Wealth Creation and the Entrepreneurial State:

building symbiotic public-private partnerships

Mariana Mazzucato[1], UCL

ABSTRACT

The paper argues that building dynamic public-private partnerships that confront the innovation challenges of the future requires rethinking the 'public' part of the partnership away from a pure 'market failure' framework. This involves (1) justifying public policy in terms of market shaping and making (not only 'fixing'); (2) admitting the risks involved in policies that are aimed at affecting not only the rate of growth but also its strategic 'direction' (often providing the investor of first resort) function; (3) socialising both the risks and rewards of the collective value creation process.

1 Introduction

How should the wealth that an economy generates be distributed? Moral as well as economic arguments about who should be entitled to what—whether paid in wages, retained profits, or dividend payments—frequently seek to link rewards to contributions, for reasons of fairness or efficiency. But how these contributions are quantified depends first on how they are theorized. In this way, different theories of how value is created can be used to justify very different distributions of income and wealth. If entrepreneurs are believed to make extraordinary contributions to value creation, then maybe extraordinary rewards are justified? If hedge fund managers really do create more wealth than small nations, then might their initial rewards be both efficient and fair? In this paper we argue that the contribution to value creation by the state—the different parts of the public sector—has been problematically theorized. Understating the contribution of the state has meant that the contribution of other actors has been overstated, with consequences for the overall distribution of income and wealth. It has also meant that the full potential of the state to drive both innovation-led and inclusive growth has not been realized. But with a new approach to policy, it could be.

Key to the problem is that in economic theory the state is, at best, seen as facilitating the process of wealth creation, but not being a key driver of the process itself. In microeconomics, it is seen as *fixing* markets, not creating them. In industrial-innovation economics, its role is limited to

[1] m.mazzucato@ucl.ac.uk, Professor of Innovation and Public Value, Director, Institute for Innovation and Public Value www.ucl.ac.uk/iipp University College London

spending on public goods like science or infrastructure and de-risking the activities of innovators, and does not extend to being an innovator itself. In macroeconomics, it is seen as fixing the business cycle and as a lender of last resort. It is not seen as a lead risk-taker across the business cycle or an *investor* of first resort. And if or when a public agency does dare to make strategic choices and take risks, it is often accused of crowding out the private-sector actors, or of being too inept to 'pick winners'.

This limited view of the role of the state in the dynamics of wealth creation has had three problematic effects. First, it has limited policymakers' understanding of the range of tools and instruments they have for catalysing growth, often choosing to sit on the sidelines, 'levelling' the playing field. Second, it has reduced the confidence of the public sector, making it more vulnerable to being captured by vested interests, and 'rent-seeking' behaviour. Third, it has increased inequality by allowing some actors to exaggerate their role in creating wealth, and extract value well beyond their contribution to its creation.

The paper argues that a better understanding of the role that the state has and can play in the wealth-creation process is the starting point for policy solutions that can increase the rate of wealth creation, while reducing rent-seeking and ensuring a fairer distribution of that co-created wealth. Meeting the challenge of inequality requires less a redistributive state and more an *entrepreneurial state* (Mazzucato, 2013) or, as Rodrik has recently argued, shifting the focus from a 'Welfare State to an Innovation State' (Rodrik, 2015). This is the way to create innovation-led growth which is also more inclusive growth.

The paper is organized as follows**.** Section 2 reviews the economic and political thinking behind the depiction of the state as simply a market-fixer. It also looks at the role that public choice theory has had in focusing on *government failure* as an even greater problem than market failure. Section 3 presents an alternative view of the state as market-maker, drawing on the work of Polanyi, Keynes, as well as the neo-Schumpeterian literature that has emphasized the role of public investments in driving innovation, not just facilitating it. This section concludes with examples of public-sector wealth creation. Section 4 looks at the other side of the coin: government investments that have led to failures. In doing so, it considers the need to understand failure in two ways: (1) as part and parcel of the investment and innovation process; and (2), failure that arises from instances where the state is captured by vested interests, which make money simply

by moving around existing wealth, not creating new wealth. In cases where the public sector is not captured and is producing new value, section 5 considers how that value might be better distributed if it is understood as having arisen from a collective co-creation process where the tax-payer has also played a lead role. Section 6 concludes.

2 The state as *market-fixer*

The idea that the state is at best a fixer of markets has its roots in neoclassical economic theory. But this view has hardened in recent years as a result of an ideological political project against the state. We review both perspectives briefly.

