The state as creative destroyer: a systems perspective on entrepreneurship by organised monopolies on violence

International Journal of Entrepreneurial Behavior & Research

Received 10 May 2024
Revised 21 August 2024
Accepted 4 December 2024

Steffen Roth
CERIIM, Excelia Business School, La Rochelle, France and
Next Society Institute, Kazimieras Simonavicius University, Vilnius, Lithuania

Abstract

Purpose – This article explores the concept of state entrepreneurship, particularly focusing on its darker aspects when states act as creative destroyers.

Design/methodology/approach – This study employs a systems-theoretical approach to develop a comprehensive framework for understanding the nature of statehood and its role in driving disruptive innovation. The research design includes an analysis of cases of state-mandated planned obsolescence, examining the ethical, political and economic implications of these strategies.

Findings – The main findings highlight that while state-driven innovation is often justified by noble goals such as climate change mitigation, these strategies may lead to ethically questionable outcomes, particularly when economic benefits for the state or associated entities are involved. The study also demonstrates that several aspects of state entrepreneurship align with established definitions of dark side entrepreneurship. The article concludes by underscoring the need for further research into the social costs incurred as states pursue their entrepreneurial missions.

Originality/value – The article demonstrates that states are organisations that pursue business models that would be considered unethical if adopted by other organisations. These models include strategies of state-mandated forms of planned obsolescence, a strategy commonly regarded as environmentally unsustainable or even criminal if performed by business organisations.

Keywords Creative destruction, State entrepreneurship, Mission economy, Sustainability transitions, Mandated obsolescence, Dark side entrepreneurship

Paper type Conceptual paper

1. Introduction

The perceived urgency of a global climate crisis is exerting pressure on even the most traditional industries to undergo their most significant transformation since the first industrial revolution. This transition is expected to require not only innovation and creativity in finding sustainable solutions (Bradley *et al.*, 2021; Saleh and Brem, 2023) but also entails much complexity, uncertainty and risk for individual business. Moreover, these businesses are said to lack clear financial incentives to accelerate required changes at a pace that could potentially avert an anticipated climate disaster (Bocken and Short, 2021; Fagerberg, 2018; Garud and Gehman, 2012).

Expectations regarding sustainability transformations (Markard *et al.*, 2012) thus pose a unique challenge particularly for those of the traditional industries that have largely been shaped by incremental innovation. Policymakers and leaders of these industries are now compelled to address future challenges through discontinuous processes in domains where these approaches are neither well-established nor sufficiently studied today. In fact, extant research falls short of adequately addressing the challenges arising from policy-driven calls for fast-paced industry transitions and the continuous need for discontinuous innovation they imply. Instead, the focus of extant discontinuous innovation literature is predominantly on digital platforms and ecosystems where market-based competition for end-users rather than a race towards sustainable development or other policy goals drives this form of innovation and the creative destruction it brings about (Jacobides *et al.*, 2018). As such, the discourses on

International Journal of Entrepreneurial Behavior & Research
Vol. 31 No. 4, 2025
pp. 1019-1037

e-ISSN: 1758-6534
p-ISSN: 1355-2554
DOI 10.1108/IJEBR-05-2024-0463

sustainability transformation and discontinuous innovation have remained largely unrelated to date (Kivimaa *et al.*, 2021, p. 111).

With scant evidence that business and industry leaders are effectively delivering market-driven, discontinuous innovations for urgent, policy-driven transformations (Schot and Steinmueller, 2018), there seems to be an increasing need for states to deliver these urgently required innovations themselves. This shift of focus and assumed responsibility, however, is momentous as it entails a redefinition and recontextualisation of the concepts of discontinuous innovation at large and of creative destruction in particular.

Traditionally attributed to Joseph Schumpeter (1942), the "gale of creative destruction" refers to a process where newer, "superior" inventions replace older, "inferior" ones. As such, this process drives business model innovations that might either destroy the competitive advantage of incumbents in established markets or create new ones. "Each major new technology leads to creative destruction: the steam engine, the railway, electricity, electronics, the car, the computer, the internet. Each has destroyed as much as they have created but each has also led to increased wealth overall" (Mazzucato, 2014, p. 77).

Whereas Schumpeter (1942, p. 83) originally linked creative destruction with private entrepreneurship, viewing it as a market force "that incessantly revolutionizes the economic structure from within", Mariana Mazzucato (2011, 2014, 2021) has more recently championed the vital role of state entrepreneurship in bringing about creative destruction in general and particularly those forms of creative destruction required for avoiding planetary destruction. Thus redefined, entrepreneurship theory and practice are envisioned as a bridge that closes the gap between urgently required sustainability transformations and the discontinues forms of innovation needed to bring them about.

While the idea that state entrepreneurship can serve as a panacea for climate change and other global challenges is compelling, it also risks perpetuating a bias within the broader field of entrepreneurship research, where research tends to focus on success stories or factors and to overlook potential "dark sides" of entrepreneurship (Sørensen, 2008; Tedmanson *et al.*, 2012; Olaison and Sørensen, 2014; Lerman *et al.*, 2021; Scheaf and Wood, 2022; Wood *et al.*, 2022; Dey *et al.*, 2023). Given that sustainability transitions themselves can have their dark sides (Kivimaa *et al.*, 2021; McGowan and Antadze, 2023), it is wise not to ignore the issue of potential dark sides of state entrepreneurship whether as catalyst of these transitions or in any other context. This wisdom is the more required whenever the power of creative destruction is vested in an entity to which one commonly ascribe a monopoly on violence. If market-shaping by states "can have important unintended consequences" (Casasnovas, 2023, p. 229), then state-driven creative destructions could have even more important ones.

The aim of this article is to enhance understanding of state entrepreneurship and its implications. To this end, in Section 2, this study reviews the literature on dark side entrepreneurship, identifying research gap regarding the dark sides of *state* entrepreneurship. Section 3 shows that prominent works on state entrepreneurship (Mazzucato, 2011, 2014, 2021) excel in elaborating on what makes states entrepreneurial, yet systematically fall short of providing more than implicit definitions of what is a state. Against this backdrop, this study draws on a systems perspective on statehood that is instrumental in outlining the role of the state entrepreneurship as a key component of "The 'Engine of Growth' in market economies" (Jackson, 2009, p. 91). The discussion further explores the state's role as creative destroyer, demonstrating that many facets of state entrepreneurship align with established definitions of dark side entrepreneurship. The article concludes by calling for more comparative research on "state business models", identifying not only how, but also at what social costs states pursue their entrepreneurial missions.

2. Dark sides of state entrepreneurship: a research gap

Over recent decades, there has been a prevailing belief in public and academic circles that entrepreneurship plays a significant role in economic development and innovation (Al-Qudah *et al.*, 2022;Wennekers *et al.*, 2010; Wong *et al.*, 2005). This optimism also extended to the literature on social entrepreneurship (Anand *et al.*, 2021; George *et al.*, 2021), where social entrepreneurship is anticipated to deliver sustainability transitions (Manjon *et al.*, 2022). Despite growing concerns about deliberate deception in (a social media-centric) society, entrepreneurship research continues to operate under the assumption that most entrepreneurial activities are conducted with integrity (Anderson and Smith, 2007). Instances in which entrepreneurs engage in shady or unethical practices are considered to be rare, special cases within the broader field of entrepreneurship (Shepherd, 2019). As a result, there is limited understanding of how and why entrepreneurs pursue "dark" missions (Scheaf and Wood, 2022; Wood *et al.*, 2022).

The bulk of what is known about entrepreneurship from the dark sides therefore pertains to cases of criminal entrepreneurship. One pioneering work in this context is Bradley *et al.* (2021), who focused on malicious arson committed in the United States by criminal entrepreneurs and backed by corrupt officials to the ultimate benefit of ostensibly respectable real estate investors. In another pathbreaking work, Vadim Volkov (2002), who started in the 1990s to write about the role of violent entrepreneurs in the making of post-soviet Russian capitalism, defined "violent entrepreneurship" as "a set of organizational solutions and action strategies enabling organized force (or organized violence) to be converted into money or over valuable assets on a permanent basis" (p. 27). Coercive access to valuable resources also plays a key role in the works of Gutierrez (2021, 2023), Shepherd (2019) or Gottschalk (2009), often combined with references to other illicit economic activities such as the trafficking of drugs or weapons.

As in the case of Bradley *et al.* (2021), Heber (2009) highlights the fact that criminal entrepreneurship is often combined with or connected to legal activities, not unsimilar to cases of "Mafia entrepreneurship" where "the presence of mafiosi in legal markets and the existence of mafia-owned legal enterprises" (Champeyrache, 2018, p. 160) coincide with the organisation's illegal activities. Further criminal forms of entrepreneurship include "ponzi entrepreneurs" practice "crowdfrauding" (Baucus and Mitteness, 2016), which is not to be confused with entrepreneurial attempts at turning crowdfunding into "fraudfunding" (Cumming *et al.*, 2021).

