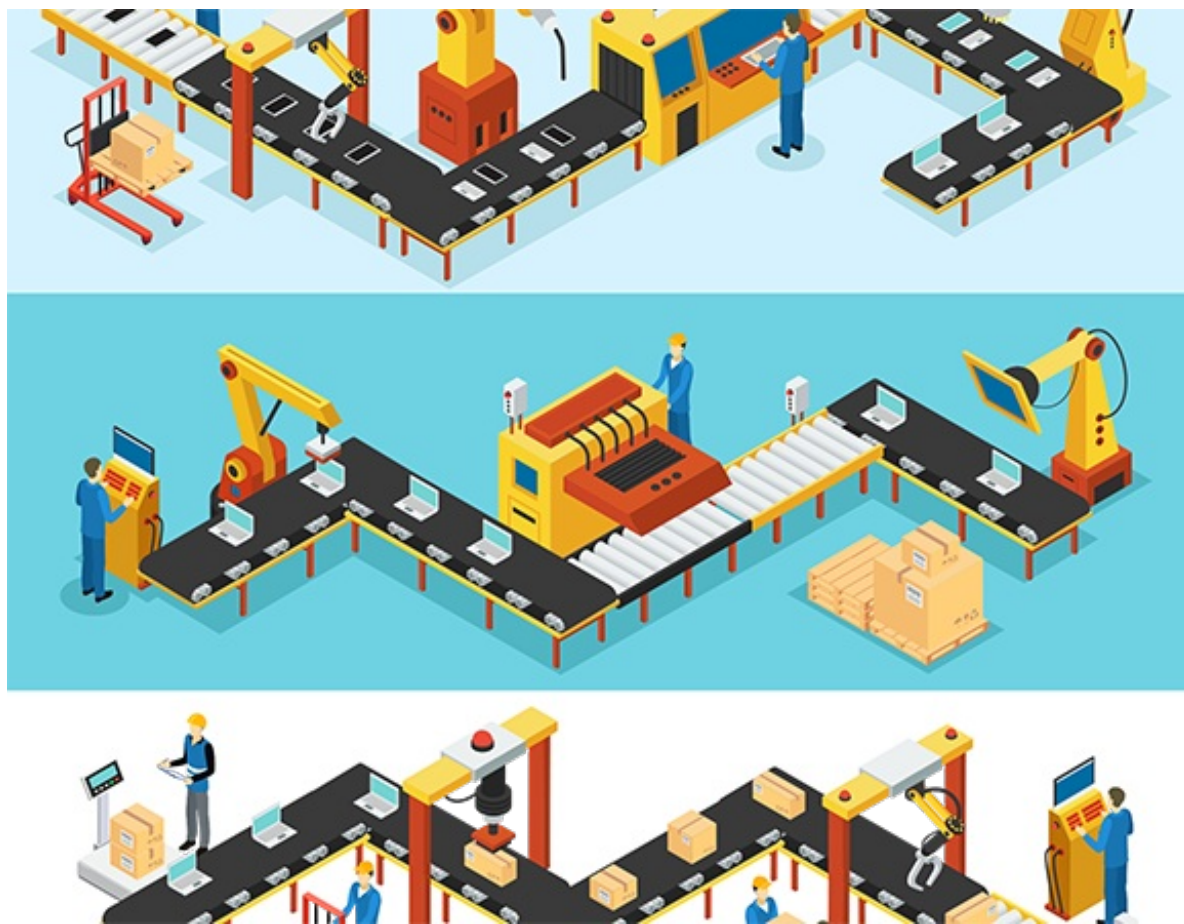


The Budget downgrade: productivity crunch

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The attention of officials in Brexit Britain is focused, laser-like, on productivity. Away from the world of policy and economics, the term washes over most people as business-speak. For those responsible for policy, however, productivity is not just an important question: it is *the* question. The Chancellor's Budget red book—and his scope for spending more on the pressing demands he's juggling—is framed by estimates about where productivity is heading. That's because virtually all his numbers are affected by the forecasts of the independent Office for Budget Responsibility (OBR) for growth, which in turn depends on its assumptions about productivity.

