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DISCUSSION PAPER SERIES

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ABSTRACT

Entrepreneurship Is Dangerously Obsessed with Growth and Incompatible with Current Visions of a Post-growth Society

Entrepreneurship scholarship and policy are based on the myth of firm growth as imperative and the related myth of perpetual economic growth. This paper takes issue with the obsession with this growth myth, discussing the dangers it poses. Green growth and sustainable entrepreneurship are exposed as oxymorons. Given the dangers and the impossibility of perpetual growth, the paper then tries to answer the question of what role entrepreneurship could play in a post-growth society or in degrowth (the proposed approach to get there). The tentative conclusion is that entrepreneurship is incompatible with current visions of post-growth and degrowth. Degrowth and post-growth societies are post-entrepreneurship societies. While seeing how post-growth and degrowth could be made compatible with entrepreneurship is complicated, it does not mean it is impossible. More imagination and attention by entrepreneurship *and* post-growth scholars on the nature of entrepreneurship beyond growth is required sooner rather than later. Since economic growth is not perpetual, time is running out.

JEL Classification: L26, L21, O40, O44, P17

Keywords: entrepreneurship, economic growth, capitalism, polycrisis, climate change

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1 Introduction

> *"Growth is growth is growth"* (Barry, 2020, p.122)

Entrepreneurship scholarship and policy support are based on two intertwined myths of growth. There is the myth of firm growth as an entrepreneurial imperative and the related myth of perpetual economic growth. These are related because firms' growth is widely hailed as a critical determinant of economic growth. Hence, much entrepreneurship scholarship is concerned with understanding and facilitating firm growth, and governments worldwide are trying to promote high-growth entrepreneurship in the quest for perpetual economic growth. These myths have turned into obsessions that have caused significant damage to the planet's biophysical systems, social stability, and justice. Even sustainable growth and the fashion for sustainable entrepreneurship or eco-entrepreneurship have become "dangerous contradictions in terms" to generalize from Douthwaite (1992, p.286). Being addicted to these growth myths has blinded most entrepreneurship scholarship to the extent to which entrepreneurship is implicated in what has been described as the polycrisis (Lawrence et al., 2024). Moreover, it has resulted in neglect of the nature and role of entrepreneurship in a post-growth economy.

Firm growth and economic growth are only temporary phenomena, and, from an increasing number of perspectives, becoming less desirable as the ecological and social costs of continuing to scale up human economic activity accumulates. Spash (2015, p.367) warns that "The capital-accumulating economies of the world have a growth fixation that is both environmentally devastating and socially undesirable. They are in fact not growing at all, when assessed in terms of standard economic externality theory, due to the level of damages they create." Banerjee et al. (2021, p.339) explain how the pursuit of perpetual growth "which is the fundamental basis of the global capitalist political economy," has caused a world "rife with concentrated wealth but increasingly impoverished in ecological integrity and social wellbeing." Douthwaite (1992, p.3) has lamented that a fixation on perpetual growth has "enabled us to escape doing anything about the poor by telling them that things will get better for them if they just hang on. The promise of jam for all tomorrow has eased our consciences about the unequal division of bread today."

Ever since the Limits to Growth (*LtG*) study was published in 1972 (Meadows et al., 1971) a growing scholarship - and social activism - has raised concerns about the consequences of the obsession with growth that has defined global capitalism.[1] However, these concerns are hardly noticeable in the literature on entrepreneurship and have yet to affect the fields adherence to its growth myths. For one, the scholarly literature seems oblivious to any other conceptualization than the necessity of firm growth and the importance of firm growth for broader economic growth and job creation. It also seems oblivious to any possibility other than perpetual firm growth and economic growth. For example, in surveying the field of firm growth scholarship, Davidsson and Wiklund (2000) and Davidsson et al. (2010) do not to question the underlying assumption that growth is necessary and neither do they recognize growth as an obsession. And in identifying an agenda on future research for the topic of entrepreneurship and economic growth, Urbano et al. (2019, p.37-39) do not consider a post-growth society as part of the agenda. The assumption is that economic growth is a permanent state of affairs and that it is merely a question of understanding the relationship between entrepreneurship and growth better, implicitly to create faster economic growth. With the belief that economic growth is unbounded, it is just a matter of better entrepreneurial ecosystems and better entrepreneurs, and *voilà,* the outcome is economic growth forever!

Where entrepreneurship scholarship has recognized the real dangers of economic growth, it has either not linked it with entrepreneurial growth ambitions, or the limits of economic growth, but have rather searched for ways in which growth can be pursued in such a way

[1] The LtG study concluded that warned that "If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next one hundred years" (Meadows et al., 1971, p.23).

that countries and entrepreneurs can "eat their cake and have it" i.e. continue growth but without ecologically disastrous consequences. In fact, sustainable entrepreneurship, eco-entrepreneurship, social enterprise, impact investment, ESG compliance, and sustainable finance are often sold as new opportunities for growth. There is even the "Achilles' Lance" myth, which is the belief that economic growth would, like the mythical lance of Achilles, "heal the wounds that it inflicts" (Barry, 2020, p.123). The growth addiction has, in this way, also blinded scholarship and policymaking to entrepreneurship as a means to a growth-goal and not as an end in itself - or as a means to non-growth goals.

This paper takes issue with the growth obsession in entrepreneurship scholarship and policy making. It argues that green growth and sustainable entrepreneurship are oxymorons. Perpetual growth cannot be green or sustainable, and hence neither can notions of entrepreneurship obsessed with growth. What needs to change is the addition to growth. In this regard, it is time for entrepreneurship scholarship to engage with ideas from other disciplines, such as anthropology, ecological economics and biophysics, on how a post-growth society can function and what - if at all - place there is for entrepreneurship in such a post-growth society. Economic growth rates and entrepreneurship start-up rates have in any case been declining in the West at least since the 1970s (Gordon, 2012; Cowen, 2010) and the the entrepreneurial economy has been making way for the ossified economy (Naudé, 2022). Furthermore, entrepreneurship scholarship has matured and its arguably reaching a state of diminishing returns (Landström et al., 2019; Naudé, 2024b). From this the conclusion can be made that a post-growth economy is increasingly becoming reality, despite the obsession with growth. Entrepreneurship scholars are hardly ready for it.

Therefore, this paper attempts to catalyze the engagement of entrepreneurship scholarship with a post-growth, even post-entrepreneurship reality. The rest of the paper proceeds as follows. Section 2 critically discusses the (firm) growth addiction in entrepreneurship scholarship and policy making. In section 3, this is linked with the addiction to perpetual economic growth. It is argued that while the benefits and need for economic growth up to some level is clear, there are accumulating indications that the current scale and nature of the economic activity are such that more growth, even green growth, is likely to do more damage than good. Section 4 considers current proposals to deal with this predicament. These include the notions of post-growth and degrowth. Both of these are critically evaluated from the perspective of entrepreneurship. It is concluded that current visions of a post-growth and degrowth society would require a complete dismantling of entrepreneurship. Section 5 concludes, pointing out that the problem of the current incompatibility between entrepreneurship and post-growth is one of "damned if you do, damned if you don't" - the system of global capitalism requires growth, and stopping growth before the system is appropriately changed may precipitate its collapse.

2 The Myth of Firm Growth

Entrepreneurship scholars and policymakers are seemingly obsessed with, and addicted to firm growth. Aldrich and Ruef (2018, p.458) describes as "misplaced attention" the focus on high-growth firms and the neglect of 'the mundane" in scholarship. This misplaced attention is reflected in the large volume of research and myriad policies on firms that achieve high growth rates, as measured[2] in sales or employment. These firms are variously referred to as "high-growth firms" (HGF), "gazelles", "high-impact firms" or "scale-ups."[3] According to Coad et al. (2024, p.1) "Scale-ups have received an almost mythical status." Such is the addition, that even high growth seems to be in risk of becoming *passé*, the newest fad being "blitzscalers" - firms that prioritize their fast growth over efficiency (Belitski et al., 2023).

[2]There are several, not uncontroversial, ways to measure and define HGFs. One popular definition is that an HGF is a firm with at least 10 employees that achieves a 20% annual growth in employment and/or sales over a subsequent three-year period, see e.g. Coad and Binder (2014); Coad et al. (2024).

[3]Scale-ups can be defined as "high-growth firms at an intermediate stage of organizational development [...] which pursue strategies that prioritize the attainment of economies of scale" (Piaskowska et al., 2021, p.1).

This section discusses the firm growth imperative (section 2.1) and the dangers of the firm growth myth (section 2.2).

2.1 Escaping from its Own Exhaust : The Firm Growth Imperative

Why is firm growth so interesting that it has become addictive? In this subsection, it is argued that firm growth is believed to be essential for earning profits and, thus, firm survival and that high-growth firms and scale-ups drive economic growth and, hence, job creation and wellbeing in an economy. In the following subsection (2.2), it is argued that these beliefs have adverse consequences.

As far as the belief that firm growth is a requirement for firm performance and survival is concerned De Souza and Seifert (2018, p.333) states that firm growth is the "ultimate goal for any modern organization" and that firm growth reflects the firm's "administrative efficiency." Typical for the literature, the ultimate goal of growth is not questioned, and a firm's growth is a badge of administrative efficiency. If entrepreneurs or managers want to show that they are efficient, their firms should grow, and they should have a "growth aspiration" to achieve this (Wiklund and Shepherd, 2003).

