

COVID-19 and complexity: Hayekian economics and the world after the pandemic

Stephen Davies

Head of Education, Institute of Economic Affairs, UK

Correspondence

Email: sdavies@iea.org.uk

1 | INTRODUCTION

The apocryphal Chinese curse of being condemned to live in interesting times has seldom been more apposite. All around us what we thought of as normality has been upset and disrupted by the most serious pandemic since 1918. For many this has come as a massive shock, a complete bolt from the blue – although it should not have (Garrett, 2020; Henig, 2008; Quammen, 2013). This may be understandable as far as ordinary citizens are concerned but far less so in the case of political and business leaders. In this situation all kinds of expectations have been upset, and this process continues and repeats itself as the pandemic unfolds.

Faced with this massive confusion and disappointment of expectations, serious cognitive dissonance has taken hold of many, leading to an outbreak of motivated reasoning, denial of reality, and desperate straw-clutching on a massive scale with all of this transmitted and amplified by modern social media. Faced with this the more apocalyptically minded will be tempted to recall the words of W. B. Yeats's poem *The Second Coming*, which Yeats wrote in 1919 at the height of the great Spanish flu pandemic while his pregnant wife was recovering from the disease, having narrowly escaped death.¹

*Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere
The ceremony of innocence is drowned;
The best lack all conviction, while the worst
Are full of passionate intensity.*

What is it that we face now and what is it that we are experiencing? Can the centre hold, and if so how? And as look forward to the world the pandemic will leave in its wake, what kind of

This is an updated version of the lecture delivered on 17 December 2020. The Hayek Memorial Lecture is hosted annually by the Institute of Economic Affairs in memory of the Nobel Prize-winning economist Friedrich Hayek.

rough beast will be born? Is there any way of making sense of questions like this, and what kinds of answers may we find?

It is very appropriate to discuss these matters at this time in a lecture named after, and dedicated to, F. A. Hayek. It is precisely his insights that help us to understand the nature of what we face and therefore how difficult it is to deal with. Looking at the COVID-19 pandemic from a Hayekian perspective will lead us to be sceptical of assurance from several directions and much surer of our ignorance in many respects. At the same time, it will give us greater confidence in other ways. This is particularly true if we combine Hayek's insights with the evidence of history, and the clues that gives us. This led to the conclusion back in February that we should be very alarmed but not panic-stricken (Davies, 2020a); right now, it helps to make sense of where we are (even though the conclusions will be gloomy in some cases) and it leads to some notions of what kinds of legacy the pandemic will leave. Viewing this pandemic through a Hayekian lens will head off both apocalyptic panic on the one hand and wilful denial of reality and even elementary mathematics on the other.

One thing it should lead us to realise is this. Much of the chaos and disruption we are currently experiencing is not the direct result of the pandemic itself but of the responses to it. (It is a secondary consequence of the pandemic rather than a primary one; Bourne, 2021.) That means not only government responses such as lockdowns and mandated social distancing rules but also the collective or aggregate outcome of the responses of individuals and private entities such as firms. In other words, there is a spontaneous and unplanned response, a process of the kind Hayek describes, and this has effects as great as those of government action if not more so, not least because (as we shall see) these responses are likely to become permanent in many cases. What this means is that from a practical point of view the distinction just made, between deliberate collective action by governments and dispersed responses by individuals and firms, is a distinction without a difference. Looking at the response and also the disease itself in a Hayekian way makes something very clear. The alternative to the responses that have been made, of both kinds, is not minimal disruption with most things remaining normal – that is simply impossible. The actual alternative had there been no deliberate political action is that of even more massive disruption brought about by the spread of the disease and, crucially, the responses of people to that (König & Winkler, 2021). Deaths, huge disruption of life and productive activity and a consequent major hit to GDP were inevitable. To deny this is like saying, when told a hurricane is approaching, that boarding up your windows will increase your costs. This is not to say that there are not better and worse ways of boarding up in terms of both costs and effectiveness. Here, again, the Hayekian approach is enlightening.

