The Tragedy of Growth

To protect wellbeing and avoid ecological disaster we must abandon GDP growth and transform our economic system

PositiveMoney

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Executive Summary

Critiques of Gross Domestic Product (GDP) as a measure of economic progress are widespread. However 'beyond GDP' narratives often seek to complement the dominant indicator with other measures of progress, aiming for 'inclusive' or 'green' growth, instead of truly moving 'beyond GDP'.

Contrary to the mainstream narrative, we show that GDP growth, regardless of the form it appears to take, does not enhance life satisfaction, alleviate poverty, or protect the environment. Calls for better kinds of growth do not fully recognise the failures of economic growth, and therefore provide no viable vision for the future.

However, absence of growth in capitalist economies generates strong tendencies toward unemployment and deepening inequality. These structures - referred to as 'growth imperatives' - currently present a barrier to reaching a society that prioritises human well-being and environmental sustainability. Focusing on the monetary and financial system, we show a tension between financialisation and growth in high-income countries that prevents an easy shift to a financially stable non-growing economy. We highlight interest-bearing debt as a growth imperative, and put forward transformative monetary policies as a necessary contributor to escaping the growth paradigm.

A universal basic income issued via central bank digital currency, a direct clearing facility, public banks and modern debt jubilees all feature on this agenda for a post-growth money and finance system.

To protect human wellbeing and avoid environmental disaster, we must escape the growth paradigm once and for all. This requires stopping the publication of GDP figures and focusing instead on dashboards of alternative indicators, such as life expectancy, carbon emissions, and education. To support this reorientation of policy goals, decision-making guidance must be made fit for high uncertainty in a crisis-prone world.

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Summary of Recommendations

This report makes several key recommendations for the Treasury, the Bank of England, and the Office for National Statistics (ONS). The first and most important recommendation:

- As structural growth imperatives are eliminated, the ONS should stop publishing GDP figures and the Treasury should stop targeting GDP growth.

In order to eliminate growth imperatives related to the monetary and financial system:

The Bank of England should:
- Ensure access to a public means of payment in the form of Central Bank Digital Currency.
- Ensure access to an alternative source of credit for SMEs via a newly-established direct clearing facility.

The Bank of England and the Treasury should engage in closer monetary-fiscal coordination to:
- Explore options for the issuance of a universal basic income through Central Bank Digital Currency accounts.
- Enable, via financial and regulatory means, the creation and sustenance of an ecosystem of public banks.
- Further institutionalise the process of monetary financing and credit guidance.
- Collaborate on a programme exploring different possible designs for debt jubilees, and their likely impacts.

The Treasury should:
- Establish a formal inquiry into reducing the growth dependency of the UK economy.[1]
- Reform the tax system, implementing higher marginal rates on the highest incomes, alongside taxes on wealth, financial transactions, and property and land.

In conjunction with the above, we recommend the following changes regarding wellbeing indicators and decision-making:

- The UK government should join the 'Wellbeing Economy Governments' alliance.
- The ONS should conduct a review of its 'Measures of National Wellbeing' dashboard.
- The ONS should publish its wellbeing dashboard report on a quarterly basis.
- The Treasury should further incorporate the dashboard into its macroeconomic framework and budgeting process.
- The review of the dashboard should be based on a wellbeing framework developed by the ONS, with the Treasury's support and public consultation, under the 'Measuring National Wellbeing Programme'.
- The Treasury should incorporate post-normal decision-making tools, such as participatory processes, into its decision-making guidance.

[1] This was originally proposed by the APPG on Limits to Growth (Jackson, 2020).

1 Introduction

Critiques of Gross Domestic Product (GDP)[2] as a measure of economic progress have become increasingly common in recent years. The World Economic Forum (WEF, 2020), the OECD (Ramos and Hynes, 2019), and the European Commission (EC, 2019a), among other mainstream institutions and economic thinkers (Stiglitz et al., 2009), support 'beyond GDP' programmes. Their proposed response to GDP's deficiencies is to complement its use with other measures that better reflect human and sometimes environmental wellbeing.

In this report we show that such an approach is insufficient, as it does not acknowledge the full extent of the failures and consequences of GDP growth, which remains a top priority among policymakers, economists, and the media. Growth retains its privilege in policy and public discourse through its promises of enhanced life satisfaction, alleviation of poverty, and protection of the environment. We show that in reality, growth consistently fails to deliver on these promises.

To protect human wellbeing and avoid environmental disaster, we must escape the growth paradigm once and for all. As a first step in this process, we recommend that in the UK the Office for National Statistics (ONS) stop publishing GDP figures and the Treasury stop targeting GDP growth. This would undermine the negative influence of the GDP indicator, and allow for a determined shift to alternative indicators.

The shift away from the GDP indicator must be accompanied by an agenda to overcome growth dependency. In other words, we must transform the structures of our economy such that they no longer require GDP growth to temporarily fend off financial, economic, and social crises. If growth is low or negative, these structures - referred to as 'growth imperatives' - generate multiple undesirable crises. Rising unemployment, deepening inequality and debt crises are just a few of the common consequences of insufficient growth in our current economic system.

Focusing on the monetary and financial system as a source of growth imperatives, we highlight a tension between financialisation and growth. Our financialised banking system, which lends disproportionately to finance, real estate and insurance sectors, requires growth in order to fend off financial crises. Yet proposals to shift away from financialisation are often aimed at achieving a high-growth economy, which is also not a viable option. We need a non-financialised and non-growing economy, yet we have never witnessed this scenario in an advanced economy. This raises the question of whether a capitalist economy can deliver a stable and socially desirable non-growing economy.

We argue that without growth, the basic features of capitalist economies generate strong tendencies toward mass unemployment and deepening inequality, and monetary systems based on interest-bearing debt are central to these growth imperatives. Therefore, transformative monetary policies are needed to reduce our dependence on interest-bearing debt and foster balanced creditor-debtor relationships in line with the objectives of a post-growth economy.

[2] GDP is defined as the final market value of all goods and services sold in a country in a given period of time. It can be measured in any of the three following ways: (i) the production approach, which adds up the monetary value of all the goods and services produced; (ii) the consumption approach, which adds up the monetary value of all the goods and services consumed, the investments made, and the difference between exports and imports; and (iii) the income approach, which adds up the income and profits generated.

We bring together a collection of proposals that can all contribute to the post-growth money and finance agenda, categorised according to three functions: (i) guaranteeing access to public means of payment; (ii) guaranteeing access to credit; and (iii) immediately redistributing power in the system. The first two consist of longer-term measures that will take time to implement, while the latter is focused on ways of more rapidly addressing power imbalances between creditors and debtors. A universal basic income issued via central bank digital currency, a direct clearing facility, public banks and modern debt jubilees are among the policies that feature on this agenda for a post-growth money and finance system.

If structural growth imperatives are eliminated, a lack of growth will no longer generate multiple crises. This will allow for a comprehensive shift away from the GDP indicator towards alternative measures of progress that reflect the social and environmental goals of a post-growth economy. A dashboard of indicators provides the best option to guide new economic policy making. Selected indicators can include factors like life expectancy, health, education, carbon emissions, and material use. The process of creating and incorporating the dashboard into the policy process will be most fruitful if grounded in a coherent wellbeing framework that defines wellbeing as the satisfaction of fundamental human needs.

To support this deep reorientation of policy goals, decision-making guidance must also be reviewed for high uncertainty and high stakes projects and should incorporate post-normal tools, such as participatory processes.

The report is structured as follows. Chapter 1 shows that the focus on growth in policy, academia, and the media is excessive and misplaced, as growth consistently fails to enhance life satisfaction, alleviate poverty, or protect the environment. Chapter 2, outlines how, despite growth's shortcomings, 'growth imperatives' in the economic system mean that low or negative growth generates tendencies toward multiple crises. Chapter 3 charts a path to the elimination of these growth imperatives via a transformation of our monetary and financial systems. Finally, Chapter 4 explores new measurements, wellbeing frameworks, and decision-making processes that could guide a new policymaking paradigm for a post-growth economy.

CHAPTER 1: Challenging the Growth Paradigm

Despite widespread recognition of GDP's deficiencies as a measure of progress, the growth paradigm remains firmly in place. Across policymaking, academia, and the media, social and environmental issues are still too often framed in terms of economic growth. Proponents of growth make three key arguments in its favour: (i) it increases life satisfaction; (ii) it alleviates poverty; and (iii) it helps us protect the environment. However, these are 'false promises'. When a closer look is taken at the impact of GDP growth, we find that the contrary is true: increasing wellbeing and avoiding environmental disaster requires embracing an end to economic growth.

1.1 Growthmania: Alive and Well

Recent years have seen a flurry of work discussing the inadequacies of GDP as a proxy for any form of 'economic progress' or 'wellbeing'. In some cases, policymakers appear to be taking these findings on board. For example, numerous cities in China have abandoned GDP targets, and the governments of Scotland, New Zealand, and Iceland have united in a 'Wellbeing Economy Governments' (WEGo) group aimed at incorporating wellbeing indicators into the policy process. International institutes such as the OECD (Ramos and Hynes, 2019) and the European Commission have launched "Beyond GDP" agendas.[3] In the UK, a cross-party parliamentary group on Limits to Growth was established in 2016, and a parliamentary debate was held in 2019 to challenge the pursuit of economic growth.

Nonetheless, beyond acknowledgments of flaws in the measure of economic growth, the growth paradigm remains largely unchallenged in academia, policy and the media. Mainstream economists play a key role in perpetuating this status quo. For example, William D. Nordhaus won the 2019 Nobel Memorial Prize in Economic Sciences for his work that justified delayed action on climate change partly due to the alleged hit to GDP that immediate action would cause. His model's 'damage function' establishes a mathematical relationship between temperature rises and GDP decreases, producing estimates of 'future damages' to GDP. This approach leads him to label a path to 4 degrees Celsius of warming as "optimal" (Nordhaus, 2018). Meanwhile, climate scientists tell us that such a level of warming would be catastrophic, possibly resulting in the death of much of the world's population (Vince, 2019).

Influenced by such analyses, as well as the mainstream narrative of high GDP growth reflecting the success of government programmes, many policymakers continue to prioritise growth over environmental and social issues. For example, the UK government's main document outlining its environmental strategy is entitled the "Clean Growth Strategy", framed entirely around achieving GDP growth. More recently, the Treasury published its "Green Finance Strategy", which is also framed in the context of the global shift "towards cleaner, more resilient economic growth" (p.6). Further, in response to a question about the UK's dependency on growth, the government stated: "Our economic priority as a Government is to ultimately see the economy grow, therefore, we make no apology for 'growth dependency'" (Bennett, 2020).

Equally, In the EU, the European Commission (EC, 2019b) is presenting its 'Green Deal' as a "new growth strategy" for a future EU economy "where economic growth is decoupled from resource use." The associated "massive public investment and increased efforts to direct private capital towards climate and environmental action" is touted as "an opportunity to put Europe firmly on a new path of sustainable and inclusive growth." International organisations including the UNEP, the OECD, the World Bank, and the IMF are all framing their response to climate change as reigniting growth in a 'green' manner (e.g. World Bank, 2018).

As far as monetary policymaking is concerned, the grip of growth is enshrined in legislation.[4] The Bank of England's website explains:

> "whenever we consider different possible policy actions (such as a change in interest rates), our remit requires us to pick whichever actions will boost economic growth the most while still meeting our primary objective for low and stable inflation. We also have responsibilities to ward off the chances of a financial crisis from happening. This also helps create the conditions for economic growth. And here, too, our remit explicitly requires us to factor in the impact on growth when deciding on policy actions that help to keep the financial system safe."[5]

[3] The European Commission documents and web pages often refer to this program by its original title, the 'GDP and beyond' programme.

[4] This year, for the first time, two major institutions in the central banking community - the Bank of International Settlements and the Banque de France - questioned the growth paradigm in their joint publication "The Green Swan: central banking and financial stability in the age of climate change". Towards the end of the book, they claim that "bringing the economic system back within Earth's "sustainability limits" therefore involves much more than marginal changes in the pricing and accounting systems, and could entail re-evaluating the notion of endless economic growth itself" (Bolton et al., 2020, p. 63) While this is a major statement, which goes beyond calls to simply change the way we measure economic progress, it was not mentioned in the publication's media coverage (Randow, 2020), and no other prominent voices in the central banking community have publicly supported this particular argument.

[5] Whether the Bank of England has effectively discharged this duty is debatable. There are various alternatives to Quantitative Easing, for example, that would have likely been more effective in boosting growth while maintaining price stability (van Lerven, 2016). The important point here, however, is that the goal of economic growth is not questioned.

Furthermore, public debate and commentary on immigration (Goldin, 2018), fiscal policy (Stirling, 2019), Brexit (Tetlow and Stojanovic, 2018) and other topics are still often largely framed in terms of economic growth. Generally, one faction claims a particular policy is good for economic growth, while the opposing faction claims it is not, both combining varying degrees of rhetoric and evidence.[6] Only in relatively rare cases do commentators (Goodfellow, 2019) and politicians (Lucas, 2019) effectively escape the 'growth' framing of such issues. Even in the case of Covid-19, some have framed the debate on public health measures in terms of their negative (Young, 2020; Whipple, 2020) or ultimately positive (Reyes, 2020; Wolf, 2020) impact on economic growth.

All of the above inevitably has an impact on the private sector as well. Financial markets, private companies, and to some extent consumers are influenced by GDP predictions and updates. As with any forecasts that impact behaviour, this produces self-fulfilling prophecies, such that GDP fixation can create a pro-cyclical effect (Van den Bergh, 2009).

While the flaws of the GDP measure are being increasingly recognised, the grip of the growth paradigm remains deeply entrenched across pretty much all sectors and organisations. A critique of our primary measure of economic growth, the GDP indicator, provides little prospect for the change we need without an accompanying critique of economic growth itself.

1.2 The False Promises of Growth

This section reviews the three main false promises of growth that remain common in public discourse. These are that growth is necessary to: (i) increase life satisfaction; (ii) alleviate poverty; and (iii) protect the environment. We show that in all three cases, growth is in fact counterproductive to achieving these goals. Ensuring wellbeing and avoiding ecological disaster will require a new model of development.

1.2.1. Increasing life satisfaction

The promise: Growth is an effective means of increasing life satisfaction.

The reality: Growth has minimal, if any, positive impact on life satisfaction.

