Analysis

The Post-growth Challenge: Secular Stagnation, Inequality and the Limits to Growth

Tim Jackson

Centre for the Understanding of Sustainable Prosperity (CUSP), University of Surrey, Guildford, Surrey, GU2 7XH, UK

ABSTRACT

Critics have long questioned the feasibility (and desirability) of exponential growth on a finite planet. More recently, mainstream economists have begun to suggest some ‘secular’ limits to growth. Declining growth rates have in their turn been identified as instrumental in increased inequality and the rise of political populism. This paper explores these emerging arguments paying a particular attention to the dynamics of secular stagnation. It examines the underlying phenomenon of declining labour productivity growth and unpacks the close relationships between productivity growth, the wage rate and social inequality. It also points to the historical congruence (and potential causal links) between declining productivity growth and resource bottlenecks. Contrary to some mainstream views, this paper finds no inevitability in the rising inequality that has haunted advanced economies in recent decades, suggesting instead that it lies in the pursuit of growth at all costs, even in the face of challenging fundamentals. This strategy has hindered technological innovation, reinforced inequality and exacerbated financial instability.

At the very least, this paper argues, it is now time for policy to consider seriously the possibility that low growth rates might be ‘the new normal’ and to address carefully the ‘post-growth challenge’ this poses.

‘[The GDP] measures everything... except that which makes life worthwhile.’

Robert Kennedy, 1968.

1. Introduction

The pursuit of economic growth has been a defining feature of the global economy for well over half a century (Cowle, 2014; Philipson, 2015; Victor and Dolter, 2017). Growth narratives are evident in every sphere: economic, secular, social and political. Indeed, their prevalence and centrality in political discourse is so pronounced that it is credible to speak of something like a ‘growth fetish’ (Stiglitz, 2009; Hamilton, 2003) – a predominant, often unquestioned assumption that economic expansion is an irreducible good without which social progress is impossible.

Critics of this view also have a long pedigree. Robert Kennedy’s speech (cited above) at the University of Kansas in March 1968, fifty years ago this year, remains both resonant and prescient of the ensuing critique (Jackson, 2018). The publication of the Club of Rome’s Limits to Growth report (Meadows et al., 1972) four years later established the resource and environmental parameters of the growth critique. Their analysis too has stood the test of time (Turner, 2008; Jackson and Webster, 2016).

Political responses to the Club of Rome were striking. Over the next decade or so, politicians of almost every hue stood up to repudiate the report. US President Ronald Reagan saw fit to insist on several occasions that there are ‘no limits to economic growth, because there are no limits to human ingenuity’;¹ an argument which owes more to rhetoric than to logic. The economist Kenneth Boulding, giving evidence to a US House of Representatives Select Committee hearing responded differently. ‘Anyone who believes that exponential growth can continue indefinitely on a finite planet,’ he remarked, ‘is either a madman or an economist’ (Boulding, 1973).

The final decades of the twentieth century saw the central issue largely relegated to questions about the speed and efficiency with which it would be possible to ‘decouple’ economic growth from its material impacts and thereby avoid the need to transform the economic system itself. Ecological modernisation (Von Weizsäcker et al., 1995; Mol, 2001) – and then later eco-modernism (Breakthrough 2015) – prevailed as the politically acceptable response to the question of resource and environmental limits and the deeper critique of growth-based economics was kept alive largely through marginal voices such as those of economists like Daly (1977), Waring (1988) and Douthwaite (1992), supported at times by a parallel argument about the social limits to growth (Easterlin, 1974; Hirsch, 1977; Layard, 2005).

It is probably fair to say that these ‘marginal voices’ enjoyed a little


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more attention during and after the ‘dot com’ recession at the turn of the millennium.\(^1\) But in the decade that has passed since the financial crisis of 2008, there has been a much more pronounced resurgence of interest in the growth critique from a variety of different perspectives (D’Alisa et al., 2014; O’Neill et al., 2018; Jackson, 2009, 2017; Raworth, 2017; Fioramonti, 2015; Victor, 2008/2018). A deeper recognition of environmental and social limits has certainly played some part in this more recent debate (Rockström et al., 2009). But a fascinating new dimension has arisen. As economic uncertainty continued to haunt the most developed countries, some mainstream economists were prepared to flirt with the idea that lower growth rates were not simply a temporary or cyclical phenomenon in the wake of the crisis. The term ‘secular stagnation’ – first coined in the 1930s – has been revived to describe a decline in the rate of economic growth in advanced nations that appears to be only partly to do with the financial conditions of 2008 and to have its roots in factors that predate the crisis by several decades at least. As the futurist Martin Ford (2015) has suggested, there are ‘good reasons to believe that the economic goldilocks period has come to an end for many developed nations.’ Low and perhaps declining growth rates may be here to stay.