The concepts of "criminal" and "illegal entrepreneurship" (Antonopoulos and Mitra, 2009; Aidis and van Praag, 2007; Kramer *et al.*, 2002; McElwee *et al.*, 2011) are often used interchangeably. The term "destructive entrepreneurship" is also used in the context of illegal or criminal entrepreneurship (Boudreaux *et al.*, 2018; Box *et al.*, 2020; Foss and Foss, 2002, 2008) "where for example illegal entrepreneurial activities result in a net social loss" (Matos and Hall, 2020), yet it obviously may also refer to cases where certain forms of entrepreneurship are perceived as harmful for other members of society (Shepherd, 2019) or nature (Qin *et al.*, 2022) without necessarily being illegal or criminal. Another issue is that "informal entrepreneurship" has been defined as a "set of illegal yet legitimate (to some large groups) activities through which actors recognize and exploit opportunities" (Webb *et al.*, 2009, p. 492), so it obviously depends on antipathies for or self-identifications with "some large groups" whether informal entrepreneurship qualifies as Mafia, illegal or legitimate form of entrepreneurship.

Rent seeking has been linked to as destructive (Borozan *et al.*, 2017), harmful (Antony *et al.*, 2017) and unproductive entrepreneurship (Baumol, 1996). "Unproductive entrepreneurship involves rent-seeking activities that, for example, exploit legal loopholes" (Matos and Hall, 2020, p. 137), whereas "harmful entrepreneurs" might exploit "market imperfections (. . .) for their wealth at the cost of others. Instead of discovering something new, harmful entrepreneurs are seeking for rents" (Antony *et al.*, 2017, p. 190). Rent seeking therefore seems to transcend the categorial borders.

"Predatory entrepreneurship" is another borderline case as is referred to as both unproductive and parasitic, that is, harmful (Holcombe, 2002; Mehlum *et al.*, 2003; Mulgan, 2015). While productive entrepreneurship means "to create genuinely new value by bringing resources together in ways that serve people's wants and needs" (Mulgan, 2015, p. 52), predatory entrepreneurs "profit from forcibly transferring resources from some to others" (Holcombe, 2002, p. 143). Most forms of predatory entrepreneurship are therefore likely to qualify as "antisocial entrepreneurship", defined by Lundmark and Westelius (2019, p. 2) as "the appropriation or destruction of social value, e.g. by taking advantage of the resource-poor, the infirm, the socially unconnected, or by damaging the social fabric." Yet other forms of predatory entrepreneurship discussed in the literature include poaching or the illegal harvesting of wild animals, respectively, including the associate supply chain ultimately leading into the realm of legal business (Goodall, 2021, 2023).

"Deviant entrepreneurship", too, navigates the categorial borderlines particularly in cases where one activity or possession is legal in one country and illegal in another. Smuggling (Enderwick, 2019; Somerville *et al.*, 2015) is a case in point, as is "pirate entrepreneurship" particularly when exercised with a letter of marque (Roth, 2014; Kaivo-oja, 2014). There are hence smooth transitions between "political entrepreneurship" (Holcombe, 2002; Wohlgemuth, 2000), "crony entrepreneurship" (Autio and Fu, 2015) and illegal entrepreneurship not least when political entrepreneurs collaborate with corrupt authorities.

Many of the aforementioned forms or "dark sides" of entrepreneurship are considered standard cases rather than exceptions to the rule (Jones and Spicer, 2009; Spicer, 2012), with some scholars going as far as to claim that entrepreneurial "predation is the common denominator of business success" (Villette and Vuillermot, 2009, p. 1).

An aspect more relevant to the present study, however, is that references to statehood are implicit to most of these concepts and definitions of dark entrepreneurship. In fact, in most cases it is naturally assumed it is states that draw that the lines between legal and illegal, harmful and harmless, or pro- and antisocial entrepreneurial activities. The implicitness with which the state is considered the natural ruler of all entrepreneurial activity is not even challenged by the fact that some of these definitions imply that some states may be considered corrupt or criminal themselves.

This intimate relationship between statehood and the various dark sides of entrepreneurship stands in stark contrast to the circumstance that the dark sides of state or public entrepreneurship have remained under-researched, except when corrupt or failed states are concerned. In all other cases, it seems that the dark sides of public entrepreneurship primarily result from the absence in public organisations of entrepreneurial principle and competences (Klein *et al*., 2010; Murtinu *et al*., 2022).

This blind spot on the dark sides of public entrepreneurship is the more critical as the dark sides of entrepreneurship are certainly not limited to economic contexts. In his critical reports from several World Economic Forum (WEF) meetings in Davos, Peter Goodman (2022, p. 12f) refers to both business and political leaders as members of a species known as "Davos Man—an unusual predator whose power comes in part from his keen ability to adopt the guise of an ally (. . .) "a predator who attacks without restraint, perpetually intent on expanding his territory and seizing the nourishment of others, while protecting himself from reprisal by posing as a symbiotic friend to all" (Goodman, 2022, p. 12f). In a comment on Aihwa Ong's (2022, p. 138) study of the Davos milieu, too, this behavioural pattern is associated with "predatory geopolitics (. . .) advanced by (. . .) industry and government". The risk that aspects of predatory entrepreneurship may not be confined to "corporate predators" (Mokhiber and Weissman, 1999) is further substantiated by WEF's influential advocacy for public–private partnerships. These long-term arrangements between state agencies and corporations are intended to play an active role in "steering the market towards fairer outcomes" (Schwab and Malleret, 2020), a credo recently echoed in the United Nations Industrial Development Organization's *Industrial Development Report 2022*. This idea is perfectly compatible with Mariana Mazzucato's concept of "entrepreneurial states" (Mazzucato, 2011, 2014, 2021) that "move towards actively shaping and creating markets that deliver sustainable and inclusive growth. They should also ensure that partnerships with business involving government funds are driven by public interest, not profit" (Mazzucato, 2020). Most recently, French President Emmanuel Macron has written a foreword on *The Economics of Creative Destruction* (Akcigit and van Reenen, 2023, p. xii), in which he describes creative destruction as "the vital energy of the 'spirited horse' of capitalism" and declares his ambition to "tame it and steer its path".

The increasing popularity of state entrepreneurship is one reason for a closer examination of its potential dark sides. A second reason is an emerging awareness of side effects inherent to this form of entrepreneurship, which extend beyond the question of whether states possess adequate entrepreneurial competencies (Murtinu *et al.*, 2022) and thus relate to more fundamental problems associated with this type of entrepreneurial activity (Foss *et al.*, 2022; Pennington, 2022; Roth, 2023). Among these more fundamental challenges, many ultimately converge on the question of whether the power of creative destruction can reasonably and safely be vested in an entity that claims a monopoly on violence.

3. The state as creative destroyer

If Mariana Mazzucato's (2011, 2014) "analysis is not just Keynesian", but "also Schumpeterian", as noted in the foreword by Carlota Perez (in Mazzucato, 2014), where the "State is also seen as entrepreneur, risk taker and market creator", then it is reasonable to assume that entrepreneurial states will be or have been acting as creative destroyers.

"Rather than analysing the State's active role through its correction of "market failures" (emphasized by many "progressive" economists who rightly see many failures), it is necessary to build a theory of the State's role in *shaping* and *creating* markets" (Mazzucato, 2014, p. 32). This "shaping not fixing" (Mazzucato, 2021, p. 149) approach to markets "means moving our language – and our thinking – from a model in which the state's main goal is to fix and "level" the playing field to one in which it co-creates a direction, and hence must tilt the playing field towards that direction" (Mazzucato, 2014, p. 144); and Mazzucato leaves little doubt that these tilts of the playing field will necessary involve acts of the destruction and replacement of established market and other structures by newer, socially more desirable ones. On one occasion, Mazzucato (2021, p. 177) draws on an argument by John Kenneth Galbraith related to the destruction of a former Washington D.C. neighbourhood and the replacement of this "cabbage patch of buildings" by "a vast block of buildings called the Federal Triangle" to illustrate this point.

While Mazzucato (2011, 2014, 2021) goes at length to define what attributes, attitudes and actions makes a state *entrepreneurial*, she abstains from any direct definition of what makes a state a state. Indirectly, she mainly refers to "the state" as nation-state, occasionally also as an antonym of the private sector. On yet other occasions, there are references to "state actors such as NASA in the USA or the European Space Agency" (Mazzucato, 2021, p. 167).

