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Growth, Degrowth or Post-growth? Towards a synthetic understanding of the growth debate

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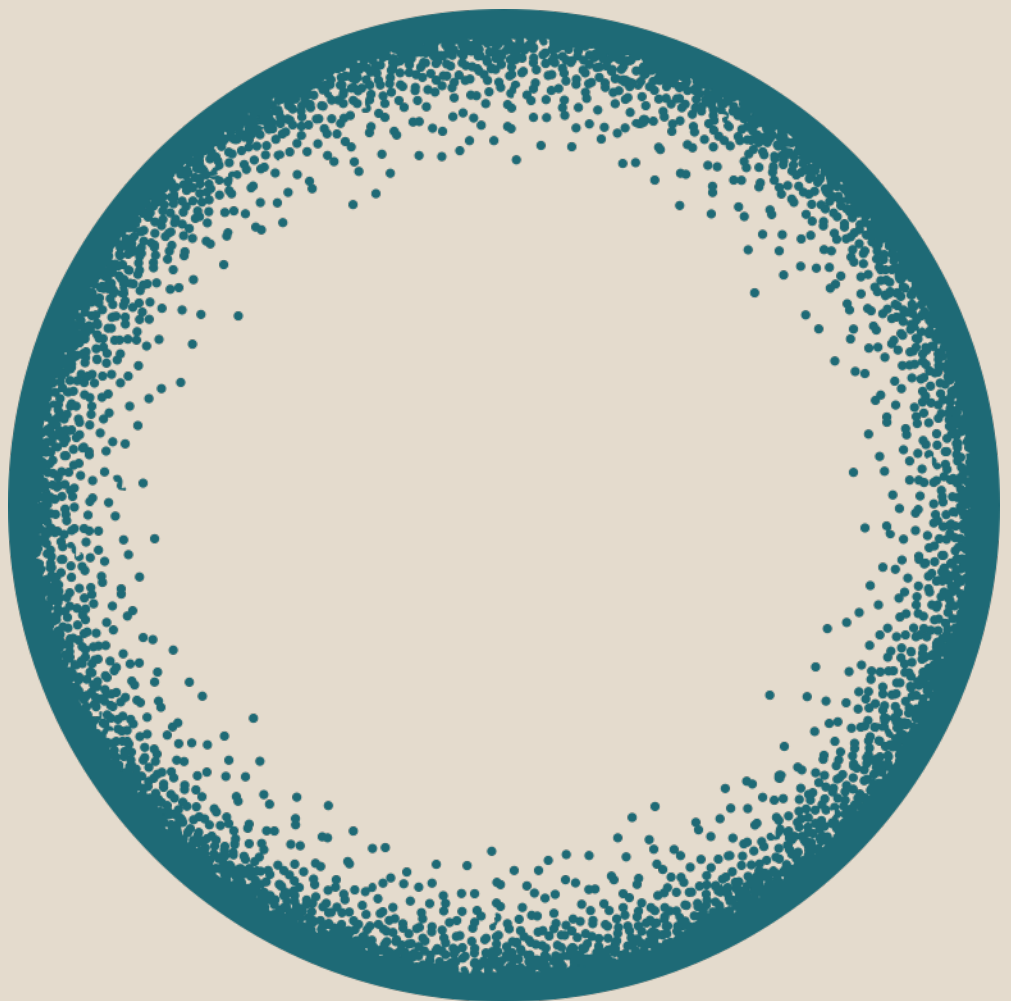
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GROWTH, DEGROWTH OR POST-GROWTH?

TOWARDS A SYNTHETIC UNDERSTANDING OF THE GROWTH DEBATE

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Abstract

Arguments about the possibility and desirability of exponential economic growth have animated the environmental movement for half a century, since the publication of the Club of Rome report *The Limits to Growth* in 1972. The debate has been revived in recent years as the climate crisis has reached centre-stage. This paper seeks to unpick the different strands in the debate and the different kinds of arguments - philosophical, empirical, and policy-prescriptive - used by different writers and institutions. It suggests that the contemporary debate is best understood as a disagreement between political strategies, in which the character of public and academic discourse plays a key role.

JEL codes: O4, O44, Q45, Q56

Keywords: economic growth, green growth, degrowth, post-growth, wellbeing, GDP

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1. INTRODUCTION

The aim of this paper is to unravel and explain the different arguments which have been made, and the different conclusions reached, in the debate about the possibility and desirability of economic growth, a debate which is soon to reach its 50th birthday. These arguments have raged within the environmental movement throughout that period (and to a lesser extent among feminist scholars, and more recently social justice advocates) but have only ever been on the fringes of academic economics or mainstream politics. Today, however, as the urgency of the climate and environmental crisis has become more widely evident, and the growth of inequality in multiple forms has led to searching questions about modern capitalism, they are beginning to move closer to centre stage. It remains unfortunately the case, however, that the debate about growth tends to generate more heat than light. Riven with ideology and selective use of empirical data, different arguments become fused and confused, and different conclusions elided. We hope this paper can offer some clarity, and in doing so move the debate on to more useful ground. For all its faults, the issues it seeks to address are the most urgent the world now faces.¹

The paper is structured as follows. The first section embeds the growth debate in a historical perspective by outlining briefly the origins of economic growth as a material phenomenon during the industrial revolution, and how it radically changed many aspects of human life. It then turns to the *concept* of economic growth, describing how growth emerged and established itself after the Second World War, initially as a statistical idea and then as a principal policy goal.

The second section focuses on the critiques of economic growth as a policy goal. Distinguishing between the environmental and social costs of growth, it seeks to disentangle the different types of argument – logical, ideological and empirical – that have been made about these, and whether such costs are inevitable or contingent on the particular form which growth has taken. We have attempted a diagrammatic representation of these in the Annex.

Finally, the third section describes the three overall positions generally taken in the debate today: green and inclusive growth, degrowth and post-growth. It notes how these are adopted by different protagonists as much for political strategic reasons (which term and kind of argument is

¹ The paper is concerned almost entirely with issues of political economy in high-income countries. Even advocates of degrowth acknowledge that low and middle income countries still need to experience economic (income) growth in order to take large numbers of their citizens out of poverty. Although the environmental impacts with which the growth debate is concerned are global, the focus on growth is almost exclusively about countries which have already achieved high levels of per capita GDP.

likely to be most effective?) as for logical, ideological or empirical ones. It concludes with some remarks on whether a coalition of forces straddling these current groups might be achievable.

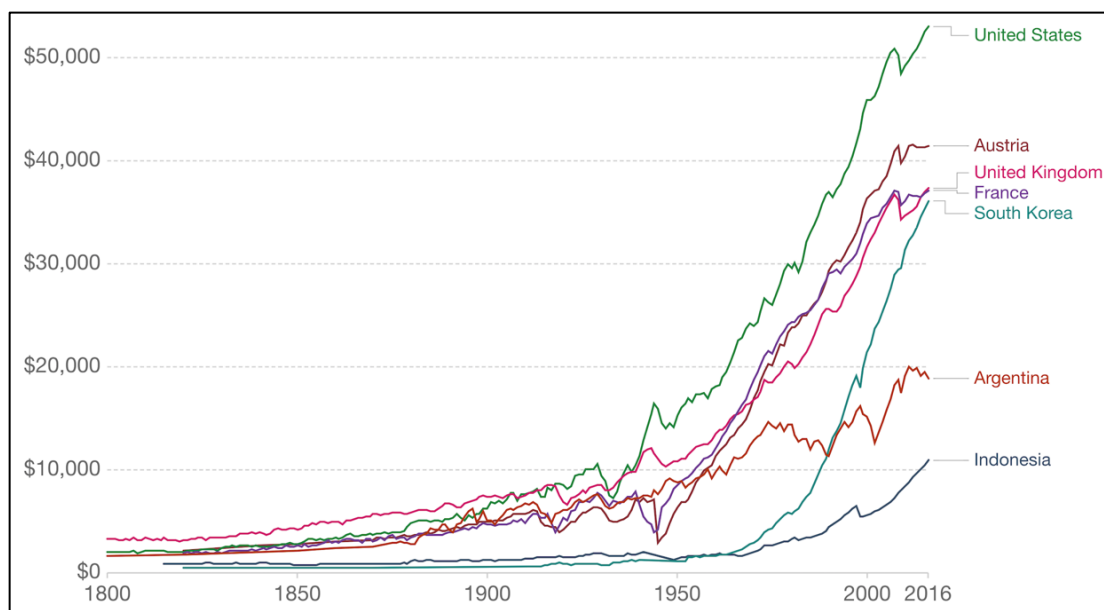
1. THE ORIGINS OF ECONOMIC GROWTH

1.1. Growth as a material phenomenon

In the pre-capitalist era, there was little economic growth and the term was not used. Before the 19th century economic activity had only experienced meagre expansions in line with population increases, and mostly as cyclical fluctuations (Morady et al. 2017). Indeed, in the period around the start of the industrial revolution, attempts to explain economic growth or development were still largely dominated by the Malthusian view that population growth would inevitably come into conflict with constrained economic output. While capturing developments in economic activity during the preceding epochs, this view rapidly became obsolete as the industrial revolution took off (Diebolt and Perrin 2016).

