaction'.[79] The foregoing sections have dealt implicitly with some issues related to how institutions have performed in the UK during the COVID-19 crisis – for example, how COBR has been used as a decision-making forum for politicians to decide emergency policy measures. Data pass through institutions such as COBR and are used by politicians to decide on which policy outputs are appropriate given the available evidence and various uncertainties. Other institutions are then tasked with implementing these policy decisions, as part of their broader remit to achieve particular outcomes, whether that be protecting public health in the case of Public Health England or educating the population for the Department for Education.

These institutions' ability to fulfil government and department-specific policy goals depends on various factors, such as the quality and

lead to higher COVID-related deaths (when including cumulative deaths in first, second and subsequent waves). See Rice et al. (2020). Of course, this is preliminary work and many more studies are likely to emerge on the impact of school closures in due course.

[77] Andrew et al., 2020a, 19.

[78] For an initial appraisal of some of these distributional weightings, see Besley and Stern (2020).

[79] North, 1990.

appropriateness of the policy prescribed by central government, the requisite skill and talent base within the institution and its ability to collaborate effectively with other relevant parts of government and society. This section investigates some features of the UK's institutional mix that may have compromised its ability to respond effectively to the public health challenges brought by COVID-19.

On the one hand, it may be the case that the design of some of the UK's institutions and how they interact with one another mean that the deck was stacked against the many competent public officials tasked with responding to the pandemic and mitigating its worst effects. In Section IV, we outlined some of the issues with using COBR as the main government body for emergency policy response. Broadening this assessment, one of the major challenges for policymakers has been responding to issues that require deep and sustained collaboration across the entire government machinery. There are what might be considered the 'core' institutions of the Department of Health and Social Care, Public Health England, NHS England and their counterparts in the devolved governments. In addition, coordination has been essential between central government, the devolved administrations and local government. Other key institutions include the Care Quality Commission, the Department for Education, the Home Office, HM Prison Service and their devolved counterparts, as well as those for UK-wide travel and border control, such as the Civil Aviation Authority and Border Force. Within these various bodies, there have also been subdivisions charged with discrete responsibilities, such as the NHS's newly formed unit for technology, NHSX.

This abbreviated list shows the vast array of institutions that need to work together within a wider network, engaging on cross-cutting challenges. In government, inter-institutional collaboration is a strategic and communicative challenge in normal times. It may be that the challenges presented during COVID-19 have exposed the UK's institutional make-up as inadequate for achieving good outcomes.

There are several indications that this argument may have some merit. We focus on the major institutional shifts that have occurred since the beginning of the COVID-19 crisis as evidence of subpar institutional arrangements for delivering on policy. There have been three major institutional shifts in the UK (and more specifically England) since the crisis: the establishment of NHS Test and Trace (NTT), the development of the NHS COVID-19 app by NHSX and more latterly NTT, and the abolition of PHE. The establishment of NTT was announced by Health Secretary Matt Hancock on 23 April 2020. As has been identified, the test-and-trace strategy taking so long to come to fruition may

be an indication that PHE was poorly prepared for a pandemic, despite the development of such a strategy being fully within its mandate.[80]

That a new and separate body in NTT was necessary shows PHE's institutional weakness; that it arrived so late suggests weak oversight and accountability – and a lack of strategic forethought – by politicians and other public officials. Relatedly, it was NHSX and not PHE or NTT that had been given initial responsibility for the development of a phone app that would alert users if they had been in physical proximity to someone who later tested positive with COVID. The first months of the app's development were mired in delay and what appear to be some serious missteps by NHSX, such as around whether the app should follow a centralised or decentralised model of data management. The Health Secretary's transfer of responsibility for the app from NHSX to NTT shows political powers of delegation at work, but also raises questions about political influence over science policy. Where did the idea that this technological innovation would ever be a 'silver bullet' come from? Political oversight is a requirement of any democratic system, but situations in which politicians can give misleading impressions about the potential for a scientific or technological innovation to deliver are demonstrably unhelpful. These powers can have a real impact on outcomes, and must be subject to rigorous checks and balances. More generally, one lesson here is that the UK – and in fact the global community – is some way off being able to harness technology effectively in emergency situations.