As far as the belief in a link between entrepreneurship and economic growth is concerned, Urbano et al. (2019, p.30,22) declares that it "is one of the key factors that enhance economic growth" and Acs (2006) explains how "entrepreneurship is good for economic growth." Entrepreneurs who create HGFs and accelerate their firms' growth are especially important drivers of economic growth and job creation (Belitski et al., 2023; Coad and Binder, 2014). Historically, the era of the appearance of big business in the USA (the late 19th century) was one of high economic growth. Thus, the association between firm growth that results in large enterprises and economic growth that creates jobs and tax revenues was made. At the time, economic theory had no explanation for firm growth. The eventual explanation given was that it is due to entrepreneurs who leveraged new technologies to scale their firms. At the end of the 19th century, transportation and electricity were the key technologies. The entrepreneurs who grew their businesses into behemoths were hailed as the “captains of industry” (High, 2011).

Today, for many, the heroes of the entrepreneurship literature and practice are its new captains of industry, many of them Silicon Valley billionaires who have built their fortunes and influence on data and digital technologies, and who live and work by the dictum “move fast and break things” (Taplin, 2017). There is even a “silicon valley mindset” that has become *de rigueur* for any aspiring entrepreneur (Rushkoff, 2023). This mindset is based on a myth closely related to the addition to growth, the myth of the supremacy of competition. This myth has seeped into entrepreneurship scholarship from the ideology of neoliberalism (Hayek, 1944, 1960) and values competition over cooperation (Perret, 2017, p.288). Hence according to the silicon valley mindset, the entrepreneurial attitude should be that the world is a game they (the entrepreneurs) are are playing where “winning means earning enough money to insulate themselves from the damage they are creating by earning money in that way. It is as if they want to build a car that goes fast enough to escape from its own exhaust” (Rushkoff, 2023, p.10).

2.2 Dangers of the Firm Growth Myth

The addiction in entrepreneurship scholarship and policymaking with HGFs has also permeated into broader society, helping to prop up the myth of the entrepreneur as a hero and underpinning the *American Dream*. That these are true myths that jar with reality has been strikingly described by Cooke (2019, p.1), who uses the example of the TV show *The Apprentice*, which made Donald Trump famous in the USA, which he concludes ”acts as something of a comfort to viewers brought up on the mythology of "the American Dream of untold wealth in exchange for hard work and a bit of luck. For the stubborn reality is, for most, just that, a piece of mythology, which is little compensation for a hard-scrabble existence on less than two or even three living wages per head of household, deindustrialized neighbourhoods and the prospect of opiate-addiction or worse as the only way out."

As this quote from Cooke (2019) indicates, in contrast to the myths of the HGF that turn the entrepreneur into a hero who realizes the American Dream, the "stubborn reality" is that most firms do not grow, and most entrepreneurs are not heroes; in fact, most entrepreneurs are increasingly battling for survival in a stagnating, deindustrializing, and crisis-prone world. Being overly concerned with firm growth, and firm growth as a means to perpetual economic growth, poses several dangers. These will be discussed in the following sub-sections.

2.2.1 Dismantling the Welfare State

A danger of the myth of firm growth is that the great majority of SMEs who are not high-growth firms are neglected. For perhaps most of these entrepreneurs, particularly those in family firms, growing their firms may not be attractive, even unwelcome. This could be because the control of their firm is central to what entrepreneurship means, or that the objective of growth conflicts with the other roles of the entrepreneur within the family, or that firm growth could cause stress, conflict and poor health (Naudé et al., 2014; De Souza and Seifert, 2018). Hence, it is unsurprising that, as Cyron and Zoellick (2018, p.217) report, up to 40% of all owner-managers have no growth ambitions.

Neglect of the great majority of entrepreneurs and their firms is nevertheless what a central strand of the entrepreneurship literature advocates. For instance, Shane (2009) has argued that policymakers should only be concerned with HGFs and that less specific policies that would support anyone are bad policies. Likewise, Schramm (2004, p.105) criticized entrepreneurship policies that favour "cottage industries that add little to the economy in terms of productivity or growth." Moreover, Acs et al. (2016, p.37) see such policies as wasting taxpayers' money. Audretsch and Thurik (2004, p.1) have recommended that entrepreneurship policy should not be undertaken for "social and political reasons", for which good social welfare policies are more appropriate. This recommendation is consistent with the growth imperative of modern capitalism that proceeds on the basis of dismantling the welfare state for the sake of stimulating economic growth (Gordon and Rosenthal, 2003).

Consistent with the elimination of the welfare state and the shift of resources to support HFGs and the entrepreneurial ecosystems to generate such firms, government policies aiming at growth have come to be dominated by growth-dependent planning (Barry, 2020), which systematically has undone the welfare state. Most governments' economic planning documents are, according to Barry (2020, p.122), riddled with growth ideology terms, such as "attracting foreign direct investment", "promoting free trade", "competitiveness", "increasing labour productivity", and "encouraging innovation." Growth-dependent planning culminates in governments' efforts to promote entrepreneurship as the ultimate driver of HGFs and economic growth through so-called entrepreneurial ecosystems (EES).

Boland (2014) is critical of the often-excessive preoccupation of policymakers and EES builders with so-called competitiveness-enhancing policies, which he calls a virulent and dangerous obsession. Here, the obsession with firm growth and EES that can help catapult firm growth to create more gazelles and unicorns spills over into a fixation with ranking countries of regions are to how well their entrepreneurial ecosystems can generate high-growth firms (including unicorns) and high rates of GDP growth - see, e.g. Leendertse et al. (2022).

The dismantling of the welfare state and the fixation of competition and rankings in the name of promoting HGFs have not only help to drive ecological overshoot (as will be explained in section 3) but can also be associated with declining levels of health and subjective wellbeing in the advanced economies where these policies are paramount. For example, in the USA, relative and absolute life expectancy has been in consistent decline since the 1980s (Woolf, 2023) and the country is facing a crisis marked by sharply rising "deaths of despair" - deaths due to suicide, drug overdose, and alcoholism (Deaton and Case, 2021). High-growth entrepreneurship are not solely to blame, but carries a large portion to the extent that its addiction to growth has elevated capitalization, financialization, competition and profits and driven rates in inequality higher and higher (Deaton and Case, 2021; Stiglitz, 2015). And is not only in the USA. Entrepreneurs in high-growth firms and countries with more high-growth entrepreneurship, and generally more self-employment, are generally not happier (Blanchflower, 2004). Naudé et al. (2014) report evidence for an inverse U-shape relationship between opportunity entrepreneurship and national happiness indicators. This suggests that having more opportunity for entrepreneurship may make nations generally happier, but only up to a point. The West seems to have reached that point some time ago.

2.2.2 Undermining Economic Stability

Another danger of the myth of firm growth stems from the lack of policy usefulness of the notion of HGFs. Léon (2022), for instance, used data on all formal firms in Senegal between 2006 and 2015 to find that growth rates of HGFs were negatively correlated across time, meaning that HGFs do not remain HGFs for long. In other words, high growth does not seem sustainable in their sample. Their findings also throws cold water on the belief that HGFs would always be better able to achieve productivity improvements - which is a basis for the belief that HGFs would boost economic growth. Coad and Binder (2014, pp.98-99) survey research on the persistence of HGFs, concluding that the bulk of research finds that high growth is not sustainable and tends to be random.

If HGFs cannot sustain high growth, and if most high-growth episodes are random occurrences in a firm's life, the policy obsession with HGFs may be misplaced(Grover Goswami et al., 2019). Coad and Binder (2014, p.107) warn that the policy obsession with firm growth may not only be misguided but may even be counter-productive, because this could lead to net job losses instead of job gains if support to HGFs are accompanied by greater firms exits overall. Relatedly Derbyshire (2012) argues that promoting HGFs may be counterproductive, but not from the perspective of increased firm churning, as Coad and Binder (2014) argue, but from the potential lack of churning that may result if policy focus shifts away from supporting a general entry of new firms into the market in favour of specific measures to support incumbent firms' growth faster.

2.2.3 The Problem of Bigness

Finally, despite the large body of research into HGFs, the determinants of that growth and the attempts by the government to help firms achieve high growth rates and grow from small to large firms, the reality is that even the largest firm cannot continue to grow indefinitely. Even the most successful firms eventually run into diminishing growth rates and face stagnation, and no firm lives forever.

Moreover, as firms scale up, their size has downsides. Lamoreaux (2019) and others describe this the problem of bigness. One of the most pervasive problems is the increase in firm concentration, and the oligopolistic and monopolistic markets their dominance result in. In the USA concentration levels have in recent decades increased by around 90% and has allowed firms simply to raise mark-ups to earn higher and higher profits (Covarrubias et al., 2019; Grullon et al., 2019). The extent of concentration is such that three firms, *BlackRock*, *Vanguard*, and *State Street*, control more than 40% of all public firms in the USA (Fichtner et al., 2017).

Even if entrepreneurs and policymakers are chasing high firm growth and desire to build large firms that can dominate their markets and set high mark ups, earning high profits for further investments in scaling up, any benefits that they may obtain from this may ultimately be transient. The fact is, there is no perpetual growth - not of firms, and not of economies. In section 3 the limits of economic growth will be explained. As far as the limits of firm growth is concerned it can be noted that firm growth follows, as many other phenomena in nature, a S-curve trajectory over time - that is, a sigmoid function describes firm growth over time. West (2017) used data from almost 29,000 publicly traded firms in the USA to find that after some point when maturity sets in, all firms stop growing. The half-life of a typical publicly traded company is roughly ten years, and very few firms survive for even a century (Daepp et al., 2015; Naudé, 2022).

The firm growth myth is especially enticing because it is premised on the belief that entrepreneurship is the driver of economic growth and that perpetual economic growth is the normal state of affairs. The problem is that, without the myth of perpetual growth, the entire edifice of entrepreneurial start-ups and ecosystem development will collapse like a house of cards. This is explained in the next section.

3 The Myth of Perpetual Economic Growth

> "Growth! Growth of gross domestic product! That is a goal on which the world's nations all agree. This imperative is taken for granted, and no further explanation is needed. Everything else seems to follow from its achievement" (Binswanger, 2013, p.1).