From the early 19th century European countries experienced an unprecedented growth in both economic activity and population. This led to huge changes in living standards and prosperity. Industrial technologies enabled rapid increases in labour productivity, with the result that economic growth outpaced population growth (Crafts 2004). Coupled with the benefits of colonial resource extraction, this allowed European and New World countries to break through the so-called ‘Malthusian trap’ and for incomes to decouple from the rate of population change. As more countries industrialised in the 20th century, their economies started to grow too, and poverty rates to decline. The share of the world population living in extreme poverty has fallen continuously during the last 200 years, a result made possible because economic growth has outpaced population growth.

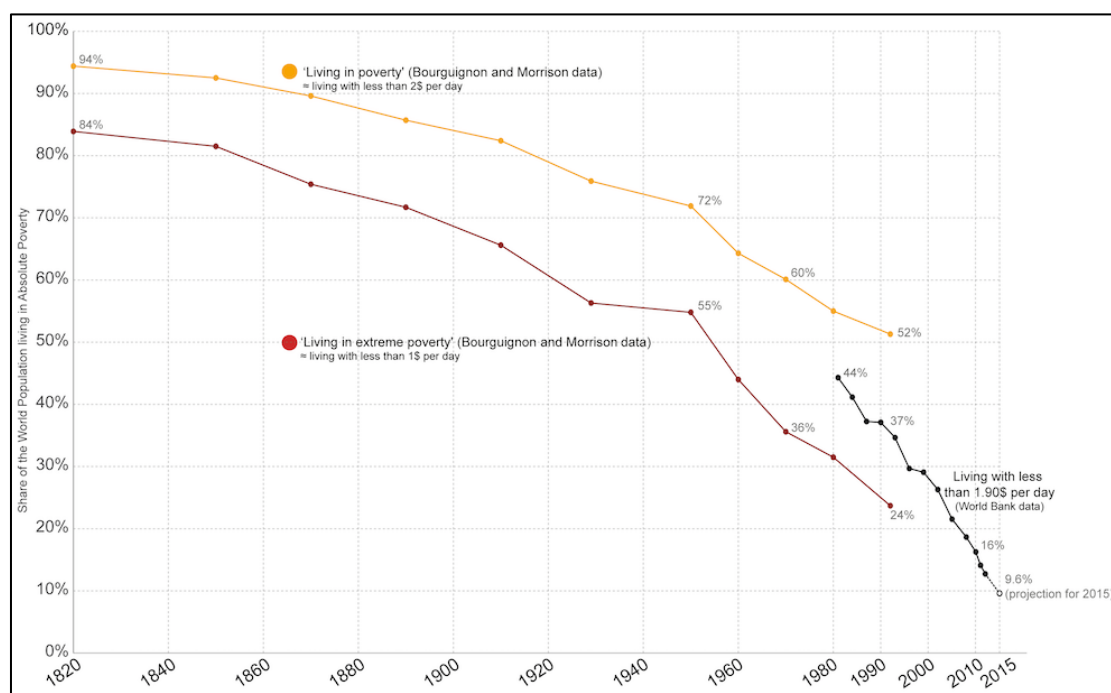
Figure 1. GDP per capita, 1800 to 2016 (adjusted for inflation and PPP and measured in international -\$ in 2011 prices).



Source: Maddison Project Database, 2018.

Note: These series are adjusted for price differences between countries based on only a single benchmark year, in 2011. This makes them suitable for studying the growth of incomes over time but not for comparing income levels between countries.

Figure 2. Share of the world population living in absolute poverty, 1820-2015 (adjusted for inflation and PPP).



Source: Ortiz-Ospina and Roser, 2017.

1.2. Growth as a statistical concept

For most economists before the 20th century, the expansion of economic output was seen as the natural result, and key characteristic, of capitalist production and commerce (Maddison 1977, Arndt 1989, Brewer 2010, Dörre et al. 2015). It was generally referred to, not as ‘growth’ but as ‘progress’, ‘development’ or ‘increase in national wealth’. In seeking to understand how the institutions and relations of capitalism generated it, 18th and 19th century economists laid the foundations for later growth theories (Brewer 2010). But it was not until the early 20th century that the term ‘economic growth’ began to be used; and not until the 1950s that it became dominant within economic disciplines and other social sciences.

In the 1920s and 1930s economics began to turn back from the microeconomic theories of Walras, Marshall and others to the macroeconomic analysis of output growth, and in particular how to measure it. The theoretical revolution instituted by John Maynard Keynes, coupled with Leontiev’s input-output analysis and the development of econometric modelling of national economies, contributed to the birth of the first national accounting systems. In a report in 1932 to the US Congress, Simon Kuznets first presented ‘Gross Domestic Product’ as the way to measure a country’s national output within a period of time.

Kuznets was well aware of the limitations of GDP, both in the methodologies of its calculation, and its use. He warned that ‘[d]istinctions must be kept in mind between quantity and quality of growth, between costs and returns, and between the short and long run’, and that ‘(t)he welfare of a nation can scarcely be inferred from a measurement of national income’ (Kuznets 1962, 1934). Nevertheless, GDP quickly became the widely recognized tool for measuring output, and therefore economic growth. It proved a valuable comparative indicator for national statisticians, a benchmark for policy makers, and an apparently comprehensible measure for use in public debate (OECD 2013).

The universalization of this indicator of national economic activity was however a rather complex historical process. As Schmelzer (2015, 2016) points out, GDP accounting was originally tailored for the specific purposes of mid-century Western capitalist economies. Used as a tool for estimating militarization costs and organizing the economy by the Allies in the fight against fascism, it subsequently became an instrument for planning the post-war reconstruction of Western European countries. To understand how this contributed to the idea of growth as an economic strategy –one that subsequently established itself as a long-lasting and global paradigm – one would need to include in the frame the implementation of the Marshall Plan (1948-1951), the establishment of the Bretton Woods institutions (1944), and the widespread adoption of Keynesian interventions to achieve full

employment. The Organisation of European Economic Cooperation, which became the OECD in 1961, the UN and the new institutions of the International Monetary Fund and World Bank, all played a role in the international standardization and global diffusion of GDP as a measuring method (Morady et al. 2017). By the 1950s this new economic measure of output had quickly become the foundation of standardized national income accounting, in turn establishing the main empirical framework for macroeconomic analysis and policy at the national and international level (Bos 1992, Maddison 2003). GDP and its growth thus came to shape the dominant idea of what indeed constituted an ‘economy’, a statistical definition still used today (Tooze 1998, Schmelzer 2016). Economic growth is defined as an increase in GDP, that is, an increase in the monetary value of all the goods and services produced within a country in a given time period.

1.3. Growth as the overriding economic policy goal

The use of economic growth as a primary policy goal for national governments derived not just from the development of national accounting, but from the emergence of the first modern growth theories in the early 1950s. In the exogenous growth models proposed by Solow (1956) and Swan (1956), growth occurred primarily as a result of productivity increases achieved through technological progress, which were not constrained by the law of diminishing returns. These models led rapidly to an understanding that, while an economy may have limited resources in terms of capital and labour, technological innovation can contribute to apparently unlimited growth. Sustained economic growth therefore became not just desirable but achievable. It is at this point therefore that the modern ‘growth paradigm’ can be said to take off (Arndt 1978, Schmelzer 2015, 2016).

The combination of internationally standardized national accounting techniques, new growth theories and Keynesian policy tools turned economic growth in the 1960s into the primary economic responsibility of national governments. By sustaining aggregate demand, investing in universal education, funding industrial research and development and controlling the exchange rate and financial flows, national governments could set and achieve annual growth targets. As this was accepted, economic growth became, not just a technocratic economic objective, but the centerpiece of a new narrative of national social and economic development, which effectively equated progress with sustained increases in economic output as measured by GDP, that is, to growth (Maddison 1977, Arndt 1978, 1989).

