

The Entrepreneurial State Cannot Deliver Without an Entrepreneurial Society



Mark Sanders, Erik Stam, and Roy Thurik

Abstract In *The Entrepreneurial State* and *Mission Economy*, Mazzucato argues that the state should adopt a proactive and entrepreneurial approach, setting ambitious missions that inspire collective action nurtured by emotions of urgency. By defining clear goals, the state can mobilize resources and talent from both the public and private sectors. We do not challenge Mazzucato’s facts or discredit her analysis. We agree that states successfully have and perhaps should continue to play a role in mobilizing talent and other resources around urgent societal challenges. Healthcare, climate change, and inequality are not problems that “markets” will solve on their own, and relevant and competent government organizations are an essential tool in our toolbox to address them. We would even agree that the state would do well to formulate clear missions and approach them in an entrepreneurial fashion. That is, experiment with an open mind and be willing to fail and learn, rather than develop interventions on the drawing board and then stick to them because of bureaucratic or political lock-in. But all that effort will only pay off, often in many unexpected ways, if we do not succumb to the fallacy of hindsight. That is, a well-defined and entrepreneurially executed state-led mission can only succeed in also generating a

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stream of valuable but largely unanticipated spin-off innovations, if the conditions for acting on such opportunities are right.

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Prologue

Many, if not all, important innovations of the twentieth and twenty-first century can be traced to their origins in public investments in knowledge and education. Companies in semiconductors, chemicals, logistics, aviation, energy, fertilizers, biotech, pharma, and steel would not be where they are today if it had not been for governments investing in universities, basic research, and public education. Clearly, some innovation projects are too big, too daunting, and too uncertain for the private sector to engage in. Then government can and has always played an important role.

Mariana Mazzucato carefully and convincingly establishes this in *The Entrepreneurial State* (Mazzucato 2013), and in *Mission Economy* (Mazzucato 2018, 2021), she argues that the state should set clear goals on the priority areas of innovative development to actively push research and business in the right direction. Taking her inspiration from the “moonshot” space program of the 1960s, Mazzucato calls for the same level of bold state coordination of private and public sector resources to be applied to the biggest problems of our time.

There is nothing that prevents a government with a clear purpose or mission, from mobilizing the talent, resources, and energy to tackle great societal challenges. What is problematic in this approach, however, is copy-pasting the approach of the “man-on-the-moon” mission to the twenty-first century’s gigantic problems. Many, if not all, examples of successful government mission-driven innovation are intricately connected to (hot or cold) war and natural disasters, involving an urgent battle for survival. Moreover, the successful missions of the past were complex engineering problems, not complex societal ones (Nelson 1977). Government-led missions of the past therefore had a clear focus and obvious urgency. And both were essential to justify the state engaging, in an entrepreneurial fashion, in uncertainty and experimentation with public resources. The present time is different.

Looking back in history has significant risks and creates important blind spots. In retrospect, the winding road from initial ideas to successful products, services, businesses and markets often looks obvious. Every outcome can be traced back to its antecedents as if a river is followed upstream until one reaches its sources. But innovation is not like water flowing down a mountain. It is not gravity that determines the course of history. Rather it is entrepreneurship, which we define here as the act of challenging the status quo. Indeed, it is such entrepreneurship in the public

or the private sector that brings innovation and subsequent progress. But this implies that at every hurdle, turn, and fork in the road it is people that decide how history unfolds. And their successes and failures are highly contingent on their character, the resources they can mobilize in the institutional framework they find themselves in, and their complementarity with the other people in their—often growing—organizations. In fact, success and failure depend on a host of factors that combine into such a complex, idiosyncratic, and chaotic cluster that we may as well call it “fate” or “luck.” The road from initial ideas to ultimately successful ventures is littered with false starts, failures, dead ends, and lucky strikes that often go unrecorded and were and are impossible to predict and engineer *ex ante* because entrepreneurs in the public or private sector engage in what Frank Knight (1921) referred to as uncertainty. Innovation is more like making your way through a dense jungle. Looking back, one can see the path taken, but going forward, there is no telling what path will lead to success and what path ends in ruin and disaster.

We may refer to this as the fallacy of hindsight. Hindsight suggests a linear, teleological evolution to a clear final goal that in reality is an experimental, interactive, holistic, fuzzy process, in which goals and means change over time. Mazzucato, in her books *The Entrepreneurial State* and *Mission Economy*, is clearly aware of this, but in her conclusions, and even more so in the reception of her work by others, this point is ignored. Policymakers in Europe and around the world are quick to formulate ambitious missions to address urgent societal challenges and mobilize private and public resources on inventing and scaling up the required solutions. But they forget that any road to successful innovation is necessarily littered with failure and learning.

