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The response to the pandemic:

A Hayekian view

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Contents

Summary

- Socio-economic systems should be understood as 'complex' phenomena that cannot effectively be controlled or managed through central planning. In general, markets and other decentralised governance mechanisms that rely on competition and signalling are better placed to facilitate learning and adaptation in conditions of complexity.

- Pandemics such as the new coronavirus are also complex systems that interact in often unpredictable ways with socio-economic processes.

- Markets and decentralised governance mechanisms may not be able to coordinate an effective pandemic response owing to high transaction costs. However, the complexity of the interactions between socio-economic processes and the coronavirus means that policy-makers may lack the knowledge to discern which interventions will address the health and economic dimensions of the pandemic at a tolerable cost.

- Expectations for public responses to the pandemic should, therefore, be modest and should recognise that to a large extent the complexity of the policy challenge will mean that successful responses may owe as much to accident as to design.

- That government action, however clumsy, may be necessary in 'emergency situations' does not mean that such action should continue to substitute for markets when the emergency has passed. On the contrary, the difficulties that governments face in responding to the coronavirus could be multiplied if attempts to plan economic activity became the norm in the post-pandemic age.

Introduction

This briefing paper considers the implications of F. A. Hayek's distinction between simple and complex phenomena for understanding the policy challenge presented by the coronavirus pandemic. The analysis suggests that beyond some very basic lessons it may not be possible to discern the contours of an effective policy response, or even if such a response can be identified, to implement it in a sufficiently timely manner. The paper then considers the implications of this analysis for broader socio-economic challenges that policymakers are increasingly being urged to assume, with a focus on post-pandemic risk planning and some recent arguments for industrial policy.

The first section outlines Hayek's distinction between simple and complex phenomena and how this underpins his critique of economic planning. The second section sets out the dimensions of complexity that underpin the coronavirus policy challenge. The third argues that while government action is a justifiable response to the pandemic there are few systemic mechanisms that enable policymakers to assess the effectiveness of alternative policy responses. The final section examines arguments against the likely demands to permanently expand government action in the post-pandemic age. It suggests that expanding the state's role in a post-pandemic political economy will merely recreate the type of knowledge-poor environment for resource allocation that characterises the pandemic itself. This is an environment where, in the absence of systemic learning mechanisms, beneficial decisions are often the result of fortuitous accident.

Hayek: simple versus complex systems

A central aspect of Hayek's social theory is the distinction he draws between simple and complex phenomena (for example, Hayek 1967). Simple phenomena are those where it is possible from a given starting position to predict the outcomes that will be generated by the application of a stimulus into a system. Scientific problems in some (though by no means all) parts of physics are of this type and they allow for the derivation of predictive, quantitative regularities by the scientist. Complex phenomena by contrast, refer to systems where the elements that make up a greater whole do not interact in a linear fashion and where the number of elements and the character of their interaction is too vast for them to be comprehended by the scientific observer. While non-linear systems can be modelled, the relevant relationships cannot be characterised with sufficient quantitative precision. The most that the scientist can do when faced with complex phenomena is to try to understand the *general principles* that allow an order to form between the various elements of the system – not to predict successfully the precise form that the order will take. All that science may be able to achieve in the face of such phenomena is to predict a *range* of different outcomes.

It is tempting to equate this distinction between simple and complex phenomena with the difference between the subject matter of the natural and social sciences, but this would be mistaken. While it is true that some natural sciences analyse simple systems, this is not always so. Many of the phenomena analysed in biology or ecology are closer to complex systems. In such cases natural scientists can discover the general principles such as, for example, the principles of ecological succession that drive processes of environmental change. Typically, however, the scientists concerned cannot know enough about the multiple contextual relationships

between elements to predict successfully how ecosystems will evolve, given certain exogenous or endogenous changes to them.