Entrepreneurship scholarship and policymaking are not only obsessed with HGFs but are wedded to the notion that entrepreneurship is the engine of economic growth and that the rationale of entrepreneurship policies is to develop the type of high-growth entrepreneurship that will promote high economic growth rates. The preoccupation with entrepreneurship as having instrumental value is ultimately grounded in the belief that entrepreneurship is "a conduit between institutions and economic performance" (Urbano et al., 2019, p.24). In other words, get the institutions (rules of the game) right and the rest - high-growth entrepreneurship and economic growth will follow. If it is not growth enhancing entrepreneurship, it cannot be productive, and hence must be either unproductive or destructive entrepreneurship (Baumol, 1990).

The obsession of entrepreneurship scholars and policymakers with entrepreneurship more generally, and HGFs specifically, as the driver of economic growth reflects the broader societal acceptance of economic growth as an institution and an ideology (Haapanen and Tapio, 2016). As an institution, economic growth is embedded in a growth spiral - as will be explained in section 3.1.

As an ideology economic growth is a core tenet of neoliberalism, "capitalism on steroids" (Monbiot and Hutchison, 2024, p.9), of which Hayek (1944, 1960) was an intellectual founder. Neoliberalism's beliefs, premised on a view of human society characterized by competition, perpetuate a false narrative that the wealthy are deserving because they became rich through their own efforts and hard work. Consequently, it subscribes to and implies the perverse view that the poor and marginalized have only themselves to blame - that they are failures and losers. It supports the twisted belief that the entrepreneur is an inevitable hero who deserves super-wealth as a reward for their remarkable efforts and ingenuity. Monbiot (2016) explains how this entrepreneur-as-deserving hero ideology of neoliberalism has motivated public policies and corporate decision-making and culture which has played a major role in a remarkable variety of crises from the global financial crisis in 2007 to the climate crisis and beyond. Thus, a destructive ideology had become deeply entrenched because it convinced society that economic growth is the outcome and just reward of the hard work of praiseworthy individuals.

3.1 The Grow-or-Die Golden Rule: Economic Growth as an Imperative

The question that arises is, why has economic growth become an institution and an ideology? According to Binswanger (2013), the answer is that the modern global economy has come to resemble not a circular flow of income and goods - as typically depicted in introductory economics textbooks - but an upward-moving growth spiral. This reflects that the system has a built-in growth imperative: it is either growing or shrinking, but there is nothing in between; no stagnation or zero-growth situation is possible. In light of the eventual consequences this is a "doomed-if-we-do, doomed-if-we-don't situation" (Douthwaite, 1992, p.3).

The entrepreneur is central in this growth spiral. As Binswanger (2013) explains, the entrepreneur needs to borrow money to purchase the inputs required to produce goods or services to sell to consumers. The entrepreneur has to convince the financier that their investment is worthwhile. The growth spiral thus starts with entrepreneurial narratives in order to get capital to start production - never mind that these narratives are often not rooted in reality: in fact, according to Janeway (2018)'s *First Law of Venture Capital*, "All entrepreneurs lie."

Once the entrepreneur has convinced the financier to invest, by borrowing this money from the financial system, the financial system is allowed to create money - essentially out of nothing, given modern fiat banking. Because of the risk that the bank faces, given that the success of the entrepreneur in selling to consumers is uncertain, lending to the entrepreneur requires that interest be paid on the loan. Hence, entrepreneurs are required to earn a profit - a surplus - at least covering their interest obligations - which will require future growth" The belief is that a firm with an expected growth rate of zero or negative will go bust (Gordon and Rosenthal, 2003). Note also that the need for borrowing before production can start requires the existence of banks, and once the economy gets going, the banks will have a vested interest in economic growth because of the claim on future goods and energy that debt creates (Hagens, 2020).

The investments that all entrepreneurs - in aggregate - make using the money borrowed from the financial system provide a means by which the economy in the next period allows for sufficient sales to attain the required profit. This creates a need for growth so that firms can pay the interest that becomes due. The growth imperative is amplified by capital-earning households (e.g. wealthy entrepreneurs) who invest their surplus in speculating on asset prices) and individuals who engage in higher consumption of positional goods. These are goods that society sees as desirable and signal high status, whether necessary for survival or not. According to Hirsch (1977), this triggers a spiral where "enough is never enough. Growth creates differences that cause further growth in the attempts to remove those differences" (Paech, 2017, p.483).

Note that entrepreneurs who borrow money to pay for capital investments and other inputs expect to make a profit in the future by selling to consumers. Economic growth is required to ensure enough consumers with disposable income to absorb the previous periods' production. Because entrepreneurs will invest in labour-saving technology to raise their profits, labour income in total may decline, thus reducing the potential consumption by households (Jackson and Victor, 2015). Therefore, potential obstacles to perpetual growth are consumers becoming satiated and their income share declining. To deal with these potential demand constraints, entrepreneurs have resorted to actions like marketing, innovations to keep customers buying and loyal, agitating for lower taxes, and expanding globally when a local market becomes saturated (Trincado, 2010).

In the latter regard, firms' international expansion as a result of the growth imperative, and which as driven globalization, was marked upon by Karl Marx and analyzed by Rosa Luxemburg. According to the Luxemburg thesis capitalist corporations depend on perpetual growth, and when they at some point inevitably start to run into domestic demand constraints, they need to become imperialistic. This results in the rise of global corporate giants that predate on, and subjugate non-capitalist entities, such as foreign governments, and their peoples (Luxemburg, 1913).

The Luxemburg thesis implies that capitalism would collapse if this “rapacious” growth spiral were to be stopped (Monbiot and Hutchison, 2024, p.13). Given that the system has, in effect, been globalized after centuries of colonialism and imperialism, the only way to prevent a collapse is to keep expanding into new territories. Hence it is to be expected that growth-dependent corporates would be as they do now, turn to tokenize all of nature, mine the ocean floor and plan to mine asteroids - as these are amongst the few extraction zones still available (Koetsier, 2021; Monbiot and Hutchison, 2024).

Alexander and Gleeson (2019) explain several reasons for modern capitalism’s imperative for growth, which they describe as a “grow or die golden rule.” These include the mechanism of debt creation, as per Binswanger (2013)’s Growth Spiral, and the need to secure sufficient profits to compete against rivals not to be excluded from access to finance. The further reasons they add include the vested interests of capitalists and states. The latter have become dependent on economic growth for tax revenue as well as for geopolitical security because countries’ relative geopolitical status depends on their economic and military might (Alexander and Gleeson, 2019).

Another, and partly related reason for the growth imperative is the desire of societies to avoid costly and violent zero-sum games and maintain peace amongst groups and nations. As discussed in section 4 below, one of the concerns about a post-growth society and degrowth as a way to get there is the zero-sum economy and the resulting conflicts it can generate - see also Naudé (2023b). Perret (2017, p.291) argues that economic growth is a good “peacemaker” with reference to the stability and peace that post-WW2’s integration has brought to Europe. Not only is economic growth a good peacemaker, but the age of exponential growth in the world economy, roughly between 1850 and 2000, has been accompanied by a significant decline in poverty and improvements in social and health outcomes (Pinker, 2018). China, where hundreds of millions of people escaped from poverty since the 1980s via high economic growth (generated in part by the global growth of Western corporations for which their own markets had become to small to sustain growth) has provided an example that many countries are trying to emulate.

3.2 The Dangers of the Perpetual Growth Myth

Growth is as Smil (2019, p.vii) eloquently explains, "an omnipresent protean reality of our lives." He is here referring to growth as a basic feature of nature - from the growth of microorganisms, to the growth of megacities, and even "terraforming growth" which is the growth in the physical landscape of Earth caused by geotectonic forces. The growth of the world's economy is but an example of this general tendency to grow. Living and dynamic systems, also non-living, are all fundamentally characterized by cycles of change, of which growth during a part of the cycle, is a manifestation. Growth is in many ways "a sign of progress" (Smil, 2019, p.ix).

Economic growth *per se* is therefore not an aberration. Neither are entrepreneurs who create value and who contributes to an expanding economy. Growth and the contribution of entrepreneurs have indeed been an important channel for material and cultural progress in the past, even as it had been accompanied by costs. As will be shown in section 4, even those who most actively today agitate for a post-growth and degrowth society recognises the importance of growth to provide a satisfactory quality of life for everyone. However, it is nevertheless so that the increasing risks or costs of economic growth over time must be recognized. The costs of a growth spiral that aims to maintain growth into perpetuity can come to overwhelm the benefits. It has been claimed that the world may be approaching this point, if it is not already in it. Spash (2015, p.367) for instance claims that many growing economies may be "in fact not growing at all, when assessed in terms of standard economic externality theory, due to the level of damages they create."

The solution is not, as many call for, to simply "stop growth." As the rest of this paper will argue, this could be extremely problematic given the nature of the growth spiral described in the previous section. Before elaborating on this "damned if you do, damned if you don't" predicament, it is first necessary in the remainder of this section to outline the major dangers of the striving for perpetual growth are discussed. These are first, ecological overshoot; second, socio-political instability as inequality, unemployment, poor quality jobs, and insecurity increases (Binswanger, 2013); and third, the creation of the myth of sustainable entrepreneurship and, ultimately, a global polycrisis due to the interdependence and feedback effects between ecological overshoot and social instability.

3.2.1 A Ghastly Future: Ecological Overshoot

First, there is little doubt that despite the unparalleled prosperity that economic growth has brought to many, it has also been hugely damaging to Earth's biophysical systems, increasingly threatening ecological collapse and multiple environmental crises - a global polycrisis (Bradshaw et al., 2021; Lawrence et al., 2024).

