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Unpacking the myth of the entrepreneurial state

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ABSTRACT

The idea of The Entrepreneurial State, a state that acts as an entrepreneur, creating and shaping markets to solve certain missions, has captured the eye of the public and of scholars. Yet, a number of scholars have voiced critique of The Entrepreneurial State Paradigm, arguing that it leads to policy failure. But simultaneously, other scholars argue that policy failures stem from interpretation and poor implementation, rather than core ideas in The Entrepreneurial State, such as mission-oriented policies. In this paper, I seek to clarify this debate. I argue that the growing reports of mission-oriented policy failures are due to three factors nested in The Entrepreneurial State Paradigm. They are 1) Disregard of the role of private entrepreneurship; 2) Encouraging policy makers to disregard limits to government action, and 3) Extrapolating grand policies from limited results. Thus, I argue that registered policy failures do not stem merely from bad policy making or incorrect interpretations of The Entrepreneurial State Paradigm. They stem directly from this paradigm. Consequently, I argue that scholars and policy makers should move away from The Entrepreneurial State and instead focus on the enabling role of the state.

1. Introduction

Mariana Mazzucato's book "The Entrepreneurial State" is probably one of the most influential books published in the entrepreneurship field in the last ten years. It has had a large influence on the innovation policy of European countries (Wennberg and Sandström, 2022). The EU and OECD now follow Mazzucato's lead, outlined in "The Entrepreneurial State" (2018) and later on in "Mission Economy" (2021), to take a larger role in shaping and steering innovation and entrepreneurship. On Google Scholar, "The Entrepreneurial State" has accumulated over 6500 citations since it was published as a book in 2013, making it one of the most cited works in the entrepreneurship literature. It is indisputable, that Mazzucato has contributed by highlighting the crucial role that innovation plays in economic growth and in driving the Green Transformation. Furthermore, her impact on policy outshines most of her peers, with the EU, to take one example, having chosen a mission-oriented approach to innovation policy, in particular when it comes to driving The Green Transformation (Wennberg and Sandström, 2022, p. 5). Thus, Mazzucato has, almost singlehandedly, launched a new Entrepreneurial State Paradigm.

Yet, in recent years, scholars have started to question The Entrepreneurial State Paradigm, with its focus on 'missions' where the state, instead of providing a broad base of investment into R&D, sets up specific missions, such as solving climate change by building specific renewable energy, sources like solar or wind, but not nuclear. Scholars critical of Mazzucato's approach to entrepreneurship and innovation, argue that The Entrepreneurial State Paradigm leads to continuous policy failure (e.g. Brown, 2021; Karlson et al., 2021; Wennberg and Sandström, 2022). These scholars argue that the paradigm puts too much emphasis on state action, and thus leads to policy failure because the state extends beyond its capabilities (Karlson et al., 2021). For example, they argue that the state lacks critical knowledge and capabilities needed to design and run missions effectively (Karlson et al., 2021). However, other scholars

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argue that the problem may not be in Mazzucato's work in itself, but in how it has been interpreted and used by policy makers (e.g. [Audretsch and Fiedler, 2023](#); [McGahan, 2023](#)). These scholars point out that Mazzucato's insight is not that the government achieved the innovations in question, but that many core technologies commercialized by companies were originally funded by public R&D ([McGahan, 2023](#), p. 1). In other words, if there has been government failure it is because of policy makers' *interpretation* of The Entrepreneurial State Paradigm, rather than the paradigm itself. Put differently, some claim that The Entrepreneurial State is essentially a myth of what policy makers can do, leading to policy failure, but to others a legitimate paradigm that may have been poorly implemented in some cases. With limited agreement ([Faria et al., 2023](#)), one can ask: is The Entrepreneurial State a myth guiding bad policy making or a valuable idea, that might be lacking in implementation?

