In the second anniversary lecture marking 30 years since CEP began, former director **John Van Reenen** focused on productivity, an issue that has been at the heart of the Centre's work for three decades. He sets out how technological innovation and better management can bring about growth that is both inclusive and compatible with efforts to address the world's climate emergency.

Going for growth that's sustainable and equitable

Covid-19 has revealed serious weaknesses in our politics and economy. As the UK emerges from the pandemic, we face a growth challenge of unprecedented scale. Whatever policy framework we adopt should unashamedly promote sustainable and equitable growth. To do that, we need new and better technologies and management practices.

The UK has been particularly hard hit by the pandemic, in terms of both deaths and the impact on the economy. Annual GDP fell by almost 10% in 2020, the greatest fall since records began. This makes us one of the worst hit countries in the OECD.

Growth is not simply getting bigger. Increasing GDP by having a bigger population, or increasing working hours, is not obviously a desirable thing. What we need is productivity growth. Productivity measures how much more output can be generated per input, for example, GDP per hour worked.

History shows us that wage growth follows productivity growth over the long run. More productivity is like growing the economic pie: it gives us choices to spend more on public services, environmental protection, redistribution or private goods.

Productivity has been the number one UK economic problem since the global financial crisis of 2007-09. Productivity fell, recovered a bit and has since almost flatlined. There is now a 30% productivity gap between where we would have expected to be on pre-crisis trends and where we are today (see Figure 1).

Real wage growth for the mean and median worker has mirrored the stagnation of productivity. Pay stagnation is a key cause of the populist anger that helped usher in Brexit in the UK and Donald Trump in the United States. You cannot blame people for becoming discontented when they feel they are doing no better than their parents.

The UK's productivity problem will not be fixed by a single silver bullet – but we can see some causes. Since 1981, the UK's investment in research and development (R&D) relative to GDP has been lower than its peers. The country's exposure to the global financial crisis played a role, as well as big cuts in infrastructure and the rapid move to austerity after the 2010 general election. Brexit has been (and will be) another factor holding back prosperity.

The case for growth

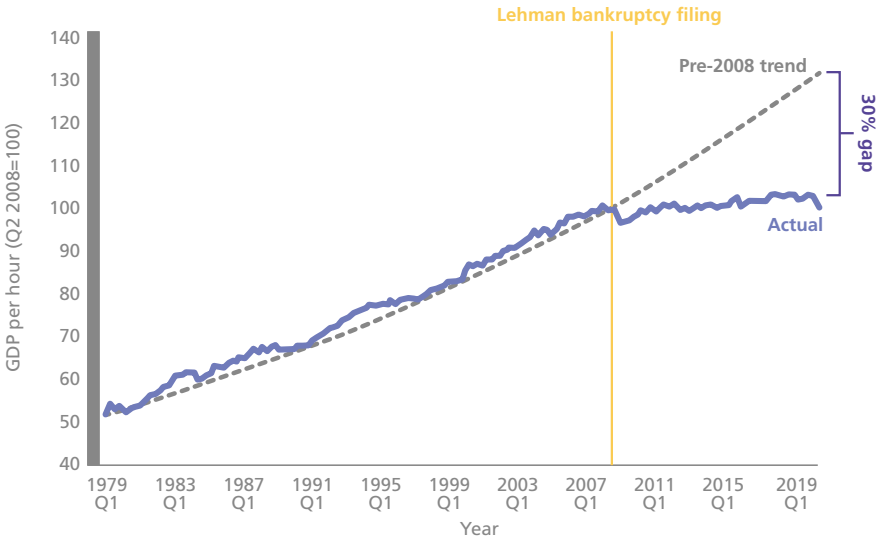
There are five main objections to the case for growth – and all of them can be rebutted.

'Capitalists get all the benefit of growth, not workers'

Productivity growth typically goes hand in hand with faster wage growth – and that has indeed held true in the UK (see Figure 2). Unlike in the United States, the share of the economic pie that workers receive has more or less stayed the same for many decades. There is certainly a problem of inequality, which started rising in the early 1980s, but this is inequality between workers rather than between labour and capital.

To make the biggest gains in productivity, you need to make radical changes in the way you work

Figure 1:
UK labour productivity (GDP per hour worked) 1979-2020: the disaster since the 2007-09 global financial crisis



Notes: Whole economy GDP per hour, seasonally adjusted. *ONS Statistical Bulletin*, labour productivity Q2 2020, release 4/11/2020 (Q2 2008=100). Predicted value after Q2 2008 is the dashed line assuming a historical average growth rate of 2.2%.

'Faster growth means more inequality'
The increase in inequality in many countries has not been accompanied by faster growth. In addition, it is easier to redistribute when the economic pie is growing faster.