2 | PANDEMICS (INCLUDING THIS ONE) UNDERSTOOD IN HAYEKIAN TERMS

Hayek's later writings set out several great insights. These can be captured under the following heads: first, the nature of human knowledge and the problems and challenges this posed for acting human beings; second, the nature of complex phenomena as opposed to simple and linear ones; third, the way these two meant that the increasingly dominant approach in the social sciences and public policy (and even some of the natural sciences) was misguided; and finally, the way that both natural phenomena and human society could be best understood in the light of this through the notion of spontaneous order, as opposed to designed (Hayek, 1948; 1967; 1983).



All of this can be seen very clearly if we look at epidemics in general, widespread and geographically dispersed epidemics (of which a pandemic is the ultimate case) more specifically, and the COVID-19 pandemic in particular. We can also see this in the ways that both governments and the wider civil society of individuals and private associations or networks have reacted to the appearance and spread of the pandemic. Hayekian insights about knowledge problems and spontaneous order also, when combined with clear thinking about risk and probability, help us to better evaluate both the actions of governments and the arguments made on all sides of what is an increasingly heated argument. One conclusion we will arrive at is that both of the main sides of the debate are wrong, inasmuch as they are both claiming an unwarranted degree of certainty and accuracy. Another is that we should think again about the whole idea of ‘evidence-based public policy’ as opposed to ‘evidence-assessed public policy’.

Epidemics are a well-known and much-studied part of medicine and biology. Some diseases are endemic, there is always a certain number of cases around at any given time and usually this number is constant. Sometimes, however, the numbers of people with an illness increase rapidly in a given place. Even more alarmingly, you can have the sudden appearance and rapid spread of an illness that was previously unknown in that location or even anywhere. Such illnesses sometimes vanish as suddenly as they appear, but more often they persist but become endemic, although there may be repeated subsequent epidemic outbreaks. What makes an epidemic, by definition, is that you have a situation where each case gives rise to more than one new case – this is the famous R number or R_0 . This means that, absent a check or limit, the number of infections will keep on doubling. The time it takes to double varies and depends on several things, notably the size of the R number. So, an epidemic is an outbreak of an infectious illness where R_0 is greater than 1.0. However, there are natural limits to this process and the growth in the number of cases does not go on for ever indefinitely. This means that after rising for a while the spread of the illness will stall as the R number falls below 1. At that point the number of cases starts to decline, as rapidly as it had previously increased until you are back where you started. When expressed in graph form this gives the classic pattern of an inverted V (Kucharski, 2021; Hethcote, 2000).

An epidemic of this kind is complicated, and difficult to model and measure while it is going on. However, this can be done. The reason is that while complicated it is still simple, as opposed to complex. There is a relatively simple transmission mechanism and pattern, which can be modelled. The functions that describe the rate of growth and the distribution of the infections are linear and yield near constant and linear growth rates and geographical spread. You can use standard calculus to estimate the acceleration and deceleration of the spread and diffusion (Hethcote, 2000). It is a physically demanding task to collect data points but the law of large numbers means that as more and more are collected the values will tend to converge on a mean figure so you can arrive at much firmer estimates as to variables like the Infection Fatality Rate (IFR), Case Fatality Rate (CFR), R number and geographical and social spread over time. This in turn makes it increasingly easy to work out where you are on the curve (the inverted V) and how long it will be before you reach the peak and pass it. All this makes understanding what is going on and responding to is much easier, if you can manage it. It also means that forecasting the future is easier, although still difficult.

However, this kind of simple and tractable epidemic is actually a limited case. It applies only when the epidemic is sufficiently geographically confined and localised. If an epidemic spreads over a sufficiently large area or, as often happens, if it is transmitted in such a way that it leaps over large areas rather than spreading in a geographically contiguous fashion, then it ceases to be a simple phenomenon. It becomes a complex one with multifarious feedback loops and a varied and constantly shifting dynamic. The degree of randomness within the process increases

dramatically. By analogy, this is like the difference between a single fire, however large, and a dispersed and scattered forest or bush fire, where it is difficult to impossible to know where the next fire will start or how fast and in what direction it will spread (Snooks, 2008; Randall, 2011). Moreover, the pattern of individual data points and the range of probabilities that they fit into may not follow a normal distribution but rather fall into one with a highly skewed distribution (Taleb, Bar-Yam, & Cirillo, 2020). This makes calculating the value of key variables more difficult. This is where Hayek comes in, as the distinction between simple and complex systems and processes was one of his major insights. This distinction, and its application to how we should think about the pandemic and our response to it, was set out in Professor Mark Pennington's IEA paper, *The Response to the Pandemic: A Hayekian View* (Pennington, 2020).

