

COVID-19 and public-sector capacity

Mariana Mazzucato* and Rainer Kattel**

Abstract: The paper argues that to govern a pandemic, governments require dynamic capabilities and capacity—too often missing. These include capacity to adapt and learn; capacity to align public services and citizen needs; capacity to govern resilient production systems; and capacity to govern data and digital platforms.

Keywords: COVID-19, public sector capacity, dynamic capabilities

JEL classification: D23, D73, H83, I0

I. Introduction

The COVID-19 pandemic presents a massive challenge to governments world-wide—from the provision of income support to citizens and aid to struggling companies to the strengthening of frontline health services. It also requires an unprecedented level of collaboration between nations—from the race for a vaccine to learning how to test and trace. One of the biggest lessons is that state capacity to manage a crisis of this proportion is dependent on the cumulative investments that a state has made on its ability to govern, do and manage. While the crisis is serious for all, it is especially a challenge for countries that have ignored those needed investments in what we can call the ‘dynamic capabilities of the public sector’ (Kattel and Mazzucato, 2018).

In the pre-COVID-19 world, governments were increasingly turning their attention to how to tackle ‘grand challenges’ or ‘wicked issues’ such as climate change, demographic challenges, and the promotion of health and wellbeing (Mazzucato, 2018*b,c*). Behind these challenges lie the difficulties of generating sustainable and inclusive growth. Policy-makers increasingly dedicated their attentions to not only the rate of economic growth, but also its direction (Mazzucato and Perez, 2015). Tackling grand

*Institute for Innovation and Public Purpose (IIPP), University College London; e-mail: m.mazzucato@ucl.ac.uk (corresponding author)

**Institute for Innovation and Public Purpose (IIPP), University College London; e-mail: r.kattel@ucl.ac.uk

The research for this paper was partially funded by European Union Horizon 2020 Research and Innovation action under grant agreement No. 822781 (Growinpro). We are grateful to Asker Voldsgaard, Henry Li, Ville Takala, Antonio Andreoni, and Joshua Entsminger for their help with research for this paper; and to the IIPP task force on COVID-19, including Wolfgang Drechsler, James Galbraith, Jayati Ghosh, Stephanie Kelton, and Carlota Perez, for wide-ranging discussions related to the pandemic.

doi:10.1093/oxrep/gra031

© The Author(s) 2020. Published by Oxford University Press.

For permissions please e-mail: journals.permissions@oup.com

challenges requires revitalizing private and public investment, innovation and collaboration. It is not about more state or less state, but a different type of state: one that is able to act as an investor of first resort, catalysing new types of growth, and in so doing crowd in private-sector investment and innovation—these are in essence functions about expectations about future growth areas. This requires a new form of collaboration between state and business, and is more about picking the willing than picking winners (Mazzucato, 2013).

COVID-19 has magnified and accelerated the need for challenge-led policy frameworks. The pandemic and its aftermath offer an opportunity to rethink our (economic) policy foundations and to align them with the needs of the twenty-first century. The COVID-19 crisis has underlined the importance of public-sector capacity and capabilities to handle emergencies, and the particular capabilities required to solve societal challenges—most visibly the protection of public health. The pandemic has also, however, underlined the importance of public sector as market shaper—not only market fixer (Mazzucato, 2016).

The public sector bears responsibility for the long-term resilience and stability of societies, and for shaping public outcomes through policy-making and public institutions. Public-sector capacity is typically defined as the set of skills, capabilities, and resources necessary to perform policy functions, from the provision of public services to policy design and implementation (Wu *et al.*, 2018).¹ We argue that the pandemic has shown the areas in which capacities are critical for governments in the aftermath of the crisis and in rebuilding economies and societies: namely, capacity to adapt and learn; capacity to align public services and citizen needs; capacity to govern resilient production systems; and capacity to govern data and digital platforms.

Fundamentally, government intervention is only effective if the state has the corresponding capabilities to act. Far from retrenching to the role of being at best a market fixer and at worst an outsourcer, governments should invest in building their muscle in critical areas, such as productive capacity, procurement capabilities, symbiotic public–private collaborations that genuinely serve the public interest, and digital and data expertise (while safeguarding privacy and security). History shows that without this, governments are not even able to devise good ‘terms of reference’ for the companies to which they outsource (Schick, 2001).

In this article we briefly summarize how governments have responded to the pandemic and then discuss the implications for public-sector capacity in the post-COVID-19 world. We argue that to prepare for future pandemics, governments must build dynamic capabilities in the following areas: capacity to adapt and learn; capacity to align public services and citizen needs; capacity to govern resilient production systems; and capacity to govern data and digital platforms.

II. COVID-19 responses

COVID-19 is a huge test of governments’ capacity to lead societies through crisis. Countries around the world have dedicated US\$8 trillion, and counting, to relief packages with fiscal support or credit and equity injections (Gaspar *et al.*, 2020). The crisis

¹ See also Karo and Kattel (2018); Kattel and Mazzucato (2018).

has affected a number of countries disproportionately due to different degrees of preparation, foresight, and public-sector capacities to steer economic activity. Countries like the US and the UK, in particular, have realized how vulnerable their production and public health systems are, and how difficult it is to ramp up production and coordinate supply chains for food, medicine, ventilators, protective equipment, and test kits. In these economies, the pandemic has pointed to the damage that managerial reforms in the public sector, such as outsourcing and financialization of the economy, have caused to the resilience of socio-economic systems. Before the crisis, many corporations in the US and UK, in particular, had been more occupied with financialized practices to maximize value for shareholders, rather than solving societal problems and prioritizing their broader stakeholders (Lazonick and Mazzucato, 2013).