'Growth is bad for the environment'
We need to adopt more appropriate measures of growth to incorporate the depletion of natural resources (as suggested in Dasgupta, 2021). But tackling climate change requires green innovation – and the political will to do it weakens when times are bad.

'Growth doesn't make us any happier'
It's hard to measure happiness, although we've got better at it, and should take non-material dimensions of wellbeing seriously. But there is plenty of evidence that money makes things easier – as my Aunt Lorraine says, 'although money doesn't buy you happiness, it often makes your misery a lot easier to bear'. People living in poverty tend not to be happier than the better-off.

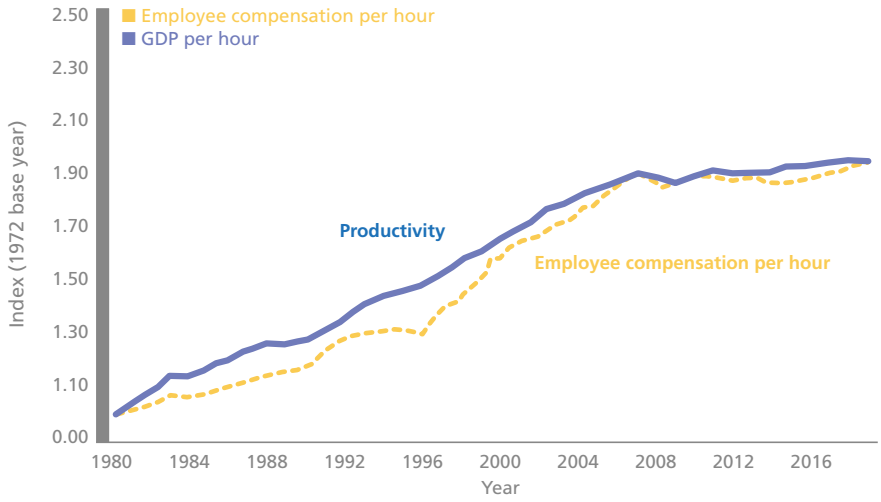
'There's nothing we can do to improve the growth rate'
Pessimism about growth has become the 'new normal' in media discourse. But there is also a growing recognition that institutions and policies can actually change the speed of growth. My colleague Philippe Aghion has been a pioneer of this 'modern growth theory', which rejects the view in traditional 'neoclassical' economics that all we can do is adapt to fluctuations in growth rather than seeking to speed it up.

The UK experienced more than a century of relative decline until the late 1970s. Between 1870 and 1970, the country went from being a quarter richer than America to two-fifths poorer. Victorian Britain was 40% richer than France and Germany, but 11-16% poorer than our European neighbours by the end of the 1970s.

Over the next three decades leading up to the global financial crisis, a minor miracle occurred and we reversed that decline. The gap was eliminated with Europe and reduced by a quarter with the United States (see Figure 3).

This change was no accident. Policies introduced in that period played a role. There was a suite of pro-competition policies (such as membership of the European Union, openness to foreign

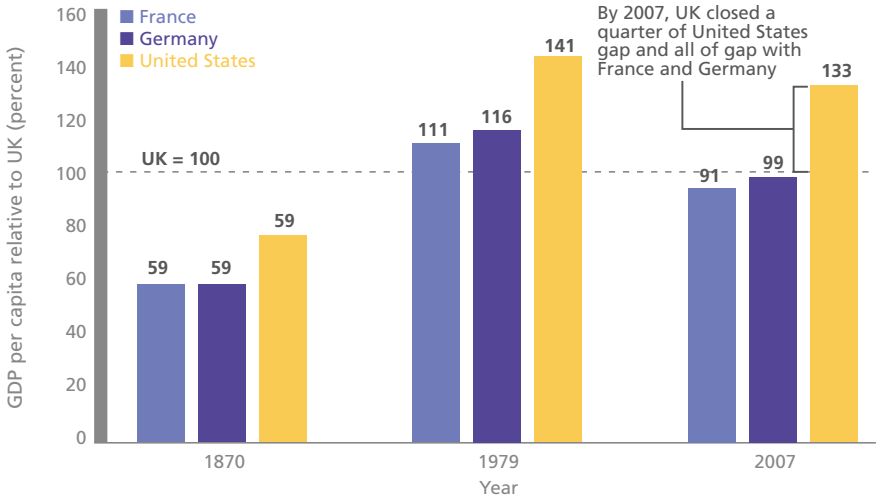
Figure 2:
UK workers' average compensation tracks UK labour productivity



Source: Office for National Statistics (2021): both series based at 1 in 1980, both compensation and productivity approximately doubled over the four decades.

