AUTHOR DRAFT

FORTHCOMING (2021) in Brown, P and Zinn, J. (Eds) *COVID19 across 5 continents – Social Challenges, Responses and Consequences*. Palgrave Macmillan

True to type? How governance traditions shaped responses to Covid-19 in China, Germany, UK and USA

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'All happy families are alike; each unhappy family is unhappy in its own way',

-*Anna Karenina*, by Leo Tolstoy

Within three weeks of the World Health Organization declaring Covid-19 a global pandemic disease on 11 March 2020, more than 160 states of every conceivable stripe had enacted emergency measures to suppress transmission of the virus by shutting schools, closing non-essential businesses, and confining people to their homes (Figure 1). This rapid policy convergence was remarkable, but also short-lived. Locking down entire populations caused economic hardship and was difficult to maintain, particularly for developing countries without adequate welfare systems. Even among wealthy countries with more state capacity, variation in the style, stringency, and durability of lockdowns and associated government responses to Covid soon became apparent.

From that variety, public health experts have sought to distil best practices, while political commenters have fixated on identifying winners and losers. However, both strains of analysis overlook how the imperatives of managing Covid-19 fitted with different countries' long-standing governance traditions, which shaped the very meaning of 'success' or 'failure'. For just as Tolstoy famously wrote that families are

COVID-19: Government Response Stringency Index, Mar 31, 2020

The Government Response Stringency Index is a composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100 = strictest response).

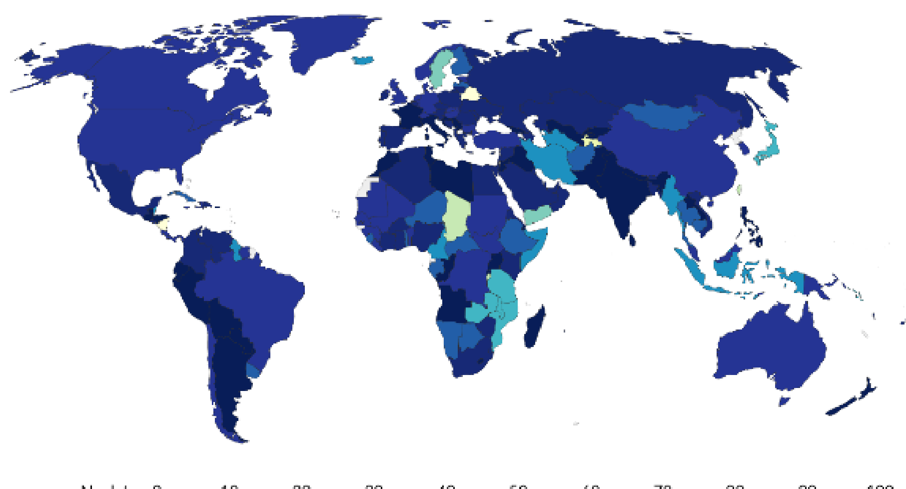

Figure 1. *Stringency of National Covid-19 Response, 31 March 2020, based on Oxford Covid-19 Government Response Tracker Index (Hale et al. 2020), a composite index based on 9 response indicators for travel bans and closures of schools and businesses, rescaled from 0 (least stringent) to 100 (most stringent). Source: Our World in Data (2020)*

different to each other and thus suffer in their own unique ways, so states vary in their operating principles, organisation and ways of working; creating distinctive challenges—and opportunities-- in responding to the pandemic.

In this chapter, we compare how China, Germany, the UK, and USA responded to Covid-19. Those purposefully chosen polities encompass four of the world's largest economies by GDP but have distinctive governance traditions that cut across each other in three ways that are likely to be consequential for their Covid responses. First, they vary according to norms of state intervention, which shape how far states can go in supressing the pandemic: the US and Germany have strong constitutional guarantees against state interference in the rights of citizens and businesses; China's authoritarianism is tempered by a paternalistic tradition emphasising the state's protective duties to the people, while the British state's relationship with civil society is shaped by an ad hoc mix of convention, law, and parliamentary politics. Second, those countries' state structures vary, which can influence their capacity to respond to Covid with sufficient consistency and granularity: while the US and Germany are federal states, China and the UK are unitary. Finally, the countries also differ in their traditional styles of policymaking, which can shape the coherence and complementarity of responses: while the US and UK have pluralist policy styles, German policymaking is corporatist, and China is governed in a style of 'fragmented authoritarianism'.

In the following sections, we draw on publicly available documentation to describe how our four countries responded to Covid-19 through August 2020, which broadly covers the period of onset and initial lockdown, the introduction of complementary economic welfare packages, and the first relaxation of lockdown rules.

China

Covid-19 was first detected in Wuhan- a major transport hub of 11m people in Hubei province, central China, where uncertainty and local indecision allowed it to spread before the central government mobilised the full might of the one-party state to suppress the pandemic and deal with the resulting economic fallout in a campaign of ad hoc measures. The novel coronavirus, SARS-CoV-2, is suspected to have originated in late 2019 from illegal trade in wildlife[1], a well-known crucible for zoonotic disease (Woo et al 2006), which fell through the gaps of a fragmented regulatory system. On 27 December 2019 local health bureaus began a confidential investigation of a cluster of unusual pneumonia cases associated with a 'wet' market for animals. However, they did not notify the Chinese Notifiable Infectious Disease Reporting System (CNIDRS), lest a false positive cause public alarm and thereby adversely impact the key performance indicators central to cadre accountability within the state bureaucracy. Nonetheless, news quickly leaked online, not least when a local doctor, Li Wenliang, shared a clinical report with colleagues, which went viral on the WeChat social networking platform. The ensuing uproar forced local health officials to publicly confirm the ongoing confidential investigation the following day, prompting the parallel local state administration for market regulation to shut the market on January 1st.