Other countries, such as Germany and South Korea, have shown much more resilience in their production and health systems, thanks to the capacity of their governments to coordinate private-sector activity and largely public ownership of critical health system elements. Impressive test capacity in Germany and South Korea was made possible by the existence of public laboratories and the presence of industries that could supply the required safety equipment and chemicals (Chazan (2020) for Germany; Thompson (2020) for South Korea). Countries in South-east Asia with relatively recent experiences in tackling SARS were quick to respond with large-scale tracking of infections, and the establishment of travel limitations and social distancing rules (Leadbeater *et al.*, 2020). In Germany, learning from managing floods and influenza during the last two decades has led to operational emergency plans and risk analyses for pandemics and floods being available since 2013 (Bouckaert *et al.*, 2020).

There are also success stories in emerging markets. In India, while the national response has been a failure in many ways, the state of Kerala's successful response to the crisis is also the result of long-term investment in the health sector (including the protocols put in place after the Nipah virus outbreak) and a successful public-private partnership model (Mazzucato and Quaggiotto, 2020). In Vietnam, the government was quick to recognize the complexity of the problem, closed its borders early and rapidly spurred the development of low-cost test kits (Klingler-Vidra *et al.*, 2020). Eastern European countries were quick to emulate successful crisis-response practices from South-east Asia and quickly closed borders, shut down large parts of public activity and often made masks mandatory in public (Shotter and Jones, 2020).

Yet many developing countries have been caught in a damaging financial feedback loop unleashed by the pandemic. The global economic breakdown has reduced the export and tourist revenues that are required to service their external debt commitments, and there is a need for internationally coordinated action to help these countries (Ghosh, 2020).

In addition to very high and sudden pressure on health systems, the pandemic has also created a dramatic increase in the demand for essential medical supplies, particularly personal protective equipment (PPE) for health workers, ventilators, and pharmaceuticals. PPE is vital to protecting health workers from infections and enabling them to do their work safely.

Globally, the World Health Organization estimates that 89m medical masks, 76m examination gloves, and 1.6m goggles are needed every month as the world battles the pandemic.² In the UK alone, where 14m items are used on a daily basis, demand for

² For further details see: <https://www.who.int/news-room/detail/03-03-2020-shortage-of-personal-protective-equipment-endangering-health-workers-worldwide>.

some items increased 5,000 per cent overnight (NHS Providers, 2020). Similar to the story of PPE, the demand increased dramatically for ventilators and for pharmaceuticals that alleviate the symptoms of COVID-19.

In response to this global crisis, the magnitude of public investment in the health sector has multiplied and gone global. According to one of the most comprehensive (although incomplete) surveys of global R&D funding for COVID-19, public-sector investment from the governments of 28 countries and a supranational union that it captures has totalled \$7.7 billion as of 9 June 2020, of which \$4.4 billion is dedicated to vaccine development.³

In order to support employment, a wide range of countries have authorized direct payments to firms to subsidize wages—including Australia, Denmark, France, Germany, Estonia, Poland, Singapore, Saudi Arabia, the UK—in order to preserve productive capacity while maintaining household incomes. Automatic stabilizing mechanisms, such as existing welfare state systems and labour market institutions, have played key roles in enabling rapid responses. For instance, Germany's short-term employment scheme, which supports workers' wages when companies have to reduce work hours (the so-called *Kurzarbeit*), has enabled the country to keep unemployment from increasing rapidly. By May 2020 there were over 10m people enrolled in Germany's employment support scheme (Ojeda-Sierra and Coulton, 2020).

Some countries are lending to companies with no strings attached, while Germany and the UK, for instance, are ready to take ownership stakes in ailing companies (Macfarlane and Gasperin, 2020). Denmark, for example, has specified that companies receiving state aid cannot be domiciled in any of the EU's recognized tax havens and that large recipients cannot pay dividends or buy back their own shares until 2021. However, large portions of government support are also being operationalized through central bank operations, where there is often no conditionality attached.

Some countries are taking bold action in rethinking the industrial policy space. In Germany, for instance, the government is planning to launch new policies that allow government to buy strategic ownerships in companies, and limit foreign mergers and acquisitions of German companies (Dettmer *et al.*, 2020).

When it comes to data and digital, governments have also performed very differently in the COVID-19 crisis, showing once again that throwing money at the problem is not a viable solution if core capacities and capabilities are not there, or have been outsourced. In East Asia, Singapore—after investing heavily in its government digital service unit—has utilized tracking applications to trace the viral spread; South Korea adopted a very aggressive high-tech tracking approach (a result of completely redrawing its pandemic response legislation after the SARS debacle), but the government also opened up real-time data on mask stocks and pharmacy locations, so that start-ups and citizens were able to build a number of add-on services that helped ensure a more effective and safe distribution (Mazzucato and Quaggiotto, 2020). It is telling that many Western governments are very slow to react as their legal and technical infrastructure around data is insufficiently developed. The UK, for instance, is still only testing a tracing app in June 2020.