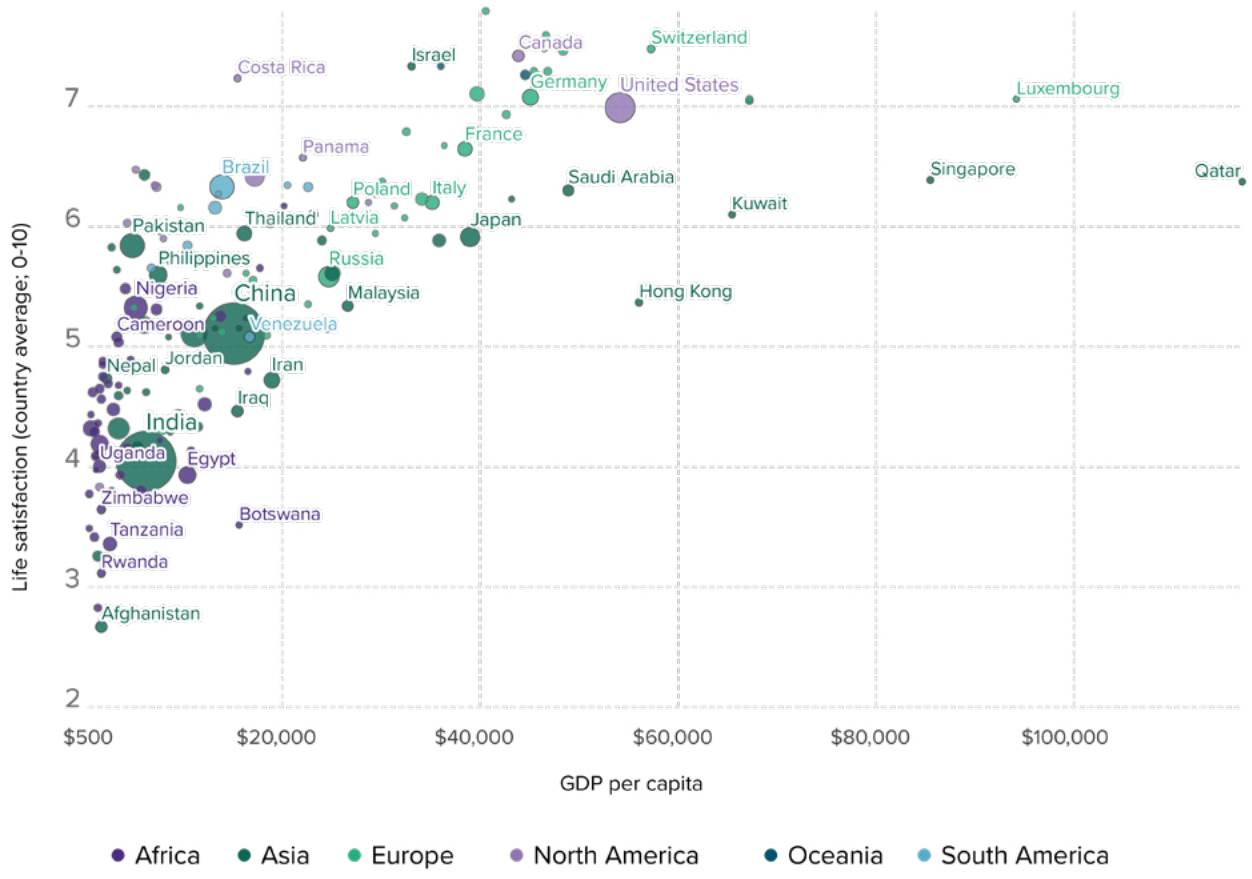
There are two empirical approaches to assessing the relationship between GDP growth and life satisfaction that are the most frequently taken. The first is cross-sectional analysis of GDP and life satisfaction in multiple countries at a given point in time, and the second is time-series analysis of changes in GDP and life satisfaction over time. The two approaches yield slightly different results, though both show that at least in high-income countries, further GDP growth does not improve life satisfaction.

The first approach, a cross-sectional snapshot of self-reported life satisfaction, shows diminishing increases in life satisfaction from increased GDP per capita (displayed in Figure 1). This suggests that for countries with a relatively high GDP per capita, further growth will not further enhance life satisfaction.[7] For lower-income countries, this data seems to imply that further growth could enhance wellbeing.

[6] These references to 'the economy' and its 'growth' are not always solely referring specifically to GDP. Other related economic indicators - most importantly employment and wages - are often explicitly addressed. But the desirability for more GDP growth is still generally presented as an absolute given, and an end in itself.

[7] One study by Proto and Rustichini (2014) that accounts for certain biases in the data finds evidence that after leveling off around 20,000 USD, the relationship even starts to turn negative around 35,000 USD.

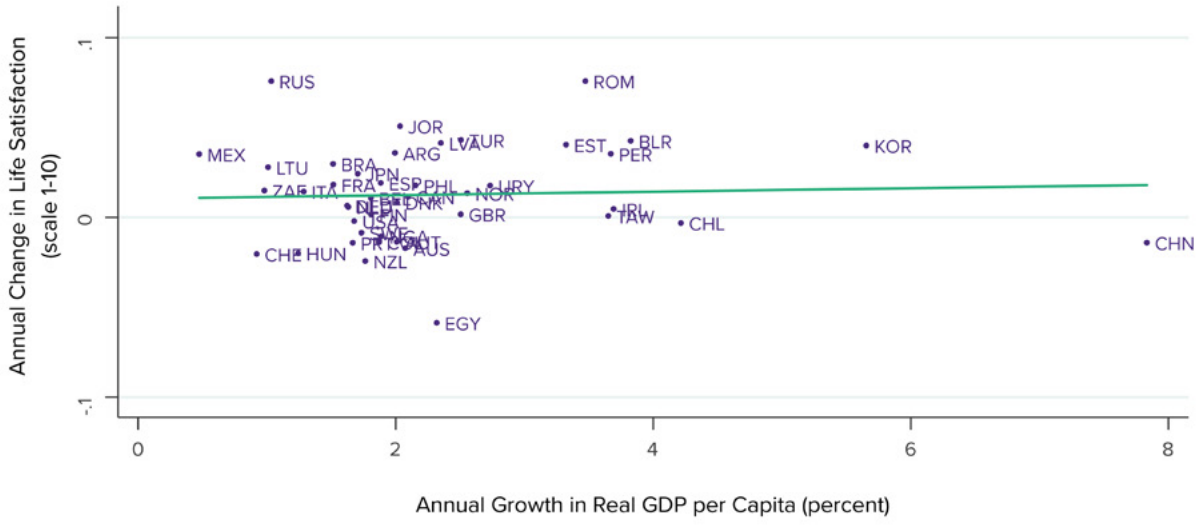
Figure 1: *Self-reported life satisfaction vs GDP per capita in 2017*[8]



Source: Our World in Data, based on World Happiness Report (2019)

However, based on extensive time-series data on countries across the income spectrum, Easterlin (1974, 2013, 2016) has consistently found no positive relationship between GDP growth and life satisfaction, as displayed in Figure 2. China is an exemplary case of this, as real GDP has grown at an unprecedented rate in the last two and a half decades, yet reported life satisfaction has not grown at all (Easterlin et al., 2012).

Figure 2: *Growth rate of life satisfaction and GDP per capita for 43 countries (mean time span of 23 years)*



Source: Easterlin (2016)

[8] As explained on the "Our World in Data" website: "The vertical axis shows the self-reported life satisfaction on a scale ranging from 0-10, where 10 is the highest possible life satisfaction. The horizontal axis shows GDP per capita adjusted for inflation and cross-country price differences."

Growth does not deliver an increase in life satisfaction because it mostly goes to the world's wealthiest (Matthews, 2017) and does not entail greater success in meeting human needs (Hickel, 2020a). In fact, growth thrives off of many socially and environmentally detrimental activities, such as war mobilization and post-war reconstruction, environmental disasters that require investment for restoration, planned obsolescence, and marketing campaigns that consistently pressure people to consume at faster rates and in higher quantities.

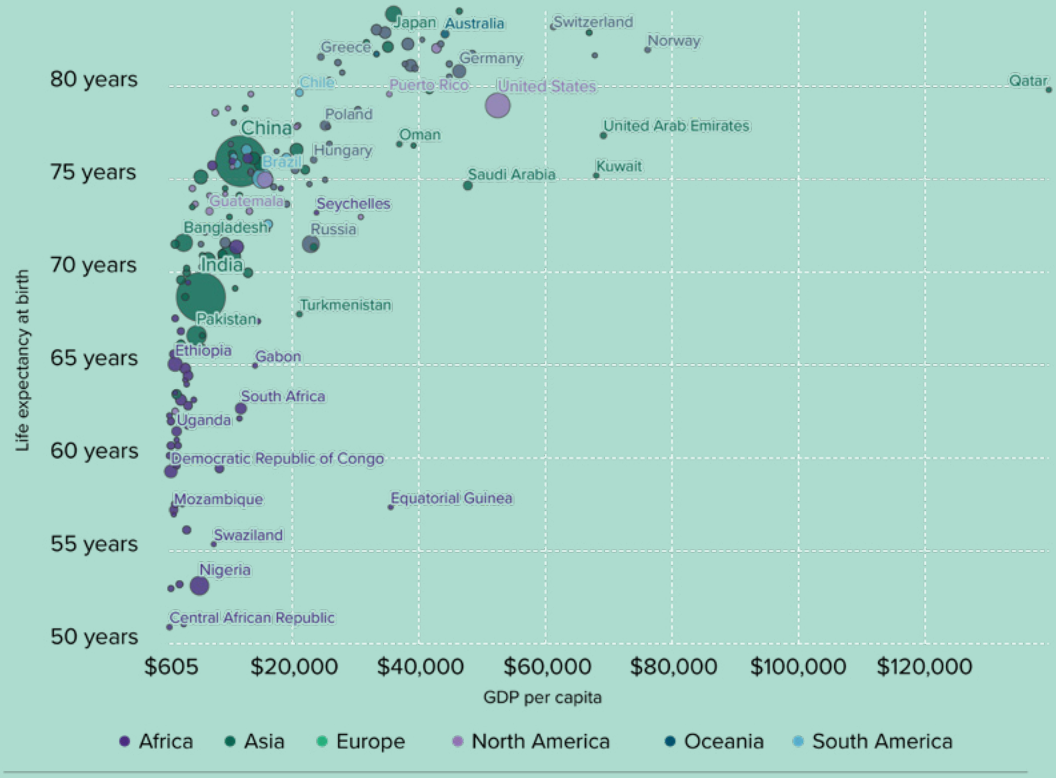
Easterlin's studies suggest that even in lower-income countries GDP growth does not chart a path toward greater wellbeing. This suggests the common claim that growth is an effective means of alleviating poverty may be mistaken, as discussed in the next section.

Box 1: Covid-19, GDP, and life expectancy

During the Covid-19 lockdown, some commentators (e.g. Young, 2020) argued that the hit to GDP caused by public health measures would kill more than the virus itself. However, history shows that the immediate impact of recessions is actually an overall decrease in mortality (Toffolutti and Surhcke, 2014), while sudden surges in economic growth have caused negative health impacts (Szreter, 2003).

Urban life expectancy in Europe only significantly increased in the 1880s with the invention of sanitation and, over time, the provision of universal healthcare, education, and public housing. As demonstrated by countries such as Costa Rica and Cuba, high levels of GDP per capita are not necessary for the provision of such services (Hickel, 2019). Figure 3 shows that many countries achieve a high life expectancy with relatively low GDP per capita:

Figure 3: *Life expectancy vs. GDP per capita in 2015*



Source: Our World in Data, based on Clio Infra & UN Population Division & Maddison Project Database (2018)

That said, given the current growth-dependent structures of our economy (explored in Chapter 2), the long term economic impacts of Covid-19 will likely cause much human misery, especially if governments fail to mitigate its impacts by providing income support and basic services. To respond effectively to this crisis, the government responses should prominently feature longer-term transformative measures to reduce the growth dependency of the economy (covered in Chapter 3). Only then will we be able to protect ourselves against the negative repercussions of a shrinking economy.

1.2.2. Alleviating poverty

The promise: Growth is an effective means of alleviating poverty.

The reality: Growth drives economic injustices, borne by the world's poorest.

Environmental economist Lord Stern has labeled calls to end the pursuit of growth as "close to reprehensible", justifying this primarily with the narrative that growth alleviates poverty (Confino, 2014). Even among critiques of GDP, many high-profile authors, such as Jackson (2011), argue that growth should not be abandoned in low-income countries. We approach these claims with skepticism, highlighting the economic injustices driven by the pursuit of growth.

Much of the GDP growth that low-income countries have seen in recent decades has been the result of shifts from informal to formal economic activity, rather than a reflection of any increase in the provision of new goods and services to the poor (Van den Bergh, 2009). Most importantly, such shifts have involved increases in inequality, often "accompanied by a loss of local community and subsistence agriculture, as well as migration of farmers to urban slums, with predictable negative consequences for food availability, health and quality of life" (Van den Bergh, 2009, p.126). Consequently, a majority of the world's poor are actually concentrated in countries that have experienced strong economic growth in recent decades (Nilsen, 2018).

'Post-development' authors have led the charge in unveiling these dynamics. They show how the narrative that growth is a proxy for development is grounded in "a narrowly defined concept of poverty that ignores cultural diversity" (Spash, 2020, p.9). This school of thought also documents how the 'development equals growth' narrative originated in US imperialist policy, and was subsequently adopted by the governments of other wealthy countries (Hickel, 2017). Promoting this narrative encouraged the incorporation of more cheap labour and natural resources into global production chains, presenting greater profit opportunities for multinational corporations.

A form of economic imperialism, established in trade agreements and the architecture of the international monetary and financial system, secured the prospects for growth in high-income countries by allowing for the continued exploitation of land and labour in low-income countries (Hickel, 2017). Where such formal arrangements are insufficient, military force is used to secure resources - fossil fuels in particular - necessary to guarantee the ongoing success of the growth economy. For example, Klare (2014) argues that control over oil and gas reserves have been at the center of recent conflicts in Iraq and Syria, South Sudan, Ukraine, and the South China Sea. Therefore, strong militaries backed by substantial public investment are needed to support the pursuit of endless growth (Spash, forthcoming).[9]

To the extent that certain low and middle-income countries have increased their share of global growth in more recent decades, it has largely failed to improve the lived experiences of poor and marginalised communities (Bhaduri, 2014). For example, in response to recent concerns over India's slowing growth rate, Roy (2020) highlights that the country's economic boom in the 2000s was partly built on the destruction of forests and indigenous lands and has fueled spiraling inequality. Bhaduri (2014, p.62) has described India's growth as 'predatory', explaining that "India is said to be poised to become a global power in the twenty-first century, with the largest number of homeless, undernourished, illiterate children coexisting with billionaires created by this rapid growth."[10]

In India - and other countries that have relatively recently moved into the middle-income bracket - economic growth has been used to justify the dispossession of the poor and environmental damage. Poor and marginalised communities at the brunt of growth's destructive consequences are not being fooled by talk of progress and poverty alleviation (Bhaduri, 2014). Alternative development models, free from the imposition of economic exploitation and based instead on strengthening democratic processes and achieving social and environmental wellbeing, would be a far better choice to alleviate poverty.[11]

[9] It is worth noting that the US Department of Defense, whose current budget is close to 700 billion USD, is the single biggest polluter in the world (Crawford, 2019).