The news is not good: as of October, the OBR is assuming that productivity will grow more slowly over the next five years than it had expected, more in line with the 0.2 per cent since the financial crisis, than the pre-crisis average of 2.1 per cent. Up until this autumn, the OBR had spent years assuming that tomorrow we would somehow bounce back towards faster growth. But tomorrow has not come, and the OBR has finally given up predicting it. The big dent in the forecasts for tax revenues that this implies ahead of November's Budget perhaps explains why it hesitated for so long. Similar pessimism has overcome the Bank of England, with its view that the economy is closer to its (lower) productive potential than it previously thought—the reason why it concluded that interest rates had to rise at the start of November.

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For all its influence, there are doubts about how productivity is measured in parts of the economy, and even debate about what it means. Even so, the obsession is the right one. There is always a political imperative to pull rabbits out of the Budget hat. The danger is that this comes at the expense of policies that just might—finally—address Britain's long-standing productivity problem.

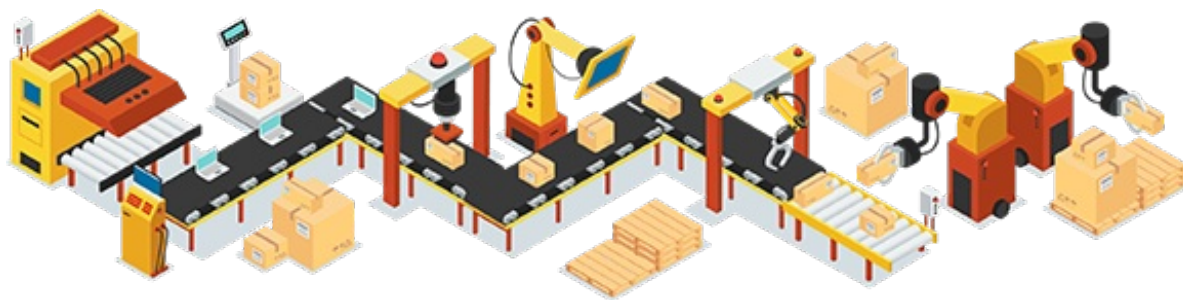
Though a key term of art for economists, "productivity" has a different, and vaguer, meaning for other people. For non-economists "productivity" may bring to mind hectoring managers demanding that a flat-out workforce sweat more, perhaps for less pay. In reality, it means anything but. "Productivity" is most simply defined as the value of

what a worker can produce in a given period of time.

That does not mean getting people to work harder. It means enabling them to work smarter. Higher productivity involves people using less effort to get the same results, either because they have better machines and equipment, or have found a better—faster or easier—work process: that is, more know-how. A more productive construction worker is one with a better digger, rather than one who shovels faster. And if that construction worker can do more work in the same time, then he or she creates more revenue and profit for the company, becomes more valuable as an employee and so should command higher wages. In this way, rising productivity is the basis for improvements in living standards over time. It is no coincidence that the last lost decade for productivity has also been a lost decade for wages.

So what, in theory, should drive productivity growth? It could be investment by businesses in machines—buying better diggers—or it could be investment in processes like commercial research and development, or government investment in education that can acquire that extra know-how. The UK spends less than comparable countries on these areas and this helps explain why the level of national output per hour worked is consistently around one fifth less than the United States, France and Germany. This is sobering. It means we can't explain away the gap by the fact that Americans work longer hours than we do on average, because the French work fewer hours and still get more out of their effort.

The current productivity panic is not exclusively British. The *rate of growth* has slowed in most of the rich economies over the last decade; but the UK stands out because productivity has had almost no growth at all. It is called the “productivity puzzle” but some of the explanations are not puzzling: there is a debt overhang from the financial crisis; there may be too many low-productivity zombie firms which would have gone bust in normal monetary conditions, but have borrowed and limped on thanks to low interest rates; and the population is ageing.



Despite all these plausible explanations, a far deeper pessimism has taken hold of some economists: the innovation machine of western capitalism has, they argue, permanently slowed. One distinguished merchant of gloom is Robert Gordon, whose book *The Rise and Fall of American Growth* includes a magisterial overview of America's gloriously productive past. Gordon argues that today's digital technologies are trivial in their implications for both human well-being and productivity, compared with past innovations, such as indoor sanitation or electrification. He does not believe the growth of productivity can recover. He also dismisses the argument made by technology firms that the pace of innovation is accelerating and that dismal productivity is therefore a “puzzle.” There is no puzzle. Get used to it, he says.