Starting around 250 years ago and boosted by the exploitation of fossil fuel energy since the mid-19th century, the world's economy, energy use and population grew exponentially (Hagens, 2020; Smil, 2019). Since the 1950s, these trends have manifested in a *Great Acceleration*, which reflects exponentially increasing impacts of economic activity on a broad range of socioeconomic, planetary boundaries and Earth Systems Steffen et al. (2015a,b). For instance, global GDP increased by 1,487% between 1950 and 2015, accompanied by a 414% increase in energy consumption, a 3,115% increase in cement production and a 765%

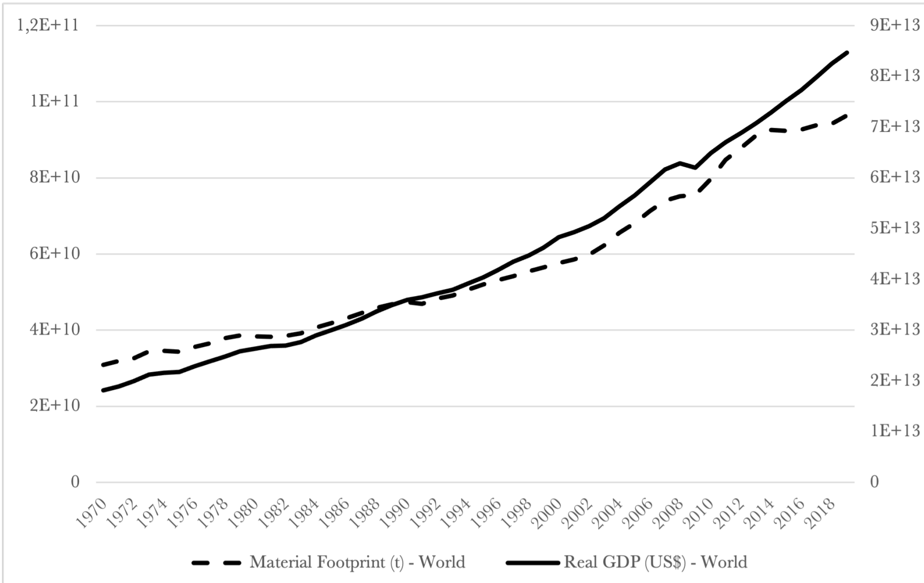
increase in iron and steel production, amongst others (Head et al., 2021). By 2020, world GDP per capita was, at an estimated US$5400, around 5600% higher than what it was around 10,000 years before (Syvitski et al., 2020).

The result of the *Great Acceleration* has been ecological overshoot. Ecological overshoot occurs when the economic system "generates flows larger than the carrying capacity" of the planet, which refers to "the maximum flow of energy that the system can maintain for a long time" (Bardi, 2020, p.34). Climate change is but one of the many symptoms of ecological overshoot, which, as Rees (2021) points out, also includes "plunging biodiversity, plastic pollution of the oceans, landscape and soil degradation, and tropical deforestation." According to Hoekstra and Wiedmann (2014), the carrying capacity of the Earth system in terms of carbon, energy, land, material, and water has already been exceeded, and according to Rockström et al. (2023) seven of eight so-called Earth System Boundaries (ESB) have been exceeded. Bradshaw et al. (2021, p.3) notes that the global economy consumed 170% of the planet's regenerative capacity in 2016.

As discussed by Naudé (2023a) the breach of the planet's carrying capacity and planetary boundaries may cause the Earth system to tip into a state which would be detrimental to civilization and life - because of interdependencies and non-linearities, one ecosystem's collapse will feed into that of another(Rockström et al., 2009; Lenton et al., 2019; Ritchie et al., 2021). Several potential tipping points - also called "ecological doom-loops" (Dearing et al., 2023) are causing concern. For Rees (2021) ecological overshoot is an existential threat and Bradshaw et al. (2021) warns that it will result in a "ghastly future" for humanity.

The extent of overshooting is increasing and shows no sign of diminishing, as measured by the Material Footprint (MF) indicator (Fanning et al., 2022; Giljum et al., 2015; Wiedmann et al., 2015). The MF of the world, as well as carbon emissions causing climate change, is strongly correlated with economic growth and the size of the global economy- as Figures 1 and 2 show. Green growth, sustainable growth and related concepts such as eco-entrepreneurship can ultimately never be disconnected or decoupled from a material footprint.

Figure 1: World Material Footprint (t) and Real GDP (US$), 1970-2019



Source: Author, based on data from UNEP's Global Material Flows Database

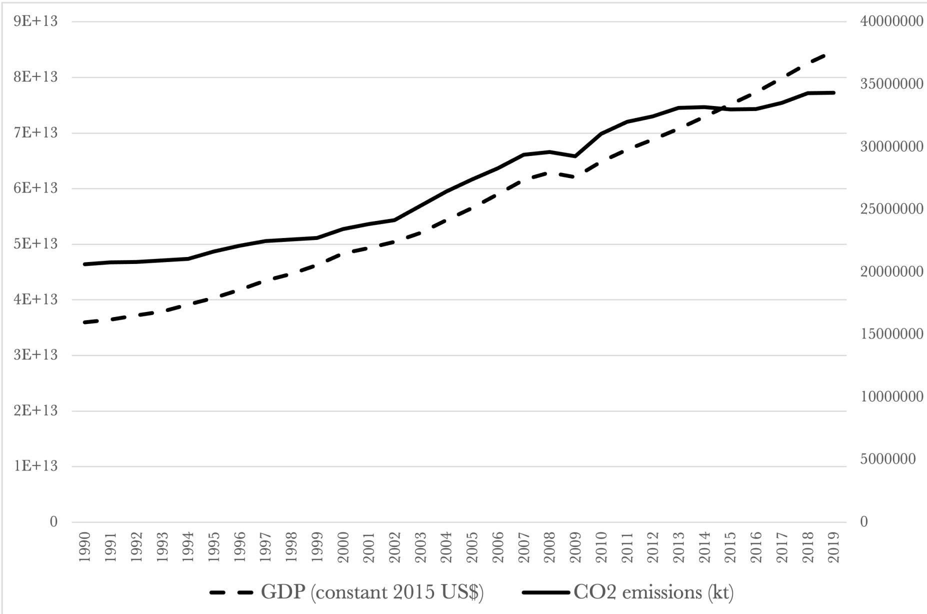
In 2024, Earth Overshoot Day, "when humanity has used all the biological resources that the Earth regenerates during the entire year," falls on 1 August, whereas back in 1971, it fell on 25 December. Thus, the rate at which biological resources are consumed is speeding up as the world economy expands in size - despite all the attempts at green growth and sustainable entrepreneurship.

3.2.2 Achilles' Lance: The Myth of Sustainable Entrepreneurship

The obsession with economic and firm growth is such that even in the sub-fields of sustainable entrepreneurship and/or eco-entrepreneurship[4](Hart and Milstein, 1999; Shepherd and Patzelt, 2011; Muñoz and Cohen, 2018) growth has retained its importance. This is reflected in the field of sustainable entrepreneurship's conviction that socially and environmentally responsible firms will grow faster - and that social entrepreneurship will address inequality and

[4] As one website exclaims "In the 21st century, ECO entrepreneurship has emerged as a vital force driving both economic growth and environmental stewardship", see `https://tinyurl.com/47kdz4wu`.

Figure 2: World GDP and CO_2, 1990-2019



Source: Author, based on data from the World Bank's World Development Indicators Online

exclusion. Even the notion of sustainable entrepreneurial ecosystems is, despite the adjective, still aimed at economic growth - as Theodoraki (2024, p.3) describes the notion, it is "a concept conducive to economic growth and sustainability." Thus, even so-called sustainable entrepreneurial ecosystems are supposed to square the circle of sustainability *and* growth, not abandon the obsession with economic growth.

These approaches are all instances of reform environmentalism,[5] which is an environmentalism that considers technological and organizational innovations in production methods and markets as sufficient to avoid ecological overshoot and mitigate climate change, without abandoning economic growth. Moreover, sustainable entrepreneurship considers the challenge of ecological overshoot and sustainable development a significant business opportunity (Anand et al., 2021).

A recent survey on sustainable entrepreneurship by Anand et al. (2021) does not contain

[5]It will be contrasted in section 4 with radical environmentalism, which considers the hope that technological innovation will save the day as misplaced and advocates a radical restructuring of society, including the very nature of key actors, such as firms, as the only viable option to avoid an environmental catastrophe.

the word growth in the text of the paper. The possibility (and likelihood) that sustainable entrepreneurship stands in tension with business and economic growth is not part of the growing literature on sustainable entrepreneurship. It is as "the prefix 'sustainable' magically resolves any contradiction between economic growth and ecological wellbeing" (Banerjee et al., 2021, p.341).

However, the reality is that under the ideology and institution of growth, sustainable entrepreneurship has come to be marked by association with a green growth industry that is furthering capitalism's expansion imperative by aiming to monetize, financialize and commodify nature as far as possible. It includes the concept of environmental, social and governance (ESG), which has evolved into a new engine of firm and economic growth (Diaye et al., 2022; Satyadini and Song, 2023), and which is increasingly associated with greenwashing (Johnson, 2023; Yu et al., 2020).

A new trend is to "make biodiversity conservation profitable and scalable" (Michaelides, 2024). These include sustainable and eco-entrepreneurial innovations such as biodiversity banking, offsetting, green/blue bonds, species credits, extinction futures markets, and climate catastrophe bonds. It also includes "tokenizing the planet to save it" which is the latest green growth and sustainable entrepreneurship growth and profit enabler. It uses blockchain technology to create "nature-backed financial instruments" - digital tokens. According to the entrepreneur behind a start-up in this field "nature is the new gold" (Koetsier, 2021). The proponents of these ideas seems to have notion of the damages that the financialization of agricultural systems have wreaked on global food systems[6] and may be more inspired by the super profits that the firms who dominate world food production and distribution are earning at the same time that world hunger is rising (Monbiot, 2022).