[10] Adding to this picture, Oxfam's 2018 'India inequality report' (Himanshu, 2018) highlights that "the share of wealth held by the top 1% in India is only second to the United States among the major countries for which the data is available."

[11] In low-income countries where material deprivation remains widespread, some economic growth may well still be a side-effect of the pursuit of alternative development models.

1.2.3. Protecting the environment

The promise: Growth enhances our ability to protect the environment.

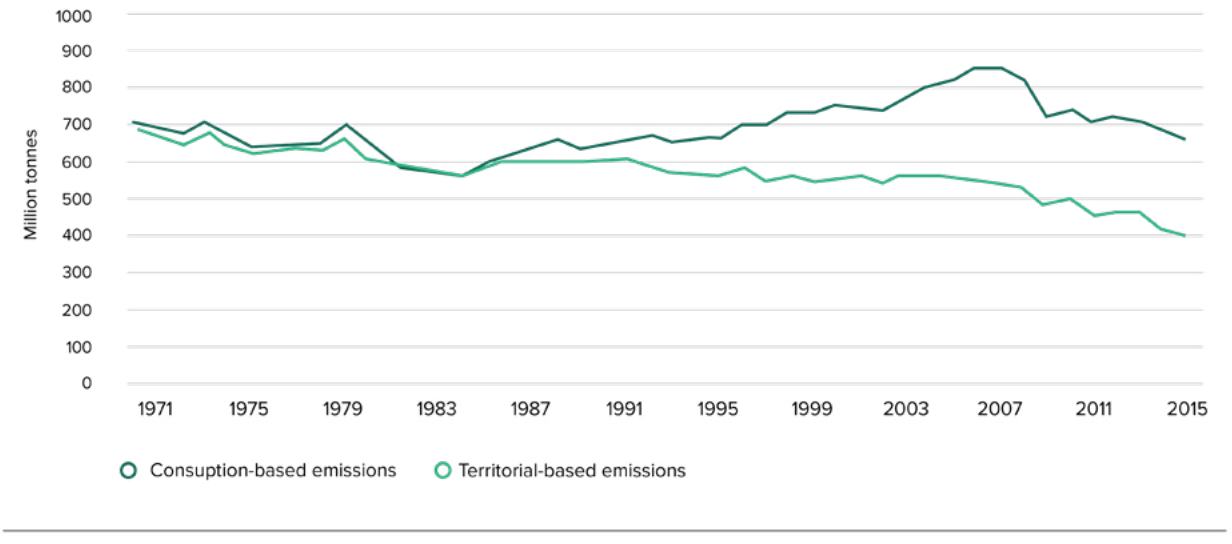
The reality: Growth drives a continuous increase in environmental pressures.

Mainstream economics asserts the existence of a so-called 'environmental Kuznets curve', which claims that environmental degradation increases up until a certain GDP per capita is attained, after which it begins to decrease as GDP per capita continues to increase (Van Alstine and Neumayer, 2010). In reality, however, evidence is mounting that continued economic growth fuels climate and ecological breakdown.

Positive Money's previous report on this issue (Boait and Hodgson, 2018) began by laying out why continuous GDP growth is in direct tension with environmental sustainability. In particular, we highlighted that the economic system, as a sub-system of the biosphere, necessarily has a material and energetic 'throughput'. In other words, it requires natural resources as input, and inevitably produces waste at the other end of the production and consumption process. Perpetually growing the economy is therefore inherently unsustainable and undesirable. Furthermore, we argued that achieving an absolute decoupling of economic growth from environmental pressures, especially one that is substantial enough to deal with environmental challenges, would require "technological breakthroughs unlike anything seen to date" (Boait and Hodgson, 2018, p.15).

Despite all efforts to disprove them, misleading claims regarding the decoupling of economic growth and environmental pressures continue to circulate. For example, a common claim in policy debates is that since 1990, the UK economy has grown by over two thirds while carbon emissions have fallen by 40%. Crucially, however, this number does not take into account the embodied emissions in the UK's growing volume of imported goods. While it is true that the UK's carbon emissions from domestic industry have declined, this has largely come as a result of the outsourcing of manufacturing to other countries (ONS, 2019).[12] If we measure emissions on a consumption basis, [13] the illusion of any absolute decoupling quickly disappears, as emissions have distinctly continued to rise with a decrease only occurring in the years following the financial crisis. A comparison between consumption-based and territorial-based emissions is displayed in Figure 4 below:

Figure 4: *Consumption-based and territorial-based CO2 emissions for the UK economy*



Source: ONS (2019)

[12] The 40% number also does not account for other (non-CO^2) GHG emissions. These account for a small proportion of total GHG emissions, but some have a stronger warming effect than CO^2, especially when released at high altitude. This is the case for aviation emissions, which are also frequently ignored in emission measures.

[13] Note that even this method of measuring emissions still leaves out important sectors, such as aviation and waste, due to methodological issues with their measurement. models.

Since the 2008 financial crisis, there are signs of absolute decoupling of carbon emissions from economic growth in high-income countries, including the UK (ONS, 2019). This can be observed in Figure 3, as consumption-based carbon emissions in the UK remained on a downward trend during the post-crash economic recovery. The problem, however, is that this decoupling is not happening rapidly enough, nor is it happening at all for resource use (Hickel and Kallis, 2019).

Misleading claims regarding resource use - such as steel, aluminium, and copper - are also widespread. For example, a recent book by Andrew McAfee (2019), supports the green growth argument based on the claim that the US and other rich countries have decoupled their economic growth from resource use. Again, however, the data used is territorial-based, and fails to account for the off-shoring of production since the 1980s. Using a consumption-based measure such as 'material footprint', it becomes clear that the US and other rich EU and OECD economies have barely experienced any dematerialisation whatsoever (Wiedmann et al., 2015). In other words, for resource use, we have not even seen a relative decoupling from economic growth.

There is a large and growing body of evidence that disproves claims of growth decoupling from environmental pressures. In 2019, the European Environmental Bureau published a comprehensive literature review concluding that there is "no empirical evidence supporting the existence of a decoupling of economic growth from environmental pressures on anywhere near the scale needed to deal with environmental breakdown" (Parrique et al., 2019, p.3). A key dynamic explaining these findings is the so-called 'rebound effect', by which efficiency gains fail to significantly reduce material and energy usage as cost-savings are used to expand production and consumption (Freire-Gonzalez, 2017).[14]

Based on the extensive literature on decoupling, our knowledge of the rebound effect, and further theoretical insights of ecological economists (Georgescu-Roegen, 1971), absolute decoupling of a sufficient speed and magnitude to meet climate and ecological goals appears highly unlikely, if not virtually impossible. Therefore, the climate and ecological emergencies necessitate that we end our pursuit of GDP growth.

Box 2: The impact of growth on the risk of pandemics and environmental crises

Pandemics like Covid-19 and environmental crises are deeply interlinked, both fundamentally caused by the widespread destruction of ecosystems (Vidal, 2020). Sidelining environmental concerns in the economic response to Covid-19 would be entirely counterproductive, as the consequent increase in environmental pressures would exacerbate the risk of further pandemics down the line, on top of the other catastrophes caused by climate and ecological breakdown (Banque de France, 2019).

Therefore, a recovery focused primarily on economic growth would be equally counterproductive, given the tight coupling between growth and environmental pressures. Rather, recovering from Covid-19 must entail profound shifts in economic structures and political focus. Building a resilient economy that meets human needs, free of the shackles of growth dependency, is now more urgent than ever.

[14] This is also known as the Jevons Paradox, as William Stanley Jevons observed in 1865 that higher efficiency in the usage of coal led to increased usage of coal. The particular magnitude of the rebound effect varies across goods, industries, and countries (Lange et al., 2019).

1.3. Abandoning the GDP Indicator: A First Step

Currently, many that critique GDP as an indicator of economic progress refuse to fully displace it, or indeed accept the need to end growth itself. In 2008, the French government launched the Commission on the Measurement of Economic Performance and Social Progress, led by French economist Jean-Paul Fitoussi and Nobel Prize winners Joseph Stiglitz and Amartya Sen. This Commission produced a report that outlines in much detail the deficiencies of the GDP indicator, but still suggests that we should continue to pay attention to it:

> "Changing emphasis does not mean dismissing GDP and production measures. They emerged from concerns about market production and employment; they continue to provide answers to many important questions such as monitoring economic activity." (Stiglitz et al., 2009, p.12)

This fails to acknowledge the extent of the GDP indicator's ongoing influence and the negative repercussions of growth outlined in section 1.2.[15] Enhancing human wellbeing and avoiding environmental disaster requires directly challenging and moving beyond the growth paradigm. In this sense, being growth 'agnostic' (Raworth, 2017) is also insufficient. Achieving an economy that meets human needs within planetary boundaries will entail ending growth in a planned and controlled manner, as advocated most consistently by proponents of 'degrowth' (D'Alisa et al., 2014).

Ending growth does not entail simply targeting zero or negative GDP growth using existing measures of economic activity. While this would likely result in a decrease in environmental pressures, it would still not tell us whether the level of economic activity is environmentally sustainable, nor would it give us any information on human wellbeing. Instead, as a first step to achieving a socially and environmentally beneficial end to growth, we recommend that in the UK, the ONS stop publishing GDP figures and the Treasury stop targeting GDP growth. This would immediately remove the negative impact of the GDP indicator, and allow for a comprehensive shift to alternative indicators of wellbeing.

Continuing to publish GDP figures, even if tweaked or complemented with other indicators, would perpetuate the current growth paradigm. GDP would likely continue to dominate public discourse and policy making, undermining the pursuit of social and environmental wellbeing. Putting an end to our misguided fixation with GDP growth requires that we stop measuring, reporting, and targeting it altogether.

As will be explored in the next chapter, an end to economic growth itself can only safely occur if structural transformations of the economy are simultaneously undertaken. Otherwise, so-called 'growth imperatives' will generate their own crises if growth is too low or negative.

This is why the current widespread focus on changing indicators is insufficient without a simultaneous focus on structural and systemic change. In an attempt to reorder priorities, this report emphasises the question of growth imperatives inherent in the structure of the economy (Chapters 2) and transformations needed to overcome them (Chapter 3), before closing with a discussion of alternative indicators and decision-making tools (Chapter 4).

[15] It also ignores that 'monitoring economic activity' can be (and is) done without GDP statistics either way. National accounts track different sectors of the economy and monitor economic activity in doing so. It is in the process of aggregating the data on all different sectors into a single number that useful information is lost.

CHAPTER 2: Structural Growth Imperatives

Alongside shifting away from using GDP as an indicator, the structures of our economic system that demand GDP growth must be identified, so they can be safely adapted or replaced. These structures - referred to as growth imperatives - require growing GDP in order for financial, economic, and social systems to be relatively stable. If growth is low, zero or negative, growth imperatives generate crises.

Focusing on the financial system, we first look at how financialised banking requires growth to service the high burden of private debt it produces. Financial practices that drive a high private debt burden actually hinder growth, resulting in a crisis-prone system. Therefore, decreasing financialisation could be an effective way to foster stability and growth, but would not address the negative repercussions of growth. Instead, we must transition to a non-financialised and non-growing system.

In the absence of growth, all known forms of capitalism have strong tendencies towards creating mass unemployment and deepening inequality, which suggests that structural growth imperatives are a defining feature of capitalist economies. The monetary system is central to these dynamics, as interest-bearing debt created by commercial banks led to the development of capitalism and its growth imperatives. We find that a monetary system based on interest-bearing debt is incompatible with a non-growing economy. This shows the need for transformative monetary and financial policies to escape the growth imperatives of capitalism.

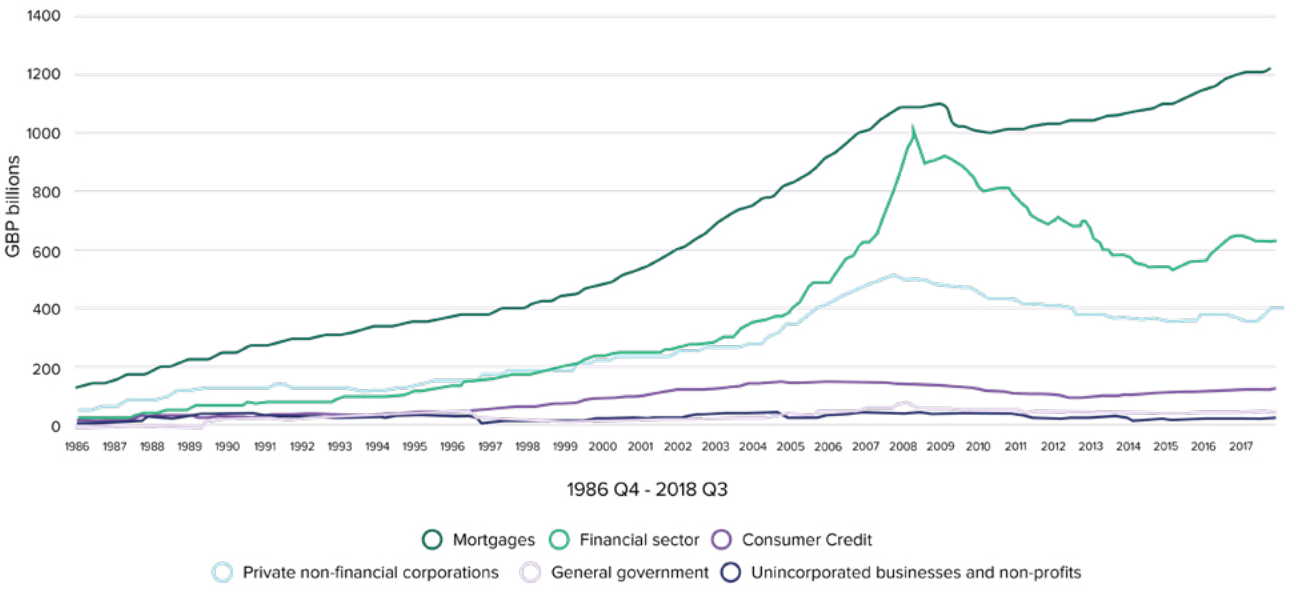
2.1. The Tension Between Financialisation and Growth

This section focuses on how our financialised banking system generates excessive private debt, which requires GDP growth in order to reduce the risk of financial crises. We highlight that commercial banks' disproportionate allocation of loans to the finance, insurance and real estate (FIRE) sectors hinders growth, thus making the private debt burden unstable. A low growth, highly financialised system prone to crisis has therefore resulted from the financial deregulation of the 1980s. Decreasing financialisation would increase stability by allocating finance to productive income-generating activities, but this would likely generate high-growth, which this report has shown to be unsustainable. This presents a barrier to achieving a stable non-growing economy.