It is interesting, and even ironic, that an established evolutionary economist such as Mazzucato should overlook this most important lesson in the work of the founder of that field. As Schumpeter (1934, 1942) carefully elaborated, the essence of innovation and the engine of capitalist system dynamics is *not* invention, but innovation (Henrekson et al. 2024). And he defined innovation as taking ideas and working them into successful products by building the organizations to make them available to the population at large. The hard work is not in creating new ideas, but in developing them into viable ventures.

The value of new knowledge to society at large manifests itself only when innovation is successful and the benefits to society emanate in the form of a ubiquitous availability of that innovation. Not only to solve a specific problem but also to help develop further innovations that solve further problems (Holcombe 2003). The social value of smartphones is not the annual profit or stock market value of Apple, but rather the unmeasured consumer surplus, that (as buying a smartphone is a voluntary act) must exceed the cost price plus the margin charged by Apple by a multiple. And that consumer surplus does not include the social value generated in the multitude of new applications that have been developed because creative venturers jumped on the new opportunities offered by the ubiquitous availability of smartphones and networks.

This brings us to an important amendment to Mazzucato’s mission-driven moonshot guide to industrial policy. The knowledge created while addressing urgent

societal challenges should not be appropriated by the government, and taxing successful innovators that bring knowledge developed in such government programs to the market in anticipated and unanticipated forms should not be seen as a source of finance for more government-funded invention, mission-driven, or otherwise. Taxing successful innovation through retaining IP rights or taxing away the rents that motivate and finance entrepreneurial venturing is a self-defeating strategy. We argue that to develop the full potential of new ideas and knowledge, private ownership of factors of production and free access to that knowledge remain crucial prerequisites to ensure that creative entrepreneurial people can organize resources to develop innovations in open competition with those who would use them for alternative ventures.

Mazzucato's mission maps are popular in policy circles for understandable reasons. Politicians can dream up elaborate sets of related missions that address their constituents' urgent problems, while the private sector, in close collaboration with an experimenting and knowledgeable civil service, is there to subsequently deliver. But the preconditions for delivering such results are usually absent. And mission-dreaming politicians do not wish to be responsible or held accountable for creating or maintaining these preconditions.

Moreover, modern missions are very different from the successful ones of the past. The missions for policymakers today are not life-and-death struggles of the nation to preserve its way of life, but instead life-and-death struggles of humanity to convince entrenched national groups to abandon their way of life for the benefit of anonymous future generations and poor people far away. It is the right thing to do, but the reasons to engage lack the urgency of an existential struggle and the prestige of a national victory over formidable adversaries or technological challenges. Mission-driven industrial policy is simply not a very appealing proposition to the people that need to make the sacrifices our policymakers dream up.

That is not a plea to accept the status quo. As much as preventing the government from appropriating or clawing back the returns on innovation, one should also inhibit private companies appropriating publicly financed knowledge and/or using their exclusive rights to knowledge to block further innovation and development. We should not thwart new monopolies from arising, but we should prevent established ones from becoming uncontestable and permanent. We should combat the natural tendency of a capitalist system to "close" itself (Audretsch et al. 2001). At the same time, we should not expect it to ever reach a state where, even a democratically legitimized, bureaucracy can take the place of private sector entrepreneurs who risk their wealth, their health, their talent, their resources, and their energy on ventures that a government does not know society needs or wants.

Therefore, an Entrepreneurial State should complement its own, more active role in guiding and financing knowledge creation, with policies that promote and maintain an open, experimenting Entrepreneurial Society. It is people that need to feel the freedom to challenge the status quo (which includes the government itself) and have access to the resources to follow their personal drive to develop innovations that create new value for themselves and for society at large (Baumol 1990). Work on what constitutes a hospitable and enabling ecosystem for entrepreneurs to be

successful has been summarized in Wurth et al. (2022), and concrete proposals on how to achieve and safeguard such open ecosystems were published in Elert et al. (2019). We further develop the argumentation above in three steps which we term “The fallacy of hindsight,” “Mazzucato meets Schumpeter,” and “No Entrepreneurial State without an Entrepreneurial Society.”

The Fallacy of Hindsight

In *The Entrepreneurial State* and *Mission Economy*, Mazzucato presents a prima facie compelling case for redefining the role of the state in driving economic growth and innovation. Mazzucato argues that the state should adopt a more proactive and entrepreneurial approach, setting ambitious missions that inspire collective action nurtured by emotions of urgency. These missions should tackle pressing global issues such as climate change, healthcare, and inequality. By defining clear goals, the state can mobilize resources and talent from both the public and private sectors.