In this paper, I connect recent findings of mission-oriented policy failures to specific elements in The Entrepreneurial State Paradigm, thus unpacking the 'mythical' parts in this paradigm. Overall, this paper contributes by pointing out specific flaws in The Entrepreneurial State Paradigm, thus adding to prior work that has highlighted failure cases (see [Wennberg and Sandström, 2022](#)), and critiqued the paradigm from a public choice perspective ([Karlson et al., 2021](#)). Finally, I seek to inspire entrepreneurship scholars to build a research program that delivers more credible policy suggestions. This research program should cast the state as an external enabler of entrepreneurship and innovation, rather than the main agent.

2. What is the entrepreneurial state paradigm?

The key argument in Mazzucato's work on The Entrepreneurial State – presented in the books “The Entrepreneurial State” and “The Mission Economy” – is that - contrary to what mainstream economists believe- the state can act entrepreneurial and has done so in the past. To their discredit, mainstream economists have mostly overlooked this fact. Mazzucato argues that the state not only can fix market failures but create and shape markets. The way that the State does so is by funding research and development, Mazzucato highlights DARPA (Defense Advanced Research Projects Agency) as key in funding research that led to the creation of the internet, GPS and the iPhone. Then the state can also create demand by providing discounts and rebates ([Mazzucato, 2018](#), p. 7), as was the case with solar panels. In sum, The Entrepreneurial State to Mazzucato is a state that finances research, thereby creating new technology, and then create new markets based on this technology. Mazzucato's key example of this is how the American Government has developed the iPhone through sponsoring key technologies such as touchscreens, the internet (through DARPA) and lithium batteries.

By investing in the development of certain technologies, States can also support the Green Transformation. [Mazzucato \(2018\)](#) explicitly mentions Denmark and Germany and their investments into solar and wind power as examples. Later [Mazzucato \(2021\)](#) develops this argument into that States should set up certain missions, like solving climate change. To solve such missions, the state should devolve generous funds to developing new technology, often choosing specific technologies over others. [Mazzucato \(2021\)](#) here draws inspiration from the Apollo Program, arguing that the massive investment into NASA paid off as it created technologies that spilled over into the private sector. Therefore, [Mazzucato \(2018; 2021\)](#) argues that the State should take a much more active role and provide basic research funds or government grants to proactively shape markets so that they boost the public good ([Mazzucato, 2021](#), p. 171–174). A critical part of this mission-based approach is that it is not enough to reach a limited goal, e.g. putting a man on the moon. The idea is to fundamentally change markets and societies ([Mazzucato, 2021](#)). For example, the European Union has five larger missions: adapting to climate change, beating cancer, restoring oceans, building climate neutral cities and transitioning to more healthy soils ([Research and Innovation, EU, 2023](#)).

3. The failure of entrepreneurial state policies

The Entrepreneurial State Paradigm can be found in the way that the EU, the UK and Scandinavia have formulated innovation policy ([Janssen et al., 2021](#); [Wennberg and Sandström, 2022](#)). It can also be found in Asian countries, such as China and Singapore ([Audretsch and Fiedler, 2023](#); [Grafström, 2022](#)). In these countries, in particular in the EU, UK and Scandinavia, The Entrepreneurial State manifests itself through mission-oriented policies. So far, there is little evidence in support of such policies ([Bloom et al., 2019](#), p. 179; [Kirchherr et al., 2023](#); [Janssen et al., 2021](#); [Wennberg and Sandström, 2022](#), p. 5). Yet, whereas there are not many success cases of mission-oriented policy forthcoming ([Janssen et al., 2021](#); [Wittmann et al., 2021](#)), scholars have found several examples of failure.