In the era of the Cold War, when western governments worried about the attractiveness of communism as an alternative political system, it became commonplace to believe that capitalism and liberal democracy would only survive if they delivered on the promise of a better life for everyone. The Great Depression had challenged this claim; the Marshall Plan and the welfare state had to re-

establish it. In the immediate post-war years policy-makers' main objective was still that of stabilizing the economy and achieving high employment levels, rather than seeking long-term growth (Arndt 1978). But by the mid-1950s the pursuit of economic growth had become the main policy goal of Western governments and by the end of the decade the goal had spread throughout the world.

Growth had the power to create a political consensus in favour of capitalism, for it promised to address the social problems of post-war reconstruction in a pragmatic, non-ideological manner. It integrated military expenditures into a wider economic plan without hindering living standards; it stabilized the institutions of the Bretton Woods system and reinforced international cooperation (and its associated international organizations); and at least temporarily shifted the focus away from distributional conflicts while presenting the idea that the total economic pie was increasing (Schmelzer 2015, 2016).

In this climate, policymakers started setting growth targets. In 1951 the OEEC announced a goal of achieving a 25% increase in the combined GNP of its member states within five years. A decade later, shortly after declaring growth its main policy objective, the Soviet Union committed to raising national output by 500% within twenty years (Allen 2001). In the same year the OECD (now including non-European members, including the US and Canada) declared its plan to increase the combined GNP of its member states by 50% by the end of the decade (Schmelzer 2012). Over the next two decades countries all over the world, whatever their political stripe, set similar growth targets (Schwarzer 2014).

1.4. The idea of a 'growth paradigm'

When they emerged in the 1950s and 60s, specifically growth-oriented policies were initially attempts by governments to achieve full employment and stabilize the economy. But as the technologies of mass production developed, such policies rapidly became associated with raising living standards, particularly in the form of household consumption. At the same time, they generated the tax revenues which allowed the new welfare states to improve and expand public services, notably universal health and education, social housing and public transport. For the first time, the state had fully taken on the task of improving the welfare of the population as a whole (Wilensky 1975). It was thus in these two decades – the so-called 'golden age' – that the 'growth paradigm' (first described as such by Herman Daly (1972)) achieved its complete form. National states would judge their success by how far they could provide their populations with both an ever-growing supply of consumer goods and ever-improving public services; families measured their welfare in terms of rising household consumption; private sector industries expanded their output and developed new products for ever-growing markets, supported by state-funded infrastructure, education and welfare services. All three sectors –

state, households, and businesses – were legitimized by economic growth; an entire society directed towards its realization.

When western capitalism began to experience a succession of crises in the 1970s, with declining profit rates, rising unemployment, accelerating inflation and industrial and social unrest, the growth paradigm might have been challenged. In popular culture it was; but in mainstream political economy it simply took a new form. The free market revolution (what is often now known as the birth of neoliberalism (Blyth 2002)) did not question the goal of growth, merely the ability of governments to achieve it through interventionist public policy. To the contrary, it was now claimed, growth would best be achieved by releasing markets from the restrictions of the state (Duménil and Lévy 2005, Robison 2006). Indeed, growth did not merely persist as the overriding goal of economic policy and society, it was strengthened, as other objectives of the Keynesian era (increasing equality, a strong welfare safety net, the development of social institutions) were abandoned, and household consumption became more narrowly the primary indicator of economic success. Economic policy and politics might have radically changed, but the growth paradigm remained.

1.5. The benefits of economic growth

It is not hard to see why this should have happened. For around half a century, from 1950 to around 2000, the empirical evidence seemed to show fairly unequivocally that economic growth generated critical economic benefits.

First, technological innovation and productivity increases are positively correlated with growth, moving in a pro-cyclical way. Investment in innovation is usually higher during times of generally more dynamic economic activity; firms and governments tend to cut these expenditures in times of low growth or recession. Productivity advances in agriculture provide a stark illustration. Before the industrial revolution about two thirds of the population of European countries worked in agriculture; today less than 5% of the labour force in advanced economies is so employed (Huberman and Minns, 2007). At the same time, hours worked per worker per year have fallen by more than 50%. Yet the economies of Western Europe are able to feed a population that has tripled in size over the same time period (Maddison, 2018). And this does not even include the quality of work that comes with using a tractor compared with using bare hands when harvesting crops.

Second, there is also a strongly positive correlation between economic growth and both the level of employment and of wages. It might have been that rising productivity led to mass unemployment, or falling wages to prevent it. But in practice, despite periodic fluctuations, economic growth has shifted employment from high productivity to lower productivity sectors, which in turn

has sustained aggregate demand, and therefore employment. In turn, for much of the last 200 years higher employment rates have strengthened the bargaining power of skilled labour, thereby increasing their wages and reducing poverty and (in many periods) inequality. Over the last two hundred years economic growth has generated an unprecedented improvement in general living standards, first in Europe, then in the New World, and later (at least for some groups of the population) in most other nations, of a kind and scale which would have been unimaginable when it began.

Third, economic growth is also strongly correlated with the growth of government tax revenue and public spending. In the post-war period it was growth which increased the fiscal capacity of the state, opening the opportunities for increased spending on education, health and other public goods and services.

Fourth, in some dimensions it even seemed that economic growth was correlated with higher environmental standards. As advanced countries started implementing environmental protection legislation from the 1950s onwards, which reduced the worst forms of air and water pollution and protected some natural areas, the idea of an ‘environmental Kuznets curve’ was proposed (Stern 2004). This appeared to show that, historically, damage to the environment first rose with economic growth in the early phases of industrialisation; but then peaked as countries got richer, and subsequently declined as higher living standards allowed societies the seeming luxury of being concerned about pollution and biodiversity, and gave governments the tax revenues to spend on environmental protection.

Fifth, economic growth has contributed to extraordinary advances in scientific knowledge, which in turn have enabled (among other things) huge improvements in human wellbeing. Without growth it seems safe to say that there would have been no decline in the mortality rate of newborn children and their mothers, no near-doubling of life expectancy, no mass higher level education, no decent housing for the majority of the population, and no cures for mortal diseases. It may be that, today, further scientific and technological advances – such as the development of vaccines – would be possible without economic growth. But as we turn to the environmental and social costs of growth its benefits to date are worth bearing in mind.

2. THE ENVIRONMENTAL AND SOCIAL COSTS OF GROWTH

By the late 1960s, and with growing force during the 1970s and after, the growth paradigm created its own opposition. In the environmental movement, criticism focused on the phenomenon and celebration of growth itself; among Marxists, advocates of social justice, anti-colonial movements

and feminists, the target was more often the capitalist system which generated it. Two distinct critiques emerged: the environmental and the social.

2.1. The environmental costs of growth

While environmental damage had been highlighted before (most notably in Rachel Carson's *Silent Spring* in 1962, often regarded as marking the birth of the modern environmental movement) it was the *Limits to Growth* report by the Club of Rome in 1972 (Meadows et al. 1972) which first emphasized the conflict between economic growth and the natural environment. Based on new systems modelling of the relationship between population growth, economic output, resource use and pollution, *The Limits to Growth* set out the idea that the exponential increase in global economic output could not be sustained over time due to the finite resources and absorptive capacities of the earth on which it was founded. Resource depletion and pollution would bring growth to an end – and likely lead to the collapse of human societies as food production declined – within the following hundred years.

The Limits to Growth was quickly criticized, particularly for its failure to model economic feedback effects (by which resource scarcity would lead to price rises and therefore to both lower and more productive use of them), and technological advance (which could both improve the efficiency of resource use and waste disposal and substitute away from declining resources) (Cole et al, 1973; Simon 1981). Some of its predictions of resources running out were famously proved wrong (Sabin 2013). But to a considerable extent the actual empirical record since 1972 has vindicated *The Limits to Growth* to a remarkable extent (Turner 2008, Herrington 2020).

Since then, environmental science has introduced new conceptualisations of the idea of 'environmental limits'. Arguably the most influential is the idea of *planetary boundaries* (Rockström et al. 2009), the levels at which in nine different environmental dimensions (climate change, biodiversity loss, biogeochemical cycles, ocean acidification, land use, freshwater use, ozone depletion, atmospheric aerosols and chemical pollution) it is likely that tipping points will lead to catastrophic change, and which thus mark the limits of the 'safe space for humanity'. Over the last 30 years, the huge global increase in the use of natural resources and sinks has led to four of the nine planetary boundaries being crossed (climate change, biosphere integrity, land system change and biochemical flows) (Steffen et al. 2015).