Based on Arrow's first fundamental theorem of welfare economics (Arrow, 1962), when markets are complete, competitive, and operating in equilibrium, they are taken to be the most efficient allocators of resources. But these conditions are rarely obtainable, and five broad categories of 'market failure' which justify government 'intervention' have been identified: (1) coordination failures, including inter-temporally through the operation of the business cycle, making it difficult to coordinate expectations and preferences (Stiglitz, 1974); (2) public goods such as clean air or new knowledge arising from basic research; (3) imperfect competition, whether arising from natural monopolies, network effects, or economies of scale; (4) information failures, leading to adverse selection, moral hazard, or high transaction costs (Stiglitz and Weiss, 1981; Coase, 1960); and (5) negative externalities such as traffic congestion or climate change (Stern, 2007). Government intervention is justified when any of these conditions exist.

If government is viewed as, at best, a fixer of market failures, at worst it is seen as an impediment to growth, given its natural tendency towards corruption, of capture by the lobbying of specific business interests, inefficiency, and the risk its actions will crowd out other private actors (Friedman, 1979) and will be constantly vulnerable to lobbying of specific business interests (Krueger 1974; Falck, Gollier and Woessmann, 2011). In this caricature, governments are Hobbesian leviathans, sucking dry the dynamic energy of the market, and an ever-present threat to the creativity and dynamism of the private sector (Phelps, 2013). Market failure is therefore a necessary but not sufficient condition for governments to act (Wolf, 1988). There is a trade-off between two inefficient outcomes—one generated by markets, and the other generated by 'government failures' from intervention. The benefits of acting must outweigh the costs that may arise from these risks of 'government failure' (Tullock, Seldon and Brady, 2002).

In this dominant view, government's main role is to set the rules of the game and to keep them working (the rule of law); fund basic public goods such as infrastructure and education; 'level the playing field' so that industry and competition can thrive (through competition rules or support to new firms in order to compete with incumbents); and devise market mechanisms to internalize external costs (e.g. pollution) or benefits (e.g. herd immunity). If and when the public sector does more than intervene in areas characterized by market failures, it is deemed to be causing different types of problems, such as: (1) crowding out the private sector; (2) government failure due to the inability of the state to 'pick winners'; and (3) government failure due to the state's inevitable vulnerability to capture by rent-seeking private interests (Buchanan, 2003).

Although scepticism about the role of government dates back to the first developments of philosophy, and later, economics, the strict modern formulation of the limits to government can be traced to the rise of New Public Management theory, which grew out of Public Choice theory in the 1980s. This perspective has been used to convince governments that the way they can be less burdensome is to emulate the private sector as much as possible (Buchanan, 2003). Judt (2011) has shown how the dismantling of the welfare state, a political project that began with Reagan and Thatcher in the late 1970s–early 1980s, co-evolved with this theoretical framework. And Jones (2014) shows how the neo-liberal agenda was underpinned by the view of the state as an inept and constantly captured entity. These trends have led to an undermining of confidence in the positive power of public institutions, and an increasing outsourcing of government functions to the private sector: it is surely easier to get business to act like business than for government to do so (Crouch, 2016).

This view of government also has its roots in the way that output is measured in both macro- and microeconomics. Government typically exists in macroeconomic theory, as a redistributor of the wealth that is created by companies, and an investor in some basic public goods like infrastructure, basic research, and education. It normally exists only in macroeconomic models that look at the effect of regulation or investment at the aggregate level. And it is totally missing from the microeconomic *production function*, where value is created. In microeconomics, total output is understood in terms of the (marginal) productivity of labour, capital, and technology inputs. The production function posits the relationship between the output that a company produces and the various inputs it uses, including labour, machinery, and technology. Yet this view

disregards the enormous government inputs that have created both the human capital and the technology that enter the production function, as well as the early stage high-risk financing that innovative companies require. In essence, in standard microeconomics, government is ignored, except for its role in regulating the prices of inputs and outputs, and fixing market failures of different types.