When we turn to the socio-economic world, we are in most circumstances referring to *even more complex systems*. Knowledge of all the varied and changing economic and cultural conditions that confront multitudes of people cannot be comprehended by any social scientist or group of such scientists. In very basic forms of human society the rhythms and routines of people might be observed and predicted with some accuracy by an external observer, but in more advanced and complex social orders the most that social science can achieve is an understanding of the general principles of human interaction and the broad patterns they produce. What cannot be predicted successfully are specific responses to specific events. Economists may for example understand that if a good becomes more scarce in a market, various changes such as a rise in price and the search for new supplies or substitutes are to be expected, but they cannot predict successfully what the specific responses will entail and the balance between the respective forces set in train.

Moreover, it may not even be possible to specify the range of likely responses because, unlike the natural world, the 'human elements' that make up the complex social ecology are *creative actors*. It is for this reason that the modelling of social interaction in terms of the predicted behaviour of statistically 'representative agents' that dominates contemporary neo-classical economics is of limited value – for it is entrepreneurial *outliers* that drive the process of social change.[1] This does not imply rejecting modelling as a possible way to inform the day-to-day plans of individuals and organisations. Since future decisions grow incrementally out of past decisions there are *some* regularities that people can rely on – though even here expectations will often be disappointed. It does mean however that longer-term econometric forecasting is of little use since the building of reliable econometric models requires knowledge of the factors that will shape the future in advance of their emergence (for example, Parker and Stacey 1994: 76-77).

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1   For a recent analysis of the problems of radical uncertainty in relation to planning see, for example, Kay and King (2020). For an analysis of the similarities between Hayek's views and those of chaos and complexity theory, see Parker and Stacey (1994).

Directive intelligence versus rules and decentralised feedback

The key point that Hayek takes from the distinctions between simple and complex systems is that whereas the former can be subject to planning and control by a 'directive intelligence' the latter *cannot* be subject to such control owing to the overwhelming 'knowledge problem' that would face such an intelligence. Whatever objectives we may have therefore, whether they pertain to health, economic growth, environmental protection, or some combination of these, will to a large extent have to be achieved via *indirect* mechanisms. Unless we choose a much simpler form of social existence which might be more amenable to direction and control, then intelligent policy can only hope to find rules that allow for the many agents that make up complex social systems to adapt to the actions of others *without* having to know all of the factors that drive those actions. The mechanisms and rules that work most effectively in this regard will be those that provide relatively clear feedback mechanisms to the agents and agencies concerned and enable relatively speedy adaptation to changing information about success and failure at the local level.

In brief, this analysis is what underlies Hayek's case for a market economy, based on rules of private property and contract, over a planned or centrally managed economy. A market economy should be understood as a complex adaptive system where property rights and freedom of contract provide rules that enable an intricate ecology of dispersed individuals and organisations to experiment in responding to their own circumstances, and for the results of these experiments to be communicated to neighbouring actors via profit and loss accounting and market price signals. The resultant coordination is an 'emergent' property of the interaction between the various elements in a context where no 'directive intelligence' could be aware of all the possible margins for adjustment.

Contrary to some critical readings of his ideas, there is no suggestion from Hayek that the relevant coordination in markets occurs instantaneously or that adaptations made are 'perfect'. Rather, his claim is a *comparative* one that markets facilitate *more* learning and adjustment than would likely arise in a centrally managed alternative. Neither is there any suggestion that prices communicate all necessary knowledge. Hayek's claim is the more modest one that market prices communicate in an indirect way *more* knowledge than would be possible without them. Price signals will always operate in a 'noisy' environment and given uncertainty about future states of the world entrepreneurs must try to understand whether shifts in prices reflect longer or shorter-term social trends and what the possible causes

of these might be. Part of Hayek's case for the market economy is that competition operates as a discovery procedure where different *subjective readings of prices* can be tested against one another and the relative strength of these readings revealed through the account of profit and loss. Outside of such a process the capacity to reveal the opportunity costs of alternative courses of action would be confined to the very limited imagination of a 'directive intelligence' or 'social planner'.[2] While these are theoretical arguments, they are also empirically grounded claims which help to explain, *at least in a qualitative sense*, the superior performance of economies that rely on market processes relative to those that try to suppress them.