³ Policy Cures Research funding tracker is available here: <https://www.policycuresresearch.org/covid-19-r-d-tracker>.

The lockdown from COVID-19 has shown how deep existing digital divides are by revealing which jobs and services can be provided or performed remotely and which cannot, and it has also created new ones. Education has taken centre stage with the demand for students to continue to be schooled through digital means. However, while education can be delivered remotely—whether through online pre-recorded videos or live sessions—not all students have the same means, quality, or availability of access to online services and a proper work environment. While education is far from the only sector with access issues, it reflects the broader problem of global digital inequality in terms of access and the restriction of fundamental opportunities to participate in society under COVID-19.

III. Dynamic capabilities of the public sector: agility and resilience are key

During pandemics, governments must respond to emergencies by organizing rapid responses and mobilizing resources. Effective governance requires capacities and capabilities for both agility and resilience (Drechsler and Kattel, 2020). Unfortunately, these are not only missing in reality, they are also missing in the theory about government.

Public-sector capacity is typically defined as the set of skills, capabilities and resources necessary to perform policy functions, from the provision of public services to policy design and implementation (Wu *et al.*, 2018).⁴ The most comprehensive literature review of dynamic capabilities in the public sector to date (Piening, 2013) shows that our existing frameworks focus on exogenous sources of dynamism. Similarly, entrepreneurial approach to strategy and leadership in public-sector organizations tends to focus on the importance of individual leaders and teams in driving strategic initiatives (Ongaro and Ferlie, 2020). Thus, the capacities associated with the public sector tend to be narrow and focus on stability (i.e. continuity, transparency, predictability of services, and interventions).

Yet, while there is a rich literature about firm-level dynamic capabilities (Teece and Pisano, 1994), insufficient attention has been paid to where the equivalent level of public-sector capacity comes from and its dynamic evolution over time. Instead, over the years the idea that the public sector should at best fix market failures and seek the same level of efficiency in the private sector has taken hold (Buchanan, 2003). An approach wedded to static efficiency and ‘fixing’ does not justify the investment in the internal capabilities to co-create value (Mazzucato, 2018a).

This type of thinking has mainly been influenced by public choice theory and the development of new public management (NPM), or new public administration, in US business schools. NPM, which gathered momentum in the 1980s, basically argued that governments should adopt private-sector strategies to maximize value in the public sector (Hood, 1991). Several strategies were high on the NPM list. One was introducing some equivalent of the profit motive into the public sector to improve performance—for example, efficiency targets. An example of this kind of thinking was UK legislation in 1990 to create an internal market in the National Health Service (NHS), under which

⁴ See also Karo and Kattel (2018); Kattel and Mazzucato (2018).

the state became a purchaser instead of a provider of health services and external suppliers could bid against NHS suppliers to provide certain services as part of the NHS.

Another strategy was contracting out, franchising, or privatizing government services. The purpose here was to address the principal–agent problem: citizens (the principals) could not hold public-sector employees (their agents) accountable in the way shareholders could hold a corporation’s managers accountable—in theory at least. Citizens’ main sanction in a democratic society was voting, which might have only an indirect effect on bureaucrats (and did not apply in autocratic societies) and was a poor substitute for the discipline of the profit motive by which shareholders could judge corporate managers. To the extent that accountability and the discipline of the profit motive were held to be weaker in the public sector than in the private sector, the public sector was likely to be less efficient. And there was the idea that government should limit itself to technical efforts to counter ‘market failure’, such as building codes, which would minimize government failure and enhance public-sector efficiency by introducing market discipline (Lane, 2002).

NPM policies were widely implemented in advanced economies in the 1980s and 1990s, in particular in the UK, New Zealand, and Australia (Hood, 1995). By the mid-1990s, however, concerns were growing about its effectiveness (Drechsler, 2005). Yet, as Lapuente and Van de Walle have recently argued, ‘Administrations all over the globe have taken measures in the three main themes of NPM: competition between public and private providers, incentives to public employees and the disaggregation of public organisations’ (Lapuente and Van de Walle, 2020). Deregulation, shareholder value, and new government practices, such as setting up arm’s-length agencies and outsourcing, did not always work as well as theory said they should. Since then, while there have been attempts at going beyond NPM (Moore, 2013), a proper framework has not been developed that can understand how the state is responsible not only for fixing markets but also for shaping and co-creating them—and the capabilities needed to do that (Mazzucato *et al.*, 2020). We argue key capacities and respective dynamic capabilities must be built and nurtured within public-sector organizations (see also Meijer, 2019).