Central government, having learned circuitously of the outbreak, dispatched a succession of expert investigation teams who met some resistance from local authorities trying to resolve the problem 'in-house'. Indeed, Dr Li – who died a month later from Covid-19- was infamously charged by local police with disturbing public order. Nevertheless, China's national Centre for Disease Control (CCDC) succeeded in isolating the novel virus on 7th January, and another expert team established human-to-human transmission on 19th January, by which time 198 cases had been officially confirmed.

The following day, President Xi Jinping instructed "the party and government at each level to give top priority to people's lives and health… by decisively curbing the spread of the epidemic" (XinhuaNet, 2020). A national cross-department coordination platform was established to manage the virus as a Category A disease, allowing provincial governments to impose quarantines under the Law on Prevention

[1] https://www.sciencemag.org/news/2020/07/who-led-mission-may-investigate-pandemic-s-origin-here-are-key-questions-ask

and Treatment of Infectious Diseases. That same day, a senior national health expert formally announced human-to-human transmission on television, urging residents in Wuhan to wear face masks and refrain from going outside and for citizens from other regions not to visit Wuhan. However, with only 258 officially confirmed cases, Wuhan and Hubei province officials were reluctant to disrupt the upcoming Chinese Lunar New Year holiday, when Chinese families traditionally gather, so they opted simply to screen outbound travelers for fever. However, on 23rd January, two days before the holiday, President Xi - on the advice of national infectious disease experts - instructed Hubei officials to lockdown Wuhan, confining its 11 million residents to their homes to keep the virus from spreading further.

Following that central lead, all 31 provinces triggered the highest-level Public Health Emergency Response and issued their own lockdown measures by 29th January; the stringency of which varied according to regional case-load. Wuhan was subject to the most draconian restrictions after Beijing parachuted in a Vice Premier-led working team to micromanage the response. Only those with medical needs or working in key sectors were allowed to leave their residential units and door-to-door screening was introduced to detect and forcibly isolate infected individuals in hospitals. Other regions were somewhat less restrictive. In Tianjin, for example, one family member was allowed outside for two hours each day.

By-passing normal governance channels, central government used campaign-style exhortation and ad hoc measures to mobilise resources from across the country to meet the surge in patients and flatten the curve. Central government also intervened in medical supply chains to resolve competition between local governments over access to personal protective equipment (PPE) and testing. Indeed, within a month, testing rates shot-up from 300 to 20,000/day and face mask production increased from 8 million to 110 million/day. Central government also assigned 19 provinces responsibility for providing one-to-one ‘partner assistance’ (对口支援, *duikou zhiyuan)* to the 17 worst affected localities in Hubei. In Hubei alone, the Beijing working team requisitioned over 40,000 medical workers from across China and erected two entirely new hospitals to treat Wuhan’s Covid victims. Central government also quickly responded to public anger at the slow action by local Wuhan and Hubei authorities; removing their two leaders from office on 13th February and a month later – after an investigation by the National Supervisory Committee - demanding exoneration of Dr Li and punishment of the local officials responsible for charging him.

Prompted by deputies to the People's Congress (PC) and the People's Political Consultative Conference (PPCC), central government also took steps to support the population through lockdown. On 24th January, the Ministry of Human Resources and Social Security introduced the novel requirement that employers make a one-off wage payment to locked-down workers and, thereafter, pay them a locally-determined living allowance. To enable businesses to do so, the State Council temporarily reduced business tax and social insurance rates across the country, saving businesses 160bn RMB ($23bn)/month. However, the provision of further welfare measures were dependent on the will and resources of provincial and local governments.

With cases falling rapidly from their mid-February peak, China began preparing to lift lockdown. On 17th February, central government issued risk management guidelines requiring provinces to risk-rate all 2884 counties and apply three levels of Covid controls, which they could enhance with further rules as required. As a result, the speed and stringency of lockdowns and relaxation increasingly diverged across China’s regions according to disease prevalence and local predilection. To facilitate contact tracing, several provinces developed their own mobile phone apps, leveraging China’s internet payment duopoly and ubiquitous security check-points for accessing public transport and other facilities to ensure widespread local adoption. However inter-provincial compatibility was only achieved through top-down pressure and horizontal negotiation, while members of the PC and PPCC submitted further proposals to address privacy and data protection concerns.

By 2nd May, all 31 mainland provinces had stepped-down from the highest-level Public Health Emergency Response and were determined to prevent any relapse. With Hubei accounting for 82% of China’s 82877 officially recorded cases and 97% of its 4633 deaths, on 14th May Wuhan officials ordered the city’s entire population to be tested to eliminate “the hidden danger” of asymptomatic infection and repair

the city's reputation. In an extraordinary mobilization of state and private resources from across the country, 9 million residents were tested over 10 days in May, and 300 asymptomatic cases were detected. The majority of temporary welfare measures expired by the end of June, albeit cushioned by new policies to support the economic recovery. With a total of 4722 fatalities by the end of August – and with Covid-19 still raging in the US and resurging across Europe - striking images of thousands of partygoers crowding a Wuhan water park were broadcast across the world.

Germany

Germany's response to Covid-19 was marked by strong inter-governmental coordination across its 16 Länder, whose executives agreed to follow the same joint Bund-Länder committee guidelines on lockdown and other infection control measures. Those measures were underpinned by generous welfare for those kept off work as well as federal support to extend local testing and healthcare capacity for identifying and treating infectious patients.

Bavarian health authorities detected the first German case on 27th January 2020. On 1 March, however, the Robert Koch Institute (RKI)- the federal agency responsible for infectious disease surveillance- reported that the number of confirmed cases had doubled over night to over one hundred, prompting it to raise the threat level to 'moderate'. A week later, with cases nine-fold higher and local officials struggling to trace, test, and, if necessary, isolate their immediate social contacts, the federal health minister recommended individual precautions and that Länder cancel large public assemblies. However, he continued to reject calls from the largest opposition party, the far-right Alternative für Deutschland, to close the borders.