It should be noted that none of these arguments are undermined by technological innovations such as for example the development of artificial intelligence or so called 'big data' gathering techniques, which it is often suggested might allow for the replacement of market processes. On the one hand, such technological innovations increase the scope for decentralised agents - whether individuals, firms or voluntary organisations – to increase the complexity of their own decision-making. This means that no matter how sophisticated the relevant technology becomes the complexity of the social system at the 'meta-level' will be higher than the cognitive capacities of any 'directive intelligence'. Similarly, no matter how much data collection is facilitated by technology it will remain the case that the data at issue will not 'speak for themselves'. Readings of data are no more than social constructions and different people will interpret the implications of data in different ways - so on a Hayekian view the importance of competition in testing these different constructions against alternative readings remains paramount.

While Hayek develops a powerful case for the importance of market processes his approach *does* not imply that there are market solutions to *all* socio-economic problems. There will be a range of challenges – perhaps owing to large scale trans-boundary externalities or public goods problems – that exceed the scope for private contractual solutions. The task here is to find mechanisms that allow for experimentation and feedback that is somewhat analogous to that provided by markets. One example of this approach can be seen in Elinor Ostrom's focus on 'polycentric' systems

2   Perhaps the best summaries of Hayek's understanding of the role of market competition are contained in the collection *Individualism and Economic Order* (1948), the essay 'Competition as a Discovery Procedure' (1978b) and in his Nobel acceptance lecture reprinted as 'The Pretence of Knowledge' (1978a).

of governance for the management of common pool or public goods dilemmas (for example, Ostrom 2006). Such systems constitute an institutional space 'beyond markets and states' where competing and overlapping decision centres - whether private, communal or public - allow multiple comparisons between governance regimes and knowledge of relative successes and failures in the supply and management of public goods to be spread via a process of 'parallel adaptation'. Coordination here is an emergent property from multiple actors and organisations continually experimenting with and adapting to different rules without any single authority having to be cognisant of all the margins for improvement.

The coronavirus pandemic as a complex problem

The classical liberal perspective with which Hayek is closely associated recognises a potentially important role for government in responding to 'emergency situations' such as wars or natural disasters where excessive transaction costs might prevent an effective response from private agents. Organising a response to a pandemic may thus be a justifiable form of government action on the Hayekian view. Nonetheless, evaluating any such response will require proper appreciation of the levels of complexity in play and whether there are effective feedback mechanisms available to policymakers to cope with these.

The pandemic response as a complex problem

In the case of the coronavirus response, as with other pandemics, a first layer of complexity concerns the epidemiology of the virus itself. Epidemiological problems, although involving natural science phenomena, are not of the simple 'physics' type. While epidemiologists can discern the principles that govern how a virus spreads and perhaps simulate a range of possible outcomes, the precise manner of spread through a population will depend on a host of context-specific variables that may not be accessible to the scientists or experts concerned. We see this most clearly perhaps in the problem of modelling the spread of the pandemic and the sometimes very different projections of the size and shape of the peak of the disease (for a discussion of this see Ormerod 2020). Will the pandemic peter out of its own accord without first having to affect a large percentage of the population? At what level of spread might 'herd immunity' be achieved? How is the spread of the virus affected by weather and geography? Will there be a second wave? And will the virus mutate into a weaker or stronger

form? Uncertainties surrounding these and other such questions mean that modelling and data analysis will involve a good deal of subjective interpretation.