At the same time, new techniques for understanding the relationship between economic activity and the natural environment have been developed. Economy-wide material flow accounting (EW-MFA) has enabled analytical studies of material inputs into and out of national economies and

changes in the material stock inside the economic system (Fischer-Kowalski et al. 2011, Krausmann et al. 2015). EW-MFA conceptualizes an economy as a ‘biophysical and socio-economic system embedded in its socio-economic and biophysical environment’ (Krausmann et al. 2015, p. 10) and refers to the rate at which environmental resources are used as the economy’s ‘socio-metabolism’ (Fischer-Kowalski 1998). Just as human beings and other organisms require a regular throughput of materials to survive, human economies need a continuous input of materials and energy. These are processed, transformed, consumed, stored, discarded or recycled and ultimately leave the socio-economic system in the form of wastes or emissions. In his study of long-term historical trends in global material and energy use, Krausmann points out that the major environmental problems now faced by humanity are closely related to the huge increase in the economy’s socio-metabolism which has occurred over the last two hundred years (Krausmann 2011, Krausmann et al 2008).

2.2. The social costs of growth

If the environmental costs of economic growth are not difficult to understand, the analysis of its social costs is a little more complex. Three primary critiques have emerged.

Positional goods

Not long after the *Limits to Growth* report, Fred Hirsch (1976) described what he called the ‘social limits’ to growth. He argued that economic growth could not lead to ever-rising welfare, because the satisfaction individuals derive from goods and services depends not only on their own consumption but on the consumption of others too. As basic material needs are satisfied, people increasingly desire high-status ‘positional goods’ whose value is defined by their scarcity (a house with an unbroken view, a holiday in an unspoiled location). Economic growth, Hirsch argued, was bound to lead to a ‘distributional struggle’ for positional goods; and individualist consumerism could undermine the social foundations of the liberal state itself.

Happiness, life satisfaction and wellbeing

A more widely made social critique of economic growth is that – after a certain point of material consumption – it does not lead to an overall greater level of happiness or life satisfaction, or what today is often termed ‘wellbeing’. This was most famously pointed out by Richard Easterlin (1974), whose ‘Easterlin paradox’ notes that, while that at a single point in time self-reported happiness and life satisfaction vary with income both between and within nations, over time they do not trend upward as national income grows.

On closer consideration there is of course something entirely obvious about this: human beings do not have an infinite capacity for happiness, such that people living today could be (say) ‘twenty times as happy’ as people living two hundred years ago who were twenty times poorer. That is not what happiness is like. But in relation to economic growth it is also a profound observation. As Easterlin (1974, 2010) himself observed, it is partly to do with the inescapably comparative nature of happiness: human beings are more satisfied with their lives when they perceive themselves to be doing well (or not badly) relative to others in the social group to which they belong. But this is not a function of overall economic growth.

It is also related to the fact, as Herman Daly (1996) argued, that as economic growth continues, the environmental and social costs of achieving it rise, reducing and ultimately cancelling out any improvements in life satisfaction it might otherwise have brought. At this point, Daly observes, the costs of growth exceed its benefits, so further growth becomes ‘uneconomic’. Beyond the level where most people’s most important needs and wants are satisfied, Daly identifies a ‘disutility level’ where increased consumption would cause so much loss of leisure, pollution, congestion and inequality that overall life satisfaction will decline. Eventually a society where uneconomic growth occurs will reach the ‘futility limit’ where further consumption adds no utility at all (Daly 2005).

Over the last decade or so the concept of ‘wellbeing’ has both helped and in some ways confused the argument over the social costs of growth. It has helped by emphasising that the idea of a person being ‘better off’ is not uni-dimensional (as in ‘utility’ or ‘happiness’) but comprised of several different elements which are not simply commensurable through a single metric. Based on the Aristotelian idea of a flourishing life, the idea of wellbeing insists that people need multiple goods: income, health, satisfying work, good relationships with family and friends, purpose, creativity, and so on. (These have often been characterised through Maslow’s ‘hierarchy of needs’ (Maslow 1954). These things are individually experienced; but people also need, and are affected by, a variety of ‘social goods’ which are provided and experienced collectively (Jacobs 1997). These include trust in other people, safety and security, environmental quality, culture, a sense of political agency, and a sense of belonging. These are qualities not of an individual life but of society, and cannot simply be bought through higher individual income. They require social organisation, and in many cases collective (usually public) expenditure. The modern political concept of wellbeing recognises this; but because the term is also now commonly used purely to describe individual experience and mental health (as a goal of modern lifestyle and even consumption) its proponents are prone to emphasize its twin character by talking about ‘individual and social wellbeing.’ To complicate matters further, those who have adopted the term ‘wellbeing economy’ to describe their overall goal include within this both ‘human and ecological wellbeing’ (Wellbeing Economy Alliance 2021).

Though the concept of wellbeing is thus not always used in the same way, it has helped clarify the social (and by extension environmental) critique of economic growth. Though growth may raise the general income level, it is fairly obviously the case that it does not necessarily improve people's health, relationships or sense of security, or the quality of the environment and levels of social trust. Indeed, the patterns of growth experienced over the last half-century or so have been associated, it is often argued, with a decline in many of these things for many people (Jackson 2009).

Inequality

The third principal critique of economic growth is that over the last forty years it has been associated with rising inequality of both incomes and wealth. Whereas the historical record in the second half of the 20th century until the 1980s was that economic growth not only reduced poverty and raised average incomes, but also narrowed the differential between the rich and poor, today it is widely noted that, both between countries and within them, the gap between those on the highest and lowest income and levels of wealth has been widening (Piketty 2013, Milanovic 2018). Indeed in recent years in the US, UK and some other advanced countries, economic growth has not raised average earnings at all (OECD 2015, 2019). As Stiglitz (2016) has noted, 'a rising tide no longer lifts all boats'.

One way of looking at this is through the allocation of national income to labour (wages and salaries) and to capital (the returns to financial, real estate and other assets). As Piketty (2013) and the OECD (2015) have shown, from 1945 to around 1975 the labour share of national income rose and the capital share declined. But since the mid-1970s the reverse has occurred. Indeed the rate of return to capital has consistently exceeded the growth rate of the economy as a whole, making economic growth a means of enriching asset-owners and relatively impoverishing wage-earners (Piketty 2013). Since in the same period the ownership of wealth has been increasingly concentrated among a small group of the population (Oishy 2015), economic growth has in practice increased wealth inequality not reduced it.

It is important to note that the evidence in this field is not about growth *per se*. The historical record shows no simple relationship between growth and inequality: it depends on the institutional and political setting. For the three decades after the war, with full employment, high public spending on welfare and public services, and narrow financial markets, growth clearly contributed to a reduction in inequality. This clearly changed with the onset of the market-liberal paradigm focused on market deregulation and tax cuts for the highest income classes. Inequality has risen strongly since

the early 1980s, with the U.S. exhibiting the highest levels of inequality among industrialized countries (Kuhn et al. 2020). Overall, growth has also been lower during the market-liberal paradigm than during the former period, but it has not been negative.

The macroeconomic evidence in fact suggests that within a given policy regime growth and inequality are conversely related. Income and wealth inequality in Germany have grown most strongly during the low-growth period from the end of the 1990s to 2005. In the US, inequality rose most during the low-growth years following the 2008 financial crisis; it closed somewhat for income when growth picked up again (World Inequality Database 2022).

To put this at its starkest: although some recent patterns of growth are associated with rising inequality, there is no evidence that a low-growth or de-growth regime would see inequality fall without strong and deliberate policy action.

In relation to other dimensions of inequality, both feminist and anti-colonial critics have pointed out that the dominant growth paradigm of western societies has involved institutional inequality and discrimination structurally disadvantaging women and people of colour (Waring 1988, Robinson 1983). But there is no evidence showing growth *per se* is the cause of such inequalities; on the contrary, in so far as some forms of gender and racial inequality have declined since the 1970s, this has occurred at the same time as – and plausibly as a result of – economic growth.

Many of those noting these trends argue simply that high levels of inequality are ethically unjust. But an associated critique has also been developed, which observes that highly unequal societies also tend to perform poorly on a range of other criteria, including physical and mental health, crime, educational attainment and social trust. Inequality, it is argued, is not simply bad for those on the lowest incomes, but for many others in society as well (Wilkinson and Pickett 2009, 2018).