3 The state as *market-maker*

Yet the history of capitalism tells us a different story—the story of a state that has often been responsible for actively shaping and creating markets, not just fixing them. Indeed, markets themselves should be viewed as outcomes of the interactions between both public and private actors (as well as actors from the third sector, and from civil society). In his seminal work, *The Great Transformation*, Karl Polanyi (1944) describes the role of the state in forcing the so-called free market into existence: 'the road to the free market was opened and kept open by an enormous increase in continuous, centrally organized and controlled interventionism' (p. 144). Polanyi's perspective debunks the notion of state actions as 'interventions'. It is rather one in which markets are deeply embedded in social and political institutions (Evans, 1995), and where markets themselves are outcomes of social and political processes. Indeed, even Adam Smith's notion of the free market is amenable to this interpretation. His free market was not a naturally occurring state of nature, 'free' from government interference. For Smith the free market meant a market 'free from rent', which requires much policymaking (Smith, 1776).

And yet within economic theory, there is an absence of words to refer to the ways in which the actions of public institutions (visions, investments, and regulations) contribute to value creation, not only its fixing-up, or its distribution. Polanyi's analysis is not only about the way that markets form over the course of economic development. It can also be applied to understanding the most modern form of markets, and in particular those driven by innovation. Some of the most important general-purpose technologies, from mass production, to aerospace, and information and communications technology, trace their early investments to public-sector investments (Ruttan, 2006; Block and Keller, 2011). Indeed, all of the technologies which have made Apple's i-products (iPhone, iPad, etc.) 'smart' were initially funded by public-sector institutions: the internet by the Defense Activated Research Projects Agency (DARPA); global positioning system (GPS) by the US Navy; touchscreen display by the Central Intelligence Agency (CIA); and the voice-activated personal assistant Siri by DARPA again (Mazzucato, 2013).

Key to understanding the implications of these histories is that public investments in the areas named above were not limited to simply funding 'basic' research, a typical 'public good' in market failure theory (Arrow, 1962; Nelson, 1959). In the US, for example, government agencies funded areas along the entire innovation chain: both basic *and* applied research and, in many cases, provided downstream early stage high-risk finance to companies deemed too risky by the private financial sector.

For example, in its early years, Apple received $500,000 from the Small Business Investment Corporation, a financing arm of the US government (Audretsch, 2003). Likewise, Compaq and Intel received early stage funding to set up the companies, not from venture capital but from the public Small Business Innovation Research (SBIR) programme. This programme has been particularly active in providing early stage finance to risk-taking companies—more so than private venture capital (Keller and Block, 2013). Indeed, while it is a common perception that it is private venture capital that funds start-ups, evidence shows that most high-growth innovative companies receive their early stage high-risk finance from public sources, such as Yozma in Israel (Breznitz and Ornston, 2013); venture funds in public banks (Mazzucato and Penna, 2016); and the SBIR programme funds in the US (Keller and Block, 2013). Although venture capital entered the biotech industry in the late 1980s and early 1990s, all the heavy investments in this sector occurred in the 1950s, 1960s and 1970s—and were mostly made by the state (Lazonick and Tulum, 2011; Vallas, Kleinman and Biscotti, 2011). Indeed, around 75 percent of the most innovative drugs on the market today (the so-called 'new molecular' entities with priority rating) owe much of their funding to the public US National Institutes of Health (NIH) (Angell, 2004). Since 2000, the NIH has invested more than $400 billion (2013 dollars) in the biotech-pharma knowledge base, and $29 billion in 2013 alone.[2] These 'mission-oriented' institutions (Mowery, 2010; Foray, Mowery and Nelson, 2012) actively created new industrial and technological landscapes.

This pattern is being repeated in renewable energy, where the US government has been behind some of the most important advances through innovation in agencies such as the Advanced Research Projects Agency–Energy (ARPA-E), the sister organization of DARPA in the Department of Energy, as well as the recent revolution in fracking to extract shale gas (Trembath et al., 2012).

[2] http://officeofbudget.od.nih.gov/approp_hist.html

And the Chinese government is today the largest global funder of green innovations (Mazzucato and Semieniuk, 2016). In all these cases—from ICT to health and energy—it has been these early direct public investments that have prepare the ground, creating and shaping new landscapes that businesses develop only later.

Such market-shaping also occurred through *demand pull* instruments, from government procurement policy (e.g. the state as a massive purchaser of semiconductors in the early stages, contributing to a fall in costs), as well as bold policies to shape consumer demand, such as suburbanization, allowing the impact of the mass production revolution to become fully deployed and diffused across the economy.