All of this means that a geographically dispersed epidemic, particularly one that does not have a spatially continuous spread, cannot be modelled in the way that a simple one can. You can construct a model but it will only be able to come up with very general predictions. While the pandemic is going on, accumulated data will make some things increasingly clear, such as the IFR, but it will not generate firm measures of dynamic processes such as rates of spread and diffusion that can be relied on or used to generate forecasts, even if the methodology of a range of probability envelopes is used. It is not possible to come up with anything other than very general predictions. What you can try to do is to work out how likely extreme outcomes are and what their likely costs or downsides will be. In other words, you can estimate how fat the tails of the probability distribution are and, at the major impact end, roughly how big the negative impact will be in terms of things such as deaths and disruption. All of this will only give you very broad patterns but it will give you some idea about the key judgment you need to make, which is the cost of an extreme outcome and its likely probability (Taleb, Bar-Yam, & Cirillo, 2020).

In all of this history becomes important. In events like pandemics (or other processes such as natural disasters or system-threatening change) meaningful information (as opposed to noise) is something that you come to have *after* the event rather than while it is going on, much less in advance. The big problem is that data or meaningful information can only become really available in hindsight, after the events have happened. It is actually impossible to get as things are happening. This means that the evidence of previous pandemics is a useful heuristic, even if that is always qualified by the reality that things never happen in exactly the same way and by the more general problem of the fallacy of induction. It is certainly more useful than predictions derived from models that treat a large-scale and immensely complex phenomenon such as a pandemic as though it were small-scale and simple. The worst case in this particular context is to model and think about a global epidemic as though it were a geographically specific and constrained one.

3 | UNDERSTANDING THAT THE COVID-19 PANDEMIC IS A COMPLEX PHENOMENON IN THE HAYEKIAN SENSE SHOULD LEAD US TO SEVERAL INTERESTING CONCLUSIONS

One conclusion is that we should cut governments a lot more slack. They are having to make decisions under conditions of uncertainty and without the option of waiting until things become clearer – because if you do that and something really bad happens (which is quite likely) then it will be too late to do anything. Many of the decisions will prove in hindsight to have been mistaken or to have not had the intended effects; but this is inevitable. In fact, this is



true of many or most government decisions in all matters; the difference in this case is that because of the speed of the phenomenon in question (viral transmission) we find out what worked and what did not much more quickly. The point is that doing nothing or very little will also have a cost and this is also uncertain. So, decisions have to be made and under conditions of radical uncertainty – a state of affairs military commanders have been familiar with throughout history (Franke, 2011).

However, in many cases we should not be that forgiving as it is clear that some governments have done much better than others by straightforward metrics such as the number of cases, the rate of spread, and the number of deaths per case. One clear conclusion that we can already draw is that simple competence is vital – governments that have followed the same strategy have had very different outcomes and this is due in large part to straightforward administrative competence and the variation in that. In other words, the capacity of government matters as much as ideology or policy (Fukuyama, 2020). This is a surprising reality for many but perhaps it should not be. It does suggest that in retrospect, when trying to determine which general approach or policy has been most effective, we have to control for competence and capacity by comparing different types of policy carried out by governments with the same levels of competence. This, though, is very difficult because there are so many confounding variables. For example, African countries have on the evidence so far done well, particularly when compared with parts of the world that are similar in terms of things like climate and development, such as Latin America (which has done very badly). This might suggest that African governments are more effective than often supposed (Pilling, 2020). Alternatively, though, there is a different explanation, such as the age distribution of the population.