A case in point of weak performance paired with high political interventionism is PHE and the decision to abolish it. PHE on paper would seem to have been the most obvious place for a testing system to be instituted and a tracing app to be developed, but it has fared especially poorly throughout the pandemic, to the extent that in August 2020 government announced that it would be replaced by a four-nation National Institute for Health Protection (NIHP). It would be premature to level blame directly at PHE for its record. PHE was established as recently as 2013, as part of the Lansley reforms. Questions must be asked about how such a young executive agency – supposedly designed to respond to the cross-cutting challenges of public health in the 21st century – came to be such a weak point for government delivery. For the future NIHP, it will be vital to have a thorough consultation process involving both medics and public management experts to decide what its mandate should be, including the extent and form of its relationship with the public. For example, PHE had a pronounced public-facing role to improve the nation's health and well-being. However, perhaps partly because of this responsibility, it does not seem to have enjoyed public trust or respect,

[80]Minutes from a SAGE meeting on 16 April state that 'PHE confirmed it was unable to deliver a community testing programme. SAGE agreed that if PHE is unable to undertake the programme then this should be undertaken within a repeated ONS-led household survey programme' (SAGE, 2020e).

unlike similar institutions in other countries. There must be concerted thought given to what kind of institutional relationship the NIHP has with elected government as well as the public. More formalised checks and balances that insulate it from short-termist political machinations are likely required, as well as stakeholder engagement of the kind expected in a democracy.

An alternative approach would be to look less to the design of government institutions and more to the individuals who fill their ranks. The problem of attracting and retaining highly skilled people in the public sector varies depending on the department and profession in question, but there are systemic challenges. Years of wage restraint after the 2008 financial crisis mean that the difference between public and private sector hourly pay has fallen to below pre-crisis levels, with public sector earnings 2.5 per cent lower on average in 2019 than at the start of 2010.[81] The last time the gap between public and private sector wages was so low was in the early 2000s, when there were major recruitment shortages in parts of the public sector.

We are concerned especially with the effect of differential wage rates in top positions, which are typically occupied by individuals commanding the highest salaries and who provide organisational leadership and strategy.[82] Here, it really does pay to work in the private sector: research in 2014 showed that at the 99th percentile of the distribution, hourly pay was 20 per cent higher in the private than in the public sector.[83] Inevitably, these differences will have left certain public sector skills gaps. Over time, this creates structural inefficiencies which ultimately affect the delivery of public services. For example, it has always been difficult to retain really good staff in procurement positions because these specialists are paid much more in the private than in the public sector. Therefore, it was not especially surprising that the NHS's procurement arm came under such strain during the early months of the crisis. Its weaknesses may in part explain why such high volumes of procurement work were soon outsourced by government, a process during which established procedures were abandoned and the risks of fraud and poor value for money increased substantially.[84] Failure to invest in the public workforce during normal times can, when serious disruption occurs, lead to systems buckling.

Of course, the causes of poor institutional performance are likely to lie somewhere in between these two dimensions. A well-designed institution that attracts high esteem for its work will be able to attract and retain better staff

[81]Cribb, Davenport and Zaranko, 2019.

[82]We also acknowledge substantial issues at the low end of the pay scale, particularly in the social care sector. Public Health England and care providers have identified zero-hours contracts, lack of sick pay and the low pay of care workers in general as risks to COVID-19 infection control, because some care workers are required to work across multiple sites which can increase the virus's spread. See Comas-Herrera, Ashcroft and Lorenz-Dant (2020) and Davies et al. (2020, 36).

[83]Cribb, Emmerson and Sibieta, 2014.

[84]Comptroller and Auditor General of the National Audit Office, 2020b; Foster and Neville, 2020.

over the long term. More skilled and motivated staff will operate with greater agility and, where appropriate, actively seek to improve outcomes through innovative collaborations with other parts of government. Conversely, where resources are low and institutions cannot innovate, talented individuals will soon move elsewhere. This can in turn weaken important cross-government collaboration. Cumulatively, an institution that has been just about coping may reveal its cracks when a crisis hits, and be unable to respond to novel challenges.

While the evidence is still somewhat preliminary, a particular area of weakness in government delivery – at least in England – during the COVID-19 crisis seems to have been the ability of central and local governments to collaborate. Part of this surely has to do with changes in local government funding since the financial crisis. In England, local government revenues fell by about 18 per cent in real terms between 2009–10 and 2019–20, or about 24 per cent per person.[85] Local governments are also today far less reliant on central government grant funding than they have previously been, with a 77 per cent fall in revenues per person from this source over the same period. Employment in local government has also been on a downward trajectory since the financial crisis. All of this has likely had a detrimental effect on the ability of the two levels of government to cooperate effectively, especially around apparently 'non-essential' services. Emergency planning expenditure by local authorities in 2018–19 was 35 per cent lower in real terms than in 2009–10.[86]

Exercise Cygnus, a simulation run by government to practise responding to pandemic flu, identified particular deficiencies within local government concerning its ability to respond to challenges in the provision of social care, particularly if the NHS were forced to cancel a majority of appointments and procedures. While the Department of Health and Social Care has said that it addressed all of the recommendations made after Exercise Cygnus that related to the department itself, local authorities and social care providers have said that they were not involved in implementing recommendations.[87] In any case, the COVID-19 crisis has revealed major deficiencies in social care and community health, as the Cygnus simulation predicted. Government has been forced to rely on limited accurate information about the state of care homes during the pandemic, such as rates of occupancy and the severity of outbreaks.[88] Recent data show that only around a quarter of people who required access to community services in April 2020 actually received such