With the situation continuing to deteriorate, Chancellor Merkel pledged "to take all necessary measures"[2] to protect the country, warning her Länder colleagues that "federalism is not made to avoid responsibility" (Augsburger Allgemeine Zeitung 2020). While her finance and economics ministers began working on a "fiscal bazooka"[3] to fend off economic catastrophe, Merkel convened the premiers of the 16 Länder to coordinate a series of increasingly stringent social distancing restrictions to slow the pandemic, which they issued by executive order (Dostal 2020). On 13th March, they agreed to close schools and universities, followed on 15th March by the Interior Ministry suspending freedom of movement to neighbouring EU member-states. On 16th March, Bavaria declared a state of emergency, closing bars, leisure facilities, and non-essential retail, and imposing operating restrictions on essential businesses. Later that night Merkel announced that other Länder would adopt similar regulations, but stopped short of declaring a nation-wide state of emergency that would have given her federal executive temporary powers to restrict constitutional freedoms and act without legislative approval. But cases continued rising and the RKI moved the threat level to 'high', prompting fierce debate amongst Länder premiers about tightening restrictions further. After intense behind-the-scenes negotiation, Merkel scheduled an unprecedented national TV address for 18th March to announce an agreed set of social distancing guidelines, including restaurant and other business closures and a temporary 'contact ban' on meeting with more than one person from another household. However, the importance of coordination was reinforced when Bavaria and Saarland, bordering pandemic hotspots in Italy and France, pre-empted Merkel's statement by issuing 'stay-at-home'[4] orders banning all non-essential social contact and restricting travel outside the home, prompting criticism from other leaders for breaking ranks.

Merkel's government took two other major steps in response to the crisis. First, at the end of March, it rushed amendments to the Protection Against Infection Act (*Infektionsschutzgesetz*, 'IfSG') through both houses of parliament in record time, giving the federal executive new powers to shift medical

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[2] https://www.nytimes.com/2020/03/11/world/europe/coronavirus-merkel-germany.html
[3] https://www.dw.com/en/whats-in-germanys-emergency-coronavirus-budget/a-52917360
[4] https://www.uni-bamberg.de/fileadmin/uni/verwaltung/presse/Dateien/Corona/20_03_23_preliminary-stay-at-home-order_english.pdf

personnel across states to meet demand surges and to support local public health efforts by coordinating procurement of PPE and testing materials. With inter-governmental support and sectoral coordination through the German Association of Accredited Laboratories, Germany's network of diagnostic labs was able to increase testing capacity from 125,000/week[5] in early March, when testing was restricted to symptomatic individuals, to 432,000/week at the end of May, when routine testing was extended to those at high risk of exposure. With testing capacity at 672,000/week by the end of July, the Federal Ministry for Health introduced compulsory, but free-of-charge, testing for all airport and train station arrivals from foreign high-risk areas. The Federal government also sought to facilitate local contact tracing with a smart phone app, whose development, based on a privacy-preserving backend agreed by Apple and Google, was the subject of intense constitutional debate over data protection[6].

Second, on 27th March, the Federal government passed a Corona "protective shield" worth an initial €750bn ($900bn) in tax reductions, loan guarantees and other credit-easing measures for business, and welfare enhancements for individuals, including provision of generous income replacement for anyone – infected or not- having to self-isolate and unable to work. Over the spring, the German government made several additional commitments totalling some 13.3 % of GDP in immediate fiscal measures with a further 27.2% in loan guarantees by the end of June 2020. Arguably, the most effective tool for supporting the German economy through lock-down was *Kurzarbeitergeld*, or short hours money, a traditional social insurance tool for subsidising payroll costs through a downturn. The government relaxed eligibility criteria and increased the generosity of payments to 87% of normal wages from its central insurance fund, which were sometimes topped up further by sectoral or firm-specific agreements. By 24th April, 751,000 German firms with just over 10 million employees had applied for short hours, preventing increased unemployment despite 10% falls in second quarter GDP.

Having flattened the curve of new infections, the Chancellor and Länder premiers agreed on 30th April to begin relaxing Covid restrictions, albeit complemented by a coordinated obligation to wear masks in public spaces and the elaboration of detailed sector-specific rules on workplace health and safety by mutual trade associations. However, Saxony-Anhalt upset other Länder and Chancellor Merkel by announcing plans to lift the contact ban in late May without prior consultation. Likewise, school re-opening also proceeded unevenly across Länder in early May, reflecting varying demands for local and regional autonomy. To ensure a coordinated approach to relaxation, the Chancellor and Länder premiers agreed that municipalities would apply an 'emergency break' by re-imposing social distancing restrictions whenever local infection rates exceeded 50 cases per 100,000 inhabitants; a threshold chosen with expert advice from the RKI. This quasi-automatic decision rule was soon put to the test when an outbreak at a slaughterhouse prompted public health officials in North Rhine-Westphalia to close non-essential businesses and reimpose the contact ban on all 640,000 residents of the surrounding districts of Warendorf and Gütersloh. While restrictions in Warendorf were soon lifted, their extension in Gütersloh was overturned by the courts as disproportionate since mass testing showed significant variation within the district and the executive had time to develop "a more nuanced rule"[7]. Conflict – including rallies by far-right and anti-vaccination protesters –and court battles over Covid restrictions continued over the summer. However, the economy began rebounding strongly as new cases and overall per capita mortality stayed among the lowest in western Europe, keeping total deaths to under 10,000 by 30 August.

UK

In contrast to Germany, the UK approach to governing the pandemic was, as we explore below, one of the least successful in Europe, marked by top-down executive decision-making by Downing Street, centralised service provision laden with implementation gaps, and poor coordination with the devolved nations, local

[5] https://de.statista.com/statistik/daten/studie/1107749/umfrage/labortest-fuer-das-coronavirus-covid-19-in-deutschland/
[6] https://www.dw.com/en/germany-gradually-warming-up-to-covid-19-tracking-app/av-53022217
[7] https://www.bbc.co.uk/news/world-europe-53319435

authorities, and business. From late February, the government took a gradualist approach to the growing pandemic threat, issuing progressively stronger public health advice on 'social distancing' and making much of 'following the science' provided by the government's Scientific Advisory Group on Emergencies (SAGE). However, the PM – advised the doubling rate of infection was lower than it subsequently proved, fresh from winning an anti-EU election to 'Get Brexit Done' and with libertarian instincts – was reluctant to follow other European countries by introducing mandatory restrictions. Indeed, government optimism that the virus would only cause 'temporary disruption'[8], as the Chancellor put it on March 11th, limited testing and the abandonment of contact tracing in the face of rising cases, and confusing media messaging, gave the alarming impression the government was considering letting the disease take-hold in the community to achieve 'herd-immunity'.