The idea that economic growth is incompatible with tackling the climate emergency is wrong

Figure 3:
After a century of relative decline, the UK closed the GDP per capita gap in the three decades leading up to the global financial crisis



Source: Crafts (2010). Analysis based on data sourced from Angus Maddison historical database and West Germany in 2007 calculated from Statistical Bundesamt Deutschland 2010.

investment, tougher anti-monopoly laws and reduced government subsidies for 'lame duck' industries), more flexible labour markets, the expansion of universities and more autonomous regulation (such as Bank of England independence).

The story of growth is not simply the accumulation of human and physical capital. It is fundamentally a story of technical change. Only a fifth of the growth of output per hour since the Second World War is due to labour and capital – 80% is because of better technology and management practices.

Although technical change is obvious and everywhere, management is often overlooked. Innovations such as Frederick Taylor's scientific management, Fordist mass production, Alfred Sloan's M-form firm, Deming's quality movement and the Toyota lean manufacturing system were all transformative.

To make the biggest gains in productivity, you need to make radical changes in the way you work. For example, the invention of the light bulb took decades to feed through to productivity because of the need to move to a factory-based system. Even today, firms can spend vast amounts on software, robots and artificial intelligence but, without good management, it can have little effect on the bottom line.

There are two sources of growth: innovation (such as the invention of the wheel) and diffusion (when more people use it). Innovation is harder and, to a certain extent, less developed countries can rely on diffusion. But catching up gets progressively harder as countries become richer because there is much less headroom to grow by adapting the technologies of others when you are near the frontier.

Poor management accounts for just under half of the UK's productivity gap with the United States – and it improves when innovative firms displace incumbent firms, the phenomenon known as 'creative destruction'. I have been working on improving measurements of management for some time as part of the World Management Survey.

A growth plan

A growth plan has short- and long-run aspects that have to be joined up. A fundamental principle is that we should base innovation and the other portfolio of policies on what works, using evidence-based policy. Here is an example of how to do this in the context of innovation policies.

In the short run, we should avoid another premature move to austerity, which would prolong depressed demand. We should take advantage of the environment of low interest rates to continue borrowing and rebuilding. We need to strike a balance between job protection and reallocation, which will mean providing incentives to move jobs between firms, and supporting start-ups, not just incumbent firms.

Many of the Chancellor's support packages are due to expire in the coming months, and to avoid an even more serious recession, we need to smooth that cliff-edge, and be honest about the fact that not all the government's loans are going to be paid back. Some serious debt restructuring will be needed, such as swapping debt-for-equity and write-offs.

In the long run, we need new institutions to mitigate what I call 'policy attention deficit disorder' – a tendency to think short-term that has limited long-run investment, such as the creation of a national infrastructure bank. Competition policy is due for an overhaul. Too much of it is backward-looking: a merger that looks harmless today may turn out to be harmful later, such as Facebook's purchase of WhatsApp.

In the long run, we should reverse Brexit, but in the short run, we should rejoin the European single market and develop a Norway-style relationship with the EU. As the Mirrlees Review (2011) suggested, we should be taxing 'bads' like carbon emissions and relatively immobile factors like land.

Building flexible markets is another priority. CEP has proposed a 'human capital credit' that would fund people to gain intermediate skills (Costa et al, 2018).

A final thought: growth policies must think not just about stimulating the demand side for innovation through taxes and direct subsidies. We must increase the quantity and quality of the supply of the inventors and entrepreneurs of the future.

For example, kids born to the richest 1% of parents are ten times more likely to grow up to be inventors than those born to the bottom 50%. My work shows that the vast majority of this relationship is not due to the lack of talent of poorer kids, but rather to the barriers they face. Policies that give children from disadvantaged groups better opportunities are not just good for equity – they will also be vital to long-run growth.

John Van Reenen is the Ronald Coase Chair in Economics and School Professor at LSE, a research associate in CEP's growth programme and a former director of CEP. This article is a version of his CEP 30th anniversary lecture, 'Going for Growth'.

Further reading

Rui Costa, Nikhil Datta, Stephen Machin and Sandra McNally (2018) 'Investing in People: The Case for Human Capital Credits', CEP Industrial Strategy Paper No. 1 (https://cep.lse.ac.uk/pubs/download/is01.pdf).

Dasgupta Review (2021) *The Economics of Biodiversity*, HM Treasury (https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review).

LSE Growth Commission (2017) *UK Growth: A New Chapter* (https://cep.lse.ac.uk/LSE-Growth-Commission/files/LSEGC-2017-report.pdf).

Mirrlees Review (2011) *Reforming the Tax System for the 21st Century*, Institute for Fiscal Studies (https://www.ifs.org.uk/publications/mirrleesreview).

Policies that give children from disadvantaged groups better opportunities are good for equity and growth