An additional layer of complexity arises because the virus, which is itself a complex phenomenon, is interacting with a further complex phenomenon represented by the various political, economic, cultural and institutional arrangements across the world that might affect the manner of spread. As Ormerod (ibid.) notes, one of the key limitations of epidemiological models is that their projections often fail to account for human behaviour and changes in that behaviour – including those induced by public policy. There is considerable uncertainty about how the new coronavirus will respond to various public policy interventions. It is for example, unclear how 'lockdown' policies might affect the size of a possible second wave of transmission. On one scenario lockdowns might be essential to reducing the spread of the disease to the point where infections in any 'second wave' could be more easily managed and controlled. On the other hand, however, it could be that the success of lockdowns in limiting the spread of a first wave of the virus will only contribute to a much larger and potentially uncontrollable second wave owing to the limited extent of herd immunity in the population arising from lockdown measures.

Still further complexity is injected into the policy conundrum by uncertainties about how different populations with different social attitudes, time horizons and belief systems may respond to the various policy measures that are adopted, or to news about developments that are affecting the spread of the virus. There is a distinct possibility for what economists would term 'Lucas effects' to arise. In macro-economic analysis these refer to situations where public policy measures might be counteracted by shifts in behaviour which are a response to the measures concerned. If for example policymakers seek to raise inflation in the hope of lowering unemployment, then this may lead to a shift in employers' inflation expectations which may lead them to *decrease* employment. Macro-economic models, if they are to be useful to policymakers, need therefore to factor in how changes in policy might change the expectations and behaviour of the agents on which the policy is supposed to act. In the specific context of the pandemic response it is possible that for example, if people come to believe that a vaccine is around the corner or that herd immunity is close to being achieved they may start to behave in ways – such as abandoning social distancing measures – that make the immediate problem worse.

The complexities discussed thus far raise significant challenges for policymakers even if they concern themselves solely with managing the health effects of the virus. The relevant complexities multiply, however, assuming policymakers should seek to balance the virus response with other margins relating to health or to other socio-economic objectives. With respect to health margins it is uncertain whether the reduction of deaths from the coronavirus that might follow lockdown measures is sufficient to outweigh an increase in deaths arising from conditions that might go undiagnosed or untreated because of the lockdown response.

With respect to economic objectives there is great uncertainty over the extent to which the economic damage that would have been inflicted by a less controlled spread of the virus is matched or outweighed by the scale of the economic costs associated with the measures being taken to contain it. In addition, while there is a strong case for policies like the UK government's 'furlough scheme', which has effectively sought to 'pause' the economy while anti-pandemic controls are in place, there is also a danger that schemes of this kind may cause lasting economic damage if they are maintained for too long. If the effect of lockdown policies is to induce longer-term changes in behaviour which may persist after the pandemic has passed – such as a greater reliance on home working, reduced demand for office space, or increasing popularity for online delivery in various fields - then these changes would imply the need for significant economic restructuring and reallocations of labour and capital which an overly long furlough period would delay. While government spending may be necessary to support workers and employers in the immediate term, there are dangers of such schemes turning into longer term 'stimulus packages' that, driven by political pressure, will seek to preserve the pre-pandemic pattern of employment. Judging the timing for withdrawing such measures will therefore be subject to a high level of both economic and political uncertainty, and modelling efforts to time these decisions and their likely effects will involve a good deal of subjectivity and huge potential for error.

Complexity and the pandemic response: can policymakers learn?

Given the character of pandemics as public health problems that involve significant externalities, market solutions and those based on voluntary associations may not be viable,[3] so the Hayekian perspective is consistent with endorsing some form of public policy response. Justifying such a response does not require an expectation that the response will be 'optimal' precisely because the uncertainties and complexities at hand preclude the identification of 'optimal solutions'. Nonetheless, the question that Hayek's perspective might ask is whether there are any *systemic* mechanisms that will enable policy-makers to avoid large-scale decision-making errors and to identify and act upon knowledge of *relatively* 'better' or 'worse' patterns of response (better responses being those that balance the objective of controlling the virus in a manner that reflects tolerable costs in terms of foregone health, social and economic objectives). Within this context, the Hayekian perspective does not reject the use of modelling techniques to try to tease out public policy solutions to complex problems, but owing to the level of uncertainty and subjectivity in interpreting data it emphasises the importance of institutional constraints to minimise the effect of modelling errors.