In addition to the capacity or competence of governments and other systems, such as public health (which are a matter of the effectiveness of both the actual people involved and the systems within which they operate), features of society are important. The ability to act collectively, even when this is purely spontaneous and not ordered or advised by government, matters. In the conditions of a pandemic societies with high levels of compliance and moral collectivism (and hence an emphasis on shared responsibility) will do better than more individualistic ones where rules are often ignored (Maravi, Levy, Gur, Confino, & Segal, 2021). (It may well be that the reverse is true in the aftermath, when experimentation is needed but that is a different question.)

The difficulty of knowing things in advance or even at the time that the pandemic is starting or going on means that decisions have to be taken as quickly as possible and right at the start when the initial cases appear (Taleb, Norman, & Bar-Yam, 2020). That means that the key calculation is not the most likely outcome as calculated using a model that assumes a normal distribution of probabilities for various outcomes but rather roughly how likely an extreme outcome is. What this shows is that strong reaction taken very early on actually has the lowest social and economic costs. This can be seen in the performance of East Asian countries such as South Korea and Vietnam, and New Zealand. Some of this, though, is good fortune, specifically the fact of being geographically close to the initial outbreak. For governments in places such as Europe and North America the option of decisive early action was only a theoretical possibility. By the time cases were detected it was too late, as the degree of complexity and dynamism in the process they had to deal with was already at a level that made simply stopping that process in its tracks impossible.

Elaborate predictions about the future that assign apparently definite probabilities to specific outcomes are not going to work. At the same time the argument of sceptics that all of this is nonsense and we can assume certain outcomes if we do nothing, or something less

drastic, is also wrong. *Both* kinds of argument assume more knowledge and greater certainty than we can possibly have. They both assume that given a course of either action of a certain kind, or inaction, we can tell in advance what will happen. This is clearly untrue. We can see the latter case very clearly in Sweden. Here the view of the government and its official advisors was that if social distancing was followed along with restrictions on large gatherings but no lockdowns were imposed, then the result would be a very rapid spread of the virus, with a majority of the population having been infected (and thus acquiring immunity) in a short time. The date by which this was expected to happen was initially supposed to be April, then May, then July, then August. In fact, it had still not been reached by March 2021. The model did not take account of the actual dynamics of spread and the way that process was affected by the general societal response. The opposite problem can be seen in over-confident estimates of the effects of lockdowns, and in particular the idea that a short lockdown could act as a ‘circuit breaker’ and arrest the spread or that a long enough one could permanently suppress the spread of the epidemic even in the absence of an effective vaccine. What decision-makers have to do is to go on estimates of what might happen and what the probable costs would be. This suggests a need to rely on a qualified precautionary principle and certainly a need to avoid simple optimism. The way to go when confronted by risks of this kind is qualified pessimism.

4 | THE HISTORY AND NATURE OF PANDEMICS IN HAYEKIAN TERMS

Pandemics have been a recurring feature of history and have played a major part in shaping history. In the modern world (since around 1770) they have become much more frequent than before – the best estimate is that we have had at least 17 since 1815 (McMillen, 2016). (By contrast there are only two true pandemics between the Black Death of the fourteenth century and the first cholera pandemic in 1815.) This means that we now have quite a lot of historical data for both viral and bacterial pandemics. Back in April 2020 I surveyed this data and on the basis of that I made various predictions. The predictions I made then and elsewhere at the time have proved pretty accurate (Davies, 2020b). Why was this? Not because of any great insight on my part but for a very simple reason. Historical data, unlike the data coming in as the pandemic happens, actually conveys information. It also reveals patterns and structures that we can reasonably assume will be repeated, if not exactly. One is about the pattern of the spread of the pandemic over time – this takes the form of a non-contiguous spread to highly connected metropolitan areas initially, followed by diffusion on a wider geographical scale as time passes, with an unpredictable spread. Another is that a viral pandemic has at least two peaks (usually described as waves although this is a misleading metaphor). Another is that a viral pandemic typically lasts for 18–30 months as far as the bulk of the world is concerned and for at least 12 months for most given parts of the world. Another is that with no response, the downside risk and effects of a pandemic are extremely severe, even catastrophic.