At the extreme, sustainable entrepreneurship could amount to a deception: "What higher

[6]Van Nieuwkoop (2019) estimates the costs/damages associated with the global food system to exceed US$ 6 trillion annually.

form of deception could you request than enlightened Green Capitalists doing favours for the proles while improving their personal bank balance and smoothing over the corporate image?" (Spash, 2015, p.377). Even where the proponents of sustainable and green entrepreneurship have no sinister attentions to profit from the ecological crisis, or to deceive via ESG strategies, the myth of economic growth is so ingrained that it has resulted in a pervasive belief that economic growth can like Achilles' mythical lance "heal the wounds that it inflicts" (Barry, 2020, p.123).

The myth of sustainable entrepreneurship is partly due to the myth of green growth, which is the myth that economic growth can be decoupled from material resource use and emissions. In the previous sub-section, with the help of Figures 1 and 2 and references to the literature, it was shown that absolute decoupling of growth has not occurred. It is also not likely, fundamentally due to the *Jevons Paradox* (or rebound effect) where higher productivity and efficiency in a more circular economy will result in more consumption and production, not less. An example is that the use of renewable energy has not lead to a decrease in the use of fossil fuels, but has amounted to an additional source of energy with which to fuel production and consumption (Galvin et al., 2021). A growing literature has noted the lack of absolute decoupling between economic growth and material use and economic growth and carbon emissions on a global level (Haberl et al., 2020; Hannesson, 2021; Jackson and Victor, 2019; Ward et al., 2016; Wiedmann et al., 2015).

Because economic growth cannot be decoupled from material throughput or emissions and pollution, sustainable entrepreneurship is an oxymoron.

3.2.3 A Nation of Mammon: Erosion of the Social Fabric

The second broad risk associated with the perpetual growth spiral is that it is eroding the social fabric through growing inequality and marginalization of people and countries and reduced trust in each other and in governments.

In the previous sub-section, it was noted how the obsession with growth has caused ecological overshoot and driven Western colonialism and imperialism. This has resulted in a “Great Divergence” (Pomeranz, 2000) in wealth, reflected in high global inequality, exploitation and marginalization reflected in a divided world - a Global North-Global South dichotomy. The extent of these global disparities and the role of Western colonialism and imperialism in the aim for perpetual growth are well-known and are the topics of vast literature. A deeper discussion falls outside the scope of this paper. The interested reader is referred to Patnaik and Patnaik (2021) for a pertinent recent account.

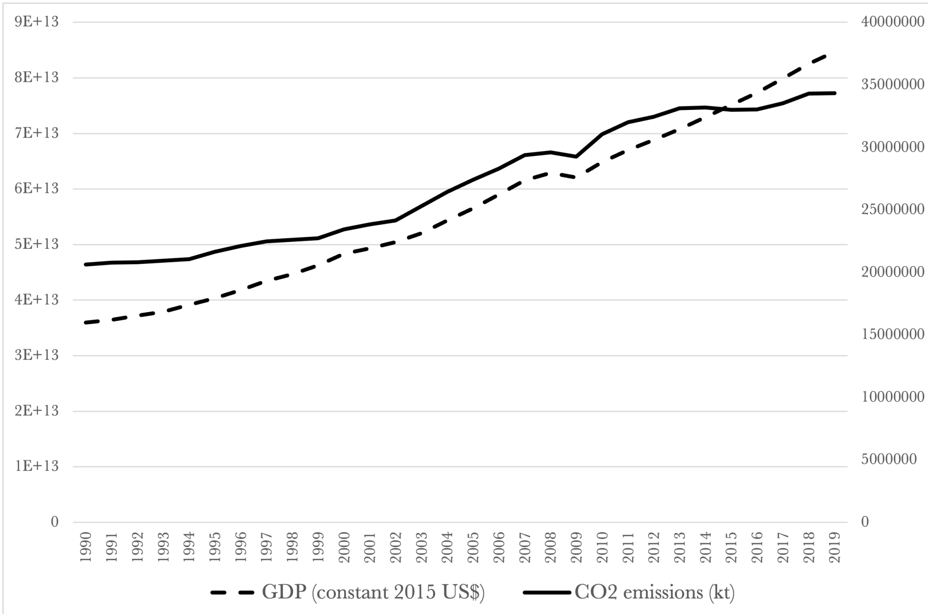
For present purposes, though, it is necessary to link the obsessions with firm growth and economic growth to the continued erosion of the social fabric between countries and within countries, including countries in the Global North.

A starting point is Figure 3, which depicts the evolution of inequality - measured by the share of the top 10% of incomes in a sample of countries since 1950, the start of the *Great Acceleration*.

As Figure 3 depicts, between 1950 and the 1970s, inequality in countries such as the USA and France declined slowly, only to pick up again in the 1970s. Since then, income inequality has steadily decreased in many countries since the 1970s. The 1970s is no coincidence; it is the era following the ascendancy of Reagan and Thatcher, during and after which neoliberalism was intensively being implemented in the Western world and imposed on the Global South, for instance, through the structural adjustment policies of the IMF/World Bank (the Washington Consensus) - for a concise description seeMonbiot and Hutchison (2024).

Overall, both economic growth theory and long-term data suggest a strong relationship between economic growth and inequality over time. In theory, economic growth models are

Figure 3: Share of Top 10% in Pre-Tax National Income, Selected Countries, 1950-2022



Source: Author, based on data from the World Income Inequality Database, `https://wid.world`

consistent with the notion that periods of high economic growth will be accompanied by growing inequality. Finance and labour-saving technologies play a crucial role herein - as they do in setting the growth spiral mechanism explained above. Inequality even acts as a driver of economic growth in most growth models.

As far as the data is concerned, Chancel and Piketty (2021) document changes in global inequality between 1820 and 2020, finding that during the high period of Western colonialism, roughly 1820 to 1910, global inequality rose substantially and stabilized at a very high level since then, only starting to decline somewhat after the 1980s. Within countries, inequality declined between 1910 and 1980 (especially after WW2) but has been rising since 1980. Monbiot and Hutchison (2024, pp. 33, 45) report that since around 1989, the super rich in the USA has grown around US$ 21 trillion richer, whilst those with the lowest 50 per cent of incomes have become US$900 billion poorer - and that the wealth of US billionaires increased twelve-fold between 1990 and 2020. While a small exclusive club of largely entrepreneurs in the USA gets richer and richer, the rest of the country is heading to be the world's "first former middle class society" (Stiglitz, 2015). Chancel and Piketty (2021, p.3025) note that inequality under neo-colonial capitalism at the start of the 21st century is similar to that under colonialism in the 20th century. The persistence of inequality has according to *The Economist Magazine* (The Economist, 2014) heralded a new gilded age, headed by a class of entrepreneurs and crony capitalists who constitutes "new virtual nation of Mammon."

Thus, the growth-spiral economy is marked by an inevitable *Matthew Effect*, that is, the rich get richer. The particular entrepreneurship dynamic underlying this effect is that a handful of successful HGFs and scale-ups dominate markets, gaining winner-take-all effects and engaging in defensive innovation strategies and the creation of "kill zones" (e.g. Kamepalli et al. (2020) to reduce the entry of new firms. Not surprising given the hero worship of high-growth firms in the literature, these firms have been labelled *superstars*.

Ever higher inequality and its associated pathologies are not unintended by-products of the growth spiral into which modern economies are locked or the obsession with high-growth entrepreneurship: it is a feature, not a bug, of the system. Inequality confers power on a small elite, and, as has been pointed out by Karl Marx and many others, growth-dependent capitalism is not designed to distribute wealth and incomes but to "capture and concentrate it" (Monbiot and Hutchison, 2024, p.15). Isenberg (2014) is honest that the aspiration to capture and concentrate wealth is the defining feature of entrepreneurship when he admits that "successful entrepreneurship always exacerbates local inequality." The firms that lead in this are called superstars.

The obsession with growth obscures the recognition that it should be bizarre to laud a system that thrives on and promotes inequality. In effect, the obsession promotes acceptance of such corporate practices because these firms are believed to be the best drivers of economic growth there is (Banerjee et al., 2021). Hence the growth ideology helps to avert punitive actions against corporate excesses.

It also obscures the underlying causes of rising social and military conflict in the world, which often reflects the continued attempts by growth-dependent Western countries and the corporate/ financial sectors to maintain their hegemony - even through promotion of a permanent War Economy (Foster and McChesney, 2014). And it fuels the disillusionment with democracy given that the growth imperative is requiring more and more technocratic and autocratic measures. Reitz et al. (2021) describes how this fuels the rise of far-right-wing parties who are often supported by rich entrepreneurs - the plutocracy. Larry Fink, the CEO of BlackRock, one of the largest and most influential global corporations, is reported[7] to have declared in an 2011 interview that "Markets don't like uncertainty. Markets like, actually, totalitarian governments [...] Democracies are very messy."

3.2.4 Triggering a Global Polycrisis

The inter-relatedness of the ecological overshoot crisis and the social crises stemming from inequality and stagnation have given rise to a global polycrisis. The global polycrisis has been defined as "the causal entanglement of crises in multiple global systems in ways that significantly degrade humanity's prospects" (Lawrence et al., 2024, p.2). The unique nature of the global polycrisis as compared to previous crises in world history, is the extent globalization, trade liberalization, and the global economy's homogenization and hyper-connectivity which are outcomes of capitalism's relentless need for expansion. This has however made the world much more vulnerable to risk. Because of hyper-connectivity and homogenization of economies, the impacts of an adverse event can spread faster and everywhere, and with everyone being homogeneous and thus similarly exposed, the consequences can be far deadlier overall (Lawrence et al., 2024).