(i) Capacity to adapt and learn

While the COVID-19 responses have shown how vital both long-term and short-term capacities and capabilities are in the public sector, the last half-century has been characterized by a retrenchment of governments’ ability to adapt and learn as both functions have been increasingly outsourced. Outsourcing in itself is not a problem as long as governments remain capable, if foresight and risk-preparedness capabilities are maintained and if the underlying ‘partnerships’ with the private sector are truly designed in the public interest. The irony is that the extensive outsourcing has even damaged governments’ abilities to structure contracts with well-formulated terms of reference, as the Ventilator Challenge debacle in the UK has shown.

Yet, NPM has failed to deliver on its promise to cut costs. For instance, Hood and Dixon (2015) have found that despite three decades of outsourcing and much-hyped NPM initiatives, civil service staff costs were about the same in real terms in 2012–13 as they had been over 30 years earlier.

Furthermore, all countries have not been equally subsumed by NPM reforms. As Pollitt and Bouckaert argued almost a decade ago, some leading OECD countries have attempted to transcend NPM reforms by supplementing them via returning to key Weberian values such as rule by law, expertise, and merit (Pollitt and Bouckaert, 2011; see also Drechsler and Kattel, 2009). Prior to the COVID-19 crisis, leading public administrations among developed economies were in essence neo-Weberian (e.g. countries such as New Zealand and Singapore), while many others suffered from the negative effects of NPM reforms. The COVID-19 responses show that countries tend to revert to their dominant existing routines regarding underlying capacities: for instance, while the UK seeks to largely outsource the response to the pandemic, Singapore or Germany rely strongly on public actors.

(ii) Capacity to align public services and citizen needs

Public services have been a frequent target of NPM reforms, in particular health care, since it is often a large, cost-driving branch of the public sector with certain similarities to private services, e.g. production of individual services and a certain scope for standardization and quantitative monitoring of production. Yet, there is no evidence that such reforms have led to improved outcomes (Simonet, 2011). Rather, they have led to a more transactional view of public services that focuses on the ease and efficiency of delivery rather than on satisfying substantive needs or developing human capabilities (Cottam, 2018).

The UK has been a forerunner in implementing NPM in the public sector. The UK government has become increasingly reliant on external consultancy for managing the state, particularly since 2002 (Weiss, 2019). The NHS has trebled spending on management consultants during 2016–19, despite pledges by successive health secretaries to curb such expenditures (Oliver, 2019). The COVID-19 crisis has been used as an occasion to further outsource core public health tasks to private firms, increasing the likelihood that the public sector will learn only limited lessons and become more dependent on the private sector for future emergencies (Garside and Neate, 2020).

(iii) Capacity to govern resilient production systems

It is much less discussed that innovation policy as it is practised today and NPM reforms burst on to the (Western) policy stage at the same time in the early 1980s (Rothwell and Zegveld, 1981; Sweeney, 1985). This was, and is, an uneasy marriage: many of the criticisms of innovation policy, particularly its ineffectiveness in delivering greener and more inclusive growth, have to do with the NPM practices underlying it (Karo and Kattel, 2014). This is due to the overall emphasis of NPM reforms on financial cost-efficiency at the expense of, paradoxically, both long-term vision-setting (extending beyond normal/accepted project and performance management frameworks) and the ability to take onboard the uncertainties and risks of innovation (that cannot be *ex ante* codified into project and performance contracts).

Since the early 1990s, innovation policy focused on short-term efficiencies and fixing market failures (static inefficiencies) has been complemented by increased trade liberalizations. Together, these factors have played a key role in the increased vulnerability

of production value and supply chains in many countries (Andreoni *et al.*, 2019). Since the early 2000s, new global rules have become even more stringent and the combined use of intellectual property, dispute regulations and non-tariff barriers have limited the policy space—and hence capacities—of developing and emerging economies (Wade, 2003; Andreoni *et al.*, 2019).

(iv) Capacity to govern data and digital platforms

NPM reforms led many governments to outsource their IT functions, which has had a harmful effect on governments' digital capacities and capabilities. Comparing a range of countries, Dunleavy *et al.* (2006) found that countries with the most enthusiastic uptake of NPM had fared particularly poorly in exploiting digitalization, with the UK emerging as 'a world leader in ineffective IT schemes for government'. By hollowing out public-sector capabilities and bringing in new contractually based risks and barriers to cross-government policy-making, NPM has drastically impaired government IT modernization.

Today governments are creating platforms to identify citizens, collect taxes, and provide public services. Owing to concerns in the early days of the Internet about official misuse of data, much of the current data architecture was built by private companies. But government platforms now have enormous potential to improve the efficiency of the public sector and to democratize the platform economy (Cordella and Paletti, 2019). To realize the potential of government platforms, we will need to rethink the governance of data, develop new institutions, and, given the dynamics of the platform economy, experiment with alternative forms of ownership. To take just one of many examples, the data that one generates when using Google Maps, Uber, or Citymapper—or any other platform that relies on taxpayer-funded technologies—could be deployed to improve public transportation, traffic patterns, and other services, rather than simply monetized for private profits.