[85] Harris, Hodge and Phillips, 2019, 21.
[86] Davies et al., 2020, 31.
[87] Davies et al., 2020, 32.
[88] See Hanratty et al. (2020) for a summary of the lack of data on the social care sector during the COVID-19 pandemic. Some of the issues with the quality of data on the adult social care sector across Britain had been examined by the Office for Statistics Regulation prior to the COVID-19 crisis. See Office for Statistics Regulation (2019, 2020a, 2020b and 2020c).

care.[89] It is difficult at present to understand the cumulative effect on health outcomes. But the number of deaths in care homes is one of the major reasons behind the UK's depressing record during COVID.[90] It is difficult not to draw connections between the weakness of the social contract around adult social care in the UK and the ineffectual collaboration between central and local government. These conditions were conducive to the drawn-out tragedy faced in care homes across the country.

The UK central government has made considerable use of contracting out to private sector firms in order to respond to the challenges of the COVID-19 pandemic. This reliance may itself stem from low interdependence and collaboration between the centre of government and its more 'peripheral' components. Contracting out is a model that has always been used by governments, but its use expanded dramatically in the UK during the 1980s with the introduction of compulsory competitive tendering, among other innovations. Such outsourcing, where firms compete for contracts, holds the promise of increasing the efficiency and effectiveness of public service delivery. There is a long-standing debate on just how effective outsourcing has been for public services, and a recent trend towards 'insourcing' certain areas is observable.

We are continuing to learn more about how outsourcing has been used during the COVID-19 pandemic – for example, the National Audit Office's November 2020 investigation has thrown up some of the issues associated with government procurement during the pandemic, including poor audit trails, retrospective contracting and delayed publication of contracts.[91] There needs to be broader investigation of whether reliance on contracting out in recent decades has reduced state capacity; and a systematic assessment of how private sector delivery has performed compared with public sector delivery during the pandemic.

It is unlikely that we will find straightforward answers to these investigations, and another dimension to consider is whether there have been benefits to programmes delivered more through centralised or decentralised and 'networked' systems. For example, there have been reports that offers

[89]Propper, Stockton and Stoye, 2020, 12–13.

[90]As ongoing research demonstrates, comparing fatality rates from COVID-19 in care homes is not straightforward due to varying data collection methods, data quality and definitional issues (for example, what counts as a care home). However, it is not difficult to conclude that, across the UK, care homes have faced a particularly severe crisis compared with most other countries. See Bell et al. (2020) and Comas-Herrera, Ashcroft and Lorenz-Dant (2020). An investigation in the *Financial Times* in April also showed, using excess deaths data, that UK care homes have seen far higher deaths this year than in a normal year (Giles and Plimmer, 2020). Future research would be welcome that uses COVID fatality and excess mortality data to develop more systematic comparisons of the severity of the pandemic in the adult social care sector across different countries, and investigates possible correlation between these data and variables such as levels and sources of funding.

[91]Comptroller and Auditor General of the National Audit Office, 2020b.

from the country's leading scientific institutions and private laboratories to help with the testing system were ignored, perhaps because the government defaulted to the idea that new customised systems managed by private companies would be more efficient.[92]

These critiques are important, but ultimately only so useful. Mass testing was always going to be a challenge and it is impossible to answer the counterfactual of what would have happened under a system using more public sector provision. But what may be possible, and potentially much more useful, would be a cross-country comparison bringing more conclusive evidence as to whether and how the outsourcing model compromised state capacity. Each country has its own unique political economy and so we cannot expect ready-made solutions when learning from other states. Evidence so far suggests that countries such as Germany and South Korea were more successful in part because of how they leveraged local systems and expertise generally unobservable and underutilised by central government.

From such a comparative exercise, we might learn how to make British institutions better at adapting to new challenges at speed. If this requires insourcing areas of public sector delivery – even if that appears to erode some of the touted benefits of competition and efficiency – that might be a price worth paying. It would be a gear-change in the philosophy of public sector delivery as it has developed in the UK over the past 40 years. But it carries the potential for the UK to better harness some of the genuinely world-beating science resident in its borders. This might require investing much more heavily in sectors that appear quite far from the 'real' science, such as local government. Contained within such institutions is a rich knowledge about how people respond to novel challenges such as those being thrown up in this new decade. It is the many millions of choices made within communities that ultimately determine the course and impact of a pandemic, as a resurgence of work to map and regenerate civil society in the UK reflects.[93]

The journalist Gillian Tett argues in a forthcoming book that countries more successful in responding to the pandemic have been able to combine multiple forms of scientific expertise, drawing on disciplines ranging from the biosciences to anthropology. Institutional renewal in the UK should, to this extent, be about bringing greater alignment between where our excellence is currently found – at the frontiers of scientific discovery – and where it has been found wanting, within the institutions that must likewise be high-performing to deliver the benefits of scientific excellence to society at large. This process of renewal, we argue, requires wielding a different kind of expertise which we see

[92]Clark, Cookson and Hughes, 2020; Rossman, Bell and Reinhardt, 2020; Triggle, Schraer and Kemp, 2020.