The aim of this paper is to explore this phenomenon in more detail and to understand some of its most serious implications. Section 2 discusses the evidence for a slow-down in the growth rate. Section 3 explores one particular aspect of this dynamic, namely the role of labour productivity growth, and speculates on the link between this phenomenon and evidence of the declining energy return on energy investment. Section 4 elaborates on some of the most important impacts of the decline, particularly in terms of rising inequalities in income and wealth. Finally, Section 5 draws the threads of the analysis together to propose both a particular interpretation of recent ‘crises of capitalism’ and an escape route from them.

Specifically, my argument is this: the rising inequality and political instability witnessed recently in advanced economies is neither an accidental aftermath of the financial crisis nor an inevitable result of declining growth rates. Rather, these phenomena are a direct consequence of continuing to cling to the ‘growth fetish’, at a time when economic (and resource) fundamentals are pointing in a different direction. The ‘post-growth’ challenge of the title is not so much about trying to ‘turn growth off’ but rather about protecting social progress and environmental integrity in the face of what some well-known economists are now prepared to call the ‘new normal’ (Summers, 2014; Galbraith, 2014; Storm, 2017).

2. Confronting Secular Stagnation

In November 2013, five years after the collapse of Lehman Brothers, the former World Bank chief economist and US Treasury Secretary Larry Summers gave a speech to the International Monetary Fund’s annual research conference which sent something of a shock wave through the audience. He suggested that the slow growth rates and continuing uncertainties of the post-crisis years were not just temporary after-effects of the financial crisis itself. ‘The underlying problem may be there forever,’ he said (Summers, 2014; FT, 2018).

Summers was certainly not the only, or the first, commentator to make such a claim.\(^2\) But he was certainly the most well-known economist to do so. The repercussions were profound. It suddenly became acceptable to ask previously unthinkable questions. What if the rates of growth expected by economists and so desired by politicians were no longer available to developed countries? What if sluggish demand was not caused by cyclical underinvestment or debt overhang, inevitable echoes from the 2008 financial crisis? What if it represented a more entrenched change in underlying economic fundamentals? Could an era of falling growth rates in advanced economies (Fig. 1) be the ‘new normal’?

Summers attributed the slow-down over recent decades to ‘under-consumption’ by households in the context of rising personal debt and heightened political risk. Others believed the problems arose from the supply side. According to Say’s Law, ‘supply creates its own demand’: making things provides people with income which they must then spend back into the economy. As long as the supply potential of the economy continues to grow, so the argument goes, there should be no bottlenecks on growth; the problem must be with the supply potential of the economy. The US economist Robert Gordon suggested that the slowdown in growth was a result of a decline in the pace of innovation. Many of the big technological advances of the last two centuries are now over, he argued. Taken together with six ‘deflationary headwinds’ including: an aging population, rising inequality, and the ‘overhang’ of consumer and government debt, Gordon (2012, 2016) suggested that the era of easy growth for advanced economies was over.

Responding to the supply side explanation, Summers invoked a kind of ‘inverse Say’s Law’: namely, that a lack of demand could itself create a lack of supply. John Maynard Keynes had shown how Say’s Law could go wrong, once the demand for money and financial assets came into the picture. If people hoard money or use it to buy (or speculate in) financial assets, then incomes never find their way back in as demand and the simple equivalence between supply growth and demand growth is broken. For reasons similar to those highlighted by Keynes, Summers argued that a slowdown in demand, combined with increasing investment in financial assets would divert funding away from productive investment. This was the underlying cause of a diminished supply potential. Creating more and more cheap money (through low interest rates and quantitative easing, for instance) cannot solve this problem, he argued, because cheap money only encourages more speculative lending.\(^4\)

Whatever the balance between supply and demand side factors, the global implications of a ‘secular stagnation’ are now beginning to become clear (Fig. 1). In the mid-1960s, the trend growth in per capita GDP (shown by the solid line in Fig. 1) was over 4% per annum. By 2016, it had fallen substantially from its mid-1960s peak to little more than 1% per annum. The decline was not always uniform. Following the second oil crisis in the early 1980s, there was a partial recovery of the trend growth rate. A similar recovery is visible towards the end of the scenario period, in the wake of the financial crisis. It is yet to be seen whether this latter recovery heralds a new era of higher growth for the OECD nations. The analysis in the following section casts some doubt on that possibility. But a simple linear extrapolation over the last five decades (see the dotted line in Fig. 1) suggests there may be no growth at all in the per capita income of the OECD countries within less than a decade.

3. The Productivity Puzzle

Behind the decline in per capita growth rates lies another yet more telling statistic: the trend in labour productivity growth. Fig. 2 reveals that the pattern in labour productivity growth is similar to that for the growth in per capita GDP (Fig. 1), but with some notable differences. There is no partial recovery in the growth rate following the second oil crisis, only a slowing down of the decline. Furthermore, there is nothing in the way of an upturn during the final years. Labour productivity was growing at only 0.6% per year in 2016, only a little over half the growth

\(^1\) I am grateful to an anonymous reviewer for pointing this out to me.