2.1.1. The instability of financialised banking

Banks' power to allocate credit plays a key role in determining what economic activity is undertaken in the economy. Since the deregulation of the financial system in the 1980s and the subsequent rise of financialisation,[16] banks increasingly serve FIRE sectors. As shown in Figure 5, UK monetary financial institutions lend disproportionately to mortgages and the financial sector, much of which fuels asset price inflation.[17] Further, given the high degree of financialization of large non-financial corporations (Krippner, 2005), lending to this sector is also not necessarily used for productive economic activity. Finance allocated to large corporations (as well as their internal funds and money raised through financial markets) has been increasingly used for commercial mortgages, mergers and takeovers, stock buybacks, etc. (Bezemer and Hudson, 2016).

Figure 5: *UK monetary financial institutions' loans outstanding by sector/activity*



Source: Bank of England data

This pattern of financialised bank lending generates a high burden of private debt, without fostering productive, income-generating economic activity that can service this debt. The high private debt burden amounts to a growth imperative starved of growth.[18] Securitisation of loans (packaging them up into tradable financial instruments known as asset-backed securities) facilitates the expansion of private debt by freeing up space on banks' balance sheets for further lending. Although securitization slowed down following the financial crisis of 2007-08, it has been back on the rise in more recent years. Recently, Aramonte and Avalos (2019) from the Bank of International Settlements warned of excessive issuance of collateralized loan obligations, the global market for which now totals approximately $750 billion.[19]

[16] Financialisation refers to "the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level" (Epstein 2001, p.3).

[17] Loans to the financial sector can be used for investment in real economic activity. The Bank of England does not publish data on the proportion of money for which this is the case.

[18] Inequality from the asset price inflation caused by this pattern of lending can also be considered a growth imperative, as inclusive growth is necessary to ward off the social and economic crises it produces (Stratford, 2020).

[19] One relatively new way in which market participants are attempting to restore trust in the securitization market and gain a competitive edge is by way of the green label. Developments in this area of financial innovation are ongoing at a rapid pace (Barmes, 2019).

Financialised banking systems generate excessive private debt while holding back GDP growth, resulting in unstable asset price bubbles. As shown by Vague (2019), all financial crises around the world in the last 150 years were preceded by private debt growth outstripping GDP growth.[20] Furthermore, as credit rose inexorably to record levels throughout the 1980s and 1990s, there was no positive effect on GDP. Subsequently, financial deepening had a negative impact on both GDP growth and financial stability (Sawyer, 2017). Therefore, by simultaneously requiring and undermining growth, the current banking system repeatedly generates financial crises.

2.1.2. The unsustainability of a high-growth alternative

Escaping financialisation would involve ensuring that banks reallocate lending from the FIRE sector to the productive sectors of the economy. This would avoid asset price inflation and foster the income generation necessary to pay back loans, maintaining systemic stability. This is often seen as desirable, as many small innovative firms do not receive sufficient finance. While these innovative firms represent a very small fraction of the economy, they have significant growth potential (Mazzucato and Wray, 2015), which, if realised, would produce employment and income to pay down private debt, reducing the risk of financial crises.

Escaping financialisation would therefore boost growth through two main channels: (i) the financial system would become purely focused on productive and innovative activities; and (ii) severe financial crises that impact the real economy would become less likely. This is why data shows a positive impact of finance on growth prior to the 1980s, where moderate levels of credit contributed positively to GDP growth (Sawyer, 2017).[21]

We experienced this high-growth alternative in the period from 1940 to the 1970s, when policies of the welfare state and Bretton Woods constrained the financial system, ensuring that it would serve the productive sectors of the economy rather than itself. The post World War II era therefore saw high levels of GDP growth. However, this positive effect on growth poses a problem in the quest for a prosperous post-growth economy. As outlined in chapter 1, aggregate economic growth is socially and environmentally unsustainable. Re-orienting financial flows towards production and innovation is to some extent necessary,[22] but also risks being destructive by boosting GDP growth.[23]

[20] The specific empirical regularity that Vague (2019) identifies is a debt to GDP ratio of over 150% and an increase in the ratio of over 17% during a five year period.

[21] Analysis by Arcand et al. (2012) suggests that the peak of this relationship between finance and growth occurs around where private sector debt reaches 100% of GDP.

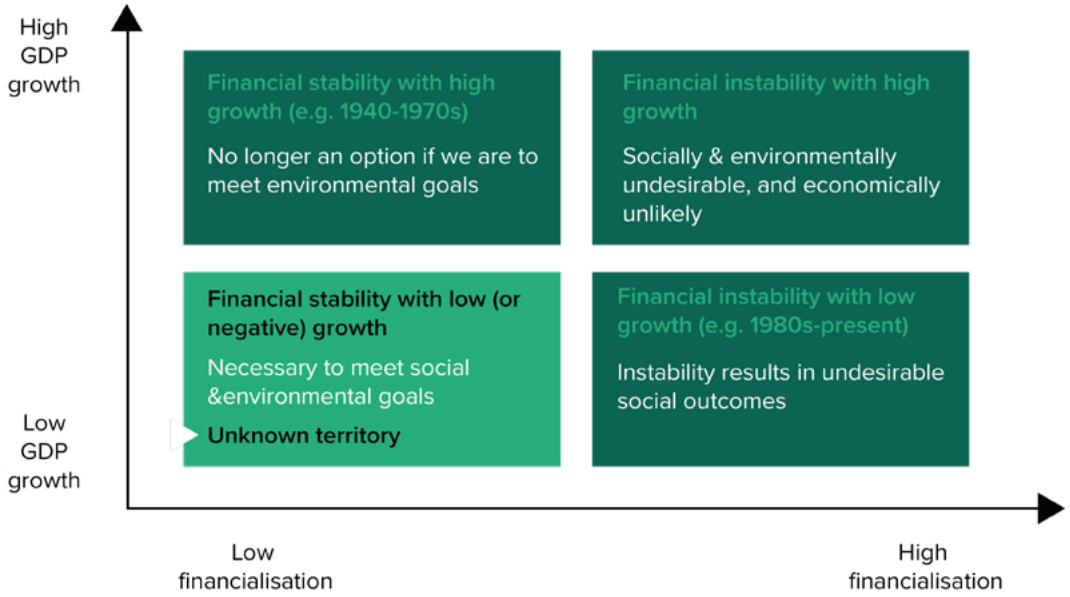
[22] Although the growth of some productive economic activity will of course be necessary for a post-growth economy, it would have to be compensated by the de-growth of other productive activities.

[23] The high growth rates of the welfare state era coincide with an equally rapid increase in environmental pressures (IGBP, 2015)

2.1.3. Trapped between instability and unsustainability

Our financial system appears stuck between two undesirable scenarios: (i) excessive financialisation resulting in high private debt and low growth, causing financial crises; or (ii) low levels of financialisation, constraining private debt growth but driving higher levels of growth. Yet what we need is a financially stable and non-growing economy. We have never witnessed such a state in advanced modern economies, as shown in Figure 6:

Figure 6: *Four economy types based on level of growth and financialisation*



Currently, we find ourselves in the bottom right position of Figure 7. Effective financial regulation and fiscal policy could possibly bring us to the top left scenario, but this no longer an option if we are to meet environmental goals. We urgently need to move to the bottom left quadrant, which is unknown territory.

Many of the current widely supported fiscal, financial, and monetary policies are aimed at bringing the economy to a 'greener' version of the top left quadrant. This includes proposals that revolve around greening monetary policy and financial regulation, as well as fostering counter-cyclical green public investment. Demands for such policies are intensifying in the context of seeking a 'green recovery' from Covid-19's economic fallout. Most of these proposals show a deep understanding of macroeconomics and monetary and financial policies, increasingly grounded in Post-Keynesian economics. However, if implemented alone, they are unlikely to be as 'green' as expected, given their likely positive impact on economic growth and consequent increase in environmental pressures.

Some authors (e.g. Stratford, 2020) argue that such policies can be aligned with post-growth economics if complemented with environmental protections such as caps on resource use. While this approach may prove successful, it also risks being insufficient. If such environmental protections restrict economic growth, yet growth imperatives exist in the basic features of the capitalist economic system, crises would result, as discussed in the following section.

2.2. Capitalism, Growth, and Interest-Bearing Debt

Given that neither the high-growth capitalism of post-WWII or the low-growth financialised capitalism of recent decades are compatible with a stable non-growing economy, can any variety of capitalism exist without growth? This section argues that capitalism has deeply embedded growth imperatives that would generate tendencies toward multiple crises in the absence of growth. The monetary system is central to these growth imperatives, as interest-bearing debt created by commercial banks was a key factor in the very development of capitalism. This shows why transformative monetary and financial policies must be central to effort to shift to a low, no, or negative growth economy.

2.2.1. Capitalism without growth?

In this section, we briefly categorise the different positions on capitalism and growth and outline some of the central growth imperatives embedded in the system. Given these growth imperatives, the possibility of a stable and socially just capitalism without growth is in doubt (Blauwhof, 2012), though still remains an open question (Barrett, 2018). Either way, achieving a post-growth economy requires the removal of capitalism's structural growth imperatives.

To avoid any ambiguity, we define capitalism as follows: (i) production of goods and services is, for the most part, carried out by wage-earning workers; (ii) this production is carried out primarily for the purpose of profiting employers that own the means of production; and (iii) the realisation of profit occurs via the sale of goods and services in markets, which operate under varying degrees of competitivity. By contrast, we define the broad notion of 'anti-capitalism' as any set of socioeconomic arrangements characterised primarily by more democratic ownership of the means of production.[24]

A basic categorisation of the different views on growth and capitalism results in four broad camps, displayed in the Figure 7 table below, with examples of publications that can be positioned in each.

Figure 7: *A categorisation of the different positions on capitalism and growth*[25]

	Pro-capitalism	Anti-capitalism
Pro-growth	McAfee (2019) Mazzucato and Jacobs (2016)	Schwartzman (2012) Blakeley (2019)
Anti-growth	Daly (2008) Lawn (2011)	Smith (2010) Blauwhof (2012)

All these authors are putting forward a vision of how to build a sustainable economy. Despite authors in the upper row (barring McAfee, (2019)) offering challenges to orthodox economic thinking, pro-growth solutions are incompatible with sustainable visions of the future (as we covered in Chapter 1).[26] The bottom row recognises this incompatibility. The bottom left suggests capitalism can safely operate within a non-growing economy, while the bottom right views the two as being fundamentally irreconcilable.

[24] According to these definitions, high levels of state intervention alone are insufficient to constitute a non-capitalist system; a reorganisation of the social relations of production is also necessary.

[25] Pro-capitalism does not necessarily mean support for the current phase of capitalism. The 2016 book co-edited by Mazzucato and Jacobs, for example, contains contributions from many renowned economists that support a reform of capitalism. Mazzucato herself has been described as trying to 'fix' capitalism (Medeiros, 2019), or save it from itself (Nelson, 2019), yet this is ultimately a pro-capitalism position.

[26] It is important to note that shifting away from capitalism would not necessarily entail the end of growth, as anti-capitalist systems can hold onto productivism and cause much environmental and social damage. As Kallis (2019) explains, whether pursued under a more socialist or more capitalist system, growth will always have damaging repercussions.

While this is an ongoing debate, research suggests that no-growth capitalism would have strong tendencies towards crises of mass unemployment (Richters and Siemoneit, 2019) and ever-deepening distributional conflict (Blauwhof, 2012; Cahen-Fourot and Lavoie, 2016). This has been the typical consequence of previous periods of no-growth capitalism, including the last decade following the Global Financial Crisis, which also resulted in environmental regulation being sidelined in the interest of restoring growth (Smith, 2010). Today, the current Covid-19 recession is driving unemployment rates to unprecedented highs (Partington, 2020), and anxiety about negative growth has led many (Young, 2020) to argue in favour of disregarding public health measures, which would imply the sacrifice of many thousands of lives to reboot the economy.

Therefore, it is safe to say that even if some form of stable no-growth capitalism may be possible (Barrett, 2018), it would require profound transformations in order to overcome its deeply embedded growth imperatives.

2.2.2. Interest-bearing debt and capitalism

A number of studies (Jackson and Victor, 2015; Cahen-Fourot and Lavoie, 2016) previously concluded that the monetary system does not contain a growth imperative. In particular, they find that interest-bearing debt and no-growth can theoretically co-exist under a condition of zero net private savings. The latest research on this topic (Svartzman et al., forthcoming), however, shows that the existence of interest-bearing debt cannot be treated as entirely independent from the high propensities to save and accumulate that are incompatible with a non-growing economy in these models.

Svartzman et al., (forthcoming) explain that interest-bearing debt created by commercial banks was central to the evolution of capitalism. The invention in the 13th century of depersonalized bills of exchange to serve trade and capital accumulation over extended geographical distances was a key innovation in the birth of early forms of capitalist relations (Braudel, 2014). Merchant bankers became the central managers of this system of payments, initially acting as simple bookkeepers of mutual credits and debts, and subsequently issuing their own liabilities, further facilitating the stimulation of capital accumulation (Aglietta, 2002).

With this development of money-creating banks serving an emerging capitalist system, positive interest rates became an increasingly established feature of the economy. As outlined by Svartman et al. (forthcoming), this had at least three major consequences: (i) with a rate of interest, money now had a price, effectively becoming a commodity that could be stored and accumulated (Fantacci, 2013); (ii) interest enabled credit/debt to become disconnected from real relations of trust between people, providing holders and in particular producers of money with an anonymised, impersonal power over debtors and the creation of economic value (Graeber, 2014); and (iii) financial institutions with their newfound economic power became increasingly interwoven with political and military power (ibid.). These historical observations display how, in many ways, the widespread imposition of interest-bearing debt is foundational to capitalist economic systems, possibly to the extent that it should be considered part of the very definition of capitalism (Ulgen, 2013).