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3   This does not mean that markets should be curtailed in those sectors which have not been shut down by the various emergency measures adopted by governments. There is, for example, good reason to believe that the introduction of price controls when concerns about impending shortages arising from government measures are at their height should be avoided – since such controls stifle the market signalling of which goods are becoming more or less scarce.

One general principle to apply from Hayek's approach might be the importance of *avoiding* a policy regime which relies too heavily on a 'directive intelligence' at too great a territorial or geographical scale. On this reading we may be fortunate that the world lacks an administrative structure with the powers to enforce a 'global governance solution' to the pandemic. Relative to what might be the case under a more fractured and decentralised governance regime, a global governance approach might increase the likelihood of a systemic disaster should those in charge err in their choice of policy measures. Writing in the context of common pool resource management Elinor Ostrom makes a point which is equally applicable in the context of the pandemic response (Ostrom 2006: 284):

> Where there is only a single governing authority, policy-makers have to experiment simultaneously with all the common pool resources within their jurisdiction with each policy change.... Thus an experiment that is based on erroneous data about one key structural variable or one false assumption about how actors will react can lead to a very large disaster.... The important point is that if systems are relatively separable, allocating responsibility for experimenting with rules will not avoid failure but will drastically reduce the probability of immense failures for an entire region.

A second and related point, which speaks against global governance and over-centralisation more broadly, is the importance of generating counterfactuals to allow for policy learning. On a Hayekian view, just as central economic planning deprives consumers and producers of the information generated by competitive experimentation in a market, so a global governance approach to the pandemic response would deprive decision-makers of any sense of the possible opportunity costs associated with different responses to the virus. It is therefore to be welcomed that while many countries have chosen to pursue 'lockdown' measures others such as Sweden have opted for a very different approach based on allowing a gradual spread of the virus through the population. The Swedish approach may not be the 'right one' but without its existence or others like it there would be no comparative base against which to evaluate the policy measures adopted elsewhere.

The current pattern of global response does not rely on a global directive intelligence. Rather, there is some level of decentralisation exercised largely through the powers of nation states and to a lesser extent *within* nation states where federal political systems are operative. This system

allows for a degree of policy experimentation and may reduce the likelihood of systemic failure owing to modelling errors or errors of political judgement. Nonetheless, there is a serious problem in discerning what the balance between centralisation and decentralisation in the pandemic response should in fact be. As Coase (1992) points out, hierarchies at some level can have advantages over more decentralised or exchange-based systems. In market economies the balance between centralisation and decentralisation is continually determined and re-determined through an ongoing process of competition embedded in profit and loss signals as firms of different sizes compete with one another and the process of mergers, demergers and new entrants unfolds (ibid.). Unfortunately, however, there may *not* be an equivalent mechanism to decipher what level of political and legislative decentralisation is appropriate for the organisation of an effective pandemic response.

Owing to the complexity of the challenge at hand, politicians and regulators in nation states and other levels of decision-making also face a significant 'signal extraction problem' in deciphering what the results of various policy experiments mean and whether any lessons can be applied elsewhere. Thus, even if the Swedish model produces satisfactory results from a Swedish perspective it *does not* follow that the same results would or could be achieved in countries such as the UK or France that have very different cultural traditions with which the policy would be interacting. Similarly, it is hard to judge whether the apparent success of countries such as Germany and Switzerland in having a death rate far lower than that found in the UK follows from the characteristics of the populations infected by the disease, other factors such as housing conditions or the nature of urban form in these countries, or whether the lower death rates reflect instead the superiority of health care systems that make much greater use of private providers and market forces. If any of these factors are significant, then it is far from clear that any policy lesson from the pandemic could be implemented with sufficient speed, or indeed whether it could be implemented at all.