\(^2\) The term ‘secular stagnation’ had first been coined by Alvin Hansen in his Presidential Address to the American Economic Association in 1938 (Hansen, 1939) to describe a situation in which economic fundamentals pointed to serious problems for the growth paradigm. For a useful overview of the more recent debate see the collection of essays edited by Teulings and Baldwin (2014).

rate in GDP per capita.

These differences between the GDP per capita growth and the underlying labour productivity growth have important implications. Labour productivity is defined here as the GDP generated (on average) by each hour of labour worked in the economy, that is the GDP divided by the total hours worked in the economy. The total hours worked in the economy can be characterised as the average hours worked by each person in the workforce multiplied by the number of people in the workforce. The number of people in the workforce can also be written as the population multiplied by a ‘workforce participation rate’.

A little mathematics reveals that the GDP per capita is equal to the labour productivity multiplied both by the workforce participation rate and the average number of hours worked by each member of the workforce. If the workforce participation rate and the average hours worked were to remain constant, the GDP per capita would be directly proportional to the labour productivity. In this case, the growth rate in GDP per capita would always be equal to the growth rate in labour productivity. It is evident from Figs. 1 and 2 that this is not the case. Labour productivity growth has declined faster than growth in the per capita GDP. Mathematically, this means either that the workforce participation rate has risen over time or else that the average number of hours worked by each worker in the economy is increasing.

In fact, both of these things have happened at different times during the last half a century or so. Until recently, the average hours worked had been declining across most the OECD but participation rates had increased, allowing the growth rate in GDP per capita to decline more slowly than the decline in labour productivity growth. Since the financial crisis, there has been an increase in the average hours worked across many advanced economies, including the UK and the US. People are working longer hours in order to sustain their desired income levels.

Fig. 1. Growth rate in OECD GDP per capita: 1966–2016.
Source: Author’s calculations from World Development Indicators Database (WB, 2017); moving trend calculated using HP Filter with lamda = 100. (The Hodrick-Prescott (HP) filter is a statistical tool used to remove the cyclical component of macroeconomics data and expose the underlying long-term trend. See for example: https://en.wikipedia.org/wiki/Hodrick%E2%80%93Prescott_filter. The value of the parameter lamda chosen for this analysis is typical for time series data with an annual frequency. Note that the linear trend associated with the HP filter is the same as the linear trend associated with the underlying data.)

Fig. 2. Labour productivity growth in the OECD: 1971–2016.
Source: Author’s calculations using data from OECD database: https://data.oecd.org/lprdty/gdp-per-hour-worked.htm; moving trend calculated using HP Filter with lamda = 100. Extrapolation of the linear trend suggests that labour productivity growth reaches zero by 2028.

(footnote continued)

If \( lp \) is labour productivity, \( N \) is the workforce, \( P \) is the population, \( n = N/P \) is the workforce participation rate and \( h \) is the number of hours worked on average by each member of the workforce, then it follows first that \( GDP = lp \cdot h \cdot N \) and therefore that \( GDP \) per capita \( = GDP/P = (lp \cdot h \cdot N)/P = lp \cdot h \cdot n \). When \( h \) and \( n \) are constant, GDP is directly proportional to \( lp \).
In about a decade, it is entirely possible that per capita GDP growth could only be achieved by having a greater proportion of the population in the workforce or by having people work on average for longer hours. This finding is particularly puzzling in the face of a completely opposite proposal, namely that advances in technology (specifically, in artificial intelligence and robotisation) are poised to make such massive increases in labour productivity that vast swathes of the current workforce, far from being asked to work for longer, will find themselves redundant because there is no longer enough work for human beings to do (Avent, 2016; Ford, 2015). The jury is still out on where (in which sectors) this displacement is most likely to occur, when it is likely to arrive and the extent to which it will be a good or a bad thing for the economy as a whole (Susskind, 2017; Autor and Salomons, 2017). The most puzzling question is why it is not yet already visible in the labour productivity statistics. But it clearly is not.

To get a better sense of this puzzle, it is worth looking in more depth at the longer term trend in labour productivity growth in a particular country for which a long time-series on labour productivity exists. The UK was the first country to industrialise, it typifies the structure of late-modern western economies, and may well be facing the post-growth challenge sooner than other OECD countries. Fig. 3 paints a remarkable picture. Broadly speaking, trend labour productivity growth rose more or less continually from the beginning of the century until about the mid-1960s, aside from ups and downs related to the two world wars and the Great Depression. Since the mid-1960s however, with virtually no remission at all, the trend in labour productivity growth has been falling. This fall was at best slowed down, but never entirely reversed by the introduction of extraordinary new technologies such as personal computing, electronic communications and the internet.