Because a polycrisis is, per definition, a crisis of interconnections and feedback, the various

[7] As reported in Crypto News, 6 February 2024, available at: https://www.cryptonews.net/news/analytics/28518066/.

dimensions of the polycrisis - environmental and social - must be addressed as a whole; they cannot be resolved individually (Lawrence et al., 2024). The common cause of much of these crises is the growth institution and ideology of modern capitalism. Recognizing this growth obsession and its damaging consequences and moving to a post-growth society becomes essential for addressing the polycrisis.

4 Beyond Myths: Outlines of a Post-Growth Society

It is helpful to summarize the narrative in this paper so far. The paper started by noting the obsession in entrepreneurship scholarship and policymaking with firm growth and the view that firm growth is a driver of economic growth. We discussed how this obsession has resulted in the fervent belief that high-growth firms (HGFs) are best suited to promote economic growth. As such, policymakers have been obsessed with policies to create and support HGFs, scale-ups and accelerated growth firms. The concept of so-called entrepreneurial ecosystems (EES) underlies the attempts by policymakers to tune the institutional determinants of entrepreneurship to enable HGFs. It was pointed out, however, that this obsession has taken attention away from the empirical and conceptual failures in the HGF concept and away from the fact that most firms do not grow and cannot grow perpetually - HGFs are more random than sustainable.

It was then noted that a justification for the obsession with HGFs is due to institutional and ideological attachments to economic growth. Because a major *raison d'etre* for studying and promoting firm growth is to maximize economic growth, the whole edifice of entrepreneurship scholarship and policymaking is based on shaky ground since economic growth is not perpetual. In fact, if economic growth has become a net cost to society instead of a net benefit, then the failure of entrepreneurship scholars to engage with the limits to growth literature and the related literature on a post-growth society is a serious omission. The previous section outlined how economic growth may have become more costly than beneficial for society, referring to ecological overshoot and inequality in the context of what has been termed the polycrisis.

If neither perpetual firm growth nor perpetual economic growth is possible nor desirable, and given that at least the Western world has been slowing but surely edging towards a post-growth society, as witnessed by the "Great Stagnation" (Cowen, 2010), then it is necessary to consider the emerging scholarship on what a post-growth society could entail: will it be a post-entrepreneurship society, or is there still a place for entrepreneurship? Relatedly, one can ask how the post-growth society could come into being - whether through collapse or a deliberate attempt, called degrowth?

In the remainder of this section, very tentative answers to these questions will be discussed. Before doing so, it is necessary to describe why economic growth cannot be perpetual - despite the apparent conviction amongst sustainable and eco-entrepreneurship scholars that they can square the circle.

4.1 The Limits of Growth

Economic growth has its place. Indeed, Goal 8 of the UN's 17 Sustainable Development Goals (SDGs), adopted in September 2015, is to "Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all." It contains a sub-goal (target) of at least 7% per annum GDP per capita growth for the least developed countries. The reason is simple: due to economic growth over the past two centuries, humans are generally better off on virtually all human development indicators (Pinker, 2018). Economic growth has also enabled social progress. As recently as two centuries ago, human society routinely enslaved people, subjugated women as a matter of course to the patriarchy and considered autocratic states run by kleptocratic rulers God-given, amongst other horrors. The growing wealth, progressive values, scientific rationality and tolerance that distinguishes current human civilizations from those pre-growth can be seen as being dependent on a growing economy (Kish and Quilley, 2017).

Even the literature that will be discussed below, including the literature that explores the notion of a post-growth society and the literature on degrowth, a path toward the post-growth society, are clear that economic growth is necessary for development. This is why the Degrowth movement calls for the wealthy West to degrow, but not the Global South - so to create space for catch-up growth in the Global South. Likewise, the notion of a post-growth society accepts the fact that growth is first required before post-growth can be entertained (Spash, 2015).

The problem is not so much finite growth *per se*, as building an economy and society on the belief or assumption, the myth, that economic growth can continue forever or that the benefits of economic growth will always exceed the costs thereof. The previous sections of this paper have described the dangers of such beliefs. Moreover, it is worth pointing out that not only can the costs of economic growth come over time to exceed the costs, but eventually, economic growth, even sustainable growth, however green and sustainable one can imagine it to be, cannot last forever. Fundamentally, the myth of perpetual growth is irreconcilable with physics and the biophysical reality of the planet and economy. There are two aspects of this irreconcilable nature.

The first is that, if as proponents of green growth assumes one can just continue to innovate to reduce the negative consequences of economic growth, then ultimately the extent of innovation needs to be so rapid and significant, that it stretches the imagination to the limits to imagine how this could be done. (Bettencourt and West, 2010) point out that sustaining growth will require breakthrough innovations to occur at a faster and faster rate, which however seems an impossibility.

The second aspect is that there are fundamental physical limits to growth. Even if the fairy tales of green growth / sustainable entrepreneurship advocates are realized through mind-boggling technological innovations that increase energy efficiency and decouple growth from physical resources, energy will remain necessary. Suppose such technological revolutions maintain the growth of energy use at roughly historical rates of 2,3%. In that case, energy use on the planet will grow from its 2019 level of 18 Terawatt (TW) to 100 TW in 2100 and 1,000 TW in 2200. According to Murphy (2022), at such a rate, the economy would use up all the solar power that reaches the Earth in 400 years and all the energy of the sun in 1700 years. Moreover, using so much energy would generate tremendous waste heat that would eventually be so hot as to boil the surface of the Earth in about 400 years.

4.2 The Nature of a Post-Growth Society

Given that economic growth may now impose more costs than benefits on the world and that there are clear limits to economic growth, the question becomes how society can shake off the growth obsession and what to replace it with.

Of course, it may be unlikely that the broad society would ever concur voluntarily with the need to shake off the growth obsession. This is why Reitz et al. (2021) note that in a post-growth society- as the one that seems involuntarily to be unfolding - various desperate attempts will be made in the political-economic sphere to stretch out growth as much as possible. They mention that such resistance could manifest in "populist-authoritarian projects of national enrichment" to "elitist-authoritarian projects for securing transnational capital accumulation" and "technological solutionism" (Ibid, p. 256). These forms of resistance be found in the fractured political discourses in the world in 2024. One also finds the increased militarization of Western economies as a pronounced manifestation of resistance to growing economic stagnation (Naudé, 2024a). Thus, in the era of the ossified economy or the

Great Stagnation as the current era has been labelled, “Visions of growth have become either aggressive (such as economic nationalism) or questionable (such as green growth), and the intensification of distributional struggles engenders a rise of authoritarian political options” (Reitz et al., 2021, pp.256-257).

The question of how to shake off the growth obsession has generated several proposals. As discussed by Rätzer et al. (2018), these proposals encompass the so-called *Steady-State Economy* (e.g. Daly (1972), the *Diverse Economies Approach*[8] and the *Degrowth movement* (Kallis and March, 2015). One could also add *Ecosocialism* and *Ecoanarchist* approaches (Banerjee et al., 2021).

A full discussion of all of these post-growth society ideas falls outside the scope of the present paper. For present purposes, this section focuses on describing the essential conceptualization of a post-growth society and the not uncontroversial claim that degrowth is necessary to eventually achieve such an economy (Farley et al., 2013).

A definition of post-growth economics is provided by Paech (2017, p.478), who states that “in contrast to environmental economics, which aims at the ecological decoupling of the Gross Domestic Product (GDP), post-growth economics focuses on economic systems, subsystems and even lifestyles to reduce the quantities of supply and demand.” The emerging field of post-growth economics studies the limits to growth, the growth compulsion, and the establishment of a post-growth economy (Paech, 2017).

A post-growth society differs from a *Steady-State Economy*, as envisaged by Daly (1972), or a *Doughnut Economy* by Raworth (2017). Economic growth is still possible and even somewhat desirable in both of these. In the case of the *Steady State,* economic growth is welcome but subject to limits. Similarly, in the *Doughnut Economy*, economic growth

[8]In this approach, firms and countries’ growth orientation is to be replaced by a *vitality orientation* that seeks to expand marginalized and alternative economic approaches in a post-growth society, see Gibson-Graham (2008).

is bound from above by planetary boundaries, but also bound from below by the need to meet the basic needs of human development - hence some minimum growth is still vital. In contrast, in a post-growth economy, growth has ceased to be an imperative, and the economic-social system aims at "prosperity without growth" (Jackson, 2016).

The challenge for entrepreneurs to contribute to prosperity without growth, i.e. to add value to society without contributing to ecological overshoot, is the twofold challenge of operating and surviving in an increasingly resource-scarce economy, with "peak everything" (Heinberg, 2007) as well as in an economy that is not expanding (Cyron and Zoellick, 2018). Here, the concern is indeed that if post-growth would come to characterize the current global capitalist system, where it is either growth or collapse, under post-growth, the world economy would become inflexible, transaction costs would increase, and there would be overall stagnation, with all the social and political consequences that would entail (Cyron and Zoellick, 2018).

4.3 Achieving Post-Growth via Degrowth

Hug et al. (2022) refer to the changes required to move the economy and society from dependence on and obsession with firm growth and economic growth as a sustainability transformation. Such a sustainability transformation would entail, in their words, going beyond green growth and decoupling and involve fundamental changes on the industry and firm level. The enterprises that will characterize this transformation have variously been labelled growth-neutral enterprises, post-growth businesses, degrowth companies, common-good-oriented companies or transformative enterprises Hug et al. (2022).

The Degrowth Movement, and the idea of degrowth, is a proposal for achieving this sustainable transformation to a stable society without growth. Degrowth is an "equitable downscaling of production and consumption that increases human wellbeing and enhances ecological conditions at the local and global level, in the short and long term" (Schneider et al., 2010, p.511). As explained by Banerjee et al. (2021, pp.342-343), degrowth is based on the recognition that capitalism and neoliberalism "in their current forms have created the social-ecological crises we now face."