One of the key examples discussed in the latter book is the moon landing mission. Mazzucato emphasizes how the Apollo program of the 1960s brought together various stakeholders, including government agencies, private companies, and academic institutes, to achieve the audacious goal of landing a human on the moon and bringing him safely back to Earth. The Apollo program grew out of the space race, a contest that began in 1957 between the capitalist United States and the communist Soviet Union over superiority in space. The mission not only demonstrated the state’s ability to drive innovation but also generated significant technological advancements with broad societal benefits.

In her description of the moonshot mission, Mazzucato positions these broad societal benefits as an almost inevitable and automatic outcome of the mission itself. The state-led mission undeniably generated the knowledge that was essential to develop the new products and services that benefitted society at large. But to exclusively credit the mission with these benefits largely ignores the time and effort that was spent by private actors to develop the ideas and knowledge into commercial and viable products and services for large groups in society. Mazzucato then goes on to call for a paradigm shift, urging policymakers to adopt a mission-oriented approach that promotes sustainable and inclusive economic growth. By setting ambitious goals and actively participating in innovation, the state is expected to drive transformative change and create a more prosperous and equitable society.

We do not want to challenge Mazzucato’s facts or discredit her analysis. We agree that states successfully have and perhaps should continue to play a role in mobilizing talent and other resources around urgent societal challenges. Healthcare, climate change, and inequality are not problems that “markets” will solve on their own, and relevant and competent government organizations are an essential tool in our toolbox to address them (cf. Stam and Vogelaar 2023). We would even agree that the state would do well to formulate clear missions and approach them in an entrepreneurial fashion. That is, experiment with an open mind and be willing to fail

and learn, rather than develop interventions on the drawing board and then stick to them because of bureaucratic or political lock-in. The world of venture capital fully understands that spreading risks by financing many diverse ventures is a better option than going with the naïve strategy of financing only similar ventures. Such a portfolio approach can be adopted by a public sector that discriminates between a clear mission and a diverse and flexible operationalization.

But all that effort will only pay off, also in many unexpected ways, if we do not succumb to the fallacy of hindsight. That is, a well-defined and entrepreneurially executed state-led mission can only succeed in also generating a stream of valuable but largely unanticipated spin-off innovations, if the conditions for acting on such opportunities are right. That was evidently the situation in the United States in the 1960s, but it was not the case in the Soviet Union at that time. And it is highly doubtful that the governments that now eagerly adopt Mazzucato's recipes are more like the former than the latter.

Mazzucato Meets Schumpeter

We would join Mazzucato (2013) and others who argue for an Entrepreneurial State (Ebner 2009). Schumpeter's work on entrepreneurship and innovation indeed places entrepreneurship at the center stage of capitalist societies. According to Schumpeter, it is the entrepreneur's disruptive actions and ability to introduce new combinations of resources that propel economies forward. The willingness of entrepreneurs to take risks, experiment with new ideas, and pursue novel opportunities leads to economic progress and growth. By constantly seeking innovative solutions, entrepreneurs drive the wheels of creative destruction. In principle, there is nothing that would prevent the state, as the most important vehicle and instrument to formulate and address our collective challenges, from also operating in that way. In fighting our wars, in establishing and maintaining the rule of law, and in protecting our lives, property, and rights, we turn to the state and expect it to act on our behalf, if need be, in an entrepreneurial fashion. And our democratic political institutions ensure that the state remains accountable and that the status quo can always be challenged to act on new opportunities and respond to changing realities.

Importantly, however, Schumpeter also saw the state as a potential barrier to entrepreneurial dynamism. Not because the state is somehow inherently less efficient or less dynamic or more risk averse and conservative than the private sector. Mazzucato convincingly shredded those myths in *The Entrepreneurial State*. Rather, Schumpeter cautions against the entrenchment of power, whether by the state or private entities, as such entrenchment hampers the openness and contestability necessary for entrepreneurial people to thrive. Schumpeter argued that excessive concentration of power stifles competition, promotes rent seeking, discourages innovation, and ultimately hinders the overall development of the economy. He was thinking of large incumbent firms, but the same applies to large, incumbent governments. Hence, an Entrepreneurial State is not theoretically impossible but in

existing government agencies hard to achieve in practice. This has to do with the dynamics of democracy. Mistakes will be held against the incumbent politicians, weighing more heavily than successes. Political opponents will use state-run innovation failures to criticize incumbent politicians, saying that it is a sign of their incompetence and that they should be replaced. It will rarely suffice for incumbents to point to successes. Or to say that it is normal that many entrepreneurial projects fail. So, what is normal in private markets where private firms and individuals risk their own money is not equally acceptable in a system that is democratically governed using taxpayers' money. As a result, it becomes rational for politicians and government agencies to be risk averse.