Should the public sector do everything? Of course not. The point is not that the private sector is unimportant, but that in new sectors like biotechnology, nanotechnology, and the emerging green economy, private businesses have tended to invest only *after r*eturns were in clear sight. The animal spirits of business investors are themselves an endogenous function of public investment, roused only after public investments have laid the groundwork in the highest-risk and most capital-intensive areas. This role of public investment is recognized in terms of the 'basics', such as infrastructure (without roads, businesses would have no way of transporting goods) and protecting private property. But beyond that it is largely ignored

4 Government failures

Of course the story is not always a positive one. While the examples above focus on public investments that have led to important successes (e.g. the internet, GPS, shale gas, blockbuster drugs), there are also government investments end in failure. These include investment in products like the Concorde aircraft, which ultimately failed commercially; in the discovery of new drugs (of which most attempts fail); or the provision of guaranteed loans to companies which then might go bankrupt. A recent example of the latter includes the guaranteed loan of $528 million provided by the US Department of Energy to the company Solyndra for the production of solar cells. This was followed by the company's bankruptcy when the price of silicon chips fell dramatically, leaving the taxpayer to pick up the bill (Wood, 2012). Any venture capitalist will argue that attempts to innovate require exploring new and difficult paths, and that occasional failure is part of that journey. Indeed, a similar guaranteed loan ($465 million) was provided to Tesla for the development of the Model S electric car—which led to success. This *trial-and-error*

process, in which tolerance of failure is also the road to success, is accepted in the private sector, but when governments fail this is regarded as a sign of incompetence, often leading to accusations of the government being unable to 'pick winners'. As a result, public organizations are frequently told to stick to 'levelling the playing field', and to promote competition without 'distorting' the market by choosing specific technologies, sectors, or companies to invest in (Owen, 2012). Yet this ignores our first point that markets are outcomes. And they have historically been outcomes of government playing a lead role: none of the great advances of the twentieth century would have occurred without public investment.

There are, nevertheless, good reasons to worry about government failures outside this natural trial-and-error explorative process. These reasons arise from situations where 'rent-seeking' behaviour in the business community leads to government being captured by vested interests (Tullock, Seldon and Brady, 2002). Rents arise when value is extracted through special privileges (Kruegher, 1974), and when a company or individual grabs a large share of wealth that would have been produced without their input (Stiglitz, 2012 p. 32). The idea is that profit-maximizing firms are likely to try to increase their profits through special policy-related favours, and this often leads to success on their part because politicians and policymakers are seen as naturally prone to corruption. Rent-seeking could arise from specific companies, or sectors, seeking extra funding from government through either a subsidy or a tax credit of some sort. Such concerns are valid. But these problems become more acute precisely when there is not a clear view of government value. If the state is seen as irrelevant, it will over time also become less confident, and more easily corruptible by different actors who call themselves the 'wealth creators'. It is these actors who can then convince policymakers to hand out favours in order to increase wealth.

Furthermore, some rent-seeking may occur precisely as a result of the problematic assumptions regarding the role of public investment. If private investment is driven by perceptions of future opportunities in a sector, and if those opportunities are highly correlated with direct public investments that create markets into which business investment later moves, then policy tools which are overly focused on indirect support to business (e.g. via tax incentives) will create far less additionality. That is, they will not make things happen that *would not have happened anyway.* They may increase profits (through a reduction of costs), but not investment. And the primary objective of the policymaker should be to increase business investment, not profits. In this sense, such policies can lead to rent-seeking outcomes, even if there were no explicit 'rent-seekers': they

result in a company or individual earning income without having generated any wealth.

An example is the way in which the private equity and venture capital community successfully persuaded governments in the US and Europe of their wealth-creating potential, and of the need to reduce capital gains to make this happen. In the US, capital gains tax fell by 50 percent in five years at the end of the 1970s as a result of pressure from the National Venture Capital Association (Lazonick and Mazzucato, 2012). As the US investor Warren Buffett put it, such policies do little for investment, which is driven by expectations of growth opportunities, or what he calls 'sensible' investments, while increasing job destruction and inequality (Buffett, 2011).

Once we admit that the state has been a market-shaper and creator, a lead investor, and a risk-taker, the next question is how to make sure that policy leads not only to the socialization of risks but also of rewards. A better realignment between risks and rewards, across public and private actors, can become a concrete way to allow smart, innovation-led growth to also become inclusive growth. We turn to this in section 5.