IV. Capacity-building for the post-COVID-19 world

In order to (re-)build public-sector capacities for the post-COVID-19 world, we argue that we need to theorize public sector from a new perspective: government as actively shaping markets rather than simply fixing failures. Such fundamental frameworks matter as they constitute the policy reality within which politicians and civil servants act. Current theoretical frameworks for public-sector capacity are derived from neo-classical economic theory, in particular microeconomic theory and welfare economics, emphasizing how individuals find optimal solutions via markets. Governments have a role to play if, and only if, markets are proven not to deliver optimal results and need 'fixing'. In practice, such frameworks take the form of specific policy analytical tools, such as static *ex ante* cost–benefit analysis, which weigh up monetized benefits and costs (Kattel *et al.*, 2018). Costs (including the costs of potential government failure) are usually defined by their opportunity cost; that is, the value that reflects the best alternative use a good or service could be put to (including a do-nothing/business-as-usual option),

with all else (including all other prices) assumed equal, and with market prices usually the starting point for the analysis (see, for example, [HM Treasury \(2018, p. 6\)](#)).

Such policy frameworks are mostly aimed at preventing costly government failures; by their very nature, they cannot tell us very much at all about proactive market creating and shaping; nor how and what kind of capacities governments should build. This limitation is of crucial importance. Public policies aimed at accelerating innovation and changing its directionality (i.e. towards more sustainable and inclusive growth) create, by definition, new technologies and radically change the prices, availability, and existence of goods and services. Their central purpose is to transform underlying relationships, a wide range of prices and the broader environment ([OECD, 2015](#)). By always comparing the policy intervention with the *status quo* and emphasizing short-term risks, existing policy frameworks and approaches encourage decision-makers to prefer small-scale, marginal interventions and the development of respective capacities.

Take a green-directed transition as an example: policies must go beyond independent initiatives and discrete approaches, and be characterized by a new lens for economy-wide growth. Markets will not find a green direction on their own. There is not yet a ready-made route that will make multi-directional, experimental, green innovation profitable. Only when there is a stable and consistent direction for investment will regulation and innovation converge along a green trajectory. The transition must be underpinned by long-term, patient finance, which is willing to take risks, and able to mobilize and crowd in other investors ([Mazzucato and Semieniuk, 2018](#)). To avoid innovation continuing its route of locking to a high-carbon path, and to actively turn our backs on stagnant innovation landscapes, policy must ensure that investments into low-carbon innovation are rewarded. This can be done by using the full array of government instruments—from procurement policy to prize schemes—to ‘pick the willing’: those organizations willing to take on the difficult investment required for a green transition. Governments cannot micromanage this process, as that would stifle innovation, but they can set a clear direction, make the initial high-risk bold investments which crowd in private actors later on, and reward those who are willing to invest and innovate.

Another example is digital technologies. They provide great opportunities to solve grand challenges if governed with a strong sense of public purpose ([Perez, 2019](#)). The key risk to this potential offered by artificial intelligence and other technologies lies not in the pace of their development, but in how and for what purpose they are designed and deployed ([Mazzucato, 2019](#)). COVID-19 has brought to the fore long-held concerns about the digital economy: the monopoly power of big tech, the lack of privacy, poor government capabilities, and the digital divide between those with and without access. There is a vast potential for governments to change course and steer digitalization towards deliberate ends, and away from the current motives of targeted advertisement and behaviour modification based on monetizing personal information. On a fundamental level, the digitalization of society should be undergirded by revising our social contracts for the digital era with new, adequate rights and new governance structures to uphold them ([Bria, 2020](#)).

Governments need to counteract the hollowing out of public organizations’ ability to steer and analyse their own domain. The lack of investment in in-house public capabilities has resulted in the loss of institutional memory and an increased dependence on consulting companies. Crucially, talented people are motivated not just by high salaries, but also by the prospect of being able to apply their skills for the advancement of the

common good through challenging analytical work. Outsourcing has voided many government agencies of such challenging and motivating tasks. Furthermore, incentives for risk-taking and experimentalism can be put in place in order to foster an environment where failure and learning from failure are not only permissible, but encouraged. Agile bureaucracies require highly motivated, high-capacity (career) civil servants (Drechsler and Kattel, 2020).

Perhaps somewhat counterintuitively, investment in long-term skills and capabilities within public organizations provides sources of agility and responsiveness during deep crises and their aftermath. It is no coincidence that another pandemic response success story comes from New Zealand, a country that in the 1980s had fully embraced the new public management outsourcing mantra, only to change course and begin a period of insourcing capacity back into government (Warner, 2008). Perhaps not surprisingly, in early June 2020 it also became the first country in the world to be free of COVID-19.

V. Concluding remarks

The contrasting trajectories of the COVID-19 response in the US and UK, and countries such as Germany, New Zealand, Vietnam, or South Korea, point to important lessons for the future. Far from retrenching to the role of being at best a market fixer and at worst an outsourcer, governments should invest in building their muscle in critical areas such as capacity to adapt and learn; capacity to align public services and citizen needs; capacity to govern resilient production systems; and capacity to govern data and digital platforms. A broad set of capabilities can be quickly activated in times of ‘forced experimentation’ induced by crises and turned into intentional experimentation for long-term recovery purposes through a challenge-driven approach—that is, public–private partnerships aimed at solving key societal problems, from those related to health to those on the climate or the digital divide (Mazzucato, 2018b). A challenge-driven approach, however, needs new policy frameworks, capacities, and capabilities, focusing on market-shaping leadership, skills, tools, and methods.