For example, [Grafström \(2022\)](#) notes that China's Entrepreneurial State approach to building wind power has induced a large waste of resources and produced little electricity. Similarly, [Amenta and Stagnaro \(2022\)](#) review the EU's subsidy of wind and solar power and find that it failed in cutting CO2 efficiently, that it failed as an industrial policy, and that it failed as a social policy. [Sandström and Alm \(2022\)](#), using cases from Sweden, also found that state directed investments into biogas and ethanol failed to deliver good results. In addition, [Audretsch and Fiedler \(2023\)](#) find that Entrepreneurial State policies may fail because they crowd out private entrepreneurship. Relying on Singapore as a case, they ([Audretsch and Fiedler, 2023](#), p. 584) conclude that Entrepreneurial State policies crowd out entrepreneurship and thicken the knowledge filter, thus hindering innovation. In his study of the Scottish Investment Bank's mission-driven initiatives, [Brown \(2021\)](#) point to a similar issue, namely that these initiatives do not align with local entrepreneurial ecosystems, and therefore these initiatives could reinforce weaknesses in these systems, rather than reversing them as planned. Similarly, [Sunley et al. \(2023\)](#) note that targeted industrial policies may only inspire ephemeral impact for then to fade away. Finally, [Henrekson et al. \(2023\)](#) list the War on Cancer and Sweden's Million program to build housing as older examples of policy failure.

Naturally, case studies alone do not prove that The Entrepreneurial State Paradigm is wrong on their own. They could be caused simply by poor policy making ([McGahan, 2023](#)). Thus, I seek to investigate more deeply whether policy failures may be caused by specific flaws in The Entrepreneurial State Paradigm.

4. Why does the entrepreneurial state lead to policy failure?

Besides classic arguments against state intervention and planning, such as the knowledge problem and state capture (Karlson et al., 2021), I will make three arguments to why The Entrepreneurial State Paradigm leads to policy failure, they are:

- 1) The paradigm disregards the role of private entrepreneurship
- 2) The paradigm encourages policy makers to disregard limits to government action
- 3) The paradigm extrapolates grand policies from very limited results.

I summarize these issues in Table 1 and then explicate them further.

4.1. Disregarding the role of private entrepreneurship

Mazzucato starts out with a classic definition of entrepreneurship and listing examples where governments supported entrepreneurship through grants, such as SBIR and NIH, thus arguing that “entrepreneurship is transforming inventions into innovations” (Mazzucato, 2018, p. 64). However, in her case examples, Mazzucato takes a more extreme approach. For example, Mazzucato endorses the view that: “Apple did not build the iPhone, your taxes did” (PBS, 2013). Thus, she is casting the state as the main entrepreneurial agent, hence the term “Entrepreneurial State”, and demoting private entrepreneurs to bit-part players who merely refine what the state has created. Mazzucato (PBS, 2013) argues that the US government sponsored many of the technologies that were used in the iPhone, e.g. batteries, processors and touchscreens. This was primarily through DARPA, who made these investments to provide the US military with the best equipment possible. Mazzucato (2018, p. 99) then notes that “...Apple concentrates its ingenuity not on developing new technologies and components, but on integrating them into an innovation architecture: its great in-house innovative product designs are, like those of many smart phone producers, based on technologies that are mostly invented somewhere else, often backed by tax dollars.” As the quote above illustrates, Mazzucato argues that the real entrepreneur behind the iPhone was the state (Foroohar, 2015), and Apple more found ‘gold on the street’ and then, through clever design, capitalized on the innovation made by the state.

This argument is problematic for two reasons. First, the argument confuses the *creation* of opportunities with the *realization* of opportunities. As Mazzucato herself notes, “entrepreneurship is transforming inventions into innovations” (Mazzucato, 2018, p. 64). According to Mazzucato’s own definition, then Apple is the entrepreneur, as they conducted the entrepreneurial action of transforming the invention into an innovation, a consumable product. Apple integrated inventions into a product, the smartphone. Yet, based on this example, Mazzucato argues that the state acted entrepreneurial. Thus, she confuses government investments, which can provide entrepreneurial opportunities (Acs et al., 2009), with acting on these opportunities and realizing them, which is the definition of what entrepreneurs do (Shane and Venkataraman, 2000). At no point does Mazzucato show that the state acted entrepreneurial. Investments into basic research are important, but no one should confuse that for entrepreneurship, in particular when the investments, often into military or space technology, have a completely different purpose than spurring entrepreneurship. Importantly, research has continuously shown that it requires entrepreneurs to transform such basic research into commercial products and services (Acs et al., 2009; Ghio et al., 2015).