Given that only implicit definitions of the inherently multidimensional concept of statehood do not facilitate a clear understanding of state entrepreneurship and its potential dark sides, this section builds on a systems-theoretical concept of statehood (Roth and Valentinov, 2022, p. 949) that avoids "intellectual short circuits that conceptually obliterate the differences between state, politics and society to such an extent that it appears as if a state encompasses all forms of politics on a given territory and as if the boundaries of a political territory also mark the boundaries of a society". Instead, it views the state as part of an ecosystem of organisations where it competes with other organisations such as NGOs, corporations or (private) institutions of higher education. This perspective implies that while most states may be thought to pursue ultimately political missions, they do more than just politics. States can also "do research, educate citizens or go bankrupt." (Roth and Valentinov, 2022, p. 947). Consequently, states operate not only in the political domain but also interact in varying degrees, with the other "function systems" of society, such as the economy, science, education, religion, law or the mass media. The extent to which states are oriented towards these non-political function systems of society allows for their comparative characterisation: The operations of a theocratic state, for example, will focus more intensively on religious issues, compared to a technocratic state, whose operations are more likely driven by science.

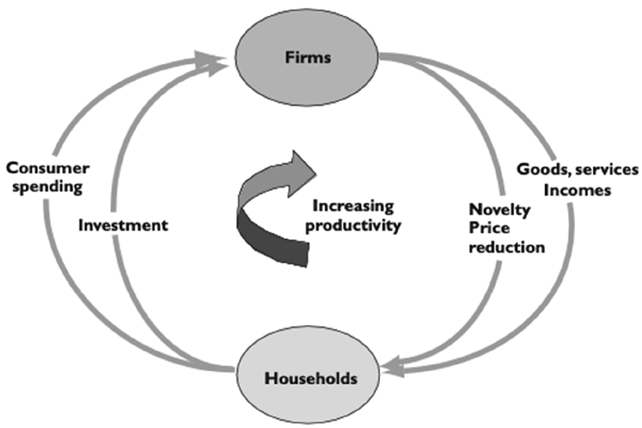
Despite such characteristic differences, most, if not all, states do not only compete in national and international political arenas but also, e.g. in national and international economic markets, as well as for attention from national and international mass media.

Against this backdrop, state organisations appear as "multifunctional organisations" with, in most cases, primarily political "missions". This systems-theoretical definition meets Mazzucato's (2014, 2021) case for the idea that states pursue political missions while operating in or "co-creating" many domains or function systems of society, including the economy; yet it does so without any inclination to calls to action for something that is barely more than a description of the current state of affairs.

In thinking deeper about what the operating principle or principal mission of state organisations might be, however, one faces Luhmann's (1990, p. 74) reading of Max Weber, who "viewed—correctly—the "billeting" of physical violence and the monopolization of its control as the indispensable condition of the formation of the modern state and of the rationalization of modern living conditions."

This "rise of the modern, sovereign state based on the monopoly of decision-making about the use of physical violence, and its inflation to a level of complexity which can hardly be controlled," (Luhmann, 1979, p. 151) becomes problematic not only when definitions of violence are inflationary extended to virtually all forms of behaviour or communication not endorsed by the state but also when a state uses its monopoly on violence not merely to control violence but also increasingly to pursue other political and other-than-political missions. Given that the state is both a very powerful organisation and only one organisation among many, the question remains whether other organisations, including universities, are well-advised to endure or even support a development in which an organisation equipped with the monopoly on power claims primacy and asserts its interests beyond the political domain. It is therefore (not) self-evident that members of these other organisations, like (public) university professor Mariana Mazzucato, would actively promote state-expansionist agendas and advocate ideas where states act as creative destroyers within the economy.

Yet, as is generally know, the natural science-driven concept of climate change and the associated assumptions about limits to economic growth more than often serve pretext for various forms state expansionism. Not long after the publication of "Prosperity without growth: Economics for a finite planet", Tim Jackson (2009) gave a *TEDGlobal* talk entitled "An economic reality check". In this talk, Jackson first evoked the scale and urgency of the climate challenge and then proceeded to a demonstration that "the economic system that we have" is not remotely capable of meeting this challenge. To make his point, Jackson drew on "systems dynamics". "It's a bit complex", he apologised, and then displayed the "strikingly simple" (Jackson, 2009, p. 90) model depicted in Figure 1.



Source(s): Jackson (2009), p. 91

Figure 1. The "Engine of Growth" in market economies

In his own words, Jackson’s (2009, p. 90) figure describes that

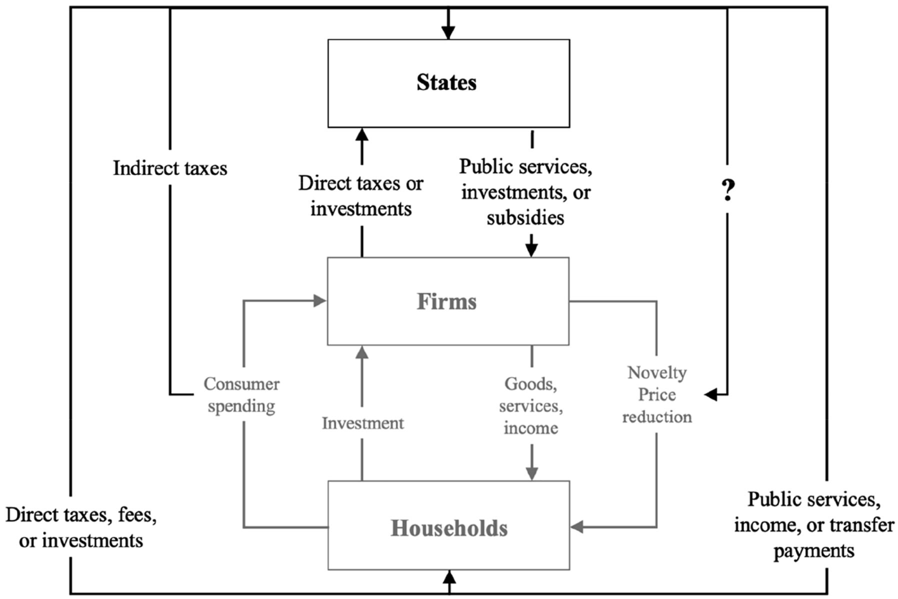
> (F)irms employ labour (people) and capital (buildings and machinery) to produce the goods and services that households want and need. Households (people) offer up their labour and capital (savings) to firms in exchange for incomes. Revenue from the sale of goods and services is what allows firms to provide people with incomes. People spend some of this income on more consumer goods. But some of it they save. These savings are invested (directly or indirectly) back into firms. This, in a nutshell, is the “circular flow” of the economy.

As the purpose of the model is to illustrate how central growth is to “consumer capitalism” (Jackson, 2009, p. 90), the key part of the figure is the inner circle of investment and novelty. Investments drive growth because investors want to “get their money back with interest” (Jackson, 2009, p. 92). Firms also need to reinvest part of their earnings to maintain or improve their capacity to compete for customers and future investment. To achieve this, firms develop new products, services or business models. Households are locked-into this system as “novelty has always carried information about social status” (Jackson, 2009, p. 98), which means that households either buy new products or services to stand out from the crowd or wait for business model innovations that render innovations more affordable and help them keep up with the Joneses. As either strategy requires a constant supply of novelties, “(b)usiness innovation (creative destruction) and consumer demand (novelty seeking) will (. . .) drive consumption” (Jackson, 2009, p. 118) and fuel an engine of growth that is on collision course with “the ecological limits of a finite planet (Jackson, 2009, p. 16).

The most interesting part of Figure 1, however, is what is not shown on it. While Jackson (2009, p. 90f) concedes that, among others, the elephant in the room “called the public sector (government)” is “(m)issing from this oversimplified picture of the economy”, he insists that depictions of state involvement the economy would “complicate the basic simplicity of” his model.

If one takes on this task, however, the resulting model is still manageable (see Figure 2).

Far from being complete itself, Figure 2 complements the model in Figure 1. In line with the above systems-theoretical considerations, the state is depicted not as an encompassing system



Source(s): Author’s own work

Figure 2. The state as one component of the “Engine of Growth” in (market) economies

that contains the economy of "its" territory, but rather as one, though perhaps a very influential participant in the economy. Thus extending the original model by Jackson (2009), one finds that the state participates in the economy by levying direct or indirect taxes on both households and firms. States may also draw investments from both households and firms, e.g. via government bonds. On the other hand, the state also spends money for public services for households and firms, investments in and subventions for firms, or transfer payments to households deemed in need of them. The state also acts as an employer and thus transfers labour income to households.

For this "state business model" to work, the state must ensure that these expenses do not exceed its income (or otherwise incur debts). If expenses cannot be reduced, and this is the rule rather than the exception particularly for modern welfare states with ageing populations, then the remaining option is to increase income. Simply raising taxes is not necessarily a solution though as one tax can cannibalise the other. Higher direct household taxes, for example, might results in lower consumer spending and thus in lower VAT and business tax incomes. One way to solve the equation, however, is to inflate and speed up the entire business cycle depicted in Figure 2. The more and the more often households consume goods or services, the higher the state income from all types of taxes. The only question is "How?" (Thus the "?" in Figure 2).