A challenge- or mission-oriented approach, driven by strong public capacity aimed at solving problems, is not synonymous with top-down decision-making, but with the dynamism necessary to create more effective interfaces with innovators across the whole of society, rethinking intellectual property regimes and R&D investments to catalyse the distributed intelligence of the private sector and individual citizens.

At the international level, a challenge- or mission-oriented approach could pave the way for better coordinating mechanisms that accelerate mutual learning and transfer of capabilities. Such a frame could also galvanize a greater level of coordination and collaboration among governments, and trigger new investments in effective mechanisms for multinational governance. The end result of embracing this approach will be the progressive broadening of the options available to policy-makers—an essential prerequisite for resilience in times of uncertainty. In times of big crises (from financial to climate and health), lack of choices drastically reduces the public sector’s room to manoeuvre.

In sum, decades of a misplaced focus on privatization, outsourcing, and static efficiency have left many governments with reduced options and capacities in the face of

the crisis. Governments require choices, and the capacity to manoeuvre flexibly and with competence. Lessons from successful responses to COVID-19 show that building back better, and preparing for future crises, means investing in core public-sector capacities and capabilities, including the ability to interact with other value creators in society—designing contracts to deliver in the public interest. As the saying goes, a crisis should not go to waste: let’s hope it brings on a new understanding of how to develop the dynamic capabilities of the public sector—and why it matters.

References

- Andreoni, A., Chang, H., and Estevez, I. (2019), ‘New Global Rules, Policy Space and Quality of Growth in Africa’, in R. Kanbur, A. Noman, and J. Stiglitz (eds), *The Quality of Growth in Africa*, New York, Columbia University Press.
- Bouckaert, G., Galli, D., Kuhlmann, S., Reiter, R., and Van Hecke, S. (2020), ‘European Coronationalism? A Hot Spot Governing a Pandemic Crisis’, *Public Administration Review*, <https://doi.org/10.1111/puar.13242>.
- Bria, F. (2020), ‘Towards a Digital Green New Deal: A European Alliance on Digital Sovereignty to Reconquer Democratic Control of Data and to Put Tech and Innovation at the Service of People and the Green Transition’, UCL Institute for Innovation and Public Purpose Medium blog, available at <https://medium.com/@francescabria/towards-a-digital-green-new-deal-a-european-alliance-on-digital-sovereignty-to-reconquer-ae783ff2cbd5>
- Buchanan, J. M. (2003), ‘Public Choice: Politics Without Romance’, *Policy: A Journal of Public Policy and Ideas*, **19**(3).
- Chazan, G. (2020), ‘How Germany got Coronavirus Right’, *Financial Times*, available at <https://www.ft.com/content/cc1f650a-91c0-4e1f-b990-ee8ceb5339ea>.
- Cordella, A., and Paletti, A. (2019), ‘Government as a Platform, Orchestration, and Public Value Creation: The Italian Case’, *Government Information Quarterly*, **36**(4), <https://doi.org/10.1016/j.giq.2019.101409>
- Cottam, H. (2018), *Radical Help: How We Can Remake the Relationships Between Us and Revolutionise the Welfare State*, London, Little, Brown.
- Dettmer, M., Knobbe, M., Sauga, M., Traufetter, G., and Wiedmann-Schmidt, W. (2020), ‘Die Bundesregierung will den starken Staat’, *Der Spiegel*, available at <https://www.spiegel.de/politik/deutschland/innere-sicherheit-arbeitsmarkt-industriepolitik-die-bundesregierung-will-den-starken-staat-a-00000000-0002-0001-0000-000170923495>
- Drechsler, W. (2005), ‘The Rise and Demise of the New Public Management’, *Post-autistic Economics Review*, **33**, 17–28.
- Kattel, R. (2009), ‘Conclusion: Towards the Neo-Weberian State? Perhaps, but Certainly Adieu, NPM!’, *The NISPAcee Journal of Public Administration and Policy*, **1**(2), 95–9.
- — (2020), ‘Debate: The Developed Civil Servant—Providing Agility and Stability at the Same Time’, *Public Money & Management*, doi [10.1080/09540962.2020.1729522](https://doi.org/10.1080/09540962.2020.1729522).
- Dunleavy, P., Margetts, H., Bastow, S., and Tinkler, J. (2006), ‘New Public Management is Dead—Long Live Digital-era Governance’, *Journal of Public Administration Research Theory*, **16**(3), 467–94.
- Garside, J., and Neate, R. (2020), ‘UK Government “Using Pandemic to Transfer NHS Duties to Private Sector”’, *The Guardian*, available at <https://www.theguardian.com/business/2020/may/04/uk-government-using-crisis-to-transfer-nhs-duties-to-private-sector>.
- Gaspar, V., Raphael Lam, W., and Raissi, M. (2020), ‘Fiscal Policies to Contain the Damage from COVID-19’, IMF blog, available at <https://blogs.imf.org/2020/04/15/fiscal-policies-to-contain-the-damage-from-covid-19/>.
- Ghosh, J. (2020), ‘COVID-19 is the IMF’s Chance for Redemption’, Project Syndicate, available at <https://www.project-syndicate.org/commentary/how-imf-can-lead-global-covid19-response-by-jayati-ghosh-2020-04>.