Degrowth's anti-capitalism and anti-neoliberalism stance is Marxist. The French Marxist philosopher André Gorz indeed provided degrowth's intellectual *raison d'etre*. Saito (2023, p.171) has described Karl Marx as a "degrowth communist." Hence, the Degrowth wants to abolish capitalism. The burden of degrowth should fall on the affluent West - to allow some growth to enrich the Global South. Degrowth is thus not wholly anti-growth. The West should also pay the Global South climate reparations for misappropriating more than its fair share of carbon emissions (Schmelzer and Nowshin, 2023). That these reparations could stimulate economic growth in the Global South via raising aggregate demand and consumption is also no problem for advocates of degrowth, as long as this growth is not excessive. Cuba has in this regard been described as a role model for degrowth, a country that degrowth advocates consider to be appropriately developed (Hickel, 2015).

4.4 Entrepreneurship and Degrowth: Compatible?

Neither entrepreneurship nor degrowth scholars have yet critically and substantially studied whether entrepreneurship and degrowth is compatible. Hug et al. (2022) and Leonhardt et al. (2017) point out that more scholarly studies are needed to help clarify how entrepreneurs can participate in and collaborate in degrowth. One requirement is that entrepreneurs must divorce their entrepreneurial ambitions from firm growth or economic growth and, indeed, be able to function within a zero-growth context and possibly during a transition in a degrowth context. Gebauer (2018) refers to this as growth-independent and post-growth-oriented entrepreneurship.

Johanisova et al. (2013), Rätzer et al. (2018) and Wirtz (2013) argue that social entrepreneurship can help facilitate degrowth. This is because social entrepreneurs have different goals than profit maximization, although they can be very profitable, as many entrepreneurs in the micro-finance industry have experienced, and having a social mission may often be chosen to obtain a competitive advantage (Muñoz and Kimmitt, 2019). Nevertheless, in principle, social entrepreneurs can promote degrowth (and thus ultimately a post-growth society) by not requiring economic growth as necessary for profits, by potentially having a reduced impact on the environment and a smaller carbon footprint because most social enterprises tend to be embedded in a local context (few scales), and by being able to contribute to alleviating the consequences of both market and government failures, for instance in areas central to human wellbeing such as education and healthcare. Muñoz and Cohen (2017) do not consider degrowth. Nevertheless, they argue for an approach to sustainable entrepreneurship, which they call "entrepreneurial synchronicity", that would be partly consistent with degrowth. By entrepreneurial synchronicity with nature, they call on a slower, less urgent form of entrepreneurship such as that which characterizes the dynamics of HGFs and scale-ups. They fail however to consider the rebound (Jevons paradox) effects that this could have, if for instance better synchronicity increases firm productivity and efficiency.

Another category of entrepreneurship that could facilitate degrowth is lifestyle entrepreneurship. Lundmark et al. (2023) argue that more and more firms should be based on lifestyle entrepreneurship because such entrepreneurship operates "outside of the hegemonic growth paradigm" (p.42). They provide as an example, the experience of lifestyle tourism entrepreneurs in Scandinavia. Whether their findings can be generalised, is however doubtful - recent studies have been critical for instance at so-called sustainable or environmental tourism approaches elsewhere - see for instance the papers in Thakholi et al. (2024).

Some entrepreneurship could thus contribute, in principle, towards promoting degrowth although the evidence is scant and the literature thin. It is more likely that instead of contributing, entrepreneurship could detract from degrowth. Hinderer and Kuckertz (2024) state that the central down-scaling aim of degrowth is ”at odds with conventional wisdom about entrepreneurship” (Hinderer and Kuckertz, 2024, p.1). They note in particular that so-called sustainable entrepreneurs face a dilemma in that their enterprises can only have a significant impact if it is scaled, but that the process of scaling will require growth, which will put further pressure on natural resources and the environment.

Despite these examples, whether entrepreneurship is compatible with degrowth and post-growth have not yet been studied sufficiently. Despite this, an argument can be made that degrowth is incompatible with modern notions of entrepreneurship. One of the critical aspects of degrowth that makes it incompatible is not as much the decline in economic growth or economic stagnation which a downsizing of the global economy will require (entrepreneurship may, for instance, as social, sustainable and lifestyle entrepreneurs survive this), but the potential incompatibility of degrowth with the type of freedom which is a sine qua non of entrepreneurship.

One of today’s most fundamental freedoms is for people to spend their money as they wish (Douthwaite, 1992). However, as stressed by Windegger and Spash (2022), given that degrowth and post-growth calls for radical limits on consumption, it seems impossible to achieve significant reductions in such consumption except through limiting people’s freedom in this regard. Degrowth for instance variously proposes that consumption be curtailed, that in order to do this, advertising be banned, and that caps be put on specific resource uses. It proposes reductions in the workweek, limits on the wealth and incomes of the rich, cooperative ownership of capital, and changes in people’s values - amongst others. The questions that proposals for limits on consumption raises are, how much should a person be allowed to consume of a particular product? Who decides? Who enforces this? Rightly so, Spash (2015, p.374) has pointed out that the problem this pose is to “square this circle with non-coercion.”

Audretsch and Fiedler (2022) provide a case study of why entrepreneurship flourished in Vietnam despite the lack of freedom in the country. Their conclusion has stark implications for degrowth and its accompanying zero-sum politics. They conclude that the case of Vietnam shows that "When it comes to entrepreneurship, democracy and economic freedom matter relative to a country's past and expected future, and not necessarily in absolute terms." They found hence that "even minor and incremental advances of economic freedom in the context of Vietnam can significantly enhance entrepreneurial activity" (Audretsch and Fiedler, 2022, p.1181). The implication is that the converse would be true for entrepreneurship in Western liberal democracies: even minor setbacks in economic freedom could significantly reduce entrepreneurial activity.

4.5 Dismantling the Entrepreneurial Ecosystem

In light of the growth spiral into which modern economies are locked and in light of the restrictions of individual behaviour implied by a move to post-growth via degrowth, Paech (2017, p.484) comes to a damning indictment of entrepreneurship: he in effect, calls for the entire dismantling of the entrepreneurial ecosystem during degrowth:

> "An ecologically and socially sustainable economy must therefore be free from all dependency on growth and subsequent pressure for growth, including the innovation orientation of modern market economies, the present monetary and interest-earning system, expectations of high profit, external supplies of resources based on a model of global division of labour, and a culture of unquestioning pursuit of material self-actualization."

This quote refers to virtually all the growth-causing imperatives in modern capitalism, hence all the mechanisms that need to be rooted out in order to establish a post-growth society.

All these mechanisms are linked to entrepreneurship. It is, therefore, useful to briefly discuss their role in growth and what their absence in a post-growth society will mean for entrepreneurship.

4.5.1 Free from Innovation

The first growth-imperative cause mentioned in the above quote is “the innovation orientation.” In section 3, where the growth spiral was discussed, it was pointed out that innovation is ultimately driven by entrepreneurs’ quest for consumer markets -to offer new goods and services to avoid satiating consumer demand. This feeds into marketing and the promotion of consumption for consumption’s sake. Innovation and over-consumption are energy-intensive and result in waste, pollution, and pressure on natural resources and ecosystems. This may be especially the case for innovations to require more and more energy - consider for instance innovations in artificial intelligence that are raising the energy needs associated with computing and data centers.

4.5.2 Free from Finance

The second growth-imperative cause mentioned is the “monetary and interest-earning system.” Section 3 discussed how modern monetary creation is done by banks when lending to entrepreneurs with the expectation that interest will be paid out of profits. The money/debt created in this way can be seen as a claim on future resources (when it is to be repaid) and, hence, future energy (Hagens, 2020, p.7). This implies that the modern monetary and financial system is not linked to the biophysical reality and limits of the planet (Farley et al., 2013).

As such, proponents of post-growth and degrowth see the reform of the financial system necessary for post-growth, although as Olk et al. (2023) point out, proposals for degrowth have so far neglected monetary and financial considerations. Existing proposals have mainly been for a 100-percent reserve banking system i.e. in which private banks cannot create money (Dittmer, 2015) and for combining degrowth with Modern Monetary Theory (MMT) - where governments essentially print money to pay their debt, thus not needing tax revenues from future growth (Olk et al., 2023). One can note that both these proposals are likely to generate macro-economic instability: a 100-percent banking system would generate interest rate instability, and MMT broader financial instability, similar to the more than 120 financial crises the world has seen since abandoning the Bretton Woods system.

4.5.3 Free from Profits

The third growth-imperative cause is the need for high profits, explained in section 3 as necessary not only to qualify for bank lending, but also to raise private equity capital. Such investors, including venture capitalists, expect rapid firm growth-preferably scaling up-in order to earn dividends.

A main objective of firm and industry restructuring during degrowth would be to remove the profit motive. One way would be to dismantle the financial system and in particular the power of commercial banks to create money. It could also be done by putting a prohibition on the levying of interest (Douthwaite, 1992). Another way would be to break up large firms and ensure the small firms that remain are locally oriented and democratically run, without a profit motive (Duprez, 2024). If this fail to result in a livable wage for the owners and workers then the government should provide to all people basic income grants - funded by the government creating money (Olk et al., 2023).

4.5.4 Free from Globalization

The fourth growth-imperative cause in the above quote is "external supplies of resources based on a model of global division of labour." This refers to the global expansionism - often *de facto* imperialism - of modern corporations seeking to secure access to resources, including cheap labour and markets. Corporations need to grow to access capital to expand globally and to expand globally to earn the profit prospects with which to attract capital (Luxemburg, 1913). It results in a spiral of growth.

Thus, according to the degrowth movement, degrowth of the economy requires immediate de-globalization (Decker, 2018). How to do this, what alternatives should be replacing the current global order, is however very insufficiently explored in the degrowth literature, as Frame (2023) points out.