As these considerations show, states are systematically locked into Jackson's (2009) "Engine of Growth" at least as much as are firms and households. States have therefore developed various strategies to "favor the emergence of entirely new industries by funding private innovation" (Demil, 2020) as well as to "co-create" and "co-shape" markets and thus "tilt the playing field towards" (Mazzucato, 2014, p. 144) the desired tax outcomes (see Table 1).

As Table 1 shows, states have four basic options to achieve desired economic outcomes. On the one hand, states may resort to direct monetary interventions and, for example, subsidise (supposedly) innovative firms or industries or make transfer payments to households that adopt new technologies early. On the other hand, states may invest in non-economic conditions of economic prosperity such as (public) research or higher education. In either case, states pursue their economic missions by acting as one economic player among others. This implies that states mobilise considerable amounts of money for investments that may be misguided. States may well pick and subsidise "winning" inventions, yet there is no guarantee that these handpicked inventions turn into broadly adopted innovations that keep the growth engine running and thus generate the sustainably growing tax revenues required not least for their debt service. Yet, states can manage these risks in ways unavailable to organisations that are not equipped with a monopoly on violence. Depending on their regime, states or federations of states can decree, or need to pass a law, that some technologies must adopted or not be used anymore, like in the case of the meanwhile relaxed EU ban of the sale of new cars with combustion engines. The used car market, too, can be reshaped like in France, where cars not meeting increasingly demanding emission standards are or will soon be excluded from driving

Table 1. Types and examples of strategies that states may pursue to increase future tax income

State interventions	Monetary	Non-monetary
Direct	Direct subventions for innovative firms and industries Purchase grants for early adopters of new technologies	Legislations or regulations that mandate the use of new, or outlaw or complicate the use of old technologies
Indirect	Funding of public (-private) research on new technologies Funding of public education	Propaganda for industrial revolutions, sustainability transitions, and other missions

Source(s): Author's own work

in or to the centre of a growing number of urban agglomerations; because of this political variant of "planned obsolescence", drivers will need to buy newer cars more often if they still wish to reach city centres by car. State agencies can also grant privileges to early adaptors of new technologies such as the right for electric car drivers to use bus lanes in the UK, Lithuania and many other countries. Such non-monetary interventions can destroy existing markets and create direct pressure for firms and households to invest in or buy new products even though their old products are still in demand and working. This inexpensive non-monetary strategy to generate new economic transactions and thus tax revenue is often flanked by indirect non-monetary interventions such as propaganda for certain missions that justify forced pushes to novelty. In this context, state university members, too, have a role to play.

It is particularly with regard to non-monetary interventions that state entrepreneurship appears problematic. Whereas many states define and "fix" as market failure the existence of temporary monopolies in some niches of "their" economic market, most states claim and defend their own monopoly on violence and use this non-economic monopoly to pursue both non-economic and economic missions. The use of political power for economic benefits, however, is normally referred to as corruption.

4. Mandated obsolescence: cases of a state business model

In their article "Designed to Break: Planned Obsolescence as Corporate Environmental Crime", Bisschop *et al*. (2022) argue that planned obsolescence – the deliberate design of products with a limited lifespan to encourage replacement – should be recognised as a form of corporate environmental crime. The authors examine how this practice contributes to excessive waste and environmental harm and analyse it through the lens of corporate crime literature, emphasising the ethical and legal implications of such business strategies. Most notably, the authors highlight the aspect of *perceived obsolescence*, a marketing strategy where newer products make older ones seem outdated, even if the latter are still fully functional. If successful, this strategy motivates continuous product updates, thus driving continuous consumption and contributing to environmental degradation. The authors advocate for greater scrutiny from both policymakers and law enforcement authorities to address planned obsolescence as a significant contributor to environmental harm and to consider it within the realm of criminal behaviour.

In applying this perspective on planned obsolescence, the example of the German Building Act (GEG) or French policies based on real estate Energy Performance Certificate (EPC) policies might be cases in point.

4.1 The German Building Energy Act

Introduced during the first year of the coronavirus crisis, *The German Building Energy Act* ("Gebäudeschutzgesetz", GEG) is part of Germany's strategy to decarbonise the building sector as part of the country's broader ambitions to meet climate goals in alignment with the Paris Agreement. The legislation mandates the replacement of old heating systems with more energy-efficient and environmentally friendly alternatives, such as heat pumps or hybrid systems. At the time of writing in August 2024, there is still debate as to whether wood energy-based heating systems ought to be counted among these alternatives.

A significant aspect of the GEG, however, pertains to phased ban on installing oil and gas heating systems in existing buildings. The initial idea was that by 2024, new installations of pure oil and gas heating systems would be banned and that by 2045, the entire building sector would be climate neutral. To facilitate this transition, the government offered subsidies and incentives for homeowners and landlords to upgrade their heating systems to more sustainable options.

However, this policy, which effectively mandates the obsolescence of existing heating systems, has sparked debate due to the financial strain it places on homeowners as well as the overall approach by the responsible minister, which was perceived as top-down and moralistic.

There are also concerns about whether renewable energy technologies can meet the increased electricity demand, paired with concerns pertaining to the long-term developments in electric energy prices. As a result, the implementation of the policy was postponed to a date when German municipalities have implemented a Municipal Heat Planning, which might or might not be the case by June 2028.

As an immediate reaction, however, the announcement of the GEG triggered record sales of oil- and particularly gas-heating system as homeowners and landlords aimed to upgrade their conventional systems before the initial 2024 deadline (Hyun, 2024: Spiegel). Through this unintended side-effect, the GEG positively acted as a marketing campaign for precisely those heating systems whose replacement it aimed to accelerate. As a result, still operational conventional systems were replaced by conventional systems, and this well before the end of their product lifespan. Thus, the environmental impact of this policy is worse than without it, while the tax result is clearly positive (particularly if one considers the otherwise high propensity to save during the coronavirus crisis). Next to the environment, the main losers of the policy so far appear to be the homeowners, who sacrificed money and several years or decades of product lifespan, and producers of heat pumps and similar sustainable technologies, who had prepared for record sales while German consumers have, at the time of writing, remained reluctant of buying them (as well electric cars) (Wetzel, 2024).

This case illustrates not only how state-mandated policies can lead to the planned obsolescence of existing technologies, but also the complexities and challenges associated with such policies, including unintended side-effects that question the environmental effectiveness of this particular mandated obsolescence strategy. In fact, if a state mandated form of planned obsolescence leads to increased sales of presumably environmentally unsustainable heating systems, then its effect would be similar to that caused by the environmental crimes discussed in Bisschop *et al*. (2022).

4.2 Real estate Energy Performance Certificates (EPC)

For a long time, the French real estate sector was primarily driven by market forces, with indicators such as labels, quality signs, information and economic incentives playing a pivotal role. However, in 2021, public real estate policy underwent a significant shift with the introduction of new measures aimed at eliminating so-called energy slums from the rental market. These are properties that consume, according to government decrees, excessive amounts of energy. This new policy is rooted in a specific market mechanism, the EPC, which has been in place across Europe for around two decades now to assess the energy efficiency of residential properties. The EPC rates dwellings from A to G on their energy consumption, with lower-rated homes defined as less efficient. “Energy slums” are those rated F and G on this scale, particularly referring to individual homes or units within multi-unit buildings with undesired amounts of energy consumption.

This reform includes gradually tightening the EPC standards and strengthening their enforcement, while also excluding energy inefficient homes from future rentals starting in 2025. As a result, properties still deemed energy efficient in 2025 might be defined as inefficient in 2035, and thus be gradually excluded from real estate market. As always, the goal of this policy is to promote environmental sustainability while addressing disparities between different housing types and their occupants by encouraging necessary renovations through the lever of removing such inefficient options from the rental market.

This case is particularly interesting insofar as the state uses strategies of planned obsolescence to define the period in which a certain asset can be used as what Marxists refer to as “productive forces”.

4.3 The French Crit’Air system

In the context of its *Energy Transition for Green Growth Act* (“Loi relative à la transition énergétique pour la croissance verte”), France introduced the Crit’Air in 2016. Crit’Air is an emission-based air quality certificate system that categorises vehicles into six classes ranging from 0 (electric or hydrogen vehicles) to 5 (for the oldest, most polluting vehicles). The category is determined by factors like the vehicle's age, fuel type or European emissions standard.