But wait a moment. There are other new technologies apart from digital gadgets and apps, such as gene-based medicines, advanced materials like graphene, close-to-commercially viable renewable energy, not to mention the potential applications of Artificial Intelligence. Clean energy in place of fossil fuels would be a significant innovation, as would lower-cost additive manufacturing (3D printing).

There is also a trickier question: what do we mean by productivity in an economy only one-fifth composed of products? Among the slowest productivity growth over the past decade has been recorded in the communications sector. The figures showing a decline are incredible to anybody working in the sector, when they consider the explosion in fixed and mobile data use, and technical advances such as the improved compression and speeds achieved over that period. Indeed, they are hard to believe for anyone with an iPhone, which can do incomparably more useful things than anything you could hope to put in your pocket a generation ago.

This is, pretty obviously, real progress; the reason it doesn't show up in the productivity figures is, at least in part, a highly technical one. It comes down to the way that the fruits of industry are adjusted to take account of changing prices before productivity is calculated. Such adjustment is obviously necessary: you don't want the figures to suggest booming productivity simply because all prices happen to be rising with general inflation. But in sectors like tech—where quality improves rapidly—the price adjustment ideally needs to take account of the better performance and features. If this adjustment were made, we would see faster growth and better productivity in this sector, and probably by enough to affect overall GDP and the economy-wide productivity figures too. This is likely to be the case in a number of sectors. However, this adjustment would be difficult in practice and raises a conceptual question: who, after all, is to define “constant quality” in a world of flux where consumer preferences can change?

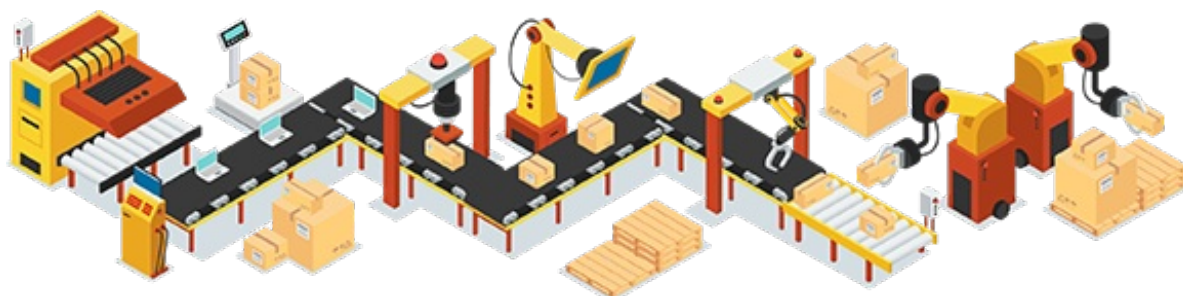
That great challenge in measuring quality applies across an awful lot of the services that today make up four-fifths of the UK economy. Some are reasonably standardised, such as a basic mortgage, which the bank's computer produces, or a pizza delivery. Yet others are not, and it is inherent in the very definition of a service as something personalised. What would it mean for a teacher, or management consultant, to be more productive? Certainly not more kids packed into each class, or more pages in every report. There are fundamental differences between what can easily be counted, and what counts.

Other services are even more customised to each individual—haircuts, or the care delivered to a sick child. In many privately-provided services it is at least straightforward to measure revenues, but difficult to divide those into the part due just to price inflation and the “real terms” or volume increase. Meanwhile, in many public services, where there is no revenue determined by market transactions, productivity statistics have to be constructed out of public expenditure on the service (mainly wages), and outputs (number of pupils taught) imperfectly adjusted (if at all possible) for advances in quality, such as the level of qualifications attained. In parts of the private sector, too, output is sometimes measured by looking at the inputs (mainly people's wages). In such cases there can be, by definition, no productivity growth.