4.5.5 Free from Material Pursuits

Finally, the quote above mentions the "culture of unquestioning pursuit of material self-actualization" as a cause of the growth-imperative. This refers to the dominant entrepreneurship culture, as was mentioned with reference to the TV show *The Apprentice*, where billionaire, unicorn-creating entrepreneurs who pursue high-growth ventures are the heroes of modern society - ones to be emulated.

In contrast, Degrowth envisages an Utopian alternative: where competition makes way for cooperation, and where limits become meaningful. For advocates of degrowth, replacing the pursuit of material goods by self-imposed limits can be, paradoxically, a source of freedom. In the words of Kallis (2021, p.2) "Liberation and freedom, I argue in my book, require limits, like a pianist needs a finite keyboard to make music. Adventure without limit, without an Ithaca to return to, is no adventure. This classical ideal of limited worlds stands in direct contrast to the Western-frontier fiction of liberation from all limits (at the expense of the colonized 'other' of course), mythologized by Hollywood movies in which the hero beats death, the ultimate limit. "

4.5.6 Holding Entrepreneurs Fully Accountable

If the causes of the growth imperative discussed in sub-sections 4.5.1 to 4.5.5 were to be dismantled in the process of degrowth towards a post-growth economy, it would result in an economy in which key aspects of modern entrepreneurship—the search for innovative new products and production methods, access to finance and debt, profit-orientation, international expansion and trade, firm growth, and entrepreneurial ambition tied to personal wealth-would cease to be dimensions of entrepreneurship.

But wait, there is more. Dismantling these dimensions of entrepreneurship and entrepreneurial ecosystems is necessary but however not sufficient for a post-growth society. As Douthwaite (1992) argue, one would also have to establish a new moral-cultural system wherein the entrepreneur is held firmly accountable for their actions. Douthwaite (1992, pp.315-316) describes what will await entrepreneurs under a post-growth moral-cultural system:

> "the entrepreneur should be responsible for the consequences of his actions. Thus, if he puts someone out of work, at home or abroad, in his firm or another, he should support them until there is something else suitable for them to do [...]Similarly if the entrepreneur is involved in something like the destruction of the sea-trout, he should do the equivalent of compensating the game fishery owners for the loss of their fish. [...] we should no longer give new projects automatic economic and social approval, assuming that if the entrepreneur finds the venture worth while, the community will do so too. Henceforward, just as we insist on environmental impact assessments for new developments, we must

> demand economic and social impact assessments for projects and technologies."

If this could scare anyone out of business, this may precisely be the point of degrowth: Nesterova et al. (2020) declare that "degrowth should scare business" calling for a fundamental transformation of society that would be "so radical that businesses as we know them will cease to be businesses."

4.5.7 Will Rosa Luxemburg have the Last Word?

Is it possible, then, to imagine entrepreneurship as it is today commonly conceived of, in such a context?

This is difficult - but not impossible. At least one dimension - a zero-sum game - can be pictured. It paints a picture of a reversal into a medieval economy. In a degrowth or post-growth context where the economy does not grow, any entrepreneur who requires profit to repay a loan and its interest can only earn such profits at the expense of another entrepreneur. Inevitably, conflict would result - including outright violence, as one most often encounters in countries where economic prospects have deteriorated (Naudé and Power, 2024). While capitalism with growth is destructive, it is also the case that "capitalism without growth is destructive" (Blauwhof, 2012, p.255).

In her magnum opus, Rosa Luxemburg alluded to the post-growth world resembling the pre-growth world, a simple, circular, self-sufficient, no-growth economy marked by "general economic and cultural stagnation." It is worth quoting in full from Luxemburg (1913, p.41):

> "In the ancient agrarian and communist village communities, for instance, increase in population did not lead to a gradual expansion of production, but rather to the new generation being expelled and the subsequent founding of equally small and self-sufficient colonies. The old small handicraft units of India

> and China provide similar instances of a traditional repetition of production in the same forms and on the same scale, handed down from generation to generation. But simple reproduction is in all these cases the source and unmistakable sign of a general economic and cultural stagnation. No important forward step in production, no memorial of civilization, such as the great waterworks of the East, the pyramids of Egypt, the military roads of Rome, the Arts and Sciences of Greece, or the development of craftsmanship and towns in the Middle Ages would have been possible without expanding reproduction; for the basis and also the social incentive for a decisive advancement of civilization lies solely in the gradual expansion of production beyond immediate requirements, and in a continual growth of the population itself as well as of its demands."

5 Conclusion: Damned if you do, damned if you don't

Entrepreneurship scholarship and policy support are based on the two intertwined myths of high firm growth and perpetual economic growth. These myths have become obsessions that have caused significant damage to the planet's biophysical systems and social stability and justice. The terms sustainable growth and sustainable entrepreneurship have become oxymorons and "dangerous contradictions in terms." As a result entrepreneurship scholarship and policy making have failed to understand how profoundly entrepreneurship is implicated in the polycrisis - the interrelated and interdependent crises of ecology and social stability.

Certainly, entrepreneurship scholars and policymakers have recognized the ecological and social crises, but the approaches to address these, including sustainable entrepreneurship and green growth, remain deeply rooted in the growth ideology. For instance, the conviction is that socially and environmentally responsible firms will grow faster and that social entrepreneurship will address inequality and exclusion. Even the notion of sustainable entrepreneurial ecosystems is supposed to square the circle of sustainability and growth, not to abandon the ideal of economic growth.

Hence, mainstream entrepreneurship scholarship can be seen as subscribing to reform environmentalism, which is an environmentalism that believes that technological and organizational innovations in production methods and markets are sufficient to avoid ecological overshoot and mitigate climate change. Abandoning economic growth is not necessary. Moreover, scholars of sustainable entrepreneurship have reformulated the challenge of ecological overshoot as a significant business opportunity.

This paper discussed various dangers of the obsession with the myths of high firm growth and perpetual economic growth. The dangers of the myth of high firm growth were discussed were that 1) it provides justification for the dismantling of the welfare state, 2) it undermines economic stability, and 3) it results in the problem of bigness, i.e. accentuating the essential character of capitalism not to distribute wealth but to concentrate it. The dangers of the economic growth myth discussed in this paper were 1) ecological overshoot, 2) the enabling of the myth of sustainable entrepreneurship, 3) erosion of the social fabric, and 4) the triggering of a global polycrisis.

Because of the interdependent nature of these dangers and their feedback effects, an appropriate response requires an encompassing, not piecemeal, approach. The underlying cause- the ideology and institutionalization of growth in a system of neoliberal capitalism -needs to be addressed. The end goal must be a post-growth society. A growing movement of scholars and activists claim that degrowth - the deliberate scaling down of the size of the world economy - is the only way to get there.

If economic growth is not perpetual then the whole edifice of entrepreneurship scholarship may be on shaky ground In fact, if economic growth has become a net cost to society instead of a net benefit, then the failure of entrepreneurship scholars to engage with the limits to growth literature and the related literature on post-growth and degrowth is a serious omission. If neither perpetual firm growth nor perpetual economic growth is possible nor desirable, as was argued in this paper, and given that at least the Western world has been slowing but surely edging towards a post-growth society, then it is necessary to consider the emerging scholarship on what a post-growth society could entail: Will it be a post-entrepreneurship society, or is there still a place for entrepreneurship? What role, if any, could entrepreneurship play in degrowth, the proposed approach to get there?

In this paper, these questions were answered by critically discussing the visions of post-growth and degrowth from the perspective of entrepreneurship. It was pointed out that the question of whether entrepreneurship is compatible with degrowth and post-growth has not yet been studied sufficiently. Hence, this paper calls for more future scholarship on this topic.

Nevertheless, despite this vacuum the preliminary conclusion reached here was that, in essence, a post-growth society with modern notions of entrepreneurship seems inconceivable. All the aspects of ecosystems and support and understanding how entrepreneurship leads to growth through good institutions will need to be undermined/dismantled to ensure degrowth and, eventually, post-growth. Indeed, as some advocates of degrowth have put it, "degrowth should scare business."

It is not uncontroversial to state that no government, nor its business and entrepreneurial class, will endorse degrowth, except to the extent that it can be turned into an opportunity, which has led Alexander and Gleeson (2019) to remark that the only prospect of the degrowth path to a post-growth society ever being followed, would only be if sufficient grassroots (household and community level) pressure can be mobilized, which however they admit is unlikely ever to be the case.

This leaves the relationship of entrepreneurship to a post-growth future wide open.

The fundamental problem is one of "damned if you do, damned if you don't": capitalism with economic growth has become dangerous, but capitalism without economic growth is likewise dangerous. Neither the post-growth nor degrowth literature has yet presented a convincing alternative of a post-growth and degrowth society. Just stopping growth as an ideology and obsession, as degrowth aims to do, but without first fundamentally dismantling the neoliberal agenda ("capitalism on steroids") that constitutes the modern global economic system, will worsen the polycrisis. It may trigger an earlier societal collapse than in the case with continued (but stuttering) growth.

In this respect it worth keeping in mind that, historically, the only example of a thriving stationary (non-growing) society was Japan during the Edo (Tokugawa) period (1603-1868). It was also "a brutal dictatorship" (Bardi, 2020, p.221). Moreover, it was stable, but stagnating. Rosa Luxemburg, who provided a profound critique of the deep flaws of growth-dependent capitalism, recognized that without growth, the incentives for the "decisive advancement of civilization" falls away (Luxemburg, 1913, p.41).

Entrepreneurship is dangerously obsessed with growth and incompatible with current visions of a post-growth society. But it has been a tool for the advancement of civilization, however imperfect. While it is difficult to see how a post-growth and degrowth society could be made compatible with modern entrepreneurship, given the current literature, this does not mean it is not eventually possible. One has to do better than the current entrepreneurship and degrowth/post-growth literatures have done. More imagination and more attention are required, and sooner rather than later. Since economic growth is not perpetual, time is running out.

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