Two things have become clear about COVID – one was clear already by March 2020, the other became clear by early May. The one that became clear by May was that the virus has an extraordinary variation in severity by age. The severity of the symptoms and the likelihood of death both rise dramatically on average for the age of an infected person so that the virus causes a mild illness or none at all in young children, a mild illness in younger people, and a severe illness in many cases in older people, with very severe illness or death in cases among the very old. The big reality, which became clear almost immediately, is that left uncontrolled the spread



of COVID will crash modern hospital systems. It is important to emphasise that what does this is not the illness per se but the rate and extent of the spread of the illness. The reason is that COVID-19, while causing no symptoms at all or very mild ones in the majority of cases, causes a serious illness in a significant minority and (crucially) in a substantial subset of those serious cases it causes symptoms severe enough to require hospitalisation and intensive care – *for a prolonged period*. (This is one of the critical differences with normal influenza.) Therefore, if the spread is sufficiently extensive and rapid so that the number of cases is large and rising rapidly, this puts the intensive-care capacity of modern hospital systems under acute stress – the critical factor here is not actual beds but staff. Simply having more beds available does not matter if those additional beds do not have the needed equipment, and staff trained in their use and the techniques of intensive care. Training such staff or diverting them from other cases is both slow and costly in other ways (such as letting other serious illnesses and conditions go untreated).

This means that given the severity and relatively high probability of a very bad outcome, the correct course of action, if you can do it, is this. You have to react very quickly, as soon as you have the first signs that a pandemic has started. Here the appropriate analogy is the one given by Nassim Nicholas Taleb. If as a passenger on a plane you see the pilot come on walking unsteadily and smelling of drink, you do not wait until the plane has taken off to see what happens – you get off before take-off (Taleb, 2013). You do not do nothing and say “Well there is only a low chance that something catastrophic will happen”. If you see someone playing Russian roulette and the hammer falls on an empty chamber you do not congratulate them on good judgment, you conclude that they are a moron who has had a stroke of luck.

In practical terms this insight means the following. What you have to do if possible is to close your border to foreign travel and stop as much travel within your jurisdiction as possible. You impose strict controls on large gatherings (spreader events). You have an effective Test, Trace, Isolate (TTI) system to identify the initial cases and stop them starting a cascade. In TTI, the key part is to get all three parts working – having the TT without the I is useless because it does not matter how good you are at testing people and tracking their contacts if you do not then have the people involved isolated. This is where both state capacity and voluntary compliance become critical. If you can do all of this and do it soon enough you may be able to cut the spread off at the start. In that case you will not need extreme measures like lockdowns and you will be able to revert to normal living fairly swiftly. The conclusion is that strong government action taken at a sufficiently early stage will remove or reduce the need for more extensive and costly government action later.

However, it may be that for reasons that are nobody's fault you are unable to do this. In most parts of the world the geographical distance from the initial outbreak combined with the time it takes for the virus to spread plus its infectiousness means that by the time it becomes obvious that you have a problem you are already dealing with a complex phenomenon and simply cutting it off is impossible. In other cases, closing borders and restricting internal travel is difficult to impossible because of geographical or capacity reasons. (Island nations have a significant advantage here.) In that case you have to fall back on other measures. It is at this point that Hayekian knowledge problems can become acute and, if you are unlucky, insurmountable. The essential thing is to have as effective a system of TTI as possible. Without that *nothing* will work – you will have to resort to the bluntest possible instruments.

If you have an effective TTI system, then you can rely upon measures like general mask wearing, strict social distancing, controls on things like large indoor events, to control the spread. If you do not, then these will not work well enough. What is not available is an option that will avoid massive disruption or allow the majority of the population to live as normal – to

think there is such an option at that point is a fantasy. (For an example of such a fantasy see the Great Barrington Declaration: Kulldorf, Gupta, & Bhattacharya, 2020.) An effective TTI system will itself cause widespread disruption but in the absence of such a system the unpredictable and unmodellable nature of the epidemic's spread means that there is no way of confining the impact of either the epidemic itself, or of steps taken to control it, or of the responses to its spread by society. Given the mobility of modern populations and the way different ages and groups are mingled, the impact cannot be limited either geographically or by isolating the vulnerable. Even if you do have effective TTI, if the numbers rise above a certain point the knowledge problem you face will become simply impossible to deal with. There will be so many cases and the number of contacts will be so large and their relations so complex that they cannot be captured by any process. At that point the blunt instruments are all you have left. This kind of process can be seen in several parts of Europe, such as Germany, where effective TTI meant that during the first wave in the spring of 2020 the rate of spread could be controlled without the need for a more extensive lockdown but where the rapid spread during the second wave that began in the autumn meant that the system could not cope and lockdowns had to be imposed.