2.3. Alternative indicators

One outcome of both the environmental and social critiques of growth has been a call to replace or supplement GDP growth as the primary indicator of economic development or success. Many economists and policymakers have pointed out that GDP growth is not, in fact, the only such indicator: others such as employment levels, inflation rates and (in the context of poor countries) life expectancy and years of schooling are also commonly used. But the demand that GDP be ‘dethroned’ from its apparent primacy has been longstanding and prominent (Hoekstra 2019).

There are in fact two different critiques of GDP. One is that it is a poor indicator of the thing it purports to measure, namely economic activity and national income. It fails to account for unpaid

work (such as housework and care) and other non-market transactions; it ignores the depreciation of capital assets (both human-made and environmental); and it undervalues computer software and other forms of ‘intangible capital’ (Hicks 1973, Maddison 2003, Stiglitz et al. 2009, Hall et al. 2010, Boarini and D’Ercole 2013, Coyle 2015). The other is that as a measure of economic success it is far too narrow, failing to include – and not being correlated with – the many non-income components of individual and social wellbeing, such as mental health, leisure time, environmental quality, levels of inequality, and other social goods (Daly and Cobb 1989, Pilling 2017).

These critiques of GDP have led to the design of a number of other indicators. Some of these are alternative single indexes, such as the Index of Sustainable Economic Welfare (Daly and Cobb 1989) and the Genuine Progress Indicator (Cobb, Halstead and Rowe 1994). Others are ‘dashboards’ of multiple indicators (OECD 2021).

Much of the critique of economic growth in policy discourse has been transmuted into the question of alternative indicators: unsurprisingly, critics of growth have argued that so long as GDP growth is the primary measure of economic success, it will be pursued by policymakers. But in many ways the quest for alternative indicators is a distraction: economic growth does not depend on its statistical measurement, and will not be ended by changing this. Critics of GDP as an indicator could indeed sometimes be accused of naivete in apparently suggesting that, if only GDP were relegated in importance, economic growth would no longer occur. But economic growth is a material phenomenon driven by population growth, economic interests and technological advance, not simply a product of economic policy.

2.4. Disentangling the environmental and social critiques

The environmental and social critiques of economic growth have both encompassed, but often failed to disentangle, two different kinds of claim.

The first is that GDP growth *as it has been experienced so far* has generated unsustainable environmental costs and (during the period of market-liberalism) damaging social costs, *and without radical change will continue to do so*.

The environmental and social dimensions of this claim are largely independent of one another, though they are often argued together. Environmentally the claim is in many ways incontrovertible: the evidence of 200 years of environmental damage and its correlation with economic growth is plain. But it is much more contestable on the social side, where social policies seem more critical than growth *per se*.

But merely acknowledging the existence of costs does not entail rejecting growth. Many advocates of growth (in both its past and likely future forms) accept that it has costs, but regard these as acceptable or ‘worth it’ for the benefits of higher income, living standards and technological advance that growth brings. It might be noted that those who defend economic growth in such debates are often those most concerned with the incomes and living standards of the poor, particularly in low-income countries (though also in advanced ones); those who reject it often seem more focused on middle class consumption patterns in rich countries. Indeed, many of the latter such critics agree that economic growth is still needed in low-income countries in order to alleviate and eliminate poverty. In this sense the growth debate is largely an argument about advanced countries, not a global one.

The second kind of claim made about the environmental and social costs of growth is much more fundamental: it is that GDP growth *can never be* environmentally sustainable or socially beneficial. The problem is not simply the historical record, or the likely future one if nothing is changed. It is that growth is *logically or in all practical circumstances incompatible* with environmental sustainability or a certain set of preferred social outcomes (such as wellbeing and equality), or both. This claim takes a slightly different form in its environmental and social dimensions.

Is green growth possible?

On the environmental side the claim that continued growth is ultimately incompatible with the ecological health of the earth and with a sustainable (permanent and acceptable) level of environmental impact, derives from the thermodynamic understanding of economic activity. As originally developed by Nicholas Georgescu-Roegen (1971) and popularised by Herman Daly (1977), this observes that, like the rest of the universe, human economic activity is governed by the first two laws of thermodynamics. These are that matter-energy can be neither created nor destroyed, and without an external energy source matter-energy tends to entropy, or a state of greater disorder. In these circumstances, economic growth is inevitably dependent on the ever-increasing extraction of natural resources, which must inevitably lead to the creation of material and energy wastes in a volume and form beyond the capacity of the natural environment to absorb them without damage. As *The Limits to Growth* report argued, exponential economic growth would inevitably run up against the earth’s finite capacities to fuel it with resources and to assimilate the wastes it generated.

It is important to note, though it is not often pointed out, that for the argument about economic growth it is critical to say *at what point* economic growth is deemed to have become too environmentally damaging to be justified. It is logically possible to accept that *ultimately* growth will

become environmentally impossible or unacceptable, but that *right now* its costs are still outweighed by its benefits. It is notable that even *The Limits to Growth* projected that societal breakdown might not occur for another hundred years. Before that point, one might accept the logical impossibility of indefinite growth but argue that it should continue now because of its economic and social benefits (such as poverty reduction and technological advance), and only be stopped when those benefits ceased to outweigh its present (and projected future) costs. Of course this line of reasoning would be entirely time-dependent: the same person might have supported continued growth in 1972 for these reasons, but be unwilling to do so today, when both the present and future costs of economic growth have become so much larger and more imminent.

It is essential here to clarify what ‘economic growth’ in this discussion is growth *of*. The thermodynamic claim concerns material and energy resources. These cannot be indefinitely extracted on an exponentially growing basis without running up against the earth’s limits to supply them and (rather earlier) to assimilate the resultant wastes. But this is not an argument (at least, not a logically incontrovertible one) about economic growth as measured by GDP. GDP is a measure of traded economic activity; it does not measure the energy-resource content of that activity, or its environmental impact. Some economic activities clearly have much more energy-resource content and environmental impact per dollar of value than others. If economic activity were shifted progressively towards less damaging activities (such as through the use of renewable energy sources, organic and inert materials and the reuse and recycling of wastes, and a progressive increase in the efficiency of their use), it might be possible to have economic growth without increasing environmental damage.

This argument has often been expressed through the equation $I = PCT$ was originally developed by Paul Ehrlich and John Holdren (1971). I is environmental impact, P population, C consumption per head and T ‘technology’, or more accurately, the ‘environmental impact coefficient’ of output (Jacobs 1991). If PC (population times per capita consumption) is growing (i.e., there is economic growth), environmental impact can nevertheless be held constant, or even be reduced, if T is declining more rapidly than PC is growing.

Economists making this argument (e.g. Jacobs 1991, Ekins 1993, Ekins and Jacobs 1995, UNEP 2011, World Bank 2012) have not denied that indefinite exponential growth of carbon and material throughput are impossible. But they have argued that, at least in principle, a deliberate and concerted attempt to reduce the environmental impact coefficient of output could allow GDP growth to continue at the same time as environmental impact declined. This would require significant technological and organisational changes to ‘dematerialize’ both production and consumption,

requiring entirely renewable sources of energy and a highly efficient and circular material economy ('net zero' as these would now be collectively called).² But in theory at least one could imagine in this way an environmentally sustainable growth of GDP: one in which economic growth and environmental damage had been 'uncoupled'. Whether or not such 'green growth' could actually be achieved would then be an empirical question, not a logical one. It would depend on a combination of technological innovation, social organisation and consumer preferences, and the policies governments introduced designed to shift them in a sustainable direction (Jacobs 1991, World Bank 2012l; for reviews of the empirical and theoretical bases of these arguments, see Everett et al 2010, Steinberger et al 2013, Ward et al 2016, Frankel 2018, Carson, 2019, Jackson and Victor 2019. Jakob et al 2020.).

This argument, however, does not satisfy the more radical critics of GDP growth (Kallis 2017, Hickel and Kallis, 2020; Kallis et al. 2020). Such critics insist that even much greener forms of production and consumption could not continue to grow indefinitely. Production and consumption cannot be wholly dematerialized – there are always material components, even to the provision of renewable energy, digital outputs and human-provided services. (Note, they point out, the very high energy costs of computing; and the dependence of solar power on rare earth metals.) By generating higher income, resource efficiency improvements have a 'rebound effect' which just leads to further growth. And such improvements cannot continue at a high rate forever: they will ultimately come up against thermodynamic limits. This essential materiality of production means that it is simply not possible for GDP to grow indefinitely and exponentially without eventually creating a rising and unsustainable environmental impact (Czech 2019).