Within this framework, several major French cities, including Paris, Marseille, Lyon, Strasbourg and Grenoble, have defined Low Emission Zones (ZFE). Vehicles with higher Crit'Air numbers (such as Crit'Air 5, 4 or even 3) are either restricted or completely banned from entering during certain times or on certain days, particularly during high pollution periods. For example, the author's car, a well-maintained Audi A6 Diesel manufactured in 2006 years ago, belongs to Crit'Air class 4 and is therefore banned from driving in the city of Paris on weekdays. Drivers who enter restricted zones with non-compliant vehicles can face fines. Overall, this legislation is designed to progressively tighten restrictions with the ultimate goal of phasing out older, more polluting vehicles from urban centres. Consequently, this legislation represents a clear example of how a government is using regulatory measures to enforce the gradual obsolescence of fully functional vehicles well before the end of their product lifespan and their replacement by new cars alternatives.

Again, the overall ambition of reducing pollution seems noble, yet some doubts arise if one considers that the concept of pollution has recently been extended to include noise pollution (Yeung, 2022), with the result being that drivers of particularly noisy, and thus typically again older, vehicles are effectively banned from the Paris city centre, too. This aspect suggests that strategies of state-mandated planned obsolescence are not necessarily limited to climate change mitigation but may also be driven by the interests of relatively small groups. In either case, the resulting need for continuous updates inevitably has some financial benefits for one of the world's largest car manufacturers, especially if these French examples set a precedent worldwide.

4.4 A mandated system of planned-obsolescent health treatments

Though inspired by recent history, the following state-mandated obsolescence business model is fictitious.

During the coronavirus crisis, individual rights, such as freedom of movement, were significantly restricted. Later in the crisis, some of these rights were conditionally restored to individuals who adhered to specific health measures. For instance, in autumn 2021, two German federal states decreed that individuals who had received a booster vaccination were exempt from the requirement to present a COVID test before entering certain venues such as restaurants, bars, clubs, museums, cinemas or shops. In contrast, persons with "only" two vaccinations were required to show an additional test, while those without any vaccination were entirely excluded. The basic situation of those days is summarised in Table 2.

Examining Table 2 reveals that the policy at the time functioned as an incentive system designed to encourage persons to get vaccinated. When further considering that the privileges granted to "boostered" persons were time-limited and required regular booster vaccination updates to maintain, one can easily imagine a scenario in which states might tacitly or overtly mandate vaccinations or other health treatments whose effects are defined to be obsolete after a certain period. As a result, the state could make participation in social life contingent on health treatments that require regular screenings and updates, also leading to a regular flow of funds

Table 2. Incentive structure for vaccination updates during the coronavirus crisis

Health status	Legal status
Booster vaccination	Freedom of movement without test
Two vaccinations (or documented recovery)	Freedom of movement with test
No vaccination	No freedom of movement

Source(s): Author's own work

from public health insurances to health service providers, including states, corporations or public–private partnerships. The moral assessment of such state-mandated planned obsolescence models then hinges on whether the respective health treatments are evaluated as effective and for whom.

4.5 Summary

The cases presented in this section differ from the few reported classical cases of dark side state entrepreneurship, such as the Montenegrin post-socialist smuggling economy depicted in Clapp (2024), in that they focus on the aspect of mandated obsolescence and pertain to states that are commonly not associated with high levels of corruption or criminal subversion. Nevertheless, these cases shown that mandated obsolescence strategies may push the limits of what citizens can be politically, legally and ethically expected to accept or endure from their governments. This is particularly true when such strategies are implemented not only in the pursuit of higher goals, such as climate change mitigation, but also result in economic benefits for the organisations implementing them. Even if these beneficial economic outcomes were merely side-effects of a supposedly nobler mission, then this mission would ultimately serve an educational purpose. This raises the question whether such forms of education truly represent yet another necessary mission that citizens must, for their own sake, entrust to an organisation equipped with the monopoly on violence, or whether this idea is an expression of an antiquated, paternalist understanding of statehood.

5. Conclusions

This article shows that state entrepreneurship is problematic not only when states are corrupt or tolerate, abet or actively engage in other forms of "criminal entrepreneurship" such as drug trafficking, privateering, cyber-attacks on foreign enterprises, or the selling of internationally prohibited weapons (see the case of the post-socialist Montenegrin state depicted in Clapp, 2024).

States participate in the economy like most other organisations, and in doing so, they pursue their own missions and interests. As organisations claiming a monopoly on power, however, states have competitive advantages that are systematically unavailable to other organisations. These include the ability to leavy taxes that can be reinvested in ways that generate more taxes.

One way to invest taxes are subsidies aimed at stimulating innovation and growth. Paradoxically, this practice has recently been shown to create in the private sector a complementary form of "subsidy entrepreneurship" (Gustafsson *et al.*, 2020) that allows relatively unproductive firms to compete with more productive ones simply "by reallocating labor from productive work to grant seeking" (Gustafsson *et al.*, 2020, p. 459). The underlying state investment strategy might therefore be self-defeating as it leads to more "unproductive entrepreneurship" (Baumol, 1996; Klein *et al.*, 2010) and does not generate more state revenue. The strategy might also abet extreme forms of "crony entrepreneurship" (Autio and Fu, 2015) whenever states do not just "pick winners" among the productive firms but offer "clear rewards for businesses willing to" (Mazzucato, 2021, p. 62) support the state and its missions in more or *less* productive ways.

Another way to achieve its goals is for the state to act as creative destroyer. As organisations equipped with a monopoly on violence, states cannot only participate in the economy and change it from within but also attempt to forcibly shape or destroy markets from outside. Creatively destructive forms of state entrepreneurship may therefore involve strategies of mandated obsolescence where firms or households are forced by law or decree to replace working products by cleaner, smarter or simply other ones whenever the state sees fit. While such state-mandated planned obsolescence strategies may be justified by various noble intentions or higher goals, they interestingly contradict other public environmental policies such as those aimed at the reduction of waste from electronic and electric equipment (EEE) that underly, among others, the French Repairability Index mandated by a 2020 French law on waste. As of 2021, this law requires producers to display on EEEs an index ranging from 1 to 10, indicating their presumed reparability. The above case of the French Crit'Air system, which is aimed at phasing out fully functional cars despite their functionality and reparability, is therefore a case in point for a considerable performative contradiction between different environmental policies, yet only with regard to environmental goals, as a mandated transition to a repairing economy would still imply tax revenues from repairing service providers.

In any case, the tax revenues generated by state-mandated planned obsolescence strategies are more than a side effect. The suspicion that noble goals, such as climate change mitigation, only serve as a pretext for accelerations of business cycles and generating higher tax revenues can only be dispelled if states clearly explained how their own business models would work in a truly sustainable economy, which would be likely characterised by decelerated business cycles. This pending explanation is particularly critical as states evoke these noble goals to justify increasing public debts. In this context, it remains unclear how increasingly indebted states plan to repay the debts incurred ostensibly for investing in the creation of business models that would ultimately results in reduced state revenues.

So far, "planned obsolescence" has mainly been discussed as an environmentally problematic *business* practice (Bisschop *et al.*, 2022) and thus as reason for state interventions. A research agenda on state-mandated planned obsolescence and its side effects is therefore an important avenue for a more comprehensive and balanced understanding of state entrepreneurship. In this context, it is also necessary to examine to what extent Green New Deals and other sustainable economic missions constitute functional equivalents, variants or continuations of classical ideologies or cycles of (mandatory) economic growth (forced), creative destruction and (designed) industrial revolutions. This line of research could be complemented by more general comparative analysis of state business models. Here, too, a multifunctional approach can provide valuable insights, comparing not least business models of states who have outsourced the state's political core mission, the provision national security, to military superpowers as compared to the models of the providing superpowers.

Although none of the state entrepreneurship strategies discussed in this article are altruistic, their implementation is often legitimised by the idea of market failures, against the backdrop of which the state "cannot limit itself to reactively fixing markets but must explicitly co-shape markets to deliver the outcomes society needs" (Mazzucato, 2014, p. 33). The irony here is that, as one might recall, "harmful entrepreneurship" is defined as situations where entrepreneurs exploit "market imperfections" like asymmetries of information *or power* "for their wealth at the cost of others" (Antony *et al.*, 2017, p. 190). This definition applies to entrepreneurial states that exploit the concept of market failure to justify interventions from which they benefit both politically and financially.

In reviewing further definitions of dark side entrepreneurship as presented in Section 2, one finds that it depends much on a state's regime, or one's opinion about it, whether state entrepreneurship may also be characterised as anti-social, parasitic or predatory. There can be no doubt, however, that entrepreneurship pursued by an organisation endowed with monopoly on violence is at least tacitly violent. Ideas that entrepreneurial states must develop "new instruments (. . .) capable of ensuring that the state (. . .) has the possibility of capturing a fair share of rewards" (Laplane and Mazzucato, 2020, p. 8), play a more active role in "steering the market towards fairer outcomes" (Schwab and Malleret, 2020), and act "more like a market shaper: steering innovation, getting fair prices, ensuring that patents and competition work as intended" (Mazzucato, 2021, p. 132), therefore, imply consent with or advocacy for a situation where the terms of trade and fairness are defined by a player who can, in case of doubt, systematically "get more with a kind word *and a gun*". It is doubtful whether one could call it fair that such an at least latently violent player shapes economic markets in ways that are economically beneficial to it.