Given these challenges, which are as much conceptual as statistical, it should be no surprise that services exhibit some of the slowest productivity growth as conventionally measured. Indeed, the late American economist William Baumol even proposed a particular syndrome or “costs disease,” which states that many services cannot become more productive because of their character. A string quartet always needs four musicians and the music cannot be played twice as fast. A haircut will take even the swiftest stylist a minimum amount of time. (You might notice the quality of the playing or the cutting isn't getting much of a look-in here).

If other sectors such as manufacturing are experiencing productivity growth and paying their workers more, the argument continues, and if workers in the less dynamic sectors want their wages to keep up, then costs will rise while output cannot. Over time, the dynamic sectors such as manufacturing will account for a smaller share of the total, and aggregate productivity growth will slow.

So the shift over time from manufacturing to service sectors is another part of the productivity puzzle, although it is not clear how much to worry about it. Baumol's cost disease may underestimate the scope for technical advance in some services. After all, machines are now writing news stories. Retailing has become more productive thanks to a range of advances from improved logistics to self-serve checkouts (at least when they do not get annoyed about how you are packing your groceries).



Whatever is really happening to productivity, digitalisation of is profoundly affecting the measurement of firms' output, and hence GDP and productivity in many ways. Examples include: free email services, the use of free

smartphone apps instead of purchases of watches, diaries, cameras, road atlases, voice recorders and so on; businesses using the cloud instead of purchasing servers; reduced investment in high street buildings because businesses have moved online; increased investment in “intangibles” such as data, software and research; the organisation of businesses across multiple national boundaries in global value chains.

The economy is always in flux and patterns of spending are always changing, so there is nothing inherently new in such measurement challenges. But the pace and scale of change makes it particularly hard to measure output now. How much difference this might in total make is a question being pursued by a new research centre funded by the Office for National Statistics, the Economic Statistics Centre of Excellence.

Chancellors tend not to have the luxury of waiting for research findings. The tax and spending plans set out in budgets draw on the forecasts produced by the OBR, and Britain’s economic climate is dominated by the pessimism about productivity. Nor, furthermore, can chancellors take much solace from the thought that there is plenty of productivity growth, but its hidden effects are showing up in rising service quality; because chancellors always need to be able to count things before they can tax them.

In the run-up to November’s Budget, the first since the general election, the government would ordinarily have been looking to increase tax revenues, even before the grim statistics on productivity weakened the forecasts. And the coming Brexit crunch on trade (as set out by Adam Posen on p19) and the City (Nicholas Véron on p30) makes the fiscal arithmetic even worse. Raising taxes is, however, a difficult, perhaps impossible, decision for a weak and divided government.

Yet this offers an opportunity. Far more important than any individual tax measures is shaping policy around measures to increase productivity in the long run. If the OBR’s decision has guaranteed miserable fiscal arithmetic, trying to make it fractionally better by cutting spending here and there and raising a billion or two in tax rises is a mug’s game. While we may not know the complete solution to the “puzzle” of apparently flat productivity now, we do know that UK productivity was lamentable even before the puzzle began. It is time to fix this, and with its promise of an industrial strategy, the government has a vehicle to start—for the first time since the arrival, a generation ago, of the delusion that markets do not need government to operate well.

I am a member of the independent Industrial Strategy Commission chaired by Kate Barker, and our recommendations focus on cementing a strategic approach to managing the economy into the UK’s institutional arrangements, on devolving much more decision-making to cities and regions which can co-ordinate better government and private efforts, and above all on more investment, by business and government both, in the research and development, innovation, skills and infrastructure that might be expected to bolster productivity.

The government can borrow at still-low long-term interest rates to invest, and encourage private investment, closing the shortfall that explains why this country lags so far behind others. There must be a commitment, across party lines, to strategic management of the economy, monitored by an independent body analogous to the OBR. The strategy must go far beyond a few eye-catching sector deals and be aimed at long-term challenges, such as decarbonising the economy and delivering health and social care for an ageing population. We also call for a guarantee of a Universal Basic Infrastructure—not income, nor cash for essential purchases, but access to the transport, communications, and those aspects of health, education and training that can build “human capital,” so that everyone has the capacity and the agency to shape their own work productively. If productivity is what matters, then—however elusive it can sometimes be to measure—securing investment that will improve it, is surely the way to go.