Table 1
Summarizing reasons for why entrepreneurial state policies fail.

Reasons that Entrepreneurial State Policies Fail	Explanation	Mechanism	Supporting evidence
Disregarding the role of private entrepreneurship	Entrepreneurial State thinking at best disregards private entrepreneurship and at worst considers it unnecessary and parasitic.	Disregarding private entrepreneurship leads to policies that fit poorly with existing entrepreneurial ecosystems, or which may even hurt such systems. Moreover, policies do not consider crucial knowledge spillover entrepreneurship.	Acs et al. (2009) Audretsch and Fiedler (2023) Brown (2021)
Encourages policy makers to disregard limits of government action	Mazzucato directly states that much of mainstream economic thinking, which includes entrepreneurship research, is based on myths.	Policy makers tend towards unwarranted overconfidence. Being directly encouraged to disregard known problems, policy makers may repeat past mistakes.	Aidis et al. (2012) Björnskov and Foss (2013) Bloom et al. (2019) Karlson et al. (2021) Lerner (2009)
Extrapolating grand policies from limited results	Mazzucato argues that missions reaching a limited goal, i.e. NASA’s Apollo program successfully landed on the moon, can be used to solve complex, unbounded, wicked problems. No studies, so far, back this assertion.	Policy makers may mistakenly replicate policies from failure cases, e.g. copying Germany’s failed “Energiewende”. Generally it is problematic to develop policies without evidence supporting key assertions.	Batbaatar et al. (2024) Grafström (2022) Henrekson et al. (2023) Kantor and Whalley (2023) Sandström and Alm (2022)

Second, Mazzucato drastically underestimates the difficulty of turning technologies into a product that can be sold at a profit. A large part of Apple's success is due to them being able to set up and manage a complex supply chain that spans countries and continents. While Apple's design capabilities were important, it was their ability to integrate suppliers and manufacturers globally that was crucial. The touchscreen in an iPhone is made from components from South Korea and Japan, the semi-conductor is built in Taiwan, memory chips are from Japan as well and the battery is from China (Shih, 2018). Finally, the iPhone is built in China. Making the iPhone in the US would be very challenging, even years after its initial launch (Shih, 2018). Hence, thinking that the US state alone provided the foundation for – let alone 'built' – the iPhone is wrong. Without the specific capabilities that Apple had in designing and managing a complex value chain, the iPhone could not be built.

The problem with diminishing the role of entrepreneurs in innovation, as Mazzucato does, in particular when disseminating, is policy makers may disregard the role that entrepreneurs play in creating firms with capabilities to realize opportunities formed by government supported research. Yet, without entrepreneurial firms, which are often small and young unlike Apple, there is no one to "catch" possible opportunities and turn them from inventions and into innovation (Acs et al., 2009; Schou, 2023). When reviewing some of the mission-oriented policy publications, such as the Research Innovation and Science expert group, who advice the European Commission (2018b), one can get a taste of this problem. They do not mention the word "entrepreneur", "venture" or "SMEs", a single time. Simply, private entrepreneurs play a very small role in how these policies are to be designed and carried out (European Commission, 2018b; Mazzucato, 2019). The focus is solely on top-down design and governance of markets, with little consideration of what may already exist and what kind of competences firms and potential entrepreneurs may hold. The focus of this policymaking is not how the state can enable entrepreneurship, but how the state itself can be more entrepreneurial. More precisely, such policies fail for three reasons:

1. Because without private entrepreneurship, inventions are not turned into innovations (Acs et al., 2009)
2. Because they do not align or embed themselves with local entrepreneurial ecosystems (Brown, 2021; Sunley et al., 2023)
3. Because they crowd out entrepreneurs (Audretsch and Fiedler, 2023)