5 Socializing risks and rewards

In ignoring the entrepreneurial role of the state as lead investor and risk-taker, and focusing only on the role of the public sector as setting the background (horizontal) conditions, orthodox economic theory has also ignored the way in which the socialization of risks should be accompanied by the socialization of rewards. Indeed, the more downstream the public investments in particular technologies and firms, the higher the risk that one of those technologies or firms will fail. But this is indeed normal, as any venture capitalist would admit: for every success there are many failures. In reality, the most successful capitalist economies have had active states that made risky investments, some of them contributing to technological revolutions. The Finnish public innovation agency, SITRA, has had some great successes, but also some failures. Likewise, Israel's public venture capital fund Yozma. In the Anglo-Saxon economies public debate has been too quick to criticize public investments when they go wrong, and too slow to acknowledge the state's role in those that succeed.

But this then raises a more fundamental question: how to make sure that, like private venture capital funds, the state can reap some return from the successes (the 'upside'), in order to cover the inevitable losses (the 'downside') and finance the next round of investments. This is especially

important given the path-dependent and cumulative nature of innovation. Returns arise slowly; they are negative in the beginning and gradually build up, potentially generating huge rewards after decades of investment. Indeed companies in areas like ICT, biotechnology, and nanotechnology had to accept many years of zero profits before any returns were in sight. If the collective process of innovation is not properly recognized, the result will be a narrow group of private corporations and investors reaping the full returns of projects which the state helped to initiate and finance.

So who gets the reward for innovation? Some economists argue that returns accrue to the public sector through the knowledge spillovers that are created (new knowledge that can benefit various areas of the economy), and via the taxation system due to new jobs being generated, as well as taxes being paid by companies benefiting from the investments. But the evolution of the patenting system has made it easier to take out patents on upstream research, meaning that knowledge dissemination can effectively be blocked and spillovers cannot be assumed. The cumulative nature of innovation, and the dynamic returns to scale (Nelson and Winter, 1982), means that countries stand to gain significantly from being first in the development of new technologies. At the same time the global movement of capital means that the particular country or region funding initial investments in innovation is by no means guaranteed to reap all the wider economic benefits, such as those relating to employment or taxation. Indeed, corporate taxation has been falling globally, and corporate tax avoidance and evasion rising. Some of the technology companies which have benefited the most from public support, such as Apple and Google, have also been among those accused of using their international operations to avoid paying tax (Johnston, 2014). Perhaps most importantly, while the spillovers that occur from upstream 'basic' investments, such as education and research, should not be thought of as needing to earn a *direct* return for the state, downstream investments targeted at specific companies and technologies are qualitatively different. Precisely because some investments in firms and technologies will fail, the state should treat these investments as a portfolio, and enable some of the upside success to cover the downside risk.

In particular, there is a strong case for arguing that, where technological breakthroughs have occurred as a result of targeted state interventions benefiting specific companies, the state should reap some of the financial rewards over time by retaining ownership of a small proportion of the intellectual property it had a hand in creating. This is not to say that the state should ever have

exclusive licence, or hold a large enough proportion of the value of an innovation to deter its diffusion (and this is almost never the case). The role of government is not to run commercial enterprises; it is to spark innovation elsewhere. But by owning some of the value it has created, which over time has the potential for significant growth, funds can be generated for reinvestment into new potential innovations. By adopting a 'portfolio' approach to public investments in innovation, success from a few projects can then help cover the losses from other projects. In this way, *both* risks and rewards are socialized (Mazzucato, 2016).

There are various ways to consider a direct return to the state for its investments in innovation. One is to ensure that loans and guarantees given by the state to business come with conditions, like the 'income-contingent loans' provided to students. If a company receives a loan or grant from the state, it could be required to pay back a portion if and when it makes profits above a certain threshold.

Crucially, achieving a more symbiotic and mutualistic type of public–private partnership challenges the way we consider the 'contracts' between government and business. Bell Labs, one of the greatest private research and development (R&D) labs in modern history (Gertner, 2013), owes its origin to the US government insisting that AT&T, a telecoms monopoly throughout much of the twentieth century, reinvest its profits back into production, innovation, and big innovation beyond that needed by the company. In doing so, the state received a social return for giving a monopoly right to the company: reinvestment creates greater spillovers. This is especially important in avoiding the kind of hoarding of cash and financialization (using cash for share buybacks to boost stock prices) that afflicts many modern companies (Lazonick, 2014).