- HM Treasury (2018), *The Green Book: Central Government Guidance on Appraisal and Evaluation*, available at <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>
- Hood, C. (1991), 'A Public Management for all Seasons?', *Public Administration*, **69**(1), 3–19.
- (1995), 'The "New Public Management" in the 1980s: Variations on a Theme', *Accounting, Organizations and Society*, **20**(2–3), 93–109.
- Dixon, R. (2015), *A Government that Worked Better and Cost Less?: Evaluating Three Decades of Reform and Change in UK Central Government*, Oxford, Oxford University Press.
- Karo, E., and Kattel, R. (2014), 'Public Management, Policy Capacity, Innovation and Development', *Brazilian Journal of Political Economy*, **34**(1), 80–102.
- — (2018), 'Innovation and the State: Towards an Evolutionary Theory of Policy Capacity', in X. Wu, M. Howlett, and M. Ramesh (eds), *Policy Capacity: State and Societal Perspectives*, Basingstoke, Palgrave Macmillan, 123–50.
- Kattel, R., and Mazzucato, M. (2018), 'Mission-oriented Innovation Policy and Dynamic Capabilities in the Public Sector', *Industrial and Corporate Change*, **27**(5), 787–801.
- — Ryan-Collins, J., and Sharpe, S. (2018), *The Economics of Change: Policy and Appraisal for Missions, Market Shaping and Public Purpose*, UCL Institute for Innovation and Public Purpose Policy Report 2018-06, available at <https://www.ucl.ac.uk/bartlett/public-purpose/sites/public-purpose/files/iipp-wp-2018-06.pdf>.
- Klingler-Vildra, R., Tran, B., and Uusikyla, I. (2020), 'Testing Capacity: State Capacity and COVID-19 Testing', *Global Policy Opinion*, available at <https://www.globalpolicyjournal.com/blog/09/04/2020/testing-capacity-state-capacity-and-covid-19-testing>.
- Lane, J. E. (2002), *New Public Management: An Introduction*, London, Routledge.
- Lapuente, V., and Van de Walle, S. (2020), 'The Effects of New Public Management on the Quality of Public Services', *Governance*, available at <https://doi.org/10.1111/gove.12502>.
- Lazonick, W., and Mazzucato, M. (2013), 'The Risk–Reward Nexus in the Innovation–Inequality Relationship: Who Takes the Risks? Who Gets the Rewards?', *Industrial and Corporate Change*, **22**(4), 1093–128.
- Leadbeater, C., Gulumurthy, R., and Haley, C. (2020), 'The COVID-19 Test: What Have We Learnt So Far? Reflections on Emerging Trends', *Nesta blog*, available at <https://www.nesta.org.uk/blog/covid-test/>
- Macfarlane, L., and Gasperin, S. (2020), 'State Holding Companies: An Opportunity for Economic Transformation?', UCL Institute for Innovation and Public Purpose Medium blog, available at <https://medium.com/iipp-blog/state-holding-companies-an-opportunity-for-economic-transformation-3604093bab87>.
- Mazzucato, M. (2013), *The Entrepreneurial State: Debunking Public vs Private Sector Myths*, London, Anthem Press.
- (2016), 'From Market Fixing to Market Creating: A New Framework for Innovation Policy', *Industry and Innovation*, **23**(2), 140–56.
- (2018a), *The Value of Everything*, London, Penguin.
- (2018b), 'Missions: Mission-oriented Research and Innovation in the European Union', European Commission, available at https://ec.europa.eu/info/sites/info/files/mazzucato_report_2018.pdf.
- (2018c), 'Mission Oriented Innovation Policy: Challenges and Opportunities', *Industrial and Corporate Change*, **27**(5), 803–15.
- (2019), 'Preventing Digital Feudalism', Project Syndicate, available at <https://www.projectsyndicate.org/commentary/platform-economy-digital-feudalism-by-mariana-mazzucato-2019-10>.
- (2020), 'Stakeholder Capitalism is Urgently Needed—and the COVID-19 Crisis Shows Us Why', WEF blog, available at <https://www.weforum.org/agenda/2020/04/mariana-mazzucato-covid19-stakeholder-capitalism/>
- Momenghalibaf, A. (2020), 'Drug Companies Will Make a Killing from Coronavirus', *New York Times*, available at <https://www.nytimes.com/2020/03/18/opinion/coronavirus-vaccine-cost.html>
- Perez, C. (2015), 'Innovation as Growth Policy', in J. Fagerberg, S. Laestadius, and B. Martin (eds), *The Triple Challenge: Europe in a New Age*, Oxford: Oxford University Press; SPRU working paper