Kind words for expansions of the state's power of creative destruction are the more problematic as states are neither neutral nor omniscient nor even exceptionally gifted in playing an entrepreneurial role; and this is not even denied by advocates of sanguine state entrepreneurship:

> Keynes famously said that in desperate times, digging a hole and filling it up again was better than doing nothing. And Galbraith also made a similar argument: For even when the state exercises artistically imperfect control over environment, the result will be better than when there is none at all. In the late twenties and early thirties the planners and architects of Washington DC swept clear an area between Pennsylvania and Constitution Avenues to build a vast block of buildings called the Federal Triangle. The Triangle is unimaginative, derivative and pretentious. Artists rightly condemned it. But it is far better than the cabbage patch of buildings it replaced. In its general cohesiveness it has come to be admired in comparison with those parts of the city where no similar effort was ever made. (Mazzucato, 2021, p. 177)

Obviously a form of occupational therapy for desperate times, state entrepreneurship systematically implies destruction that makes room for new, though not always better (Trubnikov, 2021), creations. Particularly the above case of real estate EPC and their role in the acceleration of both the ecological transitions and business cycles through the phasing-out of blends nicely into an essentially archaic strategy of declaring certain areas as slums ("energy slums in the contemporary variant) that must give way for whatever is currently perceived to be progress. Historical examples range from the construction of Haussmann's boulevards in Paris to the rebuilding of Rome after the Great Fire in 64 AD. The latter example remains particularly relevant today. Not only was "malicious arson" one of the earliest forms of "dark side entrepreneurship" discussed in academic literature (Bradley *et al.*, 2021), but the reconstruction programme – dubbed "Nero's New Deal" by Thornton (1971) – included not only monumental statues of the emperor himself but also substantial increases of taxes and tributes, as well as the first serious, deliberate devaluation of Rome's currency (Barrett, 2020).

Assessing the bright and dark sides of state entrepreneurship therefore requires looking beyond the moral qualities and face values of the goals for which it is pursued. True, the self-divinisation of an emperor may be a different beast than the self-diabolisation or -preservation of mankind. But even if today's missions are different in *content* from those of ancient times, there is little to suggest that "This time is different" (Reinhart and Rogoff, 2009) with regard to the inherent *formal* contradictions and ambivalent outcomes of state entrepreneurship. It is therefore the more important to conduct more research to understand how and at what costs states undertake their entrepreneurial missions.

References

Aidis, R. and Van Praag, M. (2007), "Illegal entrepreneurship experience: does it make a difference for business performance and motivation?", *Journal of Business Venturing*, Vol. 22 No. 2, pp. 283-310, doi: 10.1016/j.jbusvent.2006.02.002.

Akcigit, U. and van Reenen, J. (2023), *The Economics of Creative Destruction: New Research on Themes from Aghion and Howitt*, Harvard University Press, Cambridge, MA.

Al-Qudah, A.A., Al-Okaily, M. and Alqudah, H. (2022), "The relationship between social entrepreneurship and sustainable development from economic growth perspective: 15 "RCEP" countries", *Journal of Sustainable Finance and Investment*, Vol. 12 No. 1, pp. 44-61, doi: 10.1080/20430795.2021.1880219.

Anand, A., Argade, P., Barkemeyer, R. and Salignac, F. (2021), "Trends and patterns in sustainable entrepreneurship research: a bibliometric review and research agenda", *Journal of Business Venturing*, Vol. 36 No. 3, 106092, doi: 10.1016/j.jbusvent.2021.106092.

Anderson, A.R. and Smith, R. (2007), "The moral space in entrepreneurship: an exploration of ethical imperatives and the moral legitimacy of being enterprising", *Entrepreneurship and Regional Development*, Vol. 19 No. 6, pp. 479-497, doi: 10.1080/08985620701672377.

Antonopoulos, G.A. and Mitra, J. (2009), "The hidden enterprise of bootlegging cigarettes out of Greece: two schemes of illegal entrepreneurship", *Journal of Small Business and Entrepreneurship*, Vol. 22 No. 1, pp. 1-8, doi: 10.1080/08276331.2009.10593438.

Antony, J., Klarl, T. and Lehmann, E.E. (2017), "Productive and harmful entrepreneurship in a knowledge economy", *Small Business Economics*, Vol. 49 No. 1, pp. 189-202, doi: 10.1007/s11187-016-9822-x.

Autio, E. and Fu, K. (2015), "Economic and political institutions and entry into formal and informal entrepreneurship", *Asia Pacific Journal of Management*, Vol. 32 No. 1, pp. 67-94, doi: 10.1007/s10490-014-9381-0.

Barrett, A.A. (2020), *Rome Is Burning: Nero and the Fire that Ended a Dynasty*, Princeton University Press, Princeton, NJ.

Baucus, M.S. and Mitteness, C.R. (2016), "Crowdfrauding: avoiding Ponzi entrepreneurs when investing in new ventures", *Business Horizons*, Vol. 59 No. 1, pp. 37-50, doi: 10.1016/j.bushor.2015.08.003.

Baumol, W.J. (1996), "Entrepreneurship: productive, unproductive, and destructive", *Journal of Business Venturing*, Vol. 11 No. 1, pp. 3-22, doi: 10.1016/0883-9026(94)00014-x.

Bisschop, L., Hendlin, Y. and Jaspers, J. (2022), "Designed to break: planned obsolescence as corporate environmental crime", *Crime, Law and Social Change*, Vol. 78 No. 3, pp. 271-293, doi: 10.1007/s10611-022-10023-4.

Bocken, N.M. and Short, S.W. (2021), "Unsustainable business models–Recognising and resolving institutionalised social and environmental harm", *Journal of Cleaner Production*, Vol. 312, 127828, doi: 10.1016/j.jclepro.2021.127828.

Borozan, D., Arneric, J. and Coric, I. (2017), "A comparative study of net entrepreneurial productivity in developed and post-transition economies", *International Entrepreneurship and Management Journal*, Vol. 13 No. 1, pp. 855-880.

Boudreaux, C.J., Nikolaev, B.N. and Holcombe, R.G. (2018), "Corruption and destructive entrepreneurship", *Small Business Economics*, Vol. 51 No. 1, pp. 181-202, doi: 10.1007/s11187-017-9927-x.

Box, M., Gratzer, K. and Lin, X. (2020), "Destructive entrepreneurship in the small business sector: bankruptcy fraud in Sweden, 1830-2010", *Small Business Economics*, Vol. 54 No. 2, pp. 437-457, doi: 10.1007/s11187-018-0043-3.

Bradley, S.W., Kim, P.H., Klein, P.G., McMullen, J.S. and Wennberg, K. (2021), "Policy for innovative entrepreneurship: institutions, interventions, and societal challenges", *Strategic Entrepreneurship Journal*, Vol. 15 No. 2, pp. 167-184, doi: 10.1002/sej.1395.

Casasnovas, G. (2023), "When States Build Markets: policy support as a double-edged sword in the UK social investment market", *Organization Studies*, Vol. 44 No. 2, pp. 229-252, doi: 10.1177/01708406221080133.

Champeyrache, C. (2018), "Destructive entrepreneurship: the cost of the mafia for the legal economy", *Journal of Economic Issues*, Vol. 52 No. 1, pp. 157-172, doi: 10.1080/00213624.2018.1430947.

Clapp, A. (2024), "'Rip their skin off'. Alexander Clapp in Montenegro", *London Review of Books*, Vol. 46 No. 8.

Cumming, D., Hornuf, L., Karami, M. and Schweizer, D. (2021), "Disentangling crowdfunding from fraudfunding", *Journal of Business Ethics*, Vol. 182 No. 4, pp. 1103-1128, doi: 10.1007/s10551-021-04942-w.

Demil, B. (2020), "Reintroducing public actors in entrepreneurial dynamics: a co-evolutionary approach to categorization", *Strategic Entrepreneurship Journal*, Vol. 14 No. 1, pp. 43-65, doi: 10.1002/sej.1335.

Dey, P., Fletcher, D. and Verduijn, K. (2023), "Critical research and entrepreneurship: a cross-disciplinary conceptual typology", *International Journal of Management Reviews*, Vol. 25 No. 1, pp. 24-51, doi: 10.1111/ijmr.12298.

Enderwick, P. (2019), "Understanding cross-border crime: the value of international business research", *Critical Perspectives on International Business*, Vol. 15 Nos 2-3, pp. 119-138, doi: 10.1108/cpoib-01-2019-0006.