Those blunt instruments – quarantines and curfews (lockdowns in the current vernacular) – are a sign of failure; having to do this shows that all of the other options are exhausted. Nobody *wants* to do this, certainly not if other options are available. The question is whether there is any reasonable alternative.

At this point many economists will start to talk about trade-offs and cost–benefit analysis. At one level this is sensible and reasonable (Bourne, 2021). However, the idea that there is a trade-off between the economy and measures to restrict the spread of the virus is simply false. The unexamined assumption is that if you do not impose the costs of lockdown the alternative will be one where those costs will not exist. This is not true and the Hayekian insight is what can help us understand why. In this case it is spontaneous order theory that explains things. If the pandemic is spreading rapidly and visibly, with rising numbers of deaths and hospitalisations, then people and firms will respond individually. Collectively these individual responses will bring about an ordered and patterned state of affairs at the level of society as a whole, which will have almost exactly the same economic effect as a lockdown or very strict social distancing rules. One medical argument is that the lockdown will if we are driven to it cost as many lives as it saves (because of people going untreated). This would be a potent argument for a disease with different features but unfortunately it does not work with COVID-19 because of the distinctive features of the illness. A general spread of the illness will not only cause large numbers of deaths, particularly among the elderly, it will also crash the hospital intensive-care system, which will mean lots of other deaths from cases going untreated anyway.

5 | LESSONS FROM THE EXPERIENCE OF THE COVID-19 PANDEMIC

We are now in a position to see some things that the experience of the pandemic has told us. The first of these is a better idea of both the benefits and costs of a globalised and interconnected world economy. These are the benefits of a ‘Great Society’, as Hayek called it, which as we know are considerable but we are now perhaps more aware of the costs or risks that it also brings (Hayek, 1983). Two risks have become more apparent. The first is the way increased travel makes the spread of an infectious illness easier for the pathogen and more



difficult to control. The second is the way that complex and long-distance supply chains bring increased vulnerability and mutual dependence. However, the second of these should not be overstated; in fact the evidence from this pandemic is that this is an area where the benefits of a Great Society and global integration outweigh the costs. In practice most supply chains have proved to be very resilient and there has not been the kind of massive disruption to supply of things like food and parts that many feared and expected. The reason is an important feature of the relations (including supply chains) that form a Hayekian Great Society, their flexibility and adaptability and capacity to respond to unexpected events. Moreover, the wealth and cooperation across long distances and geopolitical borders that a globalised Great Society brings are vitally important in combatting the pandemic.

The Great Society is also responsible for one of the great triumphs of the response to the pandemic – the successful production and testing of a whole range of vaccines. This was done in an unprecedented and record-breaking short time. It is a testament to the benefits of innovation and of an economy built around the innovative process, which is what all successful modern economies, and particularly ones that make use of dispersed knowledge and networks, are. In contrast, a third and much darker lesson to be learned is that the way modern intensive farming of livestock works is a major disaster waiting to happen. Modern intensive livestock farming is something that could have been designed to create novel pathogens and facilitate their spread to humans. Along with increased pressure on wildlife habitats, mainly from agriculture, it will sooner or later produce a pathogen that is both highly infectious and significantly lethal. We have to stop factory farming – if not, it will kill us, sooner or later.