In *Capitalism, Socialism and Democracy*, Schumpeter (1942) goes as far as to argue that a socialist, centrally planned state can and should replace capitalism and private business ownership. But only when all innovation activity in the economy has been fully routinized and is conducted in professionally and bureaucratically managed R&D labs of large corporations. From all his earlier oeuvre, it is clear that Schumpeter did not really believe that such a state would ever materialize. Mazzucato's modern-day societal challenges are a clear illustration that he was right. The world will never be predictable and will keep putting new and unexpected problems and challenges on our path. Therefore, innovation can never be reduced to routine, and we can never do without entrepreneurs, who challenge the status quo, even when most of us cherish the current state of affairs.

To maintain a steady pace of economic progress, Schumpeter suggests that governments organize society in a way that ensures that positions of power, wealth, and prestige remain contestable, both in the public and the private spheres. Only then will better ideas continue to replace the good ones of the past. This means implementing policies that foster competition, reduce barriers to entry, and promote an environment conducive to public and private entrepreneurship. By encouraging a level playing field and providing support for experiments, challengers, and entrants, governments can nurture the entrepreneurial spirit in society and keep innovation going. They can then also contribute to Mazzucato's concrete and well-defined government-led missions and help address urgent societal challenges. But ensuring a vibrant, open, Entrepreneurial Society is essential to create and act on new opportunities to realize the many unanticipated and broad societal benefits that Mazzucato so casually attributes to the state-led missions themselves.

The moonshot mission was a success in generating many broad societal benefits in the United States, where the initially more advanced Soviet space program was much less successful in that respect. No doubt, the space race innovations in the Soviet Union benefitted the army and hence the Communist Party. But resources and incentives to develop civil applications were not available. And while we have no doubt that the Chinese will put a man on the moon by 2030, it remains to be seen what the broader societal benefits of that mission will be. These examples illustrate how ambitious missions in more closed, less entrepreneurial societies can fail to generate the impressive list of unanticipated but highly valuable private sector innovations that a clear state-led mission can help launch. The problem is that bureaucratic governments, even democratic ones, have a hard time to see the value

of unanticipated innovations. This is not inherent to the state, but to bureaucracy. The statements by IBM that the global market for mainframe computers was about to be saturated or the failure of Kodak to see the potential of digital photography until it was too late are famous examples in the private sector, where mission-driven managers failed to recognize the value of adjacent inventions and entrepreneurs stepped in to realize their potential.

Taken together, a precise reading of Schumpeter's work underscores this central role of entrepreneurship in driving dynamics and innovation in capitalist societies, where property is privately owned and fortunes can be accumulated. The latter is essential to incentivize but, even more importantly, to fuel the development and diffusion of new ideas that develop inventions into innovations that ultimately benefit society at large. Schumpeter emphasized the disruptive actions of entrepreneurs and their role in challenging existing structures. Such challenges are typically not appreciated in mature, bureaucratic organizations, whether they are big corporations or governments. As we read Schumpeter, he does not adhere to the public vs. private sector myths that Mazzucato effectively debunks in her work. But he does caution against the concentration of power, whether by the state or incumbent private firms, and argues that governments should foster open, contestable environments to encourage entrepreneurship and innovation in society at large.

No Entrepreneurial State Without an Entrepreneurial Society

Those who read in Mazzucato's work a justification for more ambitious and directive government interventions are likely to overlook the important policy implications that decades of entrepreneurship research entail. We summarize this in the claim that an Entrepreneurial State without an Entrepreneurial Society will not deliver. An Entrepreneurial Society can be defined as a society where challengers of the status quo serve as the critical force driving progress, prosperity, and competitiveness in global markets and where institutions and policy have a focus on facilitating and generating such entrepreneurial activity (Audretsch 2007; Elert et al. 2019). In short, it is a society in which challenging the status quo is both encouraged and facilitated. Missions will deliver better outcomes if they are contestable and open to challengers themselves. The risk of too powerful mission-driven Entrepreneurial States is that they use the power and resources of the state to block, rather than nurture, such challengers. As many of the benefits that resulted from historical missions were unintended and provoked by challengers from outside, ensuring that the modern missions remain open to challengers is an essential ingredient for their success.