Accordingly, there is little sense in treating aspects of the real capitalist economy, such as savings and investment behaviours, as independent of the existence of interest-bearing debt. As Svartzman et al. (forthcoming) summarise, “the progressive generalization of interest-bearing debt money, beginning in the Middle Ages, was intricately related to the legitimization of money in its function as store of value, which in turn increased the propensities to save and accumulate [...].” If money had never become commodified in this way, it seems unlikely that it would have become such an object of desire and accumulation in the first place.

As a key pillar of the capitalist system, interest-bearing debt is deeply linked to the system’s multiple growth imperatives, and we find no convincing evidence that it could comfortably co-exist with a non-growing economy. Acknowledging this reasserts the need to explore transformative monetary and financial policies for post-growth, which is the subject of the next chapter.

CHAPTER 3: Money and Finance for a Post-Growth Economy

Overcoming the monetary growth imperative inherent in capitalist economies will require transformative policies that involve new ways of creating and circulating money that do not depend on continued issuance of interest-bearing debt by commercial banks.

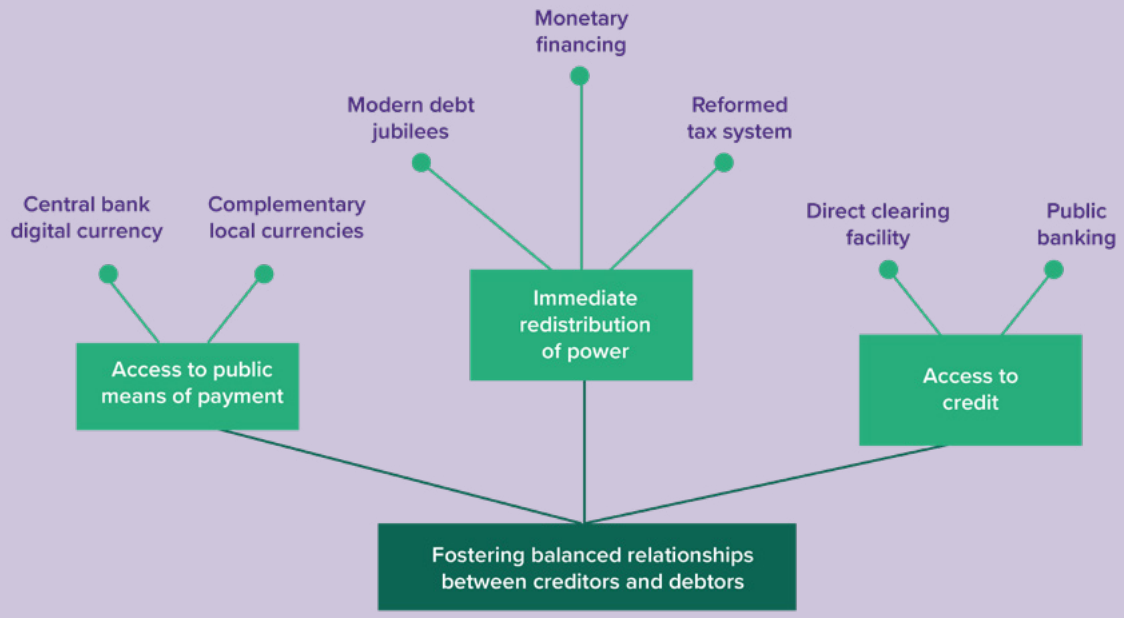
Currently, the monetary system is a highly contested space, with big tech corporations like Facebook attempting to launch their own currencies. However, the issuance of for-profit currencies would necessarily imply some means of extracting monetary value, and such a shift would not represent the kind of change that would be in line with a post-growth economy that seeks to achieve human wellbeing and avoid environmental disaster. Rather, the key principle needed to guide such monetary transformations is the fostering of balanced creditor-debtor relationships, stemming the excessive power of creditors and reducing pressure on debtors to continuously grow their incomes for the purpose of debt repayments. Additionally, money and credit must flow towards activities that align with the social and environmental objectives of a post-growth economy which are explored in Chapter 4. This Chapter provides an overview of a collection of policies that could contribute to this goal.

As illustrated in Figure 8, we categorise these policies according to three overarching functions they would serve in a post-growth economy: (i) access to public means of payment; (ii) access to credit; (iii) immediate redistribution of power. All of these would reduce dependence on interest-bearing debt and contribute to fostering balanced relationships between creditors and debtors. Categories (i) and (ii) provide long-term measures that will take time to achieve this goal, and (iii) provides options to more immediately reduce existing power imbalances.

While other post-growth economic policies, such as working time reduction, universal basic services, and fostering producer cooperatives, lie beyond the scope of this report (see D'Alisa et al., 2015) they would be facilitated by the transformations discussed here. Post-growth monetary and financial systems are necessary to support such an ambitious social and environmental agenda.

Finally, alongside consideration of these policies, the Treasury should launch a formal inquiry into reducing the growth dependency of the UK economy, as originally proposed by the APPG on Limits to Growth (Jackson 2020).

Figure 8: *Transformative policies for post-growth money and finance*



3.1. Access to a public means of payment

Currently, access to digital money and payments is entirely dependent on the solvency of the commercial banking system. A first step in building a post-growth monetary system is to find new ways of guaranteeing access to a means of payment that does not depend on the solvency of commercial banks and their issuance of interest-bearing debt.

3.1.1. Central Bank Digital Currency & UBI

A Central Bank Digital Currency (CBDC) – allowing individuals to hold digital currency in accounts directly at the central bank – provides a way of ensuring access to a digital equivalent to cash without reliance on the liquidity of the commercial banking system. A recent Positive Money report (Bikas and Livingstone, 2020) and Bank of England (2020) discussion paper have provided a number of recommendations for how to implement CBDC safely, in order to avoid financial instability.

Some commentators (e.g. Coppola, 2020) have advocated that a CBDC be used to implement a universal basic income (UBI), which would perpetually guarantee a certain amount of cash for households. This would be particularly useful in times of crisis like that caused by Covid-19, and would decrease needs for households to access high cost credit (Gerber 2015). In the long-term, a UBI would alleviate pressure to engage in full time wage labour and therefore allow more time for activities that do not involve market transactions such as personal caring responsibilities.

We recommend that the Bank of England issue a central bank digital currency and, in collaboration with the Treasury, explore progressive options for its distribution in the form of a universal basic income.

3.1.2. Complementary Local Currencies

Well designed complementary currencies at regional and local levels could further guarantee access to money that specifically promotes local economic activity and community ties.[27] There are numerous examples where complementary currencies have successfully served social and environmental goals (Lietaer and Dunne, 2013). By providing an alternative means of payment they can ensure continued trade in the face of economic shocks (Lietaer et al. 2012). This increase in resilience of the monetary system is likely to be crucial in an increasingly uncertain and crisis-prone world.

Local complementary currencies have been particularly successful following economic crises. For example, in the early 1930s in parts of Germany, Austria, and the US, complementary currencies saw great success in reinvigorating local economies ravaged by the Great Depression. However, all of these initiatives were ultimately banned by national authorities out of fear of losing control over the money system (Gomez et al., 2019).

As we enter a period of deep economic depression following Covid-19, harnessing the power of local complementary currencies could once again be part of the agenda to align the monetary system with public purpose. Researchers have put forth extensive proposals for how local authorities can make the best use of complementary currencies to autonomously achieve social and environmental goals, tying them to basic income (see Hornborg, 2017) and job guarantee (see Forstater, 2018) policies.

[27] A key feature for complementary currencies to be successful is for local governments to, at least partly, accept them in tax payments.

3.2 Access to credit

Providing access to credit is another central function of the monetary system, which is also currently managed overwhelmingly by large commercial banks via the issuance of interest-bearing debt. A post-growth monetary system requires ways guaranteeing access to credit which promote balanced creditor-debtor relationships.

3.2.1. Direct clearing facility

Direct clearing facilities are particularly promising for a post-growth monetary system as they are based entirely on balance and reciprocity between participants. They are essentially simple accounting systems that record debits and credits between firms when they trade with each other. The overall balance always sums to zero. As Amato and Fantacci (2014, p.11) put it, clearing systems are "characterized not by indefinite growth in financial operations but by equilibrium in trade." Keynes famously proposed such a system at the international level: the International Clearing Union, now increasingly recognised for its potential to prevent trade imbalances and economic injustices (Adler and Varoufakis, 2019).

SMEs would benefit from a direct clearing facility at the national level in the UK. This initiative should draw on the long-standing 'WIR' in Switzerland, which has allowed over 60,000 businesses to continue trading even in times of financial crisis (Stodder and Lieater, 2016). The facility would be most successful in building personal ties between businesses if composed of many interlinked clearing systems at the community, regional, and national levels.[28] This would allow SMEs across the country to trade with each other through the clearing system while devolving management of trade credit risk to local and regional groups.

We recommend that the Bank of England establish a direct clearing facility at the national level that ensures SMEs across the country can trade with each other via an alternative source of credit.

3.2.2. Public banking

The role commercial banks play in creating money by allocating credit gives them enormous power over the economy. As we saw in Chapter 2 Figure 5, a vast amount of lending goes towards finance, real estate, and insurance sectors. In order to rebalance power between banks (creditors) and households and SMEs (debtors) and align credit allocation with social and environmental objectives of a post growth economy, we need different banks. Berry and Macfarlane (2019) have put forth an insightful and detailed proposal for building an ecosystem of public banks, including a Post Bank and a National Investment Bank. We emphasise the importance of adding more small scale banking to this mix.

Small scale public banking institutions grounded in local communities and owned by members or local authorities have much to offer in the context of overcoming the monetary growth imperative. Community-level banking ensures that creditors develop strong, personal and balanced relationships with the businesses they finance (Prieg and Greenham, 2017), moving away from the speculative 'originate and distribute' model in which banks rapidly package and sell loans and their associated credit risk. Private ownership of banks need not be banned, though the alternative ways of accessing credit and liquidity outlined so far would likely minimise demand for private bank credit. To the extent that commercial banks do retain a role in the economy, credit guidance (Macquarie et al., 2019) can help ensure that their lending is in line with social and environmental objectives.

We recommend that the Bank of England and the Treasury collaborate to further institutionalise the process of credit guidance and enable, via financial and regulatory means, the creation and sustenance of an ecosystem of public banks.

[28] Slater and Jenkin's (2016) 'Credit Commons' offers one such proposal for 'nested clearing' in a network of mutual credit groups.

3.3. Immediate redistribution of power

The mechanisms outlined in sections 3.1 and 3.2 provide access to a means of payment and credit independent of interest-bearing debt and would already do a great deal to promote more balanced credit-debtor relationships, but their implementation will take time and their impact will not be immediate. Therefore, this section focuses on policies that could more immediately address power imbalances between creditors and debtors.

3.3.1. Modern debt jubilees

The need for modern debt jubilees has become more urgent than ever in the context of Covid-19, as households struggle to keep up with debt repayments and the threat of debt deflation grows (Keen, 2020). For post-growth money and finance, their benefit lies primarily in their elimination of excessive imbalances of power between creditors and debtors. Historically, debt jubilees would wipe the slate clean, fully eliminating debts (and their counterpart in savings).[29] While this model could have enormous transformative power today, it would be far more technically and politically difficult to implement in the modern highly intermediated financial system (Hudson and Goodhart, 2018).

Keen (2020) and Coppola (2019) propose that central banks create money and issue it to households with the condition that it is used primarily to pay down debt. This would be more immediately feasible than debt cancelation and would help stabilise the financial system by getting rid of unsustainable private debt burdens. Furthermore, and crucial to post-growth goals, it would reduce the vulnerability of debtors and minimise their pressure to consistently grow their incomes for the purpose of debt repayment.

We recommend that the Bank of England and the Treasury collaborate on a programme exploring different possible designs for debt jubilees, and their likely impacts.

3.3.2. Monetary financing

Governments' traditional debt management operations - financing spending via borrowing from bond markets - provides creditors with undue power over the public purse, restricting the ability to finance post-growth policies. As Covid-19 has made apparent, however, governments with their own currency-issuing central banks need not rely on debt markets and taxation for increased spending (Nersisyan and Wray, 2020). Both indirect and direct forms of monetary financing, by which the central bank supports spending via the issuance of newly created money, have been employed in the UK to support spending on the Treasury's Covid-19 response schemes (Barmes, 2020).

Direct forms of monetary financing, such as the expansion of the Ways and Means facility and the purchase of government debt in the primary market, should become a common feature of monetary-fiscal coordination in a post-growth economy. This would provide the government with additional power to finance post-growth policies independent of the whims of creditors. Therefore, if employed in a progressive manner, monetary financing would assist in re-balancing power between creditors (financial markets) and debtors (governments and the majority of the public), while supporting the broader post-growth agenda.

We recommend that the Bank of England and the Treasury engage in closer monetary-fiscal coordination to further institutionalise the process of monetary financing.

3.3.3. Reformed tax system

Despite the money creation powers of many central banks, reformed tax systems should nonetheless be part of a post-growth money and finance system to minimise concentrations of power. For example, if modern debt jubilees are financed via central bank money creation, the newly-created money ultimately flows to creditors via debt repayments, partly upholding the disproportionate power that creditors hold in the economy. A reformed

[29] As Hudson (2018) documents in detail, debt jubilees were frequently used as social and political stabilisation tools in the Ancient Near East for thousands of years, eliminating excessive power imbalances between creditors and debtors.

tax system could compensate for this, constraining the excessive financial power held by creditors and owners of capital, while having the added benefits of revenue generation and inflation control.[30]

The need for a reformed tax system is widely recognised by post-growth and other progressive economists that have put forth extensive proposals for taxes on wealth (Piketty, 2014), financial transactions (Persaud, 2019), and property and land (Monbiot et al., 2019) among others. A more progressive income tax scheme, with higher marginal rates for the highest incomes, or simply a maximum income policy (Pizzigati, 2018) are also necessary. Such proposals should be seen as a core feature of the post-growth money and finance agenda and must be investigated by governments as soon as possible.

We recommend that the Treasury engage in a comprehensive reform of the tax system, implementing higher marginal taxes on the highest incomes, as well as taxes on wealth, financial transactions, and property and land. As access to payments and credit is increasingly guaranteed via means that foster more personal and balanced creditor-debtor relationships, drastic power imbalances between them will be less likely to emerge in the first place. In the meantime, however, it is imperative that immediate measures are taken to redistribute power between excessively wealthy creditors that are rewarded for endless accumulation and overburdened debtors under pressure to grow their incomes. Modern debt jubilees, monetary financing, and a reformed tax system should be part of this effort.

Once the monetary system and the wider economy has been restructured to overcome the growth imperatives of capitalism, we can safely and comprehensively turn to an alternative policymaking paradigm that fully discards GDP as a measure of progress, as explored in the next chapter of this report.