However, in the face of mounting evidence that hundreds of thousands would die without further measures[9], the PM used public health powers to close schools and the hospitality and leisure sectors in England on the 20th March. Three days later he closed non-essential shops and restricted movement from home without 'reasonable excuse', such as exercising or work. The devolved nations, which exercised their own public health powers, followed England's lead in locking down, albeit marginally more stringently. The Treasury complemented those measures with £7bn ($9.3bn) to enhance statutory sick pay and wider benefits, £330bn ($440bn) of government-backed loans and £20bn ($27bn) in tax cuts, grants and rates-holidays. Moreover, inspired by the German welfare model, the Treasury introduced a Coronavirus Job Retention Scheme to cover 80% of the salaries of furloughed workers, with a parallel scheme for self-employed. By mid-August, the scheme had cost £35bn[10] although an estimated 3m taxpayers were still left unprotected[11].

Having locked the country down, the government then struggled to keep total deaths from spiking above 20,000, which the government's chief scientist had identified in early March as a 'good outcome'[12]. With Covid-positive patients threatening to overwhelm National Health Service (NHS) capacity, the Government copied China's example by rapidly building several enormous emergency 'Nightingale' hospitals (Chen et al 2020) and existing hospitals were ordered on March 17th[13] to urgently discharge patients into care homes. There was, however, no requirement to test those discharged patients until mid-April, resulting in over 16,000 deaths[14] by mid-June – roughly 40% of total deaths- as infections swept undetected through almost half of the highly fragmented adult social care sector. Health workers themselves were also a likely vector of continued infection as Public Health England (PHE) – the central body charged with disease control- struggled to procure and efficiently allocate PPE.[15] Testing and tracing were significantly delayed, even for key workers, not least because PHE centrally controlled testing - excluding many laboratories from providing services- but struggled to ramp-up capacity. Moreover, testing and tracing systems were outsourced to inexperienced national contractors rather than working with local authority public health teams experienced in door-to-door tracing. Notably few policy decisions were taken in April while the PM was confined to an ICU with Covid-19, and although the disease peaked that month,

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[8] https://www.gov.uk/government/speeches/budget-speech-2020
[9] https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf
[10] https://www.statista.com/statistics/1122100/uk-cost-of-furlough-scheme/
[11] https://www.theguardian.com/stage/2020/jun/18/seismic-torturous-and-gruelling-forgotten-uk-arts-workers-fall-through-support-cracks
[12] https://committees.parliament.uk/oralevidence/208/pdf/
[13] https://www.theguardian.com/world/2020/jun/12/matt-hancock-faces-legal-action-from-daughter-of-covid-19-care-home-victim?CMP=Share_AndroidApp_Outlook
[14] https://www.theguardian.com/world/2020/jun/16/more-than-16000-people-in-uk-care-homes-have-died-from-coronavirus
[15] https://www.theguardian.com/world/2020/jun/12/government-ignored-warning-to-stockpile-ppe-as-covid-19-spread?CMP=Share_AndroidApp_Outlook

by early May the UK was suffering one of the worst death rates in the EU, with an absolute death toll that was the 2nd highest in world, only overtaken by Brazil in mid-June when over 40,000[16] had died.

In May, with costs rising and the economy faltering, the government published its recovery strategy[17], but its subsequent attempts to ease the lockdown exposed the vulnerabilities of decision-making by a small group of Downing Street insiders and their preference for centralised solutions they often touted as 'world-beating'. Right from the start the government struggled to ensure measures were co-ordinated across England and the devolved nations, when on 10th May, the PM - without forewarning- announced relaxations on mobility restrictions and changed the slogan from 'Stay at Home' to 'Stay Alert'. Taken aback at the lack of consultation, the devolved nations rejected the new slogan and delayed their own relaxations for several weeks in a striking pattern of poor cross-border coordination that would be repeated over the following months. Further plans to relax rules later in May - including meeting people outside, reopening many businesses and schools, and tapering the furlough scheme - were widely criticised as premature. Most notably, leading scientists – some of whom had set up a parallel 'Independent SAGE' group in an unprecedented protest at the lack of transparency of official scientific advice – argued that infection rates were still too high and the UK's test and trace capacity too underdeveloped to reopen English schools by 1st June[18]. With teachers' unions and local authorities persistently complaining the plans were impractical, and schools failing to reopen as scheduled, the government was forced to delay the reopening of all schools till autumn.

More policy u-turns followed, despite the PM - with an eye to daily opinion polling - announcing in early June that he was 'taking direct control'[19] following a scandal over his advisor breaking lockdown rules. For example, having made face-masks mandatory on public transport and in hospitals, the government hesitated for a month before introducing complex rules requiring their use in shops and elsewhere. Travel quarantine rules announced on 8th June were criticised as inconsistent and unenforceable, not least by airlines who started legal action, but the rules were relaxed in time for the summer holidays, albeit with a repeatedly changing list of exempted countries that varied across the devolved nations. Many other businesses were left bemused by a host of seemingly inconsistent rules and vague guidance that they were left to interpret on their own or in some cases by a sectoral association. Meanwhile on 18th June, the government admitted its much-hyped attempt at developing its own 'world-beating' tracing app had ended in failure, not least because Apple could not tolerate the app's central harvesting and storage of data.