The period between the second oil crisis and the collapse of the dotcom bubble at the turn of the millennium witnessed a kind of plateau in labour productivity growth. Certainly the decline was not so fast during these years. But since, 9/11 labour productivity growth in the UK has dropped precipitously. It’s particularly important to recognise that this decline preceded the financial crisis itself by at least a decade and more likely by several decades. By 2016, the trend labour productivity growth rate in the UK was just 0.12%, lower than at any point in more than a century. The causes of the pattern shown in Fig. 3 are by no means obvious. Three or four possible explanations are worth considering, each of which has some relevance for the transition to a sustainable economy.

First, it is plausible that the two successive oil crises themselves had something to do with a subsequent suppression of the growth rate. Trend labour productivity growth peaked at over 4% shortly before the first oil crisis. By the time of the second oil crisis in 1980, it had fallen to barely 2.5%. Meanwhile the price of oil (Fig. 4) had reached the equivalent of $100/bbl (measured in today’s money). Conventional wisdom would certainly suggest some link between these phenomena. Price rises for a fundamental good such as energy would have a profound impact on economic growth by increasing the costs of business and depressing people’s real spending power. The global economic slowdowns in 1974/5 and 1981/2 are usually attributed to the oil price shocks. A subsequent collapse of the oil price suggests that the crises themselves had little to do with the question of underlying resource scarcity. Yet the question is clearly relevant and points us towards the second potential explanation for the decline.

Some ecological economists have long argued that the enormous growth in productivity of advanced economies was only possible at all because of the abundance of high-quality fossil energy sources (Georgescu-Roegen, 1972; Daly, 1977; Ayres, 2008; Ayres and Warr, 2009). Any slowing down in the availability or quality of such sources might be expected, as the Club of Rome suggested back in 1972, to suppress overall productivity and eventually reduce the rate of industrial output. Both the quality and the availability of resources can be captured in the concept of the energy return on energy invested (EROEI), that is the ratio of the energy delivered to the energy required to find, extract, refine and deliver that energy to the consumer (Rye and Jackson, 2018; Sers and Victor, 2018). During the early years of exploration, and the early years of life any particular resource, we might expect the EROEI to rise, as technological efficiency improves and the dynamics of resource extraction evolve. On the other hand, we must also expect a countervailing tendency if the Limits hypothesis is correct. In other words, in the long run, we should expect the amount of energy required to extract the next marginal unit of energy to increase, as the quality of the physical resource declines. In fact it is possible to see both these tendencies at work, within a given geographical context over time.

Fig. 5 shows the rise and fall of EROEI in oil and gas production in Canada between the end of the second world war and the financial crisis. It illustrates an uneven pattern of rise and fall over the time period, reflecting both of the trends discussed above. Technological and geological factors improved the energy efficiency of production until about the early 1970s, at which point there was a sharp decline as the oil crises placed an increasing demand on existing fields (with declining
quality). The recovery between 1980 and the early 1990s probably reflects the enhanced efforts to make new discoveries in the wake of the crises. But it is notable that the success of this strategy in sustaining a high EROEI was relatively short-lived. At a certain point, geological factors will constrain the possibility of maintaining a high EROEI. The end of the period shows another slight upturn in the EROEI associated with the emergence of ‘unconventional’ oil sources, but these sources are themselves generally regarded as having a lower quality (lower EROEI) than conventional sources (Hall et al., 2014).

The ‘long-run’ pattern of rise and fall shown in Fig. 5 is repeated in other geographical locations, not always so dramatically. A study for the US found that the EROEI of US oil and gas production increased from around 16:1 in 1920 to around 30:1 in 1970. Subsequently, however, the EROEI declined and in 2010 was estimated to be only 10:1 (Poisson and Hall, 2013). A recent study from China (Feng et al., 2018) suggests that the point-of-use EROI has fell by a half between 1987 and 2012. Indeed, most EROEI studies across multiple countries show a declining EROEI in the last two to three decades (Hall et al., 2014; Guilford et al., 2011).

It is fascinating of course that the peak EROI in both these contexts was around about the same time as the productivity peak in advanced nations, and tempting therefore to conclude that the subsequent decline in labour productivity growth may have something to do with the decline in the quality of energy sources. Things may not be quite so straightforward. The oil crises of the 1970s had more to do with politics than they did with underlying resource scarcity. In the years following the two crises, there was a lengthy decline in oil prices which lasted right through to the end of the 1990s. By 1998, the oil price had fallen

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Fig. 4. Oil price ($/bbl) in current and constant prices 1966–2016. Source: Data from the BP Statistical Review of World Energy (BP, 2017); price point: pre-1984 – Arabian Light; post-1984 – Brent Crude.

Fig. 5. Energy Return on Energy Invested (EROEI) in Canada: 1945–2009. Source: Data from Friese (2011).
to less than $20 (in 2016 prices), lower than it had been for a quarter of a century. That situation was soon to reverse, and during the early 2000s there was another steep rise towards the financial crisis peak of $147 a barrel (Fig. 4).