Another clear conclusion is that we live in an economy where many processes are over-optimised (Taleb, 2013; Amalberti, 2001). This is not about global integration (globalisation) or regional specialisation but the search for maximum efficiency in the use of resources at the expense of redundancy and flexibility regardless of where activities happen. This search manifests in things such as just-in-time processes for manufacturing, distribution and retail. Working in this way leads to systems that are highly productive and efficient but extremely brittle and prone to cascade failure while being slow to adapt or learn and so vulnerable to unexpected shocks. The clearest instance of this is the case of hospital systems in many countries, particularly in the early stages of the pandemic. Many countries had moved to a system that had fewer beds than previously but with much higher occupancy rates and more rapid movement of patients in and out of hospital. This is very efficient but left the system unable to adapt quickly to the demands posed by COVID-19. By contrast, health-care systems such as the German and East Asian ones, with larger numbers of beds, managed much better (Hawe, Yuen, & Baillie, 2011).

More generally, what we can clearly see now is that there has been a decline in the emphasis on public health as a central feature of the health system and a shift in emphasis to therapeutic medicine. This has happened in most wealthy countries since the 1960s, with a greater focus on the treatment of illnesses and accidents in large integrated hospitals as opposed to things such as health support and prophylactic intervention to deliver societal levels of higher health. This is exacerbated by the way public health has been redefined in wealthy Western countries since the 1970s to mean a concern with lifestyle choices (Berridge, 2007).

Another lesson, already alluded to, is that it is competence that matters in government more than size, ideology, or even policy. State capacity is likely to be a much more popular topic for investigation and debate in the future, in all countries (Cowen, 2020; Hammond, 2020). Another point that has already been made is that everybody, on all sides of this argument, is putting too much trust in abstract models and reasoning. There is no meaningful distinction in

most of the debates we have had between ‘believers’ and ‘sceptics’. Both of these sides have shown too much confidence in abstract theory – in fact the so-called sceptics more than their opponents. We need to put more trust in historical evidence as a guide to what we can expect, and identifying what if anything is genuinely novel about a challenge or situation is one of the first questions that should be asked.

Finally, there are two conclusions we should draw from the experience of the last year that open up space for what has to be an extensive discussion. The first is that we need to think about systemic risk more and to do so in a different way to the way we think about risk most of the time. Systemic risks, events or processes that should they happen will cause damage so extensive that it threatens the entire economic or social order for a large part or all of the global population, are something that cannot and should not be understood using standard risk assessment, not least because of the high degree of randomness or true uncertainty found in some of them (Taleb, Bar-Yam, & Cirillo, 2020). In the case of pandemics the risks can be calculated but a critical point is that those risks are distributed in a highly skewed way. Such events also have the consequence of abruptly ending the patterned sequence of which they are a part, in the way that betting on an outcome with a fatal result if you get it wrong does. In the world and economic order that we now live in there are several significant kinds of systemic risk, from pandemics to catastrophic climate change to structural economic crisis. Several disciplines need to think much more about this.

The second is that the notion of ‘evidence-based policy’ is nonsense. This is because a central part of any policy decision is that of calculating what the likely future effects are. The pandemic is an extreme illustration of the problem with this approach, which is that it does not take account of Hayekian knowledge problems, the nature of complex phenomena and the unknowability of the future. The evidence that you would really need for true ‘evidence-based policy’ is not available, because it is in the future or is inaccessible due to being tacit. What, though, should decision makers do? Obviously, they should not ignore what is definitely known. However, that will still leave a wide range of options. They should openly and honestly decide between those options on the basis of normative principles – or ideology, if you will. However, there are two things to add. First, this is not an excuse for idiocy – it should be combined with a reasonable idea of what the chances and costs of things going badly wrong are. Second, this does *not* mean that evidence does not matter. What it means is that evidence will only really become available *after* you have done something for a while. In other words, you should have *evidence-evaluated* policy rather than *evidence-driven* policy. In particular, historical evidence matters.