Increasing worries that Whitehall's attempts to manage the pandemic did not take sufficient account of local needs prompted healthcare leaders[20] and local authorities to criticise the announcement on 21st June of major relaxations of lockdown and social distancing rules and the staged reopening of hospitality, leisure and other sectors. Those concerns were quickly borne out by a viral resurgence in Leicester which revealed a weeks-long failure of the centralised test and trace systems to share incidence data with the local council. The outbreak required an extended lockdown that could only be imposed through blunt measures by central government. Despite persistent failings of the test and trace system to reach contacts of infected people – not least because those contacts relied on the generosity of employers to pay salaries while self-isolating - and continued high incidence through July, the government went ahead with plans to reopen schools and the wider economy. Indeed, the PM was optimistic that there would be a "significant return to normality"[21] by Christmas. However, further regional lockdowns later that month prompted some frustrated councils to launch their own test and trace system and caused the Chief Medical

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[16] https://ourworldindata.org/coronavirus#coronavirus-country-profiles
[17] https://www.gov.uk/government/publications/our-plan-to-rebuild-the-uk-governments-covid-19-recovery-strategy
[18] https://www.theguardian.com/education/2020/may/22/scientists-warn-1-june-too-early-schools-reopen-england-coronavirus-track-trace?CMP=Share_AndroidApp_Outlook
[19] https://www.instituteforgovernment.org.uk/blog/prime-minister-right-apply-his-brexit-management-model-coronavirus
[20] https://www.bmj.com/content/369/bmj.m2514
[21] https://www.theguardian.com/politics/2020/jul/17/boris-johnson-plan-for-return-to-normality-met-with-scepticism-coronavirus?CMP=Share_AndroidApp_Outlook

Officer to comment that the country may have reached the limit of reopening as total Covid mortality crept past 41,500 on 1 September[22], the third highest rate per capita, and highest total, in Europe.

US

The United States' approach to managing the pandemic was remarkably halting, uneven, chaotic, and ultimately inadequate to suppress the epidemic, which killed over 182,000 Americans through August, more than any other country. The US was relatively quick to recognize the threat from Covid, declaring a federal public health emergency on 31 January 2020, just 10 days after the first confirmed case on American soil. However, apart from restricting foreign entry from China, Trump's White House showed little concern through February, repeatedly dismissing the pandemic as a partisan 'hoax' and even proposing a 16% budget cut[23] for the federal Center for Disease Control (CDC). CDC difficulties in developing its own diagnostics, combined with regulatory barriers to approving commercial alternatives and out-of-pocket costs to patients, restricted testing and crippled local efforts to control community transmission through contact tracing and isolation.

America's fragmented private healthcare system was unprepared for the rapid surge in cases that began in early March. Efforts to expand hospital capacity and secure critical supplies, like ventilators, PPE and testing reagents, were hampered by a notoriously dysfunctional White House and competition between states and among private providers. "It's like being on eBay with 50 other states, bidding on a ventilator," complained New York Governor Andrew Cuomo (Smith 2020). The Trump administration refused to coordinate procurement or invoke powers under the 1950 Defense Production Act to ramp up supplies, despite crippling PPE shortages that compromised efforts to protect vulnerable care homes, to which more than 40% of all Covid fatalities[24] in the US were linked.

With hospitals in the tri-state area around New York City overwhelmed and community transmission confirmed in all 50 states on 18 March, state and local officials across the country began issuing a various executive orders to restrict individual movement and association under longstanding legislative provisions for infectious disease control. California was the first to lock-down on a state-wide basis on 19th March, and within a month 94% of the US population were subject to 'stay-at-home' orders issued by 42 states and select cities and counties in the others of varying stringency and duration. While the State of New York[25] closed all but a narrow class of essential businesses and banned social gatherings "of any size for any reason" for 30 days from 20th March - an order extended twice to 13th June -, Alabama's 'stay at home order'[26] was more permissive, classing restaurants and bars as essential businesses and allowing gatherings for religious services, and only in force from 4th-30th April. These orders were soon challenged in court, but judges typically showed great deference to executive branch decisions, requiring only that "emergency orders meet judicially reviewable standards of being 'reasonable' and 'necessary' to address the threat" (Hall et al. 2020).

Whereas the executive branch of the federal government was largely a bystander as the nation locked down, a bitterly divided Congress responded with uncharacteristic haste, agreeing an unprecedented fiscal package to deal with the wider economic fallout. Passed unanimously by both houses of Congress, the 'Coronavirus Aid, Relief, and Economic Security', or CARES, Act authorised $2.2tr, or roughly 10% of US GDP, in direct government expenditure. The bulk of the funding - some $877bn - went on loans and other line item relief for corporations and small business, with a further $340bn to support state and local governments and $153bn in various healthcare-related expenditures. CARES also provided $560bn in direct payments to

[22] https://ourworldindata.org/coronavirus#coronavirus-country-profiles
[23] https://abcnews.go.com/Politics/trump-cut-cdcs-budget-democrats-claim-analysis/story?id=69233170
[24] https://www.nytimes.com/interactive/2020/us/coronavirus-nursing-homes.html?action=click&module=Spotlight&pgtype=Homepage
[25] https://coronavirus.health.ny.gov/new-york-state-pause
[26] https://www.scribd.com/document/454872747/Alabama-Gov-Kay-Ivey-issues-shelter-in-place-order#from_embed?campaign=SkimbitLtd&ad_group=126006X1587343Xa20a3fa0ef2e044ffe102feacd8f0294&keyword=660149026&source=hp_affiliate&medium=affiliate

individuals through incremental and entirely unprecedented changes to welfare provisions. First, CARES expanded eligibility for, and generosity of, existing unemployment insurance with a temporary $600 per week top-up of benefits administered by individual states with co-funding from federal Social Security taxes. Second, CARES also provided unprecedented one-off payments of $1200 to every taxpayer, as the quickest way to provide immediate relief as the economy cratered.