The difficulty of interpreting policy results highlighted above is only compounded by the question of what an appropriate time frame might be in which to make a comparative evaluation of the health and socio-economic effects of different policy measures. Will countries that look to be performing relatively well with respect to death rates look to have effective responses if a second and possibly larger wave of the virus arrives in the autumn/ winter when the prevalence of some level of herd immunity might be

desirable? With respect to economic evaluation, will countries that have adopted measures that have in the short term succeeded in reducing the spread of the virus by massively curtailing economic activity be able to sustain such measures if the virus remains a public health hazard over a number of years? Given the complications that time frames introduce into the analysis it is hard to see how any policy lessons, if they can be detected at all, might be learned with sufficient speed.

Moreover, it should be noted here that any short to medium term evaluations may change radically depending on whether an effective vaccine is found. Lockdown measures that may have saved lives at great economic cost might still look to have been the best available response should a vaccine be developed relatively speedily. If a vaccine is not forthcoming however, then those responses or non-responses that have not involved large-scale economic contraction may turn out to be the most effective with respect to health and socio-economic objectives.

Finally, it should be emphasised that while the possible arrival of a vaccine may be affected by investments made by public and private agents, no matter how much private or public money is spent in this regard the discovery of a vaccine will to a significant degree lie beyond *any* authority's control.

The conclusion that would seem to follow from this analysis is that the scope for policy learning in such a setting is heavily constrained. Much of the response will be based on centralised guesswork, and while there may be no alternative other than for policymakers to rely on interpretations of epidemiological and economic models, these are fraught with the possibility of error.

Now of course, scientific understanding in both the natural and social world is always highly imperfect and as new data emerge this may enable an evaluation of which models were more accurate in an *ex post* sense. The Hayekian perspective is not incompatible with this stance, but it would emphasise that should it be possible to explain retrospectively which policy responses have been more or less efficacious this will not necessarily tell policy-makers whether the same responses would work for a future such event. There are few systemic processes likely to push decision-makers towards relatively beneficial outcomes and away from relatively worse ones in this type of complex setting. Beyond perhaps some very basic and general lessons such as the importance of maintaining adaptable/ flexible health care systems (which are desirable at all times), some (though

not all) social distancing measures and perhaps the wearing of face coverings, it may be hard to discern what lessons should be learned. Though it is not a conclusion that many citizens, politicians or social scientists will feel comfortable in accepting, the Hayekian perspective suggests that policymakers are operating in a fog of ignorance, where insofar as tolerable responses to the pandemic are reached these may to a large degree result from fortuitous *accidents.*

Implications for a post-pandemic political economy

The analysis thus far has focussed on the challenge of discerning appropriate responses to the pandemic, but the Hayekian perspective also points to important considerations for the post-pandemic world. If historical experience of crises, whether wars or natural disasters, are any guide to the post-pandemic political economy, then this period seems likely to be dominated by increasing calls for more government activism and control.[4] On the one hand, such calls may be driven by demands for preventive measures to avoid anything like the present crisis happening again. On the other hand, states that have assumed significant control over resource allocation during the pandemic may be reluctant to relinquish all of these powers and will be encouraged to retain them by those who envisage significantly expanding the role of the state in the economy. The remainder of this paper briefly examines the case for resisting these forces.

The conceit of post-pandemic risk planning

While it is understandable that citizens and politicians should seek to avoid a repeat of current events or other such disasters, on a Hayekian view it is doubtful that attempts at 'scientific management' of future risks via a 'directive intelligence' will be successful. That politicians and regulators were, prior to the current pandemic, overwhelmingly concerned with spending large amounts of private and public money on the threat of a 'climate emergency' and seem to have been taken aback by the new coronavirus, only serves to demonstrate that there is great uncertainty over which risks should be the focus of attention. To point this out is *not*

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4   For a classic analysis of these forces see Higgs (1987).

to say that climate change or other known risks should not be taken seriously. Rather, it is to highlight the problem of assigning weightings to these risks in conditions of radical uncertainty.