Moreover, such critics argue, the claim that GDP growth could be environmentally sustainable is not borne out by any actual empirical evidence: there has been very little absolute decoupling³ of physical resource use from growth over the last forty years, and much of what advanced countries claim to have achieved in this regard is merely because they are not counting the environmental impacts they have effectively 'exported' to China and other countries from which they now import most of their polluting goods (Wiedmann et al. 2015, Hickel and Kallis 2020).

² It would also require the decoupling of production from the use of nature. This point is made by the Dasgupta Review of the Economics of Biodiversity (Dasgupta 2021) conducted for the UK Government. (For a counter-argument based on the 'trophic theory of money' see Czech 2019.)

³ 'Absolute decoupling' is said to occur when environmental pressure decreases or remains stable while economic growth (measured by GDP) increases. 'Relative decoupling' occurs when economic growth and environmental pressure are both increasing, but the latter at a slower pace.

For such critics, the advocates of ‘green growth’ are clutching at straws at best, and guilty of dishonesty at worst: such growth not only has not been achieved, it cannot be achieved. It is time to acknowledge that, if we want to live on an environmentally healthy planet, GDP will have to decline. At least for high-income countries, there will have to be ‘degrowth’, that is, a progressive reduction in GDP levels (Latouche 2004, Kallis et al. 2012, Kallis 2017, Hickel 2020).

The advocates of green growth unsurprisingly have a retort to this: the fact that there has been up to now less ‘decoupling’ of growth from environmental damage than is sometimes claimed does not prove that it could not happen in the future. No advanced country has ever tried to reduce its environmental impacts sufficiently to achieve sustainable outcomes; if it made a really concerted effort to do so, it might be achievable. This is a contingent, empirical matter, they argue, for which the answer is not certain (van den Berg, 2011).

But a further argument is critical here. It matters how fast current environmental impacts have to be reduced to avoid tipping points and other catastrophic environmental impacts caused by past damage. Thirty years ago it looked like such tipping points were some way off, so the necessary rate of environmental improvement was relatively slow (Ekins and Jacobs 1995). If the ‘environmental impact coefficient’ (EIC) of GDP only has to improve by, say, 3% a year, then a concerted effort might make it possible to continue growing GDP even while environmental impacts slowly declined. But if – because of accumulated past environmental damage – we are much closer to such tipping points and to avoid them EIC needs to be improved by (say) 10% a year, this might be not just much harder but in practice impossible to achieve. In fact, since greenhouse gas emissions need to fall by around 7.5% between 2020 and 2030 if the global average temperature rise is to be limited to 1.5C above pre-industrial levels (UNEP 2019), this is indeed the kind of annual reduction in emissions per unit of global output which will be required.

If moreover this has to be done not just to GHG emissions but across a whole range of environmental impacts (air pollution, ocean pollution, soil depletion, biodiversity, forest loss, etc) where other catastrophic impacts are close, this too might turn out to be empirically impossible. For this reason, advocates of ‘theoretically possible green growth’ might be forced to acknowledge its *empirical impossibility* in the specific circumstances the world faces today. And indeed it may lead the same person to take a different view of the possibility of green growth today from one they might have taken 30 years ago, because the environmental facts in that period have changed.⁴

⁴ This is the position of one of the present authors.

Finally, the distribution of resources also matters. If, to give any hope of environmental justice to the global South, developed countries must reduce their environmental impacts even further than a uniform global distribution of effort would suggest, this will also make it empirically harder to achieve GDP growth in such countries as well (Kallis 2018).

Inclusive growth

As with the environment, the social critics of growth also split into two groups. One group argues that *historical and current patterns* of economic growth have not produced, and do not produce, overall social benefit. They have led to unacceptable levels of inequality and poor levels of individual and social wellbeing. But it should nevertheless be possible to organize the economy and society in such a way as to have both growth and those social goods. The economy could achieve a much more equitable distribution of its fruits; it could prioritize full employment, with good, secure work and work-life balance; it could focus more on providing social goods and less on competitive individual consumption. With its particular attention to lower levels of inequality, this line of reasoning is often described as seeking *inclusive growth* (OECD 2021, Bhattacharya et al 2021).

Against capitalism

The other group argues that growth in a capitalist society will always be based on the exploitation of labour and nature, and can therefore *never* properly generate overall social good (Foster 2011, Kallis 2018, Hickel 2020). The processes which generate growth inevitably generate inequality (especially between capital owners and workers, men and women, and different racial groups), along with degrading and precarious work, unemployment, various forms of consumption and social competition which make people miserable, and so on. For proponents of this view, the only way to achieve a better society is therefore to abandon, not just growth, but capitalism.

The environmental and social arguments come back together at this point. For those who see green or inclusive growth as impossible, the problem is not, fundamentally, economic growth. It is the capitalist economic system as a whole. Capitalism is a system geared towards capital accumulation, which both generates and requires growth in the overall value of output (GDP). It will therefore inevitably exploit every increase in labour and resource productivity to achieve output expansion (rather than, for example, to create more value from less output). In its pursuit of growth, capitalism will inevitably seek to push beyond planetary boundaries, and it will inevitably be based on unequal and exploitative economic relations and an acquisitive, competitive social ethos. A sustainable economy and healthy society can only be achieved if capitalism is abandoned (Klein 2014, Kallis 2018, Hickel 2020).

3. ALTERNATIVE PARADIGMS: INCLUSIVE GREEN GROWTH, DEGROWTH AND POST-GROWTH

3.1. A typology of arguments

The foregoing arguments lead to seven different conclusions, as drawn by different authors.

On the environmental side it is possible to identify four distinct positions:

E1. Economic growth improves welfare by raising household incomes and increasing public revenues which can be spent on public goods and services. Historically, and still, dominant patterns of growth have been and are environmentally damaging and unsustainable. But by changing the composition of output and consumption towards renewable energy sources, high levels of resource efficiency, non-polluting processes and a more circular economy, ‘green growth’ of GDP is possible. So policy should be focused on achieving this (OECD 2011, World Bank 2012; for a review see Jacobs 2013).

E2. Whether sustainable growth is possible or not is an empirical question. But no rate of GDP growth determines the level of environmental impact. So growth should not be a primary economic objective. Policy should focus rather on living within sustainable environmental limits or planetary boundaries (Jacobs 1991, Ekins 1993, van den Bergh 2011.). This could be achieved, for example, through a system of statutory policy targets and plans obligated by a ‘Sustainable Economy Act’ (Jacobs 2018). Growth may or may not be possible within these; but it is a subsidiary objective, so if it is not possible, that is of lesser concern.

E3. Though it might have been possible in the past, sustainable growth is almost certainly impossible today for advanced nations, given the speed that environmental impacts must be reduced, the existing slowdown in growth rates, and the needs of low-income nations to use the earth’s resources. Therefore we should not merely abandon growth as a primary economic objective and focus policy on achieving sustainable and just environmental limits. We should recognise that GDP growth is unlikely to be able to continue and adjust political expectations accordingly (Jackson, 2019, Parrique et al 2019).

E4. GDP growth today is inevitably environmentally unsustainable. Organising the economy and society to reduce environmental impacts to sustainable levels will therefore require a contraction of output and consumption, resulting in the ‘degrowth’ of GDP (Kallis 2011. 2018, Hickel and Kallis 2020, Kallis et al 2020).

On the social side, the same four positions can be identified, but the second and third are in practice generally combined:

S1. Economic growth improves welfare by raising household incomes and increasing public revenues which can be spent on public goods and services. Current patterns of growth have some social disbenefits. But economic reform can reduce these: by changing the composition of output (for example towards a higher level of public goods and welfare payments), its production methods (for example through more satisfying work), and distributional outcomes (for example by raising minimum wages and the more progressive taxation of wealth). In these ways growth can achieve higher levels of social wellbeing as measured by a range of indicators. The policy objective should be ‘inclusive growth’ (World Bank 2012, OECD 2021).