[93]Kruger, 2020; Pro Bono Economics, 2020.

as having been undervalued in the UK's response to COVID: methodologies and insights drawn from the social sciences.

VIII. Conclusion: the design of the public inquiry

One of the problems with public inquiries is that they typically try to do too much: they strive to establish a single version of the truth; to offer a mechanism for individuals and groups to recount experiences and collectively process grievances; to hold decision-makers to account via a public process of cross-examination, with possible official judgement or sanctioning; and to deliver a set of recommendations for institutional reform that can correct past and prevent future failures.[94] In this conclusion, we offer a preliminary framework for an investigation that could initiate the scale and type of learning and reform we believe is necessary within the British state. Importantly, we distinguish this exercise from one whose main intent is to find out what happened and to allocate responsibility or blame for perceived failures. There have been many such inquiries over the years; at their best, they allow for the processing of public grief and pathways to reconciliation.

After the COVID-19 pandemic has run its course, there is certainly a place for this kind of exercise, but it is unlikely it would offer the most effective route to meaningful institutional reform. The primary focus of this paper has been to diagnose failings in the performance and organisation of the state. Part of the post-pandemic evaluation process should aim to correct these failings. We argue that it would be best to detach this from other aspects of national healing. The COVID-19 experience, unlike other tragedies that led to public inquiries, has not been a single event or phenomenon. It crosses time, space and institutional boundaries, and has medical, social and economic dimensions. This complexity requires an investigative process of novel form.

We offer a model for a post-COVID episode of governance-centred learning. This process would draw on evidence about the UK's COVID experience primarily as a means of understanding where governance systems appeared inadequate in responding to the various challenges. This systematic assessment would be undertaken for the purpose of drawing attention to ongoing vulnerabilities faced by the UK, and lead to identification of which areas most require corrective action. To this extent, the investigation we suggest would operate something like the stress tests regularly conducted on the UK banking sector by the Bank of England, which employ crisis models

[94]In 1999, Sir Geoffrey Howe presented an argument about how certain types of public inquiry might best be managed. He excluded policy-driven inquiries and parliamentary inquiries from his discussion. However, his account (Howe, 1999) provides useful information about some of the considerations that must be given to the design of event-driven inquiries, such as regarding the accessibility of evidence and the presentation of reports to the public. We thank Ciaran Martin for helping us to clarify and refine the ideas in this concluding section.

based on prior market instability to give regulators comprehensive oversight of exactly where weaknesses in the banking sector lie.

We propose drawing on the five-part framework outlined in this article to model how the UK would respond if certain 'stressors' were to present themselves. Helpfully, the COVID-19 experience provides a model to simulate processes that could unfold if the UK state were again subject to significant systemic pressures. The National Risk Register sets out the most high-impact events that have the potential to affect the UK. In future, the register should be subject to more ongoing and rigorous review, with a consultation process put in place to adjudicate its content and assess whether there are potential omissions or misconceptions. This updated register should form the basis for thorough periodic testing of UK preparedness and resiliency. After studying the effects of these different scenarios, the exercise for policymakers should be to report, at a minimum, answers to the following questions:

1. Has a framework been established to allow decision-makers to weigh up the costs and benefits of taking different actions?
2. Are public institutions capable of collecting and analysing the right data to feed into the above framework? Are proper systems in place to initiate data collection and analytics when there is need for them?
3. Are there the right structures, channelled through sufficiently resourced institutions, to ensure that useful and accurate data reach decision-makers?
4. Are systems in place to ensure that decision-makers (especially politicians), using these data, are capable of making timely, evidence-based decisions?
5. Are there effective feedback loops to ensure that evidence from the front line can be fed back to decision-makers across government, allowing for real-time course-corrections?
6. If any of the answers to questions 1–5 suggest the need for improvement and capacity-building, are recommendations to improve systems feasible (practicably, financially, etc.) and actionable?
7. Are effective mechanisms in place to ensure that the relevant actors, including public and private sector bodies, implement these recommendations? Are there thorough processes to hold the different actors involved to account in doing this?
8. Assessing this system of governance, does it align with the UK's liberal democratic values? Are there suitable mechanisms through which stakeholders (including the public) can assess and review the system in its actual and proposed forms?

Reports setting out UK resilience should be published annually and be given political as well as public scrutiny. Where policymakers have identified weaknesses in their answers to the foregoing questions, an action plan