Looking to the future, it is not the case that precautionary measures should be taken against *all* possible catastrophes because the accumulated costs of responding to every such possibility may be as great or greater than that of the catastrophes to be avoided. It is therefore essential to choose which should be prioritised from multiple conceivable disaster avoidance measures. Should the focus of risk avoidance be on the possibility of further pandemics, climate change, the threat of nuclear terrorism, or bio-terrorism? The problem here is that many of the parameters relevant to discerning these probabilities are simply unknown and perhaps unknowable. This challenge is significant enough in the context of known threats, but it is compounded by the possibility of unknown unknowns. In conditions of radical uncertainty, it is not merely that actors may not know which possibility from a given set will occur but that the set itself may be unbounded and hence unknowable (Knight 1921).

None of the above should be taken to imply that all scenario planning and spending based on such planning to limit future risks should be discarded. There is a *limited*, prudential case for private and public funding of measures to guard against future pandemics or other threats such as climate change. What the Hayekian perspective suggests however is that relatively little faith should be placed in these measures because, given the nature of uncertainty, the next disaster to strike may well be one that has yet to be conceived. In the final analysis, 'what cannot be known, cannot be planned for' (Hayek 1988), suggesting we should be wary of granting authority to political agencies that seek to justify their assumption of new powers on the basis of highly uncertain assessments of future risks.

Growth, resilience and the conceit of the transformational state

If there is reason to doubt the efficacy of a directive intelligence engaging in strategic risk planning then the most effective and multipurpose 'insurance policy' that might be adopted for the broadest range of future risks is to sustain robust levels of economic growth. The resources generated by such growth may provide resilience against risks from *multiple* directions. In a context where states have recently assumed massive responsibilities for directing economic activity, however, many will argue that securing growth and the form it will take should be the responsibility of the state.

There is a long line of thinking in the social democratic and progressive traditions, inspired by thinkers such as John Dewey (1927) and John Maynard Keynes (1931), which suggests that crisis situations require bold and radical experimentation by the state and its agencies. On this view, only the state has the capacity to engage in the bold 'transformational' measures that might be required to 'jolt' society out of crisis events. Support for this worldview was evident prior to the current pandemic with the renewed enthusiasm across the political spectrum for various industrial policies, green 'new deals' and targeted protectionism - but post-pandemic these pressures seem likely to grow in intensity.

From a Hayekian perspective, however, these trends should be resisted. Compared with the decentralised experimentation that takes place in competitive markets, where fluctuating profit and loss signals continuously indicate the relative success or failure of alternative investment possibilities, the type of experimentation involved in state-centred schemes of economic 'transformation' is inherently clumsy and lacking a systemic mechanism to decipher relatively better from relatively worse decisions. It is the systemic discipline provided by competition and profit-and-loss accounting in markets that, while never guaranteeing successful innovation or effective coordination, *increases the chance* of discovering beneficial innovations and the shutting down of deleterious ones. The greater pluralism of decision-making in markets - the fact that in most markets multiple firms offer consumers different products and services - facilitates comparisons between alternatives. Moreover, in such settings there is no need for agents to fully comprehend the reasons underlying the relative success or failure of their decisions. The generation of profits and losses continually prods agents towards relatively better decisions and away from relatively worse decisions *without* them needing to wait for complex factual and theoretical knowledge or the interpretation of data regarding cause-effect relationships.

By contrast, state-dominated 'transformations' thwart the emergence of counterfactuals and knowledge of opportunity costs because the scale of the expenditures or the scope of the regulations concerned, combined with the lack of profit and loss signals attached to them, blocks the communication of which 'bits' of expenditure or regulation are adding value. Without profit and loss signals policymakers must rely on centralised guesswork, or at best reliance on modelling procedures that, if they ever do generate knowledge of cause-effect relationships, cannot do so with sufficient speed to shut down failing projects. This does not mean that none of the relevant expenditures might generate some value but that to

the extent that they do, this will largely be the result of *fortuitous accident*. On a Hayekian view, therefore, what the Dewey/Keynes case for state-based experimentation amounts to is the suggestion that if governments commit to spending enough public money on their favoured projects it would be a miracle if none of this expenditure did any good.