This price volatility had little to do with underlying scarcity (Baumeister and Kilian, 2016). Overall resource quality was (by definition) declining even as the oil price was declining (for instance during the 1980s and 1990, and again post 2011). In reality, price is an imperfect indicator of the underlying quality of the physical resource. At the moment, there is simply insufficient evidence to link the rise and fall in labour productivity growth definitively to a rise and fall in resource quality. But it remains the case, that in the long run, as resource quality declines, there are likely to be significant implications for labour productivity growth. More labour rather than less may well be needed to deliver each unit of economic output as the availability of high-quality energy declines.

This brings us to the third possible explanation for the decline in labour productivity in advanced economies, namely the changing structure of both demand and supply. Late modern economies are characterised by a shift from primary and secondary manufacturing of material products towards the provision of services. This shift occurs both in the supply structure of the economy (for a variety of reasons) and the demand structure. On the supply side, there is a tendency for advanced economies to export basic extraction and processing activities to countries with lower labour costs and lower environmental regulations. On the demand side, it is possible that, once basic material needs are satisfied, people turn more to service-based activities as the destination for disposable income, rather than to even more material products. Service-based activities are generally understood to be less amenable to growth in labour productivity – partly because the core-value proposition in such activities relates to the time spent by human beings in delivering the service (Jackson, 2017; Baumol, 2012). There are some interesting implications here for the transition to a sustainable economy. We return to these in the concluding section.

Finally, it is possible that the financial structure of the global economy plays some role in the plight in which advanced economies in particular appear now to find themselves. In support of growth, advanced economies in particular have attempted to increase liquidity through a mixture of financial innovation, low interest rates, and (more recently) direct monetary financing (particularly of the financial sector itself). This has tended to stimulate speculative investment at the expense of productive investment in the real economy. Whether this process has held back labour productivity growth is less clear. But it has certainly made it more difficult to invest in the transition to low-carbon and resource efficient technology which might offset the environmental limits to growth. It has also contributed to some of the ‘headwinds’ that may have slowed down the pace of innovation.

Perhaps even more important are the effects of government policy on the stability of the financial system. The policies pursued in since the time of the oil crises, designed to keep the growth rate going, irrespective of underlying fundamentals, were complicit in generating an increasing fragility in financial markets which was to have a profound effect not only on the economy but on the conditions of people’s lives, with implications in particular for inequality.

4. The Age of Inequality

In 2014, the French economist Thomas Piketty published his treatise on Capitalism in the 21st Century. It was an immediate, if unlikely, best-seller: a voluminous economic text book that had a global impact. Its fame rested on two main features. The first was the spotlight that it shone on rising inequality, particularly within the advanced economies. There is now considerable evidence of reduced inequality between nations (IMF, 2017). But within advanced nations, the situation is different. Piketty and his colleagues (Piketty, 2014; Piketty et al., 2017) have shown that the post-tax income of the richest percentiles of the US population received a rising share of the national income over the past half century. By 2015, the richest 1% of the population received almost 40% of the national income, higher than at any time since 1945. The post-tax income share of the richest 1% had risen even faster than that of the top 10%, and by 2015 stood at over 15% of the national income, higher than at any point since 1940 (Fig. 6).

The second striking feature of Piketty’s bestselling work was a particular argument about the causes of rising inequality. Specifically, the French economist argued that rising inequality was a direct and inevitable result of the declining growth rate. There are various heuristic arguments to support this view. Certainly, there’s an uncanny inverse resemblance between the U-shaped curve shown in Fig. 6 and the inverted U-shaped curves shown in Fig. 3 (and indeed 5). Could it be that rising economic growth, built on increased labour productivity, is precisely what allowed society to reduce inequality through the first half of the 20th Century?

This was of course the idea behind what became known as ‘trickle-down’ theory: the hypothesis that economic growth is the best way to reduce the inequality that divides society and undermines political solidarity. It was President Kennedy who popularised the idea that a
‘rising tide lifts all boats’. Wealth generation for the richest should flow back into society as the rich spend their income on more and more goods and services. Setting aside for the moment the environmental impacts of this increased throughput, the process should at least allow for income growth amongst the very poorest, who would find employment in the manufacturing sectors that provided for this increasing expenditure. With labour productivity rising, production costs would fall, allowing employers to compensate their employees with ever higher wages. With more spending power in the economy generally, even the poorest sectors of society would be encouraged to spend more into the economy. And so the virtuous cycle would continue.6

In fact, as Piketty and his colleagues have shown (Fig. 7), in the immediate post-war years, the benefits of growth did flow predominantly to the poorest in society. Between 1946 and 1980, the lowest income percentiles in the US received the highest increase in income growth, while the highest income percentiles received the lowest income growth. The average real growth in per capita GDP during the period was around 2%. Average income growth in the lowest percentile was three times this, at 6%, while income growth in the richest percentile was little more than half the economy wide average (Fig. 7 – blue lines and markers). Not surprising then, that inequality was broadly declining over that period.