[30] Modern monetary theorists would disagree with the framing of taxes raising revenue, but argue that taxation is a key tool to manage monetary stability in the event that inflationary pressures arise (Wray, 2012).

CHAPTER 4: Towards a new policy making paradigm

If structural growth imperatives are eliminated, a lack of growth will no longer result in multiple crises. Therefore, the potential risks of fully abandoning the measurement and targeting of GDP will be minimised.

This chapter explores the alternatives, which require fundamental thinking about what supports wellbeing in our society. We argue in favour of incorporating a dashboard of social and environmental wellbeing indicators into the policy process, grounded in a comprehensive wellbeing framework. Adopting a wellbeing dashboard can be done now, but fully abandoning GDP growth will require structural changes outlined in Chapter 3.

Shifting from GDP to a dashboard will change economic policy goals. Therefore, current decision-making guidance must also be significantly revised to incorporate post-normal tools (fit for high stakes and high uncertainty decision-making) directed at achieving the goals of a wellbeing economy.

4.1. Building a Holistic Alternative to GDP

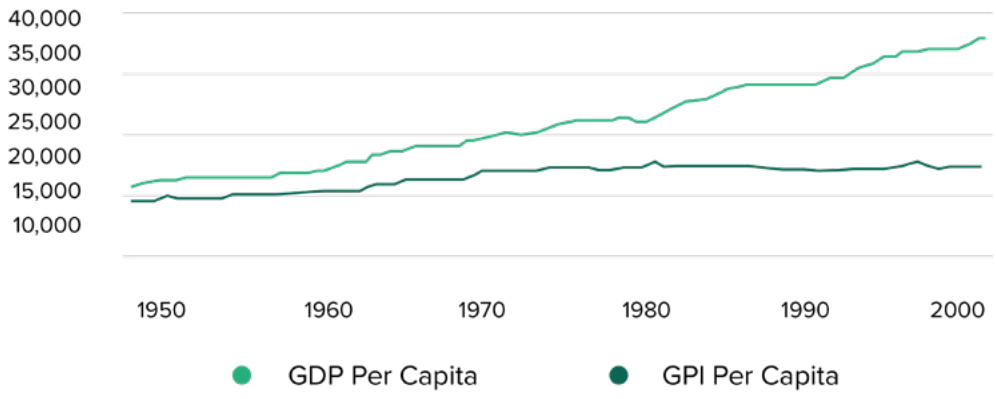
Alternative aggregate indicators are common candidates for replacing GDP. While they have many advantages over GDP, we argue that the limitations inherent in the aggregation process imply that a dashboard of social and environmental wellbeing indicators should be favoured in the policy process. Such a dashboard must be grounded in a comprehensive wellbeing framework, such as the Human Scale Development Index, which conceptualises wellbeing in terms of the satisfaction of fundamental human needs.

4.1.1. Alternative aggregate indicators

Many initiatives to replace or complement GDP involve proposals for alternative aggregate indicators, which bring together a variety of sub-indicators and aggregate them into a single number, expressed either in monetary terms or on a numerical scale. These indicators generally represent a step forward from GDP, while still satisfying policymakers' and journalists' desire for a single number that is supposed to effectively summarise the state of the economy and allows for straightforward comparisons. However, they also suffer from significant drawbacks.

The most widely adopted indicator of this kind is the Human Development Index (HDI), which aggregates scores on life expectancy, schooling, and income. HDI is one of the only alternative indicators that has been extensively and meaningfully incorporated into the policy process (Malay, 2019).[31] An example of a common aggregate indicator expressed in monetary terms is the Genuine Progress Indicator (GPI), which is fundamentally similar to GDP but attempts to 'correct' for its blind spots by incorporating monetary values for unpaid household labour, environmental and social damage, income inequality, and more into the accounting process. Interestingly, GPI started to diverge from GDP as of the late seventies and early eighties, when GDP continued to rise whereas GPI started to decline (as shown in Figure 9).

Figure 9: *The divergence between GPI and GDP per capita in the US (measured in US dollars at their value in year 2000)*



Source: Talberth et al., 2007

The primary limitation of all aggregate indicators relates to loss of information in the aggregation process. While one sub-indicator may be trending downwards, if another is trending upwards, the final aggregated number can remain unchanged, failing to reflect potentially important trends in the elements that make up the indicator. Therefore, the aggregation process implies a substitutability between the sub-indicators. For example, relatively high-income per capita may compensate for a less impressive score on life expectancy, as is the case for the USA in the HDI. Arbitrary judgments regarding the varied weightings of sub-indicators can also be seen as a problematic aspect of the aggregation process (Corlet Walker and Jackson, 2019).

[31] According to Malay (2019) this is not particularly surprising, given that the HDI has a 90%+ correlation with GDP and therefore does not represent much of a challenge to the status quo.

An additional limitation applies to aggregate indicators that are calculated and expressed in monetary terms, such as the GPI. In order to incorporate that which GDP leaves out, monetary aggregate indicators require monetary valuation of aspects of nature and human life that are not traded in the market. However, some researchers (e.g. Spash, 2016) have unveiled significant flaws in the methods used for such valuations. Further, putting a price tag on nature is a dangerous game, as it can be used to facilitate nature being sold and traded on the market, undermining its protection (Monbiot, 2018, Spash, 2008).

Some aggregate indicators have more transformative potential than others (Malay, 2019), and have the advantage of incorporating environmental sustainability indicators (Hickel, 2020b). If incorporated into the policy process, they would represent an important step forward from GDP. However, their limitations suggest that we must move away from the idea that we can effectively guide policy based on a single aggregated indicator, or a small number of such indicators.

4.1.2. Dashboards as a way forward

Dashboards contain a range of selected indicators that measure various contributors to quality of life, and by definition, the indicators remain disaggregated. Dashboards can also include subjective wellbeing indicators, such as those based on life satisfaction surveys.[32] In deciding on which indicators to include and target, political priorities become clear, and governments' success (or lack thereof) in achieving social and environmental goals can be tracked far more effectively.

To avoid the limitations explored above, the majority of the chosen indicators should be non-monetary and non-aggregated. Examples of such indicators are: undernourishment, suicide deaths, primary school enrollment, life expectancy, GHG emissions, and years of tertiary education. In fact, all of these indicators and more are included in the Social Progress Index (SPI), a non-monetary aggregate index. Non-monetary aggregates suffer from limitations as described in section 4.1.1. However as a dashboard, those aspects of society and environment that require additional attention become clear and much more useful for targeted policy interventions (and evaluations); as an aggregated index, this detailed information is lost.

The New Zealand Living Standards Framework (LSF) provides a good example of such a dashboard. The LSF's online dashboard (New Zealand Treasury, 2019) is separated into three broad categories:

1. 'Our country', which displays 43 indicators across 12 wellbeing domains such as housing, environment, and social connections;
2. 'Our future', which provides indicators for the four different types of 'capital' (natural, human, social, financial/physical) which are deemed to underpin wellbeing now and in the future;
3. 'Our people', which allows for the various indicators to be assessed for different demographics in the population, such that disparities in wellbeing outcomes can be identified and analysed.

The LSF was developed by New Zealand's Treasury, though the process by which the dashboard's indicators were selected was informed both by experts and the public. The Treasury explicitly decided to avoid both monetisation and aggregation of indicators in the dashboard, due to the value-laden judgments that go into these processes and their concealment of information (Corlet Walker and Jackson, 2019).

The Treasury has already begun incorporating the LSF into the advice it provides to the government. For example, the dashboard was used to inform the identification of budget priorities in what was termed the world's first 'wellbeing budget' in 2019. Further, agencies requesting Treasury funding are now required to use the LSF to outline how the funding would affect living standards. Nonetheless, the LSF dashboard has not (yet) fully replaced GDP and is instead being used alongside it (Corlet Walker and Jackson, 2019).

In the UK, organisations like the 'Centre for Thriving Places' and the 'What Works Centre for Wellbeing' are doing a great deal of work attempting to develop new measures of progress and improve data collection for such indicators.

[32] Subjective wellbeing indicators have certain limitations of their own, but these are mitigated if grounded in objective indicators (Corlet Walker and Jackson, 2019).

While they are providing the tools, such as the 'Thriving Places Index' and the 'Local Wellbeing Indicators Report', to advance this agenda, their work is not yet being sufficiently incorporated into decision-making processes.

We recommend that the UK government join New Zealand, Scotland, and Iceland in the wellbeing economy governments (WEGo) group. In addition, the ONS should conduct a review of its 'Measures of National Wellbeing' dashboard, and publish the report that shows changes in the dashboard's indicators on a quarterly basis. Lastly, the Treasury should further incorporate the Measures of National Wellbeing dashboard into its macroeconomic framework and budgeting process.

4.1.3. Wellbeing as the satisfaction of human needs

Efforts to build dashboards should be grounded in comprehensive frameworks with clear concepts of what wellbeing means. One approach is to view wellbeing as the satisfaction of fundamental human needs, as is the case in the Human Scale Development Approach (HSDA), which was developed as a concept and tool to assist communities in developing without economic growth (Max-Neef, 1991).

The HSDA rests on 9 universal human needs that must be satisfied in order for humans to live a 'good life'.[33] These needs are subsistence, protection, affection, understanding, participation, idleness, creation, identity, and freedom. The HSDA posits the nine needs as being non-hierarchic, non-substitutable and universally held across social and historical contexts. Satisfiers, however, meaning the means by which needs are met, differ depending on a variety of cultural factors.[34] Satisfiers exist across four existential categories: (i) 'being', which refers to personal or collective qualities; (ii) 'having', which refers to institutions, norms, mechanisms and laws; (iii) 'doing', which is about personal and collective actions; and (iv) 'interacting', which refers to settings or locations. The framework can be summarised in the table shown in figure 10:

Figure 10: *The HSDA table*

	Being	Having	Doing	Interacting
subsistence	physical and mental health	food, shelter, work	feed, clothe, rest, work	living environment, social setting
protection	care, adaptability autonomy	social security, health systems work	co-operate, plan take care of, help	social environment, dwelling
affection	respect, sense of humour, generosity, sensuality	friendships, family, relationships with nature	share, take care of, make love, express emotions	privacy, intimate spaces of togetherness
understanding	critical capacity, curiosity, intuition	literature, teachers, policies, educational	analyse, study, meditate investigate	schools, families, universities, communities
participation	receptiveness, dedication, sense of humour	responsibilities, duties, work, rights	cooperate, dissent, express opinions	associations, parties, places of worship, neighbourhoods
leisure	imagination, tranquility spontaneity	games, parties, peace of mind	day-dream, remember, relax, have fun	landscapes, intimate spaces, places to be alone
creation	imagination, boldness, inventiveness, curiosity	abilities, skills, work, techniques	invent, build, design, work, compose, interpret	spaces for expression, workshops, audiences
identity	sense of belonging, self-esteem, consistency	language, religions, work, customs, values, norms	get to know oneself, grow, commit oneself	places one belongs to, everyday settings
freedom	autonomy, passion, self-esteem, open-mindedness	equal rights	dissent, choose, run risks, develop awareness	anywhere

Source: Max-Neef (1991)

[33] These needs were identified via small scale workshops in communities in Asia, Latin America, and Europe.

[34] Max-Neef distinguishes between five different types of satisfiers: (i) synergic satisfiers, which simultaneously fulfill multiple needs; (ii) singular satisfiers, which only satisfy a single need with no impacts on any others; (iii) inhibiting satisfiers, which satisfy one need but jeopardise satisfaction of other needs; (iv) pseudo-satisfiers, which mislead people into believing that their need is being fulfilled when it is not, thus jeopardising long-term fulfilment of the need; (v) violators / destroyers, which over time erode the satisfaction of the need they're aimed at while also inhibiting the satisfaction of other needs.

The key strength of the HSDA for a post-growth paradigm is its clear separation of basic needs from economic goods. Basic needs are not material. Satisfiers of certain needs, such as subsistence, clearly involve access to material goods, such as food, water, and housing in virtually all possible contexts, but many needs do not require material satisfiers. As such, the HSDA fundamentally questions the often alleged positive relationship between increased material consumption and increased satisfaction of needs. An implication of this for environmental sustainability is that 'ecological boundaries' should not necessarily be presented as constraints on human wellbeing. Increased satisfaction of needs does not automatically imply increased strain on the environment.

The HSD framework is a prime candidate to guide the construction or revision of wellbeing indicator dashboards (and broader wellbeing programmes). Other needs-based frameworks, such as Sen and Nussbaum's capabilities approach (Robeyns, 2006),[35] or Doyal and Gough's (1991) needs theory would also be suitable for underpinning such exercises. Ultimately, what matters is that wellbeing dashboards are grounded in sound conceptualisations of wellbeing that go far beyond the satisfaction of consumption preferences.

We recommend that the ONS, with the Treasury's support and public consultations, develop a comprehensive wellbeing framework under its 'Measuring National Wellbeing Programme'. The review of its wellbeing dashboard (recommended above) should be grounded in this framework.

4.2. Decision-making in a post-growth economy

Current decision-making tools are largely compatible with the goal of economic growth. Moving away from GDP toward a dashboard of social and environmental wellbeing indicators would significantly reshape economic policy goals. Therefore, we must also rethink how decisions are made to best achieve these new goals.

For example, the Green Book is a key HM Treasury (2018) document that is intended to provide "guidance to help officials develop transparent, objective, evidence-based appraisal and evaluation of proposals to inform decision making" (p. iv). It applies to proposals concerning "public spending, taxation, changes to regulations, and changes to the use of existing public assets and resources" (p. 1). In its current form, however, the Green Book is not fit for decision-making that serves a post-growth wellbeing economy.

The primary appraisal and evaluation tool advocated in the Green Book is Social Cost Benefit Analysis (CBA), which requires monetary valuation wherever possible. Although the book accepts that some aspects of life may not be easily monetised, it suggests that in such cases "efforts should be made (where it is possible and meaningful) to quantify them in some other way" (p. 47). Further, the document provides lengthy advice on non-market valuation for air and water quality, biodiversity, life and health, and many other things for which monetary valuation is fraught with methodological issues.

Despite the limitations of CBA, it may be reasonably applied to decisions that have relatively low stakes and low uncertainty regarding impacts. Yet many policy decisions, especially in times of climate and ecological breakdown, alongside growing levels of poverty and inequality, and an uncertain economic outlook involve high stakes and significant uncertainty regarding impacts on the systems involved.[36] As Funtowicz and Ravetz (2003) argue, either one of these criteria brings us into the realm of post-normal science (see Figure 11), where traditional scientific methods are insufficient. This is often the case for projects that could involve significant environmental impacts. Under uncertainty, decision-making is much better served by alternative methods such as participatory processes,[37] scenario building,[38] systems thinking, and various forms of multi-criteria analysis (MCA).[39]

[35] The capabilities approach was used as a basis for the development of New Zealand's LSF.