With nation-wide job losses literally off the charts and the worst of the initial outbreak confined largely to the northeast, governors in other parts of the country faced increasing pressure to relax local restrictions. During April and early May conservative activists organised public protests against the lockdown orders in nearly two dozen states. Brandishing assault rifles and 'Make America Great Again' hats while refusing to wear masks or practice social distancing, their demands to 'give me liberty or give me Covid' were amplified on Fox News and by the Twitter feed of a President whose economic prospectus for re-election was in tatters. On 17 April, the White House (2020) launched its guidelines for *Opening Up America Again* and began leaning on state governors to do just that, but made no effort to develop a national phone tracing app or coordinate the various lethargic state-level efforts despite the international pre-eminence of the American technology sector.

Republican governors were particularly quick to oblige the President, often without meeting the metrics for phased reopening set out in the White House guidelines. Infection rates, which had been kept in check but not substantially reduced during lockdown, began rising steadily as restrictions were lifted in May. The Sunbelt was particularly affected as the summer heat drove people indoors to socialise and social distancing norms were weaker than in the northeast, where the severity of the initial infection wave in spring had reduced otherwise high levels of partisan polarisation in Covid risk perceptions and social distancing compliance (Allcott et al. 2020). As case numbers began spiking in southern cities like Houston, Texas and Atlanta, Georgia, local officials tried to impose public facemask requirements, only to see them challenged in court and by gubernatorial assertions of state pre-eminence over local government.

By late summer new infections in the United States were at record levels and the pandemic had entered "a new phase" of "extraordinarily widespread"[27] transmission, according to Dr. Deborah Birx, White House Coronavirus Response Coordinator. But with unemployment at an all-time high and Congress unable to agree an extension to the emergency relief provided by the CARES Act, the Trump Administration and its allies in Republican state houses were determined to see schools reopen in the autumn for face-to-face teaching, setting the stage for further conflict with local school districts and teachers' unions worried about infection risk.

Discussion

Despite all resorting to large scale lockdowns during the initial infection wave, China, Germany, the UK, and USA then managed the ongoing Covid-19 crisis in very different ways that reflect fundamental differences in their state traditions and wider governance settings. Our analysis highlights three institutional factors shaping national responses to the pandemic, which created distinct challenges and comparative advantages for each polity in managing Covid.

First, states vary in how they invoke Cicero's ancient maxim- *Salus populi suprema lex esto* ('let the health of the people be the highest law')– to justify restricting personal liberties to protect wider populations in a pandemic. Those responses reflect the distinctive bundles of political philosophies, constitutional mandates and societal expectations comprising the contractual 'small print' of nationally-specific 'social-contracts' (Rothstein *et al* 2013). For example, the legacy of Confucian traditions, which emphasises the central leadership of state over individual choices especially during crises, afforded China's authoritarian state great latitude in fulfilling its duties to protect collective well-being and social order. To stop transmission within households, infected individuals were forcibly hospitalised on a scale, and in ways, that would be hard

[27] https://edition.cnn.com/2020/08/02/politics/birx-coronavirus-new-phase-cnntv/index.html

to reconcile with western bioethical norms of individual informed consent and legal redress (Holden and Demeritt 2008). However, the exercise of such draconian powers was also tempered by paternalist expectations of beneficence (*renzheng* (仁政-) - expressed 2000 years ago by Mencius - that "governing is like being a parent to the people and if a ruler is not minded to save his people from miseries, in what sense is he a parent to them?" (our translation of original Chinese; cf. Mencius, 2007, p.8). While economic liberalisation eroded Mao's 'iron rice bowl' promises of wrap-around welfare and employment in state-owned enterprise, the authoritarian state is still expected to be effective and caring, cushioning the impact of strict lockdowns by ordering firms to make one-off payments to workers. However, that reliance on outcome legitimacy reinforced tendencies towards initial denial, followed by ad hoc and reactive crisis management, as seen in China's response to other disasters (Freedman 2011; Sorace 2017; Thornton 2009).

The UK state also had great latitude on how it responded to Covid; not because of any paternalistic tradition, but rather because of the absence of a codified constitution that accords rights to individuals either for positive protection, or against restrictions on their liberty (Lord Irvine of Lairg 2000). While the EU and the Human Rights Act have imposed obligations on UK governments, state responses to risk have historically been flexible and *ad hoc,* governed by issue-contingent mixes of convention, statute and political expediency (Hood et al 2001). In that context, responses to Covid-19 – be it imposing and relaxing containment measures, or inventing and withdrawing emergency welfare support—have ultimately depended on political judgement, supported by the recantation of 'following the science', in the absence of any abstract theory of rights.

By contrast, the strong rights-based cultures of Germany and the US made fulfilling Cicero's maxim more challenging. Both Germany's Basic Law and the US Bill of Rights provide individuals with strong 'negative' or 'defensive' rights against state interference, which aggrieved parties in both countries used to successfully challenge several disproportionate Covid restrictions. However, courts in both countries also drew on well-established legal precedents, granting wide latitude for the executive to impose stringent infectious disease control measures (Hestermeyer 2020; Price 2016). At the same time, anti-lockdown protests were more marked in the US than Germany because the defence of liberties is more deeply engrained in American cultural politics, and negative partisanship in the US two party-system further amplified protests, while German coalition politics marginalised protesters as 'Covidiots'.

Another important contrast between Germany and the US is the extent to which negative rights to liberty are balanced by positive rights to protection, most notably in the form of welfare entitlements. In Germany's 'Sozialstaat' a fabric of generous and constitutionally guaranteed welfare entitlements has evolved to complement the dependence of its coordinated market economy on protecting investments in highly skilled workforces (Schroeder 2013; Rothstein et al 2017; Rothstein, Paul and Demeritt 2020). That complementarity enabled Germany not just to preserve jobs and protect the income of workers on reduced hours through Kurzarbeit, but also to support compliance with isolation orders for those whose contacts were infected. By contrast, the US's more individualistic tradition has much weaker social protection norms and welfare entitlements, that complement the needs of its liberal market economy for a flexible labour force. Despite a longstanding political tradition of the federal government coming to the rescue of innocent disaster victims (Dauber 2013), Republicans have balked at extending emergency relief, leaving workers to the vicissitudes of unemployment benefits in a crashing labour-market.