In the period since 1980, the story has been a very different one. Average income growth over the period was lower to start with, at only 1.4%, between 1980 and 2014. But the striking part of the story was the reversal in the fortunes of the poorest and richest as beneficiaries of that growth. The incomes of the bottom 50% of the population grew at a meagre 0.6%, only half the average rate of growth of the economy as a whole, while the incomes of the richest 5% grew at 1.7% per annum, significantly above the average income growth (Fig. 7 – red lines and markers). The story within the story is even more striking. Since 1980, it was increasingly the super-rich who benefited from whatever growth the economy could provide. The average growth rate of the top 0.001% of the population was over 6%, allowing them to increase their post-tax earnings by a factor of seven over the last three decades. The poorest 5% saw their post-tax incomes fall in real terms over the same period.

Shifts in labour productivity growth may have had something to do with this story. Neoclassical economics assumes that wage growth follows labour productivity growth. If each hour of work is 2% more productive each year, then in theory, employers can afford to pay workers a 2% wage increase, without facing any additional costs. But when labour productivity growth is falling or stagnant, wage growth is also sluggish, so that even when GDP growth is buoyed up by fiscal or monetary policy, it tends to leave workers on the whole less well off in the economy and to increase inequality. In fact (Fig. 8), since the 1970s, as productivity growth slowed down, the rate of labour compensation has been suppressed considerably below the growth in labour productivity, exacerbating inequality even further.

Fig. 8 shows this pattern for the United States. The wage rate followed labour productivity growth rather closely between the Second World War and the mid-1970s. But since that time, the two trends have diverged significantly. Cumulative wage rate growth has fallen substantially below the cumulative growth in labour productivity. Fig. 8 tells a remarkable and complex story of the decline in the relative bargaining power of workers over recent decades. This story involves the emergence of new technologies, the squeezing of producer margins from higher resource prices, and a protracted pursuit of cheap labour strategies involving a substantial off-shoring of labour to less developed countries. It is beyond the scope of this paper to discuss this dynamic in detail. But the overall effect has been, in formal terms, increasingly to favour the interests of capital over labour. In less formal terms, it has contributed to job insecurity, exacerbated inequality and contributed to the rise of a new political populism – the disenfranchised protest of those left behind in the process.7

All of this appears to support Piketty’s conclusion that rising inequality is an inevitable result of a declining growth rate. Beyond his empirical exploration, Piketty also attempted to put this relationship on a theoretical footing. He showed first that capital’s share of income is directly proportional to the rate of return on capital multiplied by the savings rate and is inversely proportional to the growth rate. This inverse proportionality on the growth rate means that, all things being equal, as the growth rate falls, the share of income going to the owners of capital will rise. Unless the distribution of capital is itself entirely equal (a situation which clearly does not pertain at the moment) the relationship therefore presents the spectre of an ‘explosive’ rise (Krusell and Smith, 2014) in inequality as the growth rate declines to zero.

The analysis contains a couple of critical assumptions, however. The first of these concerns the behaviour of the savings rate as the growth rate declines – Piketty implicitly assumed it would stay constant. The second relates to the ease with which it is possible to substitute capital for labour. With constant savings rate and high substitutability of capital for labour, it’s straightforward to show that Piketty was right. Inequality rises explosively. This world has strong resonances with the kind of dystopian future that we are increasingly being told may soon be upon us: a small minority of high-tech companies drive an increasingly automated world with a rising capital intensity in which there is less and less need for wage labour. Demand may well stagnate, social conditions will deteriorate for the majority but as long as the minority owners of capital have sufficient sway over government to protect their returns, there are insufficient grounds or resources to shift track.

These outcomes only transpire, however, under conditions which include a more or less constant savings rate and a high elasticity of substitution between capital and labour. Outside of those conditions, other outcomes are entirely possible. One such world is a future where the net savings rate declines alongside the growth rate. Under conditions in which it is increasingly difficult to protect the rate of return on capital, the decline on returns is likely to disincentivise investment and lower the savings rate. The outcome is that inequality is contained between more reasonable bounds (Jackson and Victor, 2018).

Varying the ease of substitution between capital and labour has an even more striking effect. With a modest protection of the right to work and fewer incentives to accumulate capital (modelled through a low substitutability between capital and labour), inequality declines ‘naturally’ in the economy, even without the impact of re-distributive policy measures such as a capital tax (Piketty, 2014) or the introduction of a universal basic income (RSA, 2015). With the introduction of modest levels of such measures, it is possible to reduce inequality substantially, even as the growth rate declines towards zero (Jackson and Victor, 2018).