- version (2014), <https://www.sussex.ac.uk/webteam/gateway/file.php?name=2014-13-swps-mazzucato-perez.pdf&site=25>
- Quaggiotto, G. (2020), ‘The Big Failure of Small Government’, *Project Syndicate*, available at <https://www.project-syndicate.org/commentary/small-governments-big-failure-covid19-by-mariana-mazzucato-and-giulio-quaggiotto-2020-05>
 - Semieniuk, G. (2018), ‘Financing Renewable Energy: Who is Financing What and Why it Matters’, *Technological Forecasting and Social Change*, **127**, 8–22.
 - Kattel, R., and Ryan-Collins, J. (2020), ‘Challenge-driven Innovation Policy: Towards a New Policy Toolkit’, *Journal of Industry, Competition and Trade*, **20**, 421–37.
 - Chow, H., Fitzpatrick, S., Laplane, A., Masini, T., McDonald, D., Roy, V., and ‘t Hoen, E. (2018), *The People’s Prescription: Re-imagining Health Innovation to Deliver Public Value*, UCL Institute for Innovation and Public Purpose Policy Report 2018-10, Global Justice Now, Just Treatment and STOPAIDS, available at <https://www.ucl.ac.uk/bartlett/public-purpose/wp2018-10>
 - Meijer, A. (2019), ‘Public Innovation Capacity: Developing and Testing a Self-assessment Survey Instrument’, *International Journal of Public Administration*, **42**(8), 617–27.
 - Moore, M. H. (2013), *Recognizing Public Value*, Cambridge, MA, Harvard University Press.
 - NHS Providers (2020), ‘Confronting Coronavirus in the NHS. The Story So Far’, *Briefing*, available at <https://nhsproviders.org/media/689450/confronting-coronavirus-in-the-nhs.pdf>.
 - OECD (2015), *System Innovation: Synthesis Report*, Paris, Organization for Economic Cooperation and Development, available at <http://www.pte.pl/pliki/2/1/OECD%20System.pdf>
 - Ojeda-Sierra, R., and Coulton, J. (2020), ‘Economics Dashboard: Subsidy Schemes Limit Coronavirus Job Losses in Europe’, *Fitch Ratings*, available at <https://www.fitchratings.com/research/sovereigns/economics-dashboard-subsidy-schemes-limit-coronavirus-job-losses-in-europe-18-05-2020>
 - Oliver, D. (2019), ‘Government Spending on Management Consultants Trebles in Three Years’, *BMJ*, **366**.
 - Ongaro, E., and Ferlie, E. (2020), ‘Strategic Management in Public Organisations: Profiling the Public Entrepreneur as Strategist’, *The American Review of Public Administration*, **50**(4–5), 360–74.
 - Perez, C. (2019), ‘Transitioning to Smart Green Growth: Lessons from History’, in R. Fouquet (ed.), *Handbook on Green Growth*, Cheltenham, Edward Elgar, 447–63.
 - Piening, E. (2013), ‘Dynamic Capabilities in Public Organizations’, *Public Management Review*, **15**(2), 209–45.
 - Pollitt, C., and Bouckaert, G. (2011), *Public Management Reform: A Comparative Analysis—New Public Management, Governance, and the Neo-Weberian State*, Oxford, Oxford University Press.
 - Rothwell, R., and Zegveld, W. (1981), *Industrial Innovation and Public Policy: Preparing for the 1980s and 1990s*, London, Pinter.
 - Schick, A. (2001), ‘Reflections on the New Zealand Model’, lecture at the New Zealand Treasury, available at <https://treasury.govt.nz/sites/default/files/2008-02/schick-rnzm01.pdf>
 - Shotter, J., and Jones, S. (2020), ‘How Central and Eastern Europe Contained Coronavirus’, *Financial Times*, available at <https://www.ft.com/content/f9850a8d-7323-4de5-93ed-9ecda7f6de1c>
 - Simonet, D. (2011), ‘The New Public Management Theory and the Reform of European Health Care Systems: An International Comparative Perspective’, *International Journal of Public Administration*, **34**(12), 815–26.
 - Sweeney, G. (1985), ‘Introduction’, in G. Sweeney (ed.), *Innovation Policies. An International Perspective*, London, Pinter, vii–x.
 - Teece, D., and Pisano, G. (1994), ‘The Dynamic Capabilities of Firms: An Introduction’, *Industrial and Corporate Change*, **3**(3), 537–56.
 - Thompson, D. (2020), ‘What’s Behind South Korea’s COVID-19 Exceptionalism?’, *The Atlantic*, available at <https://www.theatlantic.com/ideas/archive/2020/05/whats-south-koreas-secret/611215/>
 - Wade, R. (2003), ‘What Strategies are Viable for Developing Countries Today? The World Trade Organization and the Shrinking of “Development Space”’, *Review of International Political Economy*, **10**(4), 621–44.
 - Warner, M. E. (2008), ‘Reversing Privatization, Rebalancing Government Reform: Markets, Deliberation and Planning’, *Policy and Society*, **27**(2), 163–74.

- Weiss, A. E. (2019), *Management Consultancy and the British State: A Historical Analysis Since 1960*, Basingstoke, Palgrave Macmillan.
- Wu, X., Holwett, M., and Ramesh, M. (2018), 'Policy Capacity: Conceptual Framework and Essential Components', in X. Wu, M. Holwett, and M. Ramesh (eds), *Policy Capacity and Governance: Assessing Governmental Competences and Capabilities in Theory and Practice*, Basingstoke, Palgrave Macmillan, 1–25.