Second, national responses to Covid were also shaped by state structure and how lockdown powers and other state capacities were distributed within different polities. Though nominally unitary states, both China and the UK devolved public health lockdown powers to regional-level governments. Nevertheless, initial lockdown in both countries was triggered by the national leadership, with regional governments immediately following with their own local lockdowns. There was, however, greater variety in form and stringency among China's provinces – which were reliant on their own locally-funded health and welfare systems and the *duikou zhiyuan* system of *ad hoc* one-to-one partner support used routinely for major disasters - than in the devolved nations of the UK, which could rely both on a national health service to extend hospital capacity and on nationally funded welfare and economic support measures to cope with the fallout of lockdown.

Despite both being federal systems, Germany and the US differed markedly in the uniformity and speed of their responses. German lockdown was nearly uniform in timing and stringency across the country, with the Chancellor orchestrating the coordination of very similar measures imposed by all 16 Länder. That national consistency contrasts starkly with the much more variegated and haphazard responses across the 50 American states. In the US, state and local governments took longer to enact very different degrees of lockdown without much regard for the inconsistent signals from a President whose administration, in contrast to our other three countries, did little to support the expansion of hospital or testing capacity.

The state structure and capacity of each country also influenced how, once the first wave passed, lockdowns were eased and economies reopened. A priori, one might expect more problems with information asymmetries and implementation gaps in countries where decision-making authority and operational responsibilities are centralised than in those where local officials are empowered to decide how to ease restrictions and manage any localised flare-ups. To overcome those challenges in China, the central party leadership in Beijing encouraged provincial-level officials to meet the national goal of supressing the virus by whatever means they saw fit, including intrusive testing and labour-intensive public health surveillance. Provincial government had both the capacity and incentive to deploy those intrusive measures insofar as central government required welfare and business support through lockdown to be funded out of the substantial sales tax and other revenues collected by local authorities.

Like China, the UK Government also published a centralised recovery strategy, but struggled to align its aspirations with the distribution of legal authority and state capacity necessary for realising them. In England, ministers retained central control over lockdown powers and the out-sourced failing contact tracing system, to the frustration of 343 local authorities whose public health capabilities had been hollowed-out by a decade of austerity. These matters were devolved to separate Welsh, Scottish, and Northern Irish administrations, which worked more closely with public health officials from their smaller sets of local authorities. However, despite agitating loudly for more precautionary approaches and repeatedly diverging on some detailed rules, the devolved nations largely followed the pace of reopening in England, not least because they could not extend the centrally funded Furlough scheme for supporting those off work under lockdown.

The federal systems of the US and Germany lent themselves, in principle, to a more locally calibrated approach to reopening, but the structure and politics of local-state-federal relations made for very different outcomes. In the US, state governors relaxed their restrictions haphazardly, driven by ideological and electoral considerations, as well as, in some cases, checking action by state legislatures and courts rather than making consistent reference to scientific data on local risk. The resultant second wave of infection and mortality through the summer then triggered further conflict between local officials in Democratic controlled cities responsible for contact tracing and seeking to reimpose restrictions and Republican governors invoking the 'Dillon's Rule' principle of state pre-eminence to override local action (Hicks et al 2018).

By contrast, in Germany, lockdown restrictions were eased much more evenly across the country, despite differences in the exposure, vulnerability and risk tolerance among its 16 Länder and their various multi-party coalition governments. In part, that evenness was possible because the Länder did not face the same economic pressures for precipitous reopening as US states, thanks to generous fiscal support provided by a German chancellery pledging to do 'whatever it takes' to get the country through the crisis. Indeed, in early September, Merkel announced a further package of 4 billion Euros to support the work of the municipal public health authorities, mainly with additional staff.

That contrast between the United States and Germany points to a third variable shaping how countries responded to Covid: their styles of political decision-making and policy coordination, which created different challenges for effective pandemic response in each polity. In Germany's federal polity, the potential for fragmentation is balanced by strong traditions of consensus-seeking both across the federal state and dense networks of corporatist actors, refereed by administrative and constitutional courts. Where there is a need for speedy executive action, co-ordinated decision-making is facilitated across the federal state and the 16 Länder governments through well-established vertical and horizontal forms of cooperation (Benz and Lehmbruch 2002). In that context, Chancellor Merkel's technocratic style, which had been much criticised in

other contexts, helped establish her as a trusted coordinator. Moreover, German policy traditions of "rationalist consensus-seeking" (Zohlnhöfer and Tosun 2018) help explain the use of a common numerical threshold to trigger local lockdowns and relaxation measures across jurisdictions as a way of keeping regional and partisan conflicts at bay as falling infection rates dissipated fear-induced solidarity. At the same time, Germany's wider corporatist traditions of self-governance by strong and well-organised sectoral associations also helps explain the notably quick mobilisation of certified private testing capacity and the relatively uncontentious elaboration of detailed sector-specific workplace health and safety rules by mutual trade associations (Rothstein *et al.* 2019).

By contrast, responses to the pandemic in the US's federal polity were marked by intense partisan and intergovernmental conflict. That conflict was amplified by a system of competitive federalism reliant on transactional deal-making to overcome tendencies towards gridlock created by the separation of powers between Congress, the President and the courts and associated traditions of adversarial legalism (Kagan 2001). Indeed, de Tocqueville's (1990 [1835]: v1: 280) observation that "scarcely any political question arises in the United States that is not resolved, sooner or later, into a judicial question" is as true today as two centuries ago. Those factors, for example, help explain the otherwise startling interstate competition for PPE in the early days of lock-down, ongoing partisan haggling in Congress about financial bailouts and welfare support measures, municipal-state political and legal conflicts on mask wearing, and fierce public protests against lock-down interventions. In principle, the Federal government has more power than in Germany to overcome gridlock through the coordination and direct provision of emergency services, and the President – in contrast to the German Chancellor- has the power and electoral mandate to use the bully pulpit to speak to the public over the head of Congress to mobilise resources and action. In practice, however, those opportunities were squandered, not least by political appointees at the head of Federal Agencies lacking will and a President seemingly keen on exacerbating, rather than overcoming, conflicts.