In short, the idea that rising income inequality is an inevitable consequence of falling growth rates is incorrect. Under the appropriate conditions, an economy with a declining growth rate might equally be headed towards lower income inequality and greater stability of employment. The choice, it turns out, lies in the underlying structure of

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6 It is interesting to compare this view against the argument (Seidel, 2017) that there is a much longer term trend for elites to accumulate proportionately more and more wealth until one of the ‘great levellers’—famine, plague, economic collapse, or revolution—breaks the cycle. The wider implications lie beyond the scope of this paper. But I am grateful to an anonymous reviewer for pointing this out to me.

7 I’m grateful to Herman Daly for alerting me to the multiple dependencies here. Particularly fascinating is the extent to which new technologies with potentially high marginal labour productivities have contributed to the disenfranchisement of labour in an economy in which the average labour productivity is stalling. The implications of this dynamic are similar to those discussed in Susskind (2017). But this evidence shows that perverse implications can arise long before high levels of unemployment arise. Susskind’s ‘immiseration of labour’ is a gradual and complex process.
economic relations and, in particular, in the relations between labour (the workforce in paid employment in the economy) and capital (the owners of productive and financial assets).

5. Confronting the Post-growth Challenge

A decade after the financial crisis, growth rates in advanced economies have still not returned to those experienced in the pre-crisis era. A long-term decline in the rate of labour productivity growth is one of the underlying factors contributing to this situation. Understanding that long-term decline is clearly vital. Debt overhang, shifting patterns of demand and the geo-politics of resource supply all play some contributing role. Perhaps the most troubling possibility is that the wide-spread technological advances facilitated by ready abundance of high-quality energy resources in the first seventy years of the 20th century are no longer available to advanced economies in the 21st. Evidence of a decline in the quality of some physical resources already exists. Sooner or later further declines are inevitable. As they arrive, they are likely to depress labour productivity growth still further.

The critical question is how policy should respond to this not-so-new reality. The conventional response has been to look for conditions – technological, fiscal, monetary – to keep growth going, whatever the cost. The prevalent ‘rescue narrative’ relies on an assumption that with appropriate policy incentives, new technological breakthroughs will

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Fig. 7. The rise and fall of the American dream. Post-tax income growth in the US by percentile 1946–2014.
Source: Data from Piketty et al. (2017).

Fig. 8. The gap between US labour compensation and productivity.
Source: Data from the Economic Policy Institute; see EPI (2014); updated data available online at: http://www.epi.org/productivity-pay-gap/.
emerge and productivity growth will recover. Candidate ‘saviours’ in this rescue narrative are various. For some (NCE 2014 2017), innovation will arrive from investment in the same clean, low-carbon technologies that are needed to tackle climate change and offset resource depletion. For others (Ford, 2015; Avent, 2016), innovation will come from the emerging digital revolution: increased automation, robotisation, artificial intelligence. But to date, none of the productivity gains foreseen by these technologies have been manifest at the macro-economic level and this latter world could lead to the ‘immiseration’ of labour (Susskind, 2017) and levels of inequality reminiscent of the worst scenarios outlined in the previous section.

In historical perspective, it is clear that the advanced economies now stand at a distinct, and uncomfortable cross-roads. Two competing worst scenarios outlined in the previous section.

The subsequent ‘failure’ of Keynesianism to solve the problems of ‘stagflation’ during the oil crises led to a temporary disillusionment with the idea and in the early 1980s, western governments (predominantly led by the anglo-centric nations) abandoned Keynes and turned instead to monetarism – the brainchild of Chicago school economist Milton Friedman. Built on a neoliberal philosophy with a strong belief in the free market as the best regulator of human affairs, monetarism had no time for fiscal stimulus (or indeed with government intervention generally) and argued instead that the route out of low growth was to reduce the cost of money, so that firms would more easily invest in the productive capacity of the economy and households could fund any temporary constraints on spending through debt. These mechanisms for financial liquidity would free up the economy to grow again, allowing prices to fall and employment to bounce back.

At first these policies seemed to be successful. In the wake of the oil crises, conditions improved. Greater liquidity spurred investment, restored levels of consumer demand and even (arguably) stimulated innovation in the energy sector which brought down the price of oil, for almost two decades. In the long run, however, things were not so simple. Loose monetary policy and tight fiscal policy were slowly creating increasing fragility in financial markets. Though they facilitated a continued reduction in public debt burdens, this only proved possible by transferring debt to the private sector. While interest rates were low and debt burdens were not too high, this didn’t seem to matter much. But as more and more households accumulated more and more debt, the conditions for instability were accumulating. By the early 2000s, firms, banks and households had become ‘overleveraged’. The policy response was to pump more and more money into the system by lowering interest rates again and relaxing financial regulations even further. All it needed was a change in the rate of defaults on ‘subprime’ loans and the bubble would have to burst. This was the era of ‘easy money’, the ‘age of irresponsibility’ as then Prime Minister Gordon Brown called it, and it led inexorably to the financial crisis.10

‘The question then arises,’ wrote Summers (2014, p68) ‘can we identify any stretch [in the last decades] during which the economy grew satisfactorily under conditions that were financially sustainable?.’ His answer, and indeed the answer of a number of other mainstream economists, was: no. Chasing growth through loose monetary policy in the face of challenging underlying fundamentals had led to financial bubbles which destabilised finance and culminated in crisis.