6 | THE LIKELY FUTURE WORLD

What kind of world will the pandemic leave, and how will it change things? Given what has just been said the correct answer to that question is that in most cases we do not know. However, a few things are clear. As I have said in several places for the IEA, what this pandemic, like others before it, has done is to accelerate and magnify things that were already happening (Davies, 2020b). It has shone a searchlight on a flock of ‘white swans’ (this is another coinage of Taleb’s, meaning events – contrary to ‘black swans’ – with a known and definite probability and also, often, a high likelihood of happening). The first is that developed economies face a major debt crisis that will have to be resolved one way or another. Many will point to the explosion in state debt that has happened but this is not going to be a problem for some time. Public



debt is not the pressing problem, it is private debt that is. In particular, there is a problem with a lot of corporate debt, much of which was already high-yield, that is, high-risk. This is particularly true with debt attached to things such as commercial property, although things such as car purchase loans and shale oil paper should also be making people nervous. The likely poor outlook for commercial property derives from another set of consequences from the pandemic that we can already see emerging. One is a much more rapid move away from traditional brick-and-mortar retailing towards online. Another is a shift away from full-time, five-days-a-week office working and towards much more working from home, coupled with a decline in commuting and a move to a more geographically dispersed network model for much economic activity. All of these changes will have winners as well as losers, but the acceleration of change will make the adjustment more bruising. In the British context some people have already argued that we have now passed 'peak London' although not perhaps 'peak Manchester and Leeds' (Marsh, 2020).

Alongside these are other changes that are not in the 'accelerated white swan' category and are therefore much less certain. One is that we may see a revival of inflation as a consequence of governments' monetary policies (Castañeda & Congdon, 2020). This could lead to a rise in interest rates and bond yields, which would then trigger the debt crisis mentioned above. However, there is also the possibility that governments will choose to have several years of higher inflation as a way of mitigating debt problems or at least resolving them in a less painful way. Another is that private firms will respond by 'reshoring' production and shortening supply chains while also moving away from intensive and low-redundancy production methods. This would lead to a revival of the national economy and decline of global integration, particularly if it were combined with a reassertion of the importance and legitimacy of the national state as opposed to international regulatory regimes. All this, though, is speculative.

Going forward, how should all of us think of the experience we have just had, of the worst pandemic since 1919? Is this a time to reread the Yeats lines quoted at the start or should we be thankful personally that we have got through a once in a lifetime event while looking forward to the future? Although the latter is the way most will react, we should be more cautious and less sanguine. We should think of the experience of COVID-19 as a close shave or a warning shot. In my paper for the IEA back in April 2020 I already made two points about this (Davies, 2020b). First, this could have been *much* worse and in many ways, we have got off lightly. We could easily have been confronted by a pandemic with a much higher lethality but comparable infectiousness or one (such as a bacterial pandemic) that vaccines would not have worked against. The real nightmare would be a pandemic caused by a bacterial pathogen that originates in livestock, is infectious between humans, and (because of livestock farming practices) is immune to most or all antibiotics.

Second, this is going to happen again, and sooner than many may think. The widespread belief is that this pandemic is a hundred-year event. That does not mean that it is an event that only happens once a century. It means that in any and each individual year there is a hundred-to-one chance of its happening. However, as scientists have been warning for some time now the chance of a serious pandemic such as this one has been rising over the last two or three decades. They now stand by the best estimate at about 5 per cent in any given year (Mannheim, 2018; Gulland, 2021; BBC Future, n.d.). In other words, a pandemic is not presently a hundred-year event, but a twenty-year one and moving towards being a ten-year one.

If this is taken to heart, two things will follow that will have major and mostly unforeseeable consequences. First, human beings in general will change their collective behaviour because their sense of risk will shift. As the risk of a major disaster is seen to be higher, many people

will become much more cautious and more willing to spend resources on precautionary steps. Other will respond in the opposite way and 'live for the day'. Second, we will see major shifts in policy on the part of most governments on the specific question of pandemic prevention and preparedness. One of the most important is that we will see the reintroduction of old but tried methods of preventing large regional epidemics becoming true pandemics (De Cecco & Orlando, 2020). The major one will be short (four or five to ten-day) quarantines for long-distance travellers. This will have obvious and far-reaching results on things such as long-distance travel, tourism, business, and much more besides.

The current pandemic came as a massive surprise to both ordinary people and (less excusably) governments. Faced with this challenge there has been a quest for certainty, understandable but leading in too many cases to wilful blindness. Applying Hayekian insights to this situation, however, enables us to better understand both the scale of the challenges governments and individuals face and the way to think about complex phenomena such as this.

NOTE

¹ <https://www.poetryfoundation.org/poems/43290/the-second-coming> (accessed 9 April 2021).

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