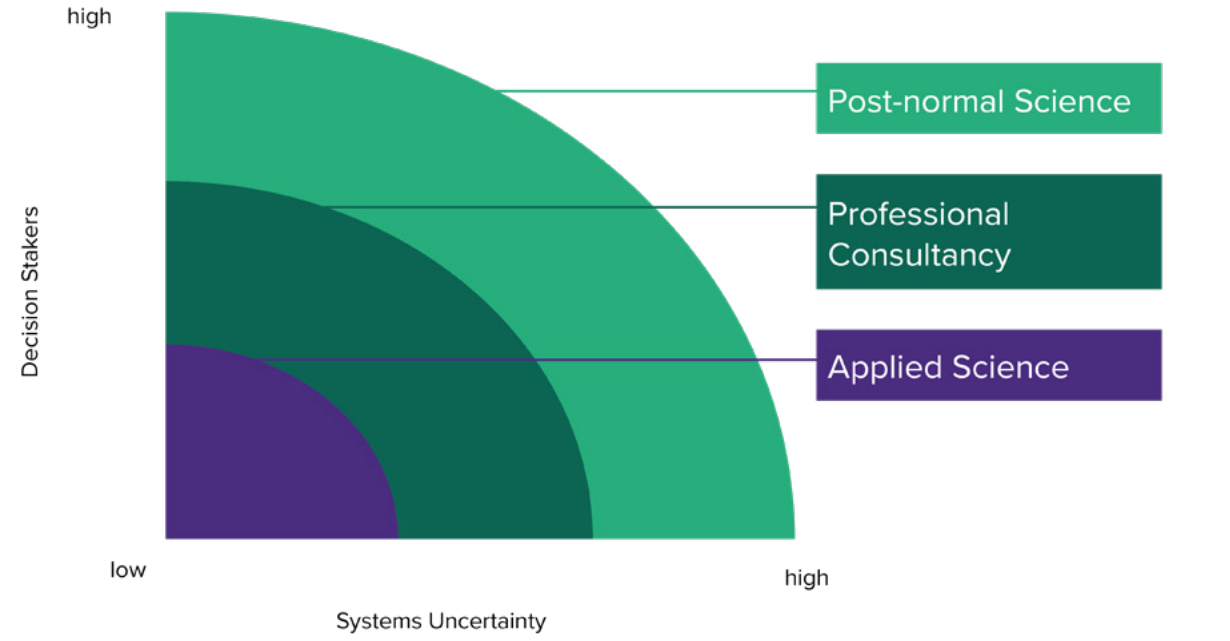
[36] Note that uncertainty is different to risk (though they are used interchangeably in the Green Book). While 'risk' refers to a calculable probability of something happening, 'uncertainty' refers to aspects of the future which do not have any such calculable probability.

[37] Participatory processes bring various stakeholders together to stimulate productive discussion that aims to formulate solutions and reach consensus on policy issues.

[38] Scenario building / planning is aimed at enabling creative and systematic thinking about a range of possible futures. Decision-makers can then assess how various policy options might play out in these different futures, without necessarily assigning probabilities to different scenarios. Various examples from business illustrate the benefits of scenario building (Polasky et al., 2011).

[39] MCA is an approach used for explicitly weighting different relevant criteria in order to rank alternative policy options. See, for example, Kiker et al. (2005) for a review of MCA techniques for decision-making in environmental projects.

Figure 11: *Decision-making under varying stakes and levels of uncertainty*



Source: Funtowicz and Ravetz (2003)

From an HSDA perspective, participatory processes are particularly important as policymaking should be aimed at fostering synergic satisfiers, which are most likely to emerge from endogenous deliberative processes at the community level. In HSDA, therefore, the state's role is less about designing and implementing policies from above, and much more about facilitating bottom-up development processes.[40]

Shifting to alternative appraisal and evaluation methods to inform decision-making may be a challenge for policymakers, but will be necessary for a post-growth wellbeing economy. We recommend that the Treasury incorporate these considerations into its current revision of the Green Book and rapidly step up its support for the development and application of post-normal decision-making tools.

[40] Max-Neef (1991) provided guidance on how to apply the HSD matrix in participatory processes. Ever since, it has been successfully applied and modified by academics and practitioners to suit various participatory contexts. See Guillen-Royo (2016) for an overview.

Conclusion

Widespread acknowledgment of the limitations of GDP as an indicator of progress is a positive step, but insufficient to achieve human wellbeing and environmental sustainability. Calls for more 'green' or 'inclusive' growth fail to address the negative consequences of growth. This report has shown that continuous GDP growth consistently fails to deliver enhanced life satisfaction, alleviation of poverty, or environmental protection.

Protecting human wellbeing and avoiding environmental disaster will require fundamentally challenging the growth paradigm that dominates policy, academia, and the media. In the UK, ending the publication of GDP figures would represent a first step in this process.

However, suddenly abandoning GDP growth without overcoming growth-dependent economic structures is also not a viable option. Growth imperatives inherent in capitalist economies mean that sudden, unplanned shocks to economic growth generate financial, economic, and social crises. This calls for a transformation of our economy in unprecedented ways. By ensuring that growth is no longer necessary to temporarily prevent multiple crises, we can focus instead on a well-managed end to growth that will protect human wellbeing and the ecosystems we depend on.

The current structure of the monetary and financial system presents a barrier to this goal. Given that there is no precedent for a non-financialised and non-growing advanced economy, and interest-bearing debt created by commercial banks is a growth imperative, we have argued that transformative monetary policies are necessary for an economy that prioritises social and environmental wellbeing.

We propose an ambitious agenda to reduce dependence on interest-bearing debt and instead foster balanced creditor-debtor relationships, founded on new ways of guaranteeing access to means of payment and access to credit. As these measures will take time to implement, we also explored more immediate policies that would contribute to redistributing power between creditors and debtors in the system.

A universal basic income issued via central bank digital currency, a direct clearing facility, public banks and modern debt jubilees are among the policies that feature on this agenda for a post-growth money and finance system that serves social and environmental goals.

Eliminating structural growth imperatives would mean that a lack of growth will no longer generate multiple crises. This will allow us to safely abandon the GDP indicator in favour of a dashboard of alternative measures of progress that reflect the social and environmental goals of a post-growth economy. Selected indicators can include factors like life expectancy, health, education, carbon emissions, and material use. The construction and use of dashboards should be grounded in a coherent wellbeing framework that understands wellbeing as the satisfaction of fundamental human needs.

To support this deep reorientation of policy goals, decision-making guidance must also be reviewed for high uncertainty and high stakes decision-making, and should incorporate post-normal tools such as participatory processes.

At the time of writing, the world is in the midst of a global pandemic and climate and ecological breakdown. It is more urgent than ever that we repurpose the economy to serve social and environmental wellbeing. We hope that the analysis and recommendations offered here have clarified the challenge ahead of us and effectively made the case for transformative systemic change.

Bibliography

Adler, D., Varoufakis, Y., 2019. The World Bank and IMF are in crisis. It's time to push a radical new vision | David Adler and Yanis Varoufakis. The Guardian.

Aglietta, M., 2002. Whence and Whither Money?, in: The Future of Money. OECD.
Amato, M., Fantacci, L., 2014. Saving the Market from Capitalism: Ideas for an Alternative Finance. Polity Press.

Aramonte, S., Avalos, F., 2019. Structured finance then and now: a comparison of CDOs and CLOs. Bank for International Settlements.

Arcand, J.-L., Berkes, E., Panizza, U., 2012. Too Much Finance? International Monetary Fund.
Bank of England, 2020a. Why does economic growth matter? [WWW Document]. URL http://www.bankofengland.co.uk/knowledgebank/why-does-economic-growth-matter.

Bank of England, 2020b. Discussion Paper - Central Bank Digital Currency: Opportunities, challenges and design. Bank of England.

Banque de France, 2020. Le Covid-19 d'abord et le climat après ? Pas si simple – Liens entre risques sanitaires et environnementaux. Banque de France. URL https://covid19-economie.banque-france.fr/comprendre/le-covid-19-dabord-et-le-climat-apres-pas-si-simple-liens-entre-risques-sanitaires-et-environnementaux/.

Barmes, D., 2020. The ultimate magic money tree has been unveiled - don't let the government tell you otherwise. Positive Money. URL https://positivemoney.org/2020/04/the-ultimate-magic-money-tree-has-been-unveiled-dont-let-the-government-tell-you-otherwise/.

Barmes, D., 2019. Securitisation is back, and green finance must stray far away. Positive Money. URL https://positivemoney.org/2019/09/securitisation-is-back-and-green-finance-must-stray-far-away/.

Barrett, A.B., 2018. Stability of Zero-growth Economics Analysed with a Minskyan Model. Ecological Economics 146, 228–239. https://doi.org/10.1016/j.ecolecon.2017.10.014

Bennett, N., 2020. The Government must reduce the growth dependency of our economy. Politics Home. URL https://www.politicshome.com/thehouse/article/the-government-must-reduce-the-growth-dependency-of-our-economy.

Berry, C., Macfarlane, L., 2019. A new public banking ecosystem. Labour Party, London.

Bezemer, D., Hudson, M., 2016. Finance Is Not the Economy. Finance is Not the Economy. URL https://evonomics.com/finance-is-not-the-economy-bezemer-hudson/.

Bhaduri, A., 2014. Predatory Growth, in: Bhattacharyya, S. (Ed.), Two Decades of Market Reform in India: Some Dissenting Views. Anthem Press.

Bikas, K., Livingstone, Z., 2020. Money We Trust: Designing Cash's Digital Counterpart. Positive Money.

Blakeley, G., 2019. Stolen: How to Save the World from Financialisation. Repeater Books.

Blauwhof, F.B., 2012. Overcoming accumulation: Is a capitalist steady-state economy possible? Ecological Economics 84, 254–261. https://doi.org/10.1016/j.ecolecon.2012.03.012

Boait, F., Hodgson, G., 2018. Escaping Growth Dependency: Why reforming money will reduce the need to pursue economic growth at any cost to the environment. Positive Money.

Bolton, P., Despres, M., Pereira da Silva, L.A., Samama, F., Svartzman, R., 2020. The green swan: central banking and financial

stability in the age of climate change. Bank of International Settlements.

Braudel, F., 2014. La Dynamique du capitalisme, Champs Histoire. FLAMMARION, Paris.

Cahen-Fourot, L., Lavoie, M., 2016. Ecological monetary economics: A post-Keynesian critique. Ecological Economics 126, 163–168. https://doi.org/10.1016/j.ecolecon.2016.03.007

Centre for Thriving Places, 2020. Centre for Thriving Places: the new name for Happy City [WWW Document]. Centre for Thriving Places. URL https://www.centreforthrivingplaces.org

Confino, J., 2014. Lord Stern: global warming may create billions of climate refugees. The Guardian.

Coppola, F., 2020. Central Banks Are Well Placed to Pay Universal Basic Income. CoinDesk.

Coppola, F., 2019. The Case For People's Quantitative Easing. Polity Press.

Corlet Walker, C., Jackson, T., 2019. Measuring Prosperity—Navigating the Options. Center for Understanding Sustainable Prosperity. URL https://www.cusp.ac.uk/themes/aetw/measuring-prosperity/.

Crawford, N.C., 2019. Pentagon Fuel Use, Climate Change, and the Costs of War. Watson Institute, Brown University.

D'Alisa, G., Demaria, F., Kallis, G., 2014. Degrowth: A vocabulary for a new era. Routledge.

Daly, H., 2008. Towards a Steady-State Economy. Sustainable Development Commission.

Doyal, L., Gough, I., 1991. A Theory of Human Need. Palgrave Macmillan, Basingstoke, Hampshire.

Easterlin, R., 2016. Paradox Lost? Institute for the Study of labor, Bonn, Germany.

Easterlin, R., 1974. Does Economic Growth Improve the Human Lot? Some Empirical Evidence, in: David, P.A., Reder, M.W. (Eds.), Nations and Households in Economic Growth. Academic Press, pp. 89–125. https://doi.org/10.1016/B978-0-12-205050-3.50008-7

Easterlin, R., Morgan, R., Switek, M., Wang, F., 2012. China's life satisfaction, 1990-2010. Proceedings of the National Academy of Sciences 109, 9775–9780. https://doi.org/10.1073/pnas.1205672109

Easterlin, R.A., 2013. Happiness and Economic Growth – The Evidence. Institute for the Study of Labor, Bonn, Germany. https://doi.org/10.1007/978-94-017-9178-6_12

Epstein, G., 2001. Financialization, Rentier Interests, and Central Bank Policy. Presented at the Financialization of the World Economy.

European Commission, 2019a. Beyond GDP: Measuring progress, true wealth, and well-being [WWW Document]. European Commission. URL https://ec.europa.eu/environment/beyond_gdp/background_en.html.

European Commission, 2019b. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: The European Green Deal. European Commission.

Fantacci, L., 2013. Reforming Money to Exit the Crisis: Examples of Non-capitalist Monetary Systems in Theory and Practice, in: Pixley, J., Harcourt, G.C. (Eds.), Financial Crises and the Nature of Capitalist Money: Mutual Developments from the Work of Geoffrey Ingham. Palgrave Macmillan UK, London, pp. 124–147. https://doi.org/10.1057/9781137302953_8

Forstater, M., 2018. Complementary Currencies in the Solidarity Economy: The Local Job Guarantee, in: Murray, M.J., Forstater, M. (Eds.), Full Employment and Social Justice. Palgrave Macmillan.

Freire-González, J., 2017. Evidence of direct and indirect rebound effect in households in EU-27 countries. Energy Policy 102, 270–276. https://doi.org/10.1016/j.enpol.2016.12.002

Funtowicz, S., Ravetz, J., 2003. Post-Normal Science. International Society for Ecological Economics.

Georgescu-Roegen, N., 1971. The Entropy Law and the Economic Process. Harvard University Press, United States of America.

Gerber, J.-F., 2015. An overview of local credit systems and their implications for post-growth. Sustainability Science 10, 413–423. https://doi.org/10.1007/s11625-015-0298-4

Goldin, I., 2018. Immigration is vital to boost economic growth. Financial Times.

Gomez, G.M., von Prittwitz und Gaffron, W., 2019. The pervasiveness of monetary plurality in economic crisis and wars, in: Gomez, G.M. (Ed.), Monetary Plurality in Local, Regional and Global Economies, Financial History. Routledge.