Another type of healthy deal between public and private, which reflects the public contribution, concerns intellectual property rights. In reality, these are not 'rights'—they are contracts, and should thus be negotiated with specific terms. And to foster innovation, rather than closing down the scientific process upstream, such patents should be *negotiated* to be weak and narrow, not strong and broad (Mazzoleni and Nelson, 1998). Baumol (1990) has argued that this would allow patents to lead to productive entrepreneurship, not unproductive.

An even bolder plan would allow the state to retain equity in the companies it supports, just as private venture capital firms do. Indeed, some countries adopted this model long ago. Israel's

Yozma Group manages public venture capital funds and takes a portfolio approach to its investments. Since 1953 it has backed—and retained royalties in—early stage companies. SITRA, which is operated under the Finnish parliament, has done the same since 1967. Had the US government had a stake in Tesla, it would have been able to more than cover its losses from Solyndra. The year Tesla received its government loan, the company went public at an opening share price of $17; that figure had risen to $93 by the time the loan was repaid. Today shares in Tesla trade above $200.

The prospect of the state owning a stake in a private corporation may be anathema to many parts of the capitalist world, but given that governments are already investing in the private sector, they may as well earn a return on those investments (something even fiscal conservatives might find attractive). The state need not hold a controlling stake, but it could hold equity in the form of preferred stocks that get priority in receiving dividends. The returns could be used to fund future innovation (Rodrik, 2015). Politicians and the media have been too quick to criticize public investments when things go wrong, and too slow to reward them when things go right.

Thus, rather than worrying so much about the 'picking winners' problem, more thinking is needed about how to reward the winning investments so they can both cover some of the eventual losses (which are inevitable in the innovation game), and also raise funds for future investments. This can be done by, first, getting the tax system to work, and, second, considering other mechanisms which allow the state to reap a direct reward in those cases when it is making specific bets on companies. If all fails, the taxpayer picks up the bill. But when it goes well, the taxpayer gets rewarded.

Going hand in hand with this consideration is the need to rethink how public investments are accounted for in the national income accounting. Investments in innovation are different to current expenditures. The latter does not add to balance-sheet assets; the former does, and is potentially productive investment in the sense that it creates new value (Mazzucato and Shipman, 2014). When setting limits to fiscal deficits, it is therefore necessary to distinguish public debt contracted for investment in R&D and infrastructure (value-creating investments) from public debt contracted for (public or private) consumption. In this sense, financial and accounting reforms should be regarded as a prerequisite for any successful smart and inclusive growth plan.

Finally, considering the role of government as lead risk-taker helps to debunk fundamental assumptions behind the *theory of shareholder value*, which underpins the exorbitant rewards earned by senior executives in recent years. Pay via stock options has been a key feature of modern capitalism, and especially a key driver of the inequality between the top 1 percent of income earners and the rest (Piketty, 2014). Stock options are boosted when stock prices rise, and prices often rise through 'financialized' practices such as share repurchase schemes by companies (Lazonick, 2014). Focusing on boosting share prices is justified on the grounds of the theory of *shareholder value*, which holds that shareholders are the biggest risk-takers in a company because they have no *guaranteed* rate of return (while workers earn set salaries, banks earn set interest rates, etc.). That is, they are the *residual claimants* (Jensen, 1986). But this assumes that other agents do have a guaranteed rate of return. As we have argued throughout the paper, precisely because what the state does is not just facilitate and de-risk the private sector, but also take major risks, there is no guarantee of success in its investments, which have historically also played a crucial role in enabling wealth creation. The fact that a key driver of inequality has been linked with a problematic understanding of which actors are the greatest risk-takers implies that combatting short-termism (Haldane, 2016) and speculative forms of corporate governance (Kay, 2012) requires not only reforming finance and corporate governance, but also rethinking the models of wealth creation upon which they are based (Lazonick and Mazzucato, 2012).

6 Conclusion

This paper has argued that considering the state as not only a market-fixer, but also—and especially—a market-maker and -shaper, provides a different justification for its contribution to economic growth, and hence to a just division of rewards between public and private actors. Given the state's role as risk-taker, and investor of first resort, new thinking is required for the ability of public institutions to not only share in the risks, but also the rewards. This can encourage new thinking on how to achieve growth that is not only 'smart' (innovation-led) but also more inclusive.

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