S2. Current patterns of growth are associated with higher inequality and various social ills such as poor mental health. The relentless pursuit of growth moreover imbues society with a culture of materialism, individualism and social competition which is corrosive of social cohesion and personal wellbeing. So growth is not only the wrong objective for policy; it is culturally damaging. Policy should focus instead on achieving social goods directly, rather than rely on growth to achieve them. In particular, this should include policies to achieve more equal outcomes and a focus on both individual and social wellbeing (Raworth 2017, Club of Rome, 2020, Wellbeing Alliance 2021, Jackson 2021).

S3. Growth is inextricably tied to capitalism, which inescapably generates inequality and other social harms in the process of capital accumulation. So capitalism needs to be abandoned, and society acculturated to a reduction in material consumption and output. This will result in ‘degrowth’ of GDP (Kallis, 2011, 2018, Kallis et al 2020).

3.2. Political strategy

Each of these seven positions derives from a particular understanding of, and claim about, the relationship between GDP growth, environmental impact and social outcomes. As can be seen, the environmental and social arguments take a similar form. And indeed most proponents today use both together.

But there is another consideration which also motivates the differences between different authors writing about growth. That is: what is the best form of language and discourse to use to achieve one’s aims? What terms support the most effective *political strategy*?

Here proponents divide into essentially three camps, with a fourth, somewhat separate one, also worth mentioning.

Inclusive green growth

The first group take the view that arguing against economic growth is doomed to political failure. Economic growth is so embedded in society's understanding of what constitutes a successful economy, and is so closely related to employment levels, government tax revenues, pension systems and business interests, that it is politically hopeless to argue against it. Therefore advocates of environmental sustainability and greater equality have adopted the goal of 'inclusive green growth'. This focuses policy on changing the composition and form of economic output and consumption, so as better to reduce environmental impact and achieve social goods, while continuing to seek GDP growth. So long as its damaging environmental and social impacts are constrained, it is argued, such growth is a positive good. It generates employment, supports better public services, raises pensions and generates profits for investment, not least in technological advances. Some advocates of inclusive green growth admit that such a strategy may ultimately have limits, due to deeper-rooted tensions between sustainability, wellbeing and growth. But in the short term, they argue, only such a strategy will be politically winnable, and short-term success is better than failure. So such arguments can be left to another day.

Inclusive green growth advocates include the OECD, the World Bank, and business-oriented institutions such as the World Economic Forum.

Degrowth

For advocates of degrowth, growth *per se* is the problem. It is the source of western society's environmental and social ills, not just as an economic phenomenon but as a culture and paradigm of thought. Therefore it must be confronted head-on (Kallis, 2011, 2018). Only a 'steady-state' economy (Daly 1997) which limits the rate of material and energy throughput to the regenerative and assimilative capacities of the global ecosystem, can preserve ecological health within planetary boundaries. This will inevitably lead to the degrowth of current GDP. But this should not be feared, because growth is anyway not socially desirable: it rests on social exploitation and generates inequalities and other social ills.

Contrary to the claim sometimes made by their critics, those advocating for degrowth do not (in general) argue that reducing GDP is *how* an environmentally sustainable and high-wellbeing economy should be achieved. A fall in GDP is not the *means* to those ends; it would be the *consequence* of taking measures to achieve them. An analogy might be made with the lockdowns introduced by governments to limit the spread of the Covid virus.⁵ A fall in GDP was not the goal; but it was the

⁵ This analogy was made by Giorgos Kallis in a personal communication with the authors.

inevitable consequence of the measures required. So degrowthers argue that a fall in GDP would be inescapable if the economy were genuinely constrained within planetary boundaries, for example by the rapid cessation of the extraction and consumption of fossil fuels.

Degrowth is an explicitly anti-capitalist position (Latouche 2004, Evanoff 2010, Kallis 2018, Hickel 2020). But this is politically necessary. Its proponents argue that only by abandoning capitalism, with its essential growth dynamic and unequal relations between capital and labour, can environmental limits be respected, and social equality and wellbeing achieved. Pretending or hoping otherwise is to mislead the public, and therefore to delay the moment when sufficient action will be taken. Small gains may be achievable within the current growth paradigm; but they will only distract from and potentially undermine the wholesale transformation of the socio-economic system which is the only way in which environmental sustainability and social good can be secured.

Advocates of degrowth propose a wide range of policies and institutional reforms, going well beyond the kinds of technocratic instruments favoured by the proponents of inclusive green growth. These include a reduction in trade and decentralisation of economic scale and political power; the redistribution of wealth and ownership, particularly through common ownership business models; a deepening of democratic practices; the reorientation of culture away from materialism and individualism towards simpler, more spiritual and communitarian practices; and the defence of ecosystems and other living beings, not merely the preservation of resources for human use (Ariès 2007, Bonaiuti 2009, Schneider et al. 2010, Kallis et al. 2012, Kallis 2018). Proponents of degrowth call for stringent state regulation and taxation of energy and resource use, in order to limit macro-environmental impacts. But most also advocate for deeper reforms such as reductions in working time and a universal basic income. Many argue for caps to incomes or to income ratios, limits on advertising, shared use of goods and services such as transport, consumer goods and housing, and a localised financial system through alternative credit institutions and community currencies. They argue that such reforms would improve the quality of life for many people, even if the currently affluent would see their material consumption inevitably reduced (Schneider et al. 2010, Kallis et al. 2012, Hickel 2020).

Both the practicality and consequences of such policies have been seriously questioned. In particular, critics often argue that degrowth has failed to appropriately conceptualize social welfare (Jakob and Edenhofer, 2014). Large reductions in GDP will not just mean lower household consumption, but cuts to essential public services whose financing depends on public revenues stemming from economic activity. Historically, spikes in unemployment and general economic instability have triggered major political disruption, including political shifts towards nationalism and

xenophobia (Funke and Trebesch 2017). Advocates of degrowth insist that the reduction in output they seek would occur in a planned way, not as an uncontrolled economic recession (Schneider et al. 2010, Kallis et al. 2012). But their critics question whether this would be feasible in a highly interconnected and globalized economy: it might prove impossible to prevent an uncontrolled downward spiral. Regions heavily dependent on specific industries would be likely to bear the brunt of the change, as happened during the deindustrialization of the 1980s and globalization of the 1990s and 2000s. Given the two-way causality between GDP growth and technological innovation, it is even likely that degrowth would so reduce investment in innovation that the development of greener technologies would be retarded, and the goal of environmental sustainability thereby set back, not advanced (Maradana et al. 2017).

Critics of degrowth further question whether it could ever win public support. Astrid Matthey (2010) has explored the conditions under which democratic societies might secure a voluntarily endorsement of lower consumption levels from the majority of the population. She points out that, since people in industrialized countries have high levels of consumption as the reference point for wellbeing, it will be very hard to prevent a deep sense of loss and dissatisfaction if their consumption levels are involuntarily reduced.

Post-growth

In terms of discourse, inclusive green growth and degrowth are opposing strategies. One accepts that growth occurs and has benefits, is politically hopeless to oppose and can be ameliorated today, and therefore adopts a discourse of growth modification. The other believes growth to be the core problem and only economic transformation will suffice, so adopts a discourse of anti-growth. But they share a common feature. Both focus on the idea of growth.

A third political strategy is to abandon the growth discourse altogether. This is the position taken by a growing array of theorists and practitioners arguing for ‘a-growth’ (van den Bergh 2011), ‘beyond growth’ (OECD 2020) or more generally ‘post-growth’ (Jackson 2021). Beneath the labels these positions are not all identical; some are closer to the inclusive green growth position, others to the degrowth one. But all share the desire to escape what they perceive to be the tired and politically unhelpful discourse of pro- and anti-growth, and to focus political and policy debate on the issues that will actually affect environmental and social outcomes.

At the core of the post-growth position is the argument that no rate of economic growth, whether positive, negative or zero, is automatically correlated either with social benefit or harm or environmental goods or ills (Jacobs 1991, van den Bergh 2011). It entirely depends what is growing,

and what is contracting, and how production and consumption are organized. It is therefore economically misleading, and politically unhelpful, to keep talking about growth and degrowth. Economic and political discourse needs to focus on what is being produced and how, and the impacts being caused. Kate Raworth (2017) describes this position as being ‘growth agnostic’: it does not take an *a priori* or single position on growth, but wishes to see what the outcomes of any economic policies actually are. It seeks to design an economy to achieve substantive environmental and social goals, and does not much care whether these result in economic growth or not. The indicators used to judge economic progress should be those which measure the achievement of the substantive goals, not the aggregate level of traded activity (GDP), which cannot measure them.