In sum, the problem is not that the State cannot contribute to entrepreneurship and innovation. The problem is mistaking broad public investments, such as investments into military technology in the iPhone case, for entrepreneurial action and credit the state for the resulting innovation. The state did not intend to create the iPhone. Apple did, and therefore they should be credited. Likewise, if somebody invented the cure for cancer, we would not attribute that cure to the state just because that person had been educated at a public university. Investment into basic research, while uncertain, is not entrepreneurial risk taking, because it does not intend to launch a product/service or start a company. Investments into basic research, or education for that matter, improve the conditions for entrepreneurship, but they are not entrepreneurship in themselves. Overstating the state's role in innovation and entrepreneurship will likely lead to poor policies. For example, conflating the state's enabling role in the iPhone case, for an active, entrepreneurial market creating role will likely inspire poor policies.

4.2. Encouraging policy makers to disregard downsides and limits to government action

A critical part of Mazzucato's work is an attack on most mainstream economists (and consequently entrepreneurship scholars following this tradition). She argues that economists ignore the possibility that governments can contribute to value creation, and that they claim that the government should only act in the rare case that the market fails (Mazzucato, 2018, 2021). Finally, she argues that there is no empirical evidence for mainstream economists' market failure theory of innovation (Mazzucato, 2021, p. 34). In short, mainstream economics and entrepreneurship research are based on myths (Mazzucato, 2021, p. 27–35). Ironically, Mazzucato and mainstream economists praise the exact same programs, and modern mainstream economists also argue that the state should do more to boost innovation (e.g. Aghion et al., 2021; Bloom et al., 2019). But there is good reason for Mazzucato to discount much of mainstream economics and entrepreneurship research, as this research shows severe limits to government action. First, economists argue for market driven solutions, where the government supports entrepreneurship and innovation, but does not engage in market shaping and mission-oriented policies. This is because they perceive the state to lack such knowledge and capabilities (Bloom et al., 2019; Karlson et al., 2021). Second, they note that most government tools to boost innovation and entrepreneurship are not very effective. For example, studies show that government venture capital is ineffective in comparison to private venture capital (Cumming et al., 2017; Grilli and Murtinu, 2014), that government grants have limited effect (Howell, 2017), that they can crowd out private investments (Bloom et al., 2019), and that they only work when supported by private capital (Brander et al., 2015). Third, they show that government activities can crowd out entrepreneurs and thus hinder innovation (Aidis et al., 2012; Audretsch and Fiedler, 2023; Bjørnskov and Foss, 2013).

The attack on mainstream economics, and entrepreneurship research inspired by economics, thus serves a particular purpose. When Mazzucato (2021, p. 34) falsely claims that mainstream economics research on innovation (see for example Aghion et al., 2021; Bloom et al., 2019) has no empirical backing, and is a myth, it encourages policy makers to disregard the findings from this research, which often is way more cautious in terms of what effects government action has (e.g. Bloom et al., 2019; Lerner, 2009). As a result, policy makers, who almost always tend to lean towards overconfidence (Lovallo et al., 2023), are further enabled to disregard potential downsides and trade-offs when designing their policies.

4.3. Extrapolating grand policies from limited results

In her books and in her advisory to the EU (European Commission, 2018a), Mazzucato uses the Apollo Mission, Germany's "Energiewende" and Denmark's focus on windpower as examples of missions. We would, therefore, expect that these were successful missions that serve as inspiration. But the reality is different. In "The Mission Economy" (2021), Mazzucato argues that the investments

made into NASA spurred a plethora of innovation (p.85-86). What she does not mention is the fact that after 1970 US total factor productivity, essentially its innovation capability, collapsed (Gordon, 2017). Thus, one wonders: if the Apollo program was such an innovation engine, then why did the US' innovation capability decline significantly right after? Recent work explains this by showing that government spending on NASA did not boost productivity more than ordinary government expenditure (Kantor and Whalley, 2023). In sum, Mazzucato conflates the fact that the Apollo program reached its limited goal, putting a man on the moon, with it having a broader impact on innovation. So far, evidence does not support this assertion (Kantor and Whalley, 2023).