In contrast to Germany and the US, the UK has strong traditions of highly centralised and executive dominated government, which might be expected to suit the need for decisive and adaptable pandemic responses. Indeed, UK government has the makings of what Lord Hailsham famously described in 1976 as an 'elective dictatorship', as its 'fusion of powers' political system confers very significant power to governments with large quiescent parliamentary majorities given the absence of a codified constitution and weak judicial review. Most notably, the new Johnson administration made extensive use of so-called Henry VIII powers to tinker with lockdown and other pandemic response measures through secondary legislation issued by Ministers without requiring parliamentary debate or votes. That style of executive dominance enabled government to claim political credit for fighting Covid-19 from Downing Street, be it locking down or opening up, introducing politically expedient welfare packages and economic stimuli, or creating much-hyped centralised systems from scratch, such as test and trace. However, the downside of that policy-making style was that it was vulnerable to 'groupthink' (Janis 1982), with decisions very sensitive to the political preferences and administrative skills of the PM and a small group of cabinet insiders, particularly – in the UK's pluralist polity – in the absence of strong consultation traditions with the four nations, local government, business and civil society. That policy style helps explain the rifts that opened up between government and the devolved nations, local government's frustration with failing centralised test and trace systems and their lack of powers to manage local infection rates, the creation of a parallel 'Independent SAGE' by senior scientists and the frequent complaints from businesses, unions and professional organisations about Downing Street's poorly calibrated, hard-to-follow and frequently changing policies.

Even more than the UK, governance in China is marked by authoritarian traditions of executive dominance. Under the paramount leadership of the President and General Secretary of the Communist Party of China (CPC), the state is capable of mobilising extraordinary resources in an emergency, but also prone to disfunction and crisis incubation due to its style of 'fragmented authoritarianism' (Lieberthal & Lampton, 1992; Qian 2018). China's vast geography and population necessitate delegating significant authority to various local bureaucrats, who are formally accountable for their particular functions to their hierarchical superiors but largely funded by the horizontal local people's government. This dispersion of governance authority and capacities can lead to both implementation gaps, such as the failure to effectively regulate wet markets, and information asymmetries, embodied by local Wuhan officials' reluctance to notify or cooperate with central expert teams. However, as the existential threat from Covid became clearer, the hierarchical

concentration of power in a one-party state enabled a quick and decisive, if ad hoc, response from the very top of government. Without the liberal-democratic need to consider potential legal challenge or secure interest group buy-in, the Chinese leadership had few constraints in pursuing viral supression by whatever means necessary, over-riding conventional local powers to micromanage the lockdown of Wuhan, requisitioning healthcare resources from across China, instructing other provinces to assist Hubei, and ordering employers across China to pay their workers through lockdown. However, once the peak of the crisis passed, business interests were able to voice concerns about the costs of lockdown and the need for economic support through deputies to PC and PPCC. It is therefore unclear how the singular focus of the Chinese state on Covid suppression will persist as memories fade and competing priorities (re)emerge.

Conclusions

In response to Covid-19, countries across the world have resorted to various extraordinary measures necessary to combat the global pandemic, not least: undertaking rapid, responsive and coordinated lockdown measures to crush the curve that stretched the social contract between citizen and state to its limit; providing some form of welfare support to complement lockdown; and creating testing and contact tracing systems to enable reopening without endangering public health. But just as Tolstoy argued that all unhappy families are different from each other, so our comparison of China, Germany, the UK and the USA shows that there is no one-size-fits-all solution for achieving those aims; nor is it the case that some state systems—whether democratic, authoritarian, federal, constitutional, pluralist, or unitary—are uniquely well placed, or ill-suited, to managing the crisis.

Rather success in combatting Covid-19 has depended on the extent to which each country has been able to overcome the institutional constraints and capitalise on contingent opportunities afforded by its particular state traditions and wider governance settings. Thus, while lockdown measures in the US and Germany were constrained by constitutional challenges upholding strong defensive norms against state interference in rights, lockdown measures faced fewer obstacles in China and the UK, given the former's paternalistic tradition of socially protective norms of governance, and the latter's *ad hoc* approach to public protection. Countries with a distribution of state powers and capacities that allowed for both centralised, rapid and decisive action and decentralised abilities to respond to local circumstance, had more flexibility to respond than those where the distribution was less well balanced. Countries with policy styles promoting coordination within the state and between state and civil society faced fewer information asymmetries and implementation problems than those with more adversarial or competitive policy styles.

Leadership clearly mattered to how well countries were able to respond. While pandemics proved to be the proverbial 'hour of the executive' in all of our countries, some leaders rose to the challenge more effectively than others. In Germany's federal state, Chancellor Merkel's technocratic style suited the need for a leader who was able to capitalise on the traditions of coordinated federalism to forge compromise and coordinate responses across the Länder, which a more political chancellor might have struggled to fulfil. The potential for fragmentation and incoherence in federal states is well illustrated by the US, where the President has far more power than the German Chancellor to intervene directly but instead President Trump did his best to amplify the problems of partisan gridlock, competitive federalism and culturally entrenched anti-state individualism. In the UK, the enormous power of the executive could have been put to good use by a PM prepared, like President Xi in China, to act in concert with regional and local officials responsible for local implementation in pursuit of a clear goal of pandemic suppression. Instead, however, Prime Minister Johnson vacillated in his aims and insisted on centralising control to the detriment of effective local coordination.

The national specificity of those dynamics meant that while the virus was comparable in each country, the governance challenges in responding to it varied. Accordingly, widely adopted policy measures, like stay-at-home orders or contact tracing apps, worked out very differently in different contexts, not simply because the measures themselves were implemented in different ways, but also because the goals of doing so also varied. With the eyes of the world now on the roll-out of vaccines

against Covid, our analysis suggests that the implementation, and indeed, very meaning of a 'successful' Covid vaccination campaign may also vary in ways that the universalism of global health campaigners do not always recognise.

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