The *Beyond Growth* report by an advisory group to the OECD (2020) sets out four core goals which, instead of growth, it argues should be the paramount objectives for high-income countries today. These are:

- Environmental sustainability – understood as a path of rapidly declining greenhouse gas emissions and environmental degradation, consistent with avoiding catastrophic damage and achieving a stable and healthy level of ecosystem services
- Rising wellbeing – understood as an improving level of life satisfaction for individuals, and a rising sense of improvement in the quality of life and condition of society as a whole
- Falling inequality – understood as a reduction in the gap between the incomes and wealth of the richest and poorest groups in society, a reduction in rates of poverty, and a relative improvement in the wellbeing, incomes and opportunities of those experiencing systematic disadvantage, including women, members of ethnic minorities, disabled people, and those in disadvantaged geographic communities
- System resilience – understood as the economy’s ability to withstand financial, environmental or other shocks without catastrophic and system-wide effects

‘Post-growth’ is not yet a widely used term. But it intersects interestingly with the idea of ‘secular stagnation’ which has been discussed by economists over recent years (Summers 2016). Since the 2008 financial crash, Western economies have been experiencing much lower growth rates than in the past, and these look likely to persist for the foreseeable future. So adjusting to a post-growth economy may anyway be necessary, whether designed or not. As Tim Jackson (2019, 2021) has pointed out, persuading mainstream economists and politicians already becoming accustomed to the idea of low growth to focus instead on achieving substantive environmental and social outcomes might be less of an uphill struggle than in the past. Jackson and Victor (2019, 2020) have been seeking

to model the macroeconomic impacts of a very slow- and non-growing economy (for a wider analysis, see Victor, 2019).

An important idea here among post-growth theorists is that of ‘growth independence’ (Zoe Institute 2021a, 2021b). It is recognised that many social benefits (notably employment, pensions and public services) are currently dependent on growth for their achievement and improvement. So a key policy goal is to make such benefits independent of growth. This is a recognition that economic growth was never properly an end-objective in its own right: it was a means to the primary objectives of higher household incomes, better public services and so on. If these objectives remain but growth is likely to be slower or non-existent in an environmentally-constrained world, it is sensible to consider how they can be achieved in its absence.

In a report commissioned by the German Federal Environment Agency, Petschow et al. (2020) identify – based on an analysis of the current positions around growth - the principal drivers of growth, the main growth-dependent areas of economic activity, and potential ways to reform said areas. Full employment and generous social security systems are identified as particularly important, in that these goals fulfil a socially critical function and appear to be highly dependent on growth. The following are some of the policy instruments and institutional arrangements emerging from the literature that would achieve these functions independently from economic growth:

- For employment: a sectoral transformation towards a more service-oriented society, a reduction of working hours, a shift in the focus of technological change to resource productivity (through strong eco-taxes, subsidy cuts, cap-and-trade systems), and a reduction in dependency on wage income. As the authors of the report note, however, such measures would require significant changes in social preferences and values; the details of their practical implementation remain somewhat vague.
- For social security systems (including pensions and health insurance): adjustment of the length of working life and hence a redistribution of the burdens between contributors and beneficiaries; an expansion of the group of contributors (through the integration of civil servants, the self-employed, and people in marginal employment); and a recognition of non-market based activities. Health sector financing should be addressed through the incentivization of health-conscious behaviour, reform of pharmaceutical costs and an expansion of voluntary assistance activities.

It is clear that, while these are encouraging avenues for further policy exploration, the details of how they could be implemented in different specific polities need considerable elaboration. (For a survey of post-growth policy ideas, see Zoe Institute (2021c).)

One of the striking features of the new ‘post-growth’ discourse is that it includes within it both people who regard growth as the wrongly framed objective but nevertheless value the benefits it can bring and believe that it might still be possible alongside the achievement of environmental and social goals (OECD 2020); and those who believe that sustainable growth is impossible (Jackson 2021). That is, in terms of our typology above, it encompasses positions E2, E3, S2 and S3. Indeed, in relation to capitalism, its proponents are an even wider group than this. Among the proponents of a ‘post-growth’ discourse are those who would argue that the growth imperative and unequal social relations of capitalism make it ultimately incapable of achieving environmental sustainability and social goods; and those who believe it could be reformed in such a way as to do so. (Though as Jacobs (1991) has noted, this might simply be a question of semantics – the definition of capitalism – rather than substance.) What unites such protagonists is the belief that talking explicitly about alternatives to capitalism – like arguing for degrowth – is not a good way of making political progress. Post-growth offers a more promising route for a mainstream political and economic discourse.

Post-growth may also be seen as a recognition of the fundamental uncertainty about the future. If we do not know how far green growth strategies may be possible or not, it is wise to plan for alternative scenarios, including those in which economic contraction may be necessary to stay within planetary boundaries (Barth and Hafele 2020).

Advocates of post-growth are nevertheless united in their insistence that achieving environmental sustainability and social goods cannot be achieved by incremental policy reforms or ex-post ameliorative measures. A much more fundamental transformation in the way economies work is required. As the OECD’s *Beyond Growth* report (2020) puts it, the goals of environmental sustainability, increased wellbeing, inequality reduction and system resilience will need to be ‘built into the structure of the economy from the outset, not simply hoped for as a by-product, or added after the event’ (p.16). This means, notably, that absolute environmental limits based on a fair national share of planetary boundaries need to be set and the economy manage to constrain overall environmental impacts within these. For this Jacobs (2018) proposes a ‘Sustainable Economy Act’ modeled on the UK Climate Change Act, which would legally bind the government to set environmental limits and a clear action plan with short-and long-term targets for a complete set of environmental indicators including biodiversity, soil fertility, air quality, plastics pollution and marine fish stocks.

It is worth mentioning one further group hovering on the outskirts of these debates. These are the explicitly left-wing political economists and writers interested in both environmental sustainability and in equality and wellbeing, but not particularly in the debate about growth. For want of an accepted unifying label, we might call these the ‘post-capitalists’. For writers like Naomi Klein (2014), Yanis Varoufakis (2021a) and Paul Mason (2015), the issue is not primarily one of economic growth. It is of economic organisation. Within a capitalist system of the present kind, neither sustainability nor general social welfare is achievable; the task is therefore to replace capitalism with a new economic and political order. Whether or not this would be able to reinstate GDP growth or not is a question most of these authors barely examine (though see Varoufakis 2021b); they take it as read that GDP is an indicator of capitalist performance, so are largely uninterested in it.

In this sense they fall somewhere between the degrowth and post-growth positions. On the one hand, like the degrowthers, they call for the radical replacement of the capitalist economy. But on the other they explicitly reject the degrowth position as missing the point. Rather, like the post-growthers, they seek a political discourse focused positively on the kind of economy they wish to build, not a negative attack on an uninformative economic indicator from a previous age.

4. CONCLUSION

Our argument here, therefore, is that ‘post-growth’ could become – or indeed may be becoming – a unifying concept for writers and practitioners whose primary and urgent goal is to shift policy and practice in the directions of environmental sustainability and social equity. Such people can differ in their view about how far GDP growth might or might not be possible in an economy focused on these priorities. But such differences are much less important than their points of agreement. These are that economic policy:

- (i) should focus directly on operating within environmental limits or planetary boundaries; (ii) should focus directly on providing a decent living standard for everyone, emphasising wellbeing, a reduction in inequality and resilience;
- (iii) should cease to focus on economic growth as a policy objective *per se*, since none of these goals are achieved by any particular rate of growth;
- (iv) should give priority to establishing systems and institutions that can provide meaningful work, incomes, pensions and social security without having to depend on economic growth.

It would be fair to say that ‘post-growth’ is not likely to become a political concept with wide popular appeal. So other terms will no doubt be required for the same set of ideas. Kate Raworth’s (2017) ‘doughnut’ has already provided a best-selling visual model and popularisation. Herman Daly’s (2005) concept of ‘uneconomic growth’ – growth whose costs outweigh its benefits – offers a neat critique of current growth patterns, allowing a popular distinction to be drawn between good and bad growth. The OECD (2020) report’s idea of going ‘beyond growth’ suggests helpfully that growth is too simplistic an objective and something more sophisticated and contemporary is needed.

Whether through these routes or others, it is clear that the policy content of a ‘post-growth’ political economy still needs considerable elaboration. But in the post-growth discourse a new way forward may be found for an old debate, free of some of the dogmas and disagreements that have bedevilled it for half a century.

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APPENDIX I -THE GROWTH DEBATE: A SCHEMATIC REPRESENTATION