In her stories on how states have pushed the green transformation, we find the same problem. Mazzucato (2018) singles out Germany and Denmark for their investments into solar and wind power. What Mazzucato (2018) does not tell is that Germany's large investments into clean energy, the so-called "Energiewende" is widely perceived to be a failure. In 2019, McKinsey reported that Germany had failed to meet any of their targets for their energy transition (McKinsey, 2019). Mazzucato (2018) also fails to mention that according to data from the International Energy Agency, Denmark gets around 10% of its power from wind. In comparison, France gets over 40% of its power from nuclear, which does not emit CO₂. Simply, Denmark is not a poster child when it comes to producing clean energy (Tranberg et al., 2019). Currently, Denmark is also set to miss emission goals (Danish Broadcasting Corporation, 2022). In other words, these cases of mission-oriented policy may be characterized as failures because they do not meet pre-set goals. In a recent review, Batbaatar et al. (2024) finds that most so-called mission-based policies fail to fit the official criteria, that purported success cases do not report cost-benefit, and that they are usually cases of very limited scope, rather than big, broad missions addressing wicked problems (c.f. Mazzucato, 2021). Thus, Mazzucato and others extrapolate policies to solve wicked problems from cases that has either failed (energy transition in Denmark and Germany), or where the mission reached limited goals (Apollo).

5. Discussion and conclusion

In this paper, I have argued that policies shaped according to The Entrepreneurial State Paradigm, i.e. mission-oriented policies, are at high-risk of failure because they do not factor in (private) entrepreneurship, because they encourage overconfidence in government policies and because they extrapolate grand policies from cases that at best had limited results. What I have not argued is that the government cannot or should not support innovation and entrepreneurship. Governments can support innovation through funding and grants (Aghion et al., 2021; Bloom et al., 2019), but a too active government crowds out entrepreneurs (Bjørnskov and Foss, 2013; Estrin et al., 2013), and public investments may even cause entrepreneurs to exit (Bennett, 2019). Thus, it is important that governments do not take a too active role or seek to "create markets" (c.f. Mazzucato, 2018). There is no evidence that states can succeed in such grand missions of creating whole new markets and solving wicked, societal problems through top-down planning. Therefore, instead of having an Entrepreneurial State that tries to act and steer on its own, I propose that entrepreneurship scholars should develop theory and a political toolkit for an *enabling state*, a state that seeks to enable innovation and entrepreneurship through policy but does not act as an entrepreneur itself.

A way to improve knowledge on how states can enable entrepreneurship is to build on the external enabler framework (e.g. Davidsson et al., 2020). The external enabler framework focuses on how external changes in the environment can enable, or sometimes disable, entrepreneurial action. Government activity is a key mover and shaker of the entrepreneurial environment, and the framework therefore often focuses on how government policy such as regulations, intellectual property rights reforms and tax policies affect entrepreneurs (Davidsson et al., 2020). Studies following this framework have found contradicting effects. Bennett (2019) finds that public infrastructure spending disables entrepreneurship, causing business exits and job losses. On the other hand, Chen et al. (2020) find that China's high speed rail program boosted business formation. Here, it is crucial that scholars explain – and thereby align – such contradicting findings, so that a clear body of knowledge emerges, which policy makers can act upon. It is possible that frameworks such as the external enabler framework can be developed, so that it provides clear policy recommendations. However, this would require deliberate development, and that scholars not only discuss theoretical implications of their study but also draw conclusions on the differences and similarities in policy implications.

CRedit authorship contribution statement

Peter Kalum Schou: Writing – review & editing, Writing – original draft, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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