Goodfellow, M., 2019. Hostile Environment: How Immigrants Became Scapegoats. Verso Books, London, UK.

Graeber, D., 2014. Debt: The First 5,000 Years, 2nd ed. Melville House Publishing.

Guillen-Royo, M., 2016. Sustainability and Wellbeing: Human-Scale Development in Practice. Routledge, New York.

Hickel, J., 2020a. Outgrowing growth: why quality of life, not GDP, should be our measure of success - The Correspondent. The Correspondent.

Hickel, J., 2020b. The sustainable development index: Measuring the ecological efficiency of human development in the anthropocene. Ecological Economics 167, 106331. https://doi.org/10.1016/j.ecolecon.2019.05.011

Hickel, J., 2019. It's not thanks to capitalism that we're living longer, but progressive politics. The Guardian.

Hickel, J., 2017. The Divide: A Brief Guide to Global Inequality and its Solutions. Penguin Random House UK.

Hickel, J., Kallis, G., 2019. Is Green Growth Possible? New Political Economy 0, 1–18. https://doi.org/10.1080/13563467.2019.1598964

Himanshu, 2018. India Inequality Report: Widening Gaps. Oxfam India.

HM Government, 2019. Green Finance Strategy: Transforming Finance for a Greener Future.

HM Government, 2017. The Clean Growth Strategy: Leading the way to a low carbon future.

HM Treasury, 2018. The Green Book: Central Guidance on Appraisal and Evaluation. HM Treasury.

Hornborg, A., 2017. How to turn an ocean liner: a proposal for voluntary degrowth by redesigning money for sustainability, justice, and resilience. Journal of Political Ecology 24, 623–632. https://doi.org/10.2458/v24i1.20900

Hudson, M., 2018. ...and forgive them their debts: Lending, Foreclosure and Redemption From Bronze Age Finance to the Jubilee Year. ISLET.

Hudson, M., Goodhart, C., 2018. Could/should Jubilee debt cancellations be reintroduced today? If not, what alternative measures of debt relief and redistribution might be possible? Economics E-Journal. https://doi.org/10.5018/economics-ejournal.ja.2018-45

IGBP, 2015. Planetary dashboard shows “Great Acceleration” in human activity since 1950. IGBP. URL http://www.igbp.net/news/pressreleases/pressreleases/planetarydashboardshowsgreataccelerationinhumanactivitysince1950.5.950c2fa1495db7081eb42.html.

Jackson, T., 2020. Wellbeing Matters - Tackling Growth Dependency. APPG on Limits to Growth.

Jackson, T., 2011. Prosperity without Growth: Economics for a Finite Planet, 1st ed. Routledge, London ; New York.

Jackson, T., Victor, P.A., 2015. Does credit create a ‘growth imperative’? A quasi-stationary economy with interest-bearing debt. Ecological Economics 120, 32–48. https://doi.org/10.1016/j.ecolecon.2015.09.009

Kallis, G., 2019. Socialism Without Growth. Capitalism Nature Socialism 30, 189–206. https://doi.org/10.1080/10455752.2017.1386695

Keen, S., 2020. Steve Keen - Coronavirus: Inflation or Deflation? Why we need a Modern Debt Jubilee Now. Brave New Europe. URL https://braveneweurope.com/steve-keen-coronavirus-inflation-or-deflation-why-we-need-a-modern-debt-jubilee-now.

Kiker, G.A., Bridges, T.S., Varghese, A., Seager, T.P., Linkov, I., 2005. Application of multicriteria decision analysis in environmental decision making. Integrated Environmental Assessment and Management 1, 95–108. https://doi.org/10.1897/IEAM_2004a-015.1

Klare, M.T., 2014. Energy Wars: How oil and gas are fuelling global conflicts. Energy Post. URL https://energypost.eu/twenty-first-century-energy-wars-oil-gas-fuelling-global-conflicts/.
Krippner, G.R., 2005. The financialization of the American economy. Socio-Economic Review 3, 173–208. https://doi.org/10.1093/SER/mwi008

Lange, S., Banning, M., Berner, A., Kern, F., Lutz, C., Peuckert, J., Santarius, T., Silbersdorff, A., 2019. Economy-Wide Rebound Effects: State of the art, a new taxonomy, policy and research gaps. Institut für ökologische Wirtschaftsforschung, Berlin.

Lawn, P., 2011. Is steady-state capitalism viable? Annals of the New York Academy of Sciences 1219, 1–25. https://doi.org/10.1111/j.1749-6632.2011.05966.x

Lietaer, B., Arnsperger, C., Goerner, S., 2012. Money and Sustainability: The Missing Link. The Club of Rome.

Lietaer, B., Dunne, J., 2013. Rethinking money: How new currencies turn scarcity into prosperity. Berrett-Koehler Publishers, San Francisco.

Lucas, C., 2019. The obsession with GDP threatens destruction of the planet as we know it. Politics Home. URL https://www.politicshome.com/thehouse/article/the-obsession-with-gdp-threatens-destruction-of-the-planet-as-we-know-it.

Macquarie, R., Boait, F., Clarke, D., 2019. Seeking Legitimacy: A new settlement for the Bank of England. Positive Money, London.

Malay, O.E., 2019. Do Beyond GDP indicators initiated by powerful stakeholders have a transformative potential? Ecological Economics 162, 100–107. https://doi.org/10.1016/j.ecolecon.2019.04.023

Matthews, D., 2017. You’re not imagining it: the rich really are hoarding economic growth. Vox.

Max-Neef, M.A., 1991. Human Scale Development: Conception, Application and Further Reflections. Zed Books, New York.

Mazzucato, M., Jacobs, M., 2016. Rethinking Capitalism: Economics and Policy for Sustainable and Inclusive Growth. Wiley.

Mazzucato, M., Wray, L.R., 2015. Financing the Capital Development of the Economy: A Keynes-Schumpeter-Minsky Synthesis.

Levy Institute of Bard College.

McAfee, A., 2019. More From Less: The surprising story of how we learned to prosper using fewer resources - and what happens next. Scribner.

Medeiros, J., 2019. This economist has a plan to fix capitalism. It's time we all listened. Wired UK.

Monbiot, G., Grey, R., Macfarlane, L., Powell-Smith, A., Shrubsole, G., Stratford, B., 2019. Land for the Many: Changing the way our fundamental asset is used, owned and governed.

Nelson, E., 2019. One of the world's most influential economists wants to save capitalism from itself. Quartz.

Nersisyan, Y., Wray, R., 2020. Coronavirus has destroyed the myth of the deficit. The Guardian.

New Zealand Treasury, 2019. Living Standards Framework: Dashboard Update - 12 December 2019. New Zealand Treasury.

Nilsen, A.G., 2018. Why the World Bank's optimism about global poverty misses the point. The Conversation.

Nordhaus, W., 2018. Climate Change: The Ultimate Challenge for Economics.

Office for National Statistics, 2019. The decoupling of economic growth from carbon emissions: UK evidence. Office for National Statistics.

Our World in Data, n.d. Self-reported Life Satisfaction vs GDP per capita [WWW Document]. Our World in Data. URL https://ourworldindata.org/grapher/gdp-vs-happiness.

Our World in Data, n.d. Life expectancy vs. GDP per capita [WWW Document]. Our World in Data. URL https://ourworldindata.org/grapher/life-expectancy-vs-gdp-per-capita.

Parrique, T., Barth, J., Briens, F., Kerschner, C., Kraus-Polk, A., Kuokkanen, A., Spangenberg, J.H., 2019. Decoupling Debunked: Evidence and arguments against green growth as a sole strategy for sustainability. European Environmental Bureau.

Partington, R., 2020. Unemployment in US and UK "may be worse than in Great Depression." The Guardian.

Persaud, A., 2019. Why the UK needs a Financial Transaction Tax. openDemocracy.

Piketty, T., 2014. Capital in the Twenty-First Century. Harvard University Press, Cambridge Massachusetts.

Pizzigati, S., 2018. The Case for a Maximum Wage, 1 edition. ed. Polity Press, Cambridge, UK ; Medford, MA.

Polasky, S., Carpenter, S.R., Folke, C., Keeler, B., 2011. Decision-making under great uncertainty: environmental management in an era of global change. Trends in Ecology & Evolution 26, 398–404. https://doi.org/10.1016/j.tree.2011.04.007

Prieg, L., Greenham, T., 2012. Cooperative Banks: International Evidence. New Economics Foundation, London, UK.

Proto, E., Rustichini, A., 2014. GDP and life satisfaction: New evidence. VoxEU.org. URL https://voxeu.org/article/gdp-and-life-satisfaction-new-evidence.

Ramos, G., Hynes, W., 2019. Beyond Growth: Towards a new economic approach. Organisation for Economic Co-operation and Development.

Randow, J., 2020. 'Green Swan' Event Could Trigger Global Crisis, BIS Warns. Bloomberg.

Raworth, K., 2017. Doughnut Economics: Seven Ways to Think Like a 21st-Century Economist. Random House Business.

Reyes, M., 2020. Pandemic Shutdowns Actually Helped Economic Growth in 1918 Flu. Bloomberg.

Richters, O., Siemoneit, A., 2019. Growth imperatives: Substantiating a contested concept. Structural Change and Economic Dynamics 51, 126–137. https://doi.org/10.1016/j.strueco.2019.07.012

Robeyns, I., 2006. The Capability Approach in Practice*. Journal of Political Philosophy 14, 351–376. https://doi.org/10.1111/j.1467-9760.2006.00263.x

Roy, B., 2020. India should stop obsessing about GDP, and start focusing on what matters. openDemocracy.

Sawyer, M., 2017. Financialisation, Economy, Society and Sustainable Development: An Overview.

Schwartzman, D., 2012. A Critique of Degrowth and its Politics. Capitalism Nature Socialism 23, 119–125. https://doi.org/10.1080/10455752.2011.648848

Slater, M., Jenkin, T., 2016. The Credit Commons: A Money for the Solidarity Economy.

Smith, R., 2010. Beyond growth or beyond capitalism? Real-world economics review 15.
Spash, C.L., 2020. A tale of three paradigms: Realising the revolutionary potential of ecological economics. Ecological Economics 169, 106518. https://doi.org/10.1016/j.ecolecon.2019.106518

Spash, C.L., 2016. Contingent Valuation Design and Data Treatment: If You Can't Shoot the Messenger, Change the Message. Environment and Planning C: Government and Policy. https://doi.org/10.1068/cav4

Spash, C.L., 2008. How Much is that Ecosystem in the Window? The One with the Bio-diverse Trail. Environmental Values 17, 259–284. https://doi.org/10.3197/096327108X303882

Spash, C.L., forthcoming. Apologists for Growth: The Failure to Address the Need for Systems Change.

Stiglitz, J., Sen, A., Fitoussi, J.-P., 2009. Report by the Commission on the Measurement of Economic Performance and Social Progress.

Stirling, A., 2019. Austerity is subduing UK economy by more than £3,600 per household this year. New Economics Foundation. URL https://neweconomics.org/2019/02/austerity-is-subduing-uk-economy-by-more-than-3-600-per-household-this-year.

Stodder, J., Lietaer, B., 2016. The Macro-Stability of Swiss WIR-Bank Credits: Balance, Velocity, and Leverage. Comp Econ Stud 58, 570–605. https://doi.org/10.1057/s41294-016-0001-5

Stratford, B., 2020. The Threat of Rent Extraction in a Resource-constrained Future. Ecological Economics 169, 106524. https://doi.org/10.1016/j.ecolecon.2019.106524

Svartzman, R., Ament, J., Barmes, D., Ericsson, J., Farley, J., Kosoy, N., forthcoming. Money, interest rates and accumulation on a finite planet: revisiting the "monetary growth imperative" through institutionalist approaches, in: Costanza, R., Ericsson, J., Farley, J., Kubiszewski, I. (Eds.), Sustainable Wellbeing Futures: A Research and Action Agenda for Ecological Economics. Edward Elgar Publishing.

Szreter, S., 2003. The Population Health Approach in Historical Perspective. Am J Public Health 93, 421–431. https://doi.org/10.2105/AJPH.93.3.421

Talberth, D.J., Cobb, C., Slattery, N., 2007. The Genuine Progress Indicator 2006: A Tool for Sustainable Development. Redefining Progress, Oakland, California.

Tetlow, G., Stojanovic, A., 2019. Understanding the economic impact of Brexit. Institute for Government.

Toffolutti, V., Suhrcke, M., 2014. Assessing the short term health impact of the Great Recession in the European Union: A cross-country panel analysis. Preventive Medicine 64, 54–62. https://doi.org/10.1016/j.ypmed.2014.03.028

Ülgen, F., 2013. Is the financial innovation destruction creative? A Schumpeterian reappraisal. Journal of Innovation Economics Management n°11, 231–249.

Vague, R., 2019. A Brief History of Doom: Two Hundred Years of Financial Crises. University of Pennsylvania Press.

Van Alstine, J., Neumayer, E., 2010. The environmental Kuznets curve, in: Gallagher, K. (Ed.), Handbook on Trade and the Environment, Elgar Original Reference. Edward Elgar, Cheltenham, UK ; Northampton, MA.

van den Bergh, J., 2009. The GDP paradox. Journal of Economic Psychology 30, 117–135. https://doi.org/10.1016/j.joep.2008.12.001

van Lerven, F., 2016. A Guide to Public Money Creation: Outlining the Alternatives to Quantitative Easing. Positive Money.

Vidal, J., 2020. “Tip of the iceberg”: is our destruction of nature responsible for Covid-19? The Guardian.

Vince, G., 2019. The heat is on over the climate crisis. Only radical measures will work. The Guardian.

What Works Centre for Wellbeing, n.d. What Works Wellbeing Homepage [WWW Document]. What Works Wellbeing. URL https://whatworkswellbeing.org/.

Whipple, T., 2020. Economic crash could cost more life than coronavirus, says expert. The Times.

Wiedmann, T.O., Schandl, H., Lenzen, M., Moran, D., Suh, S., West, J., Kanemoto, K., 2015. The material footprint of nations. Proceedings of the National Academy of Sciences 112, 6271–6276.

Wolf, M., 2020. Maintaining the lockdown and saying the economy are mutually compatible. Financial Times.

World Bank, 2018. Measuring Inclusive Green Growth.

World Economic Forum, 2020. Beyond GDP [WWW Document]. World Economic Forum. URL https://www.weforum.org/focus/beyond-gdp/.

Wray, R.L., 2012. Modern Money Theory: A Primer on Macroeconomics for Sovereign Monetary Systems. Palgrave Macmillan, New York.

Young, T., 2020. Has the government overreacted to the Coronavirus Crisis? The Critic Magazine.

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