Fagerberg, J. (2018), "Mobilizing innovation for sustainability transitions: a comment on transformative innovation policy", *Research Policy*, Vol. 47 No. 9, pp. 1568-1576, doi: 10.1016/j.respol.2018.08.012.

Foss, K. and Foss, N.J. (2002), “Economic organization and the tradeoffs between productive and destructive entrepreneurship”, in Foss, N.J. and Klein, P. (Eds), *Entrepreneurship and the Firm*, Edward Elgar, Aldershott, UK.

Foss, K. and Foss, N.J. (2008), “Understanding opportunity discovery and sustainable advantage: the role of transaction costs and property rights”, *Strategic Entrepreneurship Journal*, Vol. 2 No. 3, pp. 191-207, doi: 10.1002/sej.49.

Foss, N.J., Klein, P.G. and Murtinu, S. (2022), “The economy doesn’t need a reset, and neither does management theory”, *Scandinavian Journal of Management*, Vol. 38 No. 3, 101214, doi: 10.1016/j.scaman.2022.101214.

Garud, R. and Gehman, J. (2012), “Metatheoretical perspectives on sustainability journeys: evolutionary, relational and durational”, *Research Policy*, Vol. 41 No. 6, pp. 980-995, doi: 10.1016/j.respol.2011.07.009.

George, G., Merrill, R.K. and Schillebeeckx, S.J. (2021), “Digital sustainability and entrepreneurship: how digital innovations are helping tackle climate change and sustainable development”, *Entrepreneurship Theory and Practice*, Vol. 45 No. 5, pp. 999-1027, doi: 10.1177/1042258719899425.

Goodall, O. (2021), “Rural criminal collaborations and the food crimes of the countryside: realist social relations theory of illicit venison production”, *Crime, Law and Social Change*, Vol. 78 No. 5, pp. 483-505, doi: 10.1007/s10611-021-09976-9.

Goodall, O. (2023), “The rural enterprise crime complex: “undefendable rural space” and the threat from the fortress farm”, *Crime, Law and Social Change*, Vol. 80 No. 2, pp. 215-235, 10.1007/s10611-023-10084-z.

Goodman, P.S. (2022), *Davos Man. How the Billionaires Devoured the World*, Harper Collins, New York.

Gottschalk, P. (2009), *Entrepreneurship and Organised Crime: Entrepreneurs in Illegal Business*, Edward Elgar Publishing.

Gustafsson, A., Tingvall, P.G. and Halvarsson, D. (2020), “Subsidy entrepreneurs: an inquiry into firms seeking public grants”, *Journal of Industry, Competition and Trade*, Vol. 20 No. 3, pp. 439-478, doi: 10.1007/s10842-019-00317-0.

Gutierrez, E.D. (2021), “Criminal entrepreneurs as pioneers, intermediaries, and arbitrageurs in borderland economies”, *International Journal of Drug Policy*, Vol. 89, 103091, doi: 10.1016/j.drugpo.2020.103091.

Gutierrez, E.D. (2023), “Precarity, illicit markets, and the “mystery” of prices”, *Journal of Peasant Studies*, Vol. 51 No. 4, pp. 1-41, doi: 10.1080/03066150.2023.2219208.

Heber, A. (2009), “Networks of organised black market labour in the building trade”, *Trends in Organized Crime*, Vol. 12 No. 2, pp. 122-144, doi: 10.1007/s12117-008-9060-y.

Holcombe, R.G. (2002), “Political entrepreneurship and the democratic allocation of economic resources”, *The Review of Austrian Economics*, Vol. 15 Nos 2/3, pp. 143-159, doi: 10.1023/a:1015758419984.

Hyun, B. (2024), “Rückschlag für Habeck: Run auf Öl- und Gasheizungen – Entwicklung bei der Wärmepumpe enttäuscht”, *Merkur*, (22 February 2024).

Jackson, T. (2009), *Prosperity without Growth: Economics for a Finite Planet*, Routledge, London.

Jacobides, M.G., Cennamo, C. and Gawer, A. (2018), “Towards a theory of ecosystems”, *Strategic Management Journal*, Vol. 39 No. 8, pp. 2255-2276, doi: 10.1002/smj.2904.

Jones, C. and Spicer, A. (2009), *Unmasking the Entrepreneur*, Edward Elgar, Cheltenham, UK.

Kaivo-oja, J. (2014), “Three theoretical approaches to pirate entrepreneurship: towards future studies of pirate entrepreneurship”, *International Journal of Entrepreneurship and Small Business*, Vol. 22 No. 4, pp. 449-465, doi: 10.1504/ijesb.2014.064268.

Kivimaa, P., Laakso, S., Lonkila, A. and Kaljonen, M. (2021), “Moving beyond disruptive innovation: a review of disruption in sustainability transitions”, *Environmental Innovation and Societal Transitions*, Vol. 38, pp. 110-126, doi: 10.1016/j.eist.2020.12.001.

Klein, P., Mahoney, J.T., Mc Gahan, A.M. and Pitelis, C.N. (2010), "Toward a theory of public entrepreneurship", *European Management Review*, Vol. 7 No. 1, pp. 1-15, doi: 10.1057/emr.2010.1.

Kramer, R.C., Michalowski, R.J. and Kauzlarich, D. (2002), "The origins and development of the concept and theory of state-corporate crime", *Crime and Delinquency*, Vol. 48 No. 2, pp. 263-282, doi: 10.1177/0011128702048002005.

Laplane, A. and Mazzucato, M. (2020), "Socializing the risks and rewards of public investments: economic, policy, and legal issues", *Research Policy*, Vol. 49, 100008, doi: 10.1016/j.repolx.2020.100008.

Lerman, M.P., Munyon, T.P. and Williams, D.W. (2021), "The (not so) dark side of entrepreneurship: a meta-analysis of the well-being and performance consequences of entrepreneurial stress", *Strategic Entrepreneurship Journal*, Vol. 15 No. 3, pp. 377-402, doi: 10.1002/sej.1370.

Luhmann, N. (1979), *Trust and Power*, John Wiley and Sons, Chichester.

Luhmann, N. (1990), *Political Theory in the Welfare State*, de Gruyter, Berlin.

Lundmark, E. and Westelius, A. (2019), "Antisocial entrepreneurship: conceptual foundations and a research agenda", *Journal of Business Venturing Insights*, Vol. 11, e00104, doi: 10.1016/j.jbvi.2018.e00104.

Manjon, M.J., Merino, A. and Cairns, I. (2022), "Business as not usual: a systematic literature review of social entrepreneurship, social innovation, and energy poverty to accelerate the just energy transition", *Energy Research and Social Science*, Vol. 90, 102624, doi: 10.1016/j.erss.2022.102624.

Markard, J., Raven, R. and Truffer, B. (2012), "Sustainability transitions: an emerging field of research and its prospects", *Research Policy*, Vol. 41 No. 6, pp. 955-967, doi: 10.1016/j.respol.2012.02.013.

Matos, S. and Hall, J. (2020), "An exploratory study of entrepreneurs in impoverished communities: when institutional factors and individual characteristics result in non-productive entrepreneurship", *Entrepreneurship and Regional Development*, Vol. 32 Nos 1-2, pp. 134-155, doi: 10.4324/9781003176107-7.

Mazzucato, M. (2011), *The Entrepreneurial State*, Allen Lane, London.

Mazzucato, M. (2014), *The Entrepreneurial State. Debunking Public vs. Private Sector Myths*, Anthem Press, London and New York.

Mazzucato, M. (2020), "The Covid-19 crisis is a chance to do capitalism differently", *The Guardian*, (18 March 2020).

Mazzucato, M. (2021), *Mission Economy: A Moonshot Guide to Changing Capitalism*, Penguin UK, London.

McElwee, G., Smith, R. and Sommerville, P. (2011), "Theorising illegal rural enterprise: is everyone at it?", *International Journal of Rural Criminology*, Vol. 1 No. 1, pp. 40-62, doi: 10.18061/1811/51127.

McGowan, K. and Antadze, N. (2023), "Recognizing the dark side of sustainability transitions", *Journal of Environmental Studies and Sciences*, Vol. 13 No. 2, pp. 1-6, doi: 10.1007/s13412-023-00813-0.

Mehlum, H., Moene, K. and Torvik, R. (2003), "Predator or prey? Parasitic enterprises in economic development", *European Economic Review*, Vol. 47 No. 2, pp. 275-294, doi: 10.1016/s0014-2921(01)00194-5.

Mokhiber, R. and Weissman, R. (1999), "Corporate predators: the hunt for mega-profits and the attack on democracy", Monroe, ME: Common Curage.

Mulgan, G. (2015), *The Locust and the Bee: Predators and Creators in Capitalism's Future*, Princeton University Press, Princeton, NJ.