Perhaps the most pernicious impact of this period of loose monetary policy – and indeed of the crisis itself – was the steady rise in inequality within advanced nations. There were several channels through which this acceleration occurred. In the first place, cheap money led to financial speculation. Those with access to capital could achieve substantial capital gains as asset prices rose. When wealth is already unequally distributed, this tendency leads directly to higher income inequality. As income inequality increases, it leads to excessive investment funds, because richer households tend to have a high propensity to save than poorer ones. This excess of savings leads to more speculation, pushing asset prices up again and accelerating inequality further. It is also likely to depresses growth, partly through the reduced spending power of poorer households and partly through the crowding out of investment in the real economy. Policy responses which attempt to stimulate investment by reducing the interest rate, end up making money cheaper and incentivising more speculation, fuelling a vicious cycle of rising inequality (Credit Suisse, 2014, p34).

But this cycle of rising inequality was by no means inevitable. Nor is it inevitable in the future. More correct would be to argue that rising instability (both social and financial) is the result of our persistent attempts to breathe new life into capitalism, in the face of underlying fundamentals that are now beginning to point in the opposite direction. Reversing the trend by raising the labour productivity growth rate through selective technologies is a highly uncertain strategy that may well intensify the environmental and social problems of the 21st century. By privileging the interests of the owners of capital over the interests of those employed in wage labour in the economy, it may be possible for short time to keep a certain kind of economic growth going. But the end result is a somewhat frightening sense that, as the Institute for Public Policy Research (IPP, 2018) recently pointed out, when the next crisis hits there will be neither fiscal nor monetary room for manoeuvre.

In short, this paper has argued that the ‘growth fetish’ which has dominated western political thinking for over half a century lies at the heart of the problems now encountered by advanced economies. It has hindered ecological innovation, exacerbated financial instability and reinforced inequality. There is a case to be answered, of course, that this strategy has continued to benefit the few. But its legitimacy as a strategy to ensure a better life for the many is severely dented. Prosperity itself is being undone by an allegiance to growth at all costs. Reaching beyond these potentially destructive conditions is clearly challenging, but by no means impossible. There is an emerging (and increasingly timely) interest in ideas around de-growth (D’Alisa et al., 2014; Kallis, 2015; Van den Bergh, 2015) and in the economics of a ‘post-growth’ society (Cassiers et al., 2017; Blewitt and Cunningham, 2014; Jackson, 2009, 2017). These approaches tend to accept that beyond a certain point, and for a variety of reasons, relentless economic growth may be neither desirable nor indeed feasible. Whether for secular reasons, or from a decline in resource quality, or from the need to curtail damaging environmental impact, proponents of these ideas attempt to envision the social conditions (and economic implications) of a world in which, for the advanced economies at least, it is necessary to ‘manage without growth’ (Victor, 2008/2018).

Perhaps the most interesting avenue that emerges from this exploration relates to the fundamental challenge which lies at the heart of it, the decline in labour productivity growth. Amongst the potential causes of such a decline lies one which carries the seeds of a new way of thinking about the role of enterprise and work in a post-growth society. Structural changes from primary (extractive) and secondary (manufacturing) towards tertiary (service) sector industries may be partially responsible for the transition towards a lower productivity growth (Nordhaus, 2006). Though often presented in conventional economics as a problem – for instance as the source of Baumol’s (2012) ‘cost

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10 See Jackson, 2017, Chapter 2, for a fuller discussion. See also Wolf (2014) and Turner (2015).
disease’ – there are certain service-based sectors which are both lighter (more sustainable) in material terms and contribute particular benefits in terms of the quality of life. These human services – particularly those based around care, craft and creativity – might well provide the clue to a lighter (more sustainable) economy capable of delivering a lasting prosperity without the need for economic growth.9

The US writer Wendell Berry (2008) once remarked that ‘human and earthly limits, properly understood, are not confinements, but rather inducements... to fullness of relationship and meaning’. Nowhere is this observation more true than in the context of the post-growth challenge facing the advanced economies in the 21st Century. That challenge, properly conceived, is not to pursue ever more desperate policies to regain the lost footings of a fossil-fuel driven hyper-productivity, but rather to create the conditions for an economy that works for everyone, within the constraints of a finite planet. As I have argued extensively elsewhere (Jackson, 2017), that task is precise, definable, pragmatic and achievable.

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References


Both Baumol and indeed Keynes before him (1936, Ch 16 Section II) have made that point that these relatively ‘inefficient’ sectors can be good for the economy – and indeed for human wellbeing (Jackson, 2017).


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