To illustrate this point, consider the arguments for industrial planning espoused recently by Mariana Mazzucato (2013). Mazzucato argues that because some of today's technological innovations had their origins in acts of government spending rather than private investments this demonstrates that the directive intelligence of the state can improve on market outcomes and enhance economic performance. Yet the evidence Mazzucato cites simply fails to support these conclusions (see for example Mingardi 2015). On the one hand she neglects the multiple acts of government spending that have failed to stimulate beneficial innovations, and which have not been shut down. And on the other hand, she fails to recognise that those elements of public spending that may have generated benefits appear not to have been 'planned'. Rather, they were unintended consequences emerging from random of acts of public expenditure, especially in the defence sector – unintended consequences that were adapted to and seized upon by private agents operating in competitive markets guided by profit and loss signals.

In an important sense, therefore, the Hayekian perspective suggests that large-scale public expenditure projects and industrial policies of the sort that are now being touted would *recreate* the informational conditions that politicians face in choosing how to respond to the pandemic - *on a permanent basis*. In these circumstances, massive interventions are taking place in a context with few if any systemic tendencies that select in favour of cost-effective actions and where whatever successes there are may arise through *fortuitous accident*. The standpoint of this paper that there may be no alternative to such procedures in the context of the pandemic response, arguably serves to increase the urgency of returning to a predominantly market-based economy in a post-pandemic age.

Conclusion

This paper has used Hayek's distinction between simple and complex systems to illustrate the character of the coronavirus policy challenge and the relative lack of mechanisms to enable policymakers to learn which responses may be most effective. While the analysis is consistent with an endorsement of emergency government action in response to the pandemic, the argument suggests that there are precious few mechanisms that enable policymakers to identify the most effective options. In turn, the paper has argued that this may be a general characteristic of large-scale public decision-making procedures and demonstrates the importance of returning to a predominantly market-based political economy at the earliest possible convenience.

References

Coase, R. (1992) The Institutional Structure of Production. *American Economic Review* 82(4): 713-19.

Dewey, J. (1927) *The Public and Its Problems*. New York: Henry Holt.

Hayek, F. A. (1948) *Individualism and Economic Order.* University of Chicago Press.

Hayek, F. A. (1967) The Theory of Complex Phenomena. In *Studies in Philosophy, Politics and Economics.* London: Routledge.

Hayek, F. A. (1978a) The Pretence of Knowledge. In *New Studies in Philosophy, Politics, Economics and the History of Ideas.* London: Routledge.

Hayek, F. A. (1978b) Competition as a Discovery Procedure. In *New Studies in Philosophy, Politics, Economics and the History of Ideas.* London: Routledge.

Hayek, F. A. (1988) *The Fatal Conceit.* London: Routledge.

Higgs, R. (1987) *Crisis and Leviathan.* Oxford University Press.

Kay, J. and King, M. (2020) *Radical Uncertainty*. London: The Bridge Street Press.

Keynes, J. M. (1931) *Essays in Persuasion.* London: Macmillan.

Knight, F. (1921) *Risk, Uncertainty and Profit.* Boston and New York: Houghton Mifflin.

Mazzucato, M. (2013) *The Entrepreneurial State.* London: Anthem Press.

Mingardi, A. (2015) A Critique of Mazzucato's Entrepreneurial State. *Cato Journal* 35(3): 603-25.

Ormerod, P. (2020) Model Behaviour. London: Institute of Economic Affairs.

Ostrom, E. (2006) *Understanding Institutional Diversity*. Princeton University Press.

Parker, D. and Stacey, R. (1994) *Chaos, Management and Economics.* London: Institute of Economic Affairs.

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