It is possible to have a benevolent dictator mobilizing public and private resources to a worthwhile mission. In fact, in ancient Greece and Rome, dictators were elected in times of crisis. And we understand the temptation of doing the same, as urgent global challenges confront us with existential threats. For that reason, we see those

that are worried most about the future of our planet, continent, and country most willing to suspend liberal democracy in the political realm and market capitalism in the economic realm. When the end justifies the means, mission-driven policies implemented by a strong Entrepreneurial State, may seem like a good idea. But as the early successes of the Soviet Union in the space race have shown, succeeding on the goals of the mission itself is not a sufficient condition for successful mission-driven innovation policy. And even today, there is an interesting debate on whether an Entrepreneurial Society can thrive under a very powerful Entrepreneurial State (Audretsch and Fiedler 2023).

Adopting a mission-driven innovation and industrial policy without carefully considering the environment in which that mission is to be implemented risks losing many of the potentially life-altering improvements in other domains. More importantly, it will make mission-driven industrial policy fall short of its promises and may end up discrediting an approach that has many merits from the start.

The essential amendment we would like to make to the Mazzucato recipe is therefore that the private sector be allowed to run off with the ideas and to basically “steal” them for private gain. While government intervention and public investment can play a crucial role in catalyzing invention, it is important not to stifle market competition and dynamism in the successive stages of the innovation process. Excessive control and central planning on mission objectives may discourage entrepreneurial activity and impede the ability of challengers to (re)allocate resources efficiently. Especially the suggestion that private sector profits should be taxed to finance future missions and innovation is short-sighted and potentially devastating. We do not only fear the often-claimed disincentive effects that such taxation would reduce entrepreneurship. Many, if not most, of the best and most talented entrepreneurs are not in their business primarily for the money. But what siphoning off private revenues from growing ventures would do is to starve successful challengers of the resources that are much needed and will be allocated to disseminate the innovation and fitting new ideas to new, bigger, and more profitable markets and domains. Ensuring an open system of innovation where ideas can compete on a level playing field requires careful reconsideration of ownership structures, intellectual property rights, and the distribution of profits, but not in the direction that Mazzucato seems to advocate.

This means that a sharp eye needs to be kept on the long run. While government interventions can provide a short-term boost to innovation and economic growth, long-term sustainability requires the build-up and nurturing of a broader ecosystem that encourages private sector, bottom-up entrepreneurship. It is crucial that policies be focused on fostering a supportive environment for startups, improving access to finance, enhancing education and skills, promoting research and development collaborations, and creating robust institutions and legal frameworks. Most importantly, however, those institutions should focus on allowing challengers of the status quo, inside and outside the state, to compete for the resources they need to make their challenge a success. Ventures should fail because they are based on bad ideas, not because they are starved of resources by institutions that favor incumbents. Mission-driven industrial policy in the hands of lobby-sensitive politicians seriously risks

moving us in the latter direction. Policymakers, including those that now embrace Mazzucato's ideas, love to tilt the playing field in favor of organizations that contribute to the missions they have formulated. It is much harder for them and much more important for creating long-term sustainable progress that they level the playing field, also for those that challenge their policies.

By considering this amendment, those who advocate ambitious and directed government interventions, as inspired by Mazzucato's work, can warrant that the promised societal benefits are realized in a balanced and sustainable manner. It is important to strike a careful balance between government intervention and market forces, between public and private initiatives and between competition and accountability. To make the Entrepreneurial State a success, it needs to operate in an Entrepreneurial Society, nurturing an ecosystem that enables entrepreneurship and private sector participation.

Epilogue

The essential role of entrepreneurship in “grand societal missions” such as improving healthcare, containing climate change, and bringing down inequality leaves little room for the view that the Entrepreneurial Society is over. It is hard to imagine that the increasing domination of megafirms and large government with fading entrepreneurship in a world where the lowest caste consists of self-employed persons and freelancers (Schumpeter's socialism) will help overcome the challenges of the day. Market capitalism and liberal democracy have not yet become sclerotic (Thurik et al. 2023); our best chance is to revitalize these engines of progress that have proven their worth in the past.

There is certainly no “end of history” (Fukuyama 1992), but despite many challenges from both the right and the left, liberal democracy and capitalism remain the systems that best ensure an open society (Popper 1945). An Entrepreneurial Society built on inclusive institutions that channel resources to challengers experimenting and scaling new ideas to increase prosperity ensures a capitalism that works best and benefits people the most (cf. Acemoglu and Robinson 2012). Together, democracy and entrepreneurship ensure the effective launch of state-led missions that are both legitimized and realize their economic potential.

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