Murtinu, S., Foss, N.J., Klein, P.G., Wennberg, K. and Sandström, C. (2022), "The entrepreneurial state: an ownership competence perspective", in Wennberg, K. and Sandström, C. (Eds), *Questioning the Entrepreneurial State: Status-Quo, Pitfalls, and the Need for Credible Innovation Policy*, Springer, Cham, CH, pp. 57-75.

Olaison, L. and Sørensen, B.M. (2014), “The abject of entrepreneurship: failure, fiasco, fraud”, *International Journal of Entrepreneurial Behavior and Research*, Vol. 20 No. 2, pp. 193-211.

Ong, A. (2022), “An anthropologist at Davos: civilization reimagined from the top of the world”, *Current Anthropology*, Vol. 63, S25, pp. S128-S147, doi: 10.1086/722368.

Pennington, M. (2022), “The missionary theory of industrial policy: lessons from the pandemic response”, *Paper to the 75th Anniversary General Meeting of the Mont Pelerin Society in Oslo*, 4-8 October 2022.

Qin, X., Shepherd, D.A., Lin, D., Xie, S., Liang, X. and Lin, S. (2022), “The dark side of entrepreneurs’ creativity: investigating how and when entrepreneurs’ creativity increases the favorability of potential opportunities that harm nature”, *Entrepreneurship Theory and Practice*, Vol. 46 No. 4, pp. 857-883, doi: 10.1177/1042258720915582.

Reinhart, C.M. and Rogoff, K.S. (2009), *This Time Is Different: Eight Centuries of Financial Folly*, Princeton University Press, Princeton, NJ.

Roth, S. (2014), “Booties, bounties, business models: a map to the next red oceans”, *International Journal of Entrepreneurship and Small Business*, Vol. 22 No. 4, pp. 439-448, doi: 10.1504/ijesb.2014.064272.

Roth, S. (2023), “Reset and restoration. The looming conservative turn of management theory: An extension of Foss et al”, *Scandinavian Journal of Management*, Vol. 39 No. 3, 101278, doi: 10.1016/j.scaman.2023.101278.

Roth, S. and Valentinov, V. (2022), “Toward a theory of multifunctional liberalism: systems-theoretical reflections on the nature of statehood”, *Systems Research and Behavioral Science*, Vol. 40 No. 6, pp. 945-954, doi: 10.1002/sres.2925.

Saleh, R. and Brem, A. (2023), “Creativity for sustainability: an integrative literature review”, *Journal of Cleaner Production*, Vol. 388, 135848, doi: 10.1016/j.jclepro.2023.135848.

Schot, J. and Steinmueller, W.E. (2018), “Three frames for innovation policy: RandD, systems of innovation and transformative change”, *Research Policy*, Vol. 47 No. 9, pp. 1554-1567, doi: 10.1016/j.respol.2018.08.011.

Scheaf, D.J. and Wood, M.S. (2022), “Entrepreneurial fraud: a multidisciplinary review and synthesized framework”, *Entrepreneurship Theory and Practice*, Vol. 46 No. 3, pp. 607-642, doi: 10.1177/10422587211001818.

Schumpeter, J.A. (1942), *Capitalism, Socialism and Democracy*, Harper & Row, New York.

Schwab, K. and Malleret, T. (2020), *COVID-19: The Great Reset*, Forum Publishing, Geneva.

Shepherd, D.A. (2019), “Researching the dark side, downside, and destructive side of entrepreneurship: it is the compassionate thing to do”, *Academy of Management Discoveries*, Vol. 5 No. 3, pp. 217-220, doi: 10.5465/amd.2018.0194.

Somerville, P., Smith, R. and McElwee, G. (2015), “The Dark Side of the rural idyll: stories of illegal/illicit economic activity in the UK countryside”, *Journal of Rural Studies*, Vol. 39, pp. 219-228, doi: 10.1016/j.jrurstud.2014.12.001.

Sørensen, B.M. (2008), “‘Behold, I am making all things new’: the entrepreneur as savior in the age of creativity”, *Scandinavian Journal of Management*, Vol. 24 No. 2, pp. 85-93, doi: 10.1016/j.scaman.2008.03.002.

Spicer, A. (2012), “Critical theories of entrepreneurship”, in Mole, K. and Ram, M. (Eds), *Perspectives in Entrepreneurship: A Critical Approach*, Bloomsbury Publishing, London, pp. 149-160.

Tedmanson, D., Verduyn, K., Essers, C. and Gartner, W.B. (2012), “Critical perspectives in entrepreneurship research”, *Organization*, Vol. 19 No. 5, pp. 531-541, doi: 10.1177/1350508412458495.

Thornton, M.E.K. (1971), “Nero’s new deal”, *Transactions of the American Philological Association*, Vol. 101, pp. 621-629, doi: 10.2307/2935958.

Trubnikov, D. (2021), “What entrepreneurship is really “productive”? An alternative view on Baumol’s typology”, *Journal of Business Venturing Insights*, Vol. 16, e00258, doi: 10.1016/j.jbvi.2021.e00258.

Villette, M. and Vuillermot, C. (2009), *From Predators to Icons: Exposing the Myth of the Business Hero*, Cornell University Press, Ithaca, NY.

Volkov, V. (2002), *Violent Entrepreneurs: the Use of Force in the Making of Russian Capitalism*, Cornell University Press, Ithaca, NY.

Webb, J.W., Tihanyi, L., Ireland, R.D. and Sirmon, D.G. (2009), "You say illegal, I say legitimate: entrepreneurship in the informal economy", *Academy of Management Review*, Vol. 34 No. 3, pp. 492-510, doi: 10.5465/amr.2009.40632826.

Wennekers, S., Van Stel, A., Carree, M. and Thurik, R. (2010), "The relationship between entrepreneurship and economic development: is it U-shaped?", *Foundations and Trends in Entrepreneurship*, Vol. 6 No. 3, pp. 167-237.

Wetzel, D. (2024), *Deutschlands Elektro-Irrtum*, Welt, (12 August 2024).

Wohlgemuth, M. (2000), "Political entrepreneurship and bidding for political monopoly", *Journal of Evolutionary Economics*, Vol. 10 No. 3, pp. 273-295, doi: 10.1007/s001910050015.

Wong, P.K., Ho, Y.P. and Autio, E. (2005), "Entrepreneurship, innovation and economic growth: evidence from GEM data", *Small Business Economics*, Vol. 24 No. 3, pp. 335-350, doi: 10.1007/s11187-005-2000-1.

Wood, M.S., Scheaf, D.J. and Dwyer, S.M. (2022), "Fake it 'til you make it: hazards of a cultural norm in entrepreneurship", *Business Horizons*, Vol. 65 No. 5, pp. 681-696, doi: 10.1016/j.bushor.2021.12.001.

Yeung, P. (2022), *Europe's Noise Capital Tries to Turn Down the Volume*, Bloomberg (27 April 2022).

Further reading

Johnsen, C.G. and Sørensen, B.M. (2017), "Traversing the fantasy of the heroic entrepreneur", *International Journal of Entrepreneurial Behavior and Research*, Vol. 23 No. 2, pp. 228-244, doi: 10.1108/ijebr-01-2016-0032.

Kivimaa, P. and Kern, F. (2016), "Creative destruction or mere niche support? Innovation policy mixes for sustainability transitions", *Research Policy*, Vol. 45 No. 1, pp. 205-217, doi: 10.1016/j.respol.2015.09.008.

Spiegel (2024), *Verkauf von Öl- und Gasheizungen boomte 2023*, Der Spiegel, (20 February 2024).

About the author

Steffen Roth is a Full Professor of Management at Excelia Business School, La Rochelle, France, and a Full Professor of Social Sciences, Founding Director of the Next Society Institute, and President of the Senate at Kazimieras Simonavičius University, Vilnius, Lithuania. He is also a Visiting Scholar at the University of Cambridge, UK; Visiting Professor of Management and Organisation at the University of Witten-Herdecke, Germany; and Member of the Executive Committee of the Inter-University Centre Dubrovnik, Croatia. Steffen holds the Title of Adjunct Professor (venia legendi) in Economic Sociology at the University of Turku, Finland, and a Habilitation (*facultas docendi*) in Economic and Environmental Sociology awarded by the Italian Ministry of Education, University, and Research. He earned a PhD in Sociology from the University of Geneva and a PhD in Economics and Management from the Chemnitz University of Technology. Currently, he serves as the field editor for social systems theory of *Systems Research and Behavioral Science* and as a member of the editorial board of *Sociology*. The journals his research has been published in include *Journal of Business Ethics*, *Sociology of Health and Illness*, *Journal of Business Research*, *Ecological Economics*, *Administration and Society*, *Technological Forecasting and Social Change*, *European Journal of the History of Economic Thought*, *European Management Journal*, *Journal of Cleaner Production*, and *Futures*. Steffen Roth can be contacted at: roths@excelia-group.com