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Fly in the ointment

SOLVING BRITAIN'S PRODUCTIVITY PUZZLE

Zero inflation, rising output, unemployment falling faster than anyone expected, job vacancies at record levels – what's not to like about the British economy? Well, one thing at least: a dismal productivity story. In the second of our special election bulletins, Frontier examines the causes and possible cures of our failure to increase the amount we produce faster than the hours we work on it, and examines the policy options.

Figures published earlier this month by the Office for National Statistics (ONS) revealed that UK labour productivity – or output per hour worked – actually fell in the last quarter of 2014, and remains lower than on the eve of the 2007 downturn. This, the ONS observed, amounted to an unprecedented absence of productivity growth in the post-war period. As equally-unprecedented simultaneous falls in inflation and unemployment have stripped the Opposition of one economic point of attack after another, the disturbing productivity figures remain a stick to beat the Government with.



In the past few years, it's fairly clear what's happened. Employment has risen faster than output. Firms have held on to employees even when their output fell (squeezing pay instead), and lots of new jobs have been created, but many of them have been in lower-productivity sectors.

Looked at one way, that's good news – it means work has been more widely shared than in previous upturns, when unemployment was stubbornly slow to fall. Looked at in another, it's not, because it's taking more work to produce the average unit of output, not less. And it's not just our “work-life balance” that's at stake. It's productivity that delivers rising incomes. If we can't find ways of producing more things in less time, over the long-term, our living standards cannot rise. And the squeeze on real incomes – which has only recently begun to ease – helps explain why the good news on inflation and employment haven't given a bigger boost to Government popularity (see our [first election bulletin](#)).

MORE OR LESS?

As Table 1 shows, in the United States, Germany and France, every hour worked produces over a quarter more output than in the UK. Even in Italy, output per hour is slightly higher. Which means, of course, that we have to work more hours to deliver the same output.

Table 1. Productivity, employment and unemployment

Country	Output per hour worked	Employment	Unemployment
US	100	68.5	5.7
Germany	93.1	73.9	4.9
France	93.1	64.2	10.5
UK	74.2	72.2	5.6
Italy	75.7	55.8	13.0

Source: OECD. Output per hour worked: latest data, percentage of US level at current prices, dollars and current purchasing power parity. Employment: % of population aged 15 to 64, end-2014. Unemployment: % of labour force, harmonised, end-2014.

Of course, international comparisons are always fraught with danger. As Table 1 also shows, after a period of very rapid private-sector jobs growth – over two million since 2010 – the UK has a higher proportion of its people in work than France, Italy or even the US. The UK employment rate is a full 16 percentage points higher than in Italy, and eight points higher than in France. Both have much higher unemployment rates. Britain, therefore, may have a shorter dole queue balanced by a longer “tail” of relatively low-output, low-paid employees.

(In Italy, too, the size of the “underground” economy suggests that this tail may exist but not be recorded – almost by definition, the jobs that are recorded “overground” are likely to be the higher-paid, higher-productivity ones.)

But this distortion in the comparisons is clearly not the only explanation. Germany, for example, has both high employment and high labour productivity. This is not to say that Germany is the perfect benchmark. In fact, total factor productivity (TFP) – a broader measure looks at the productivity of all inputs to the production process rather than just labour – has fallen faster in Germany than in the UK over the past year. That may suggest that one of the reasons that Germany’s labour productivity is so high is that it has been investing too much, rather than too little. However, even on this broader measure, the longer term trends remain worrying for Britain: since 2010, TFP has increased in Germany, but fallen in the UK.

So why has UK productivity been weak? The bursting of the bubble in Britain’s large financial sector clearly didn’t help, depressing its “productivity” (or its earnings, anyway). Interestingly, however, the public sector did help: in that sector, in fact, job cuts haven’t prevented output rising, so productivity has been rising there while it was falling elsewhere.

Economists agree that the financial crisis had a shock effect on productivity, and the shock was particularly big in the UK. But they disagree as to whether the shock and consequent recession simply caused a step down in productivity or also depressed the long-term trend. Either way, what’s clear is that investment was “lost” during the recession and has been slow to increase thereafter, in both public and private sectors.

But recent events aren’t the whole story: the UK has long scored badly on productivity compared with its closest neighbours and trading partners. The causes are clearly deep-rooted.

Conventional economics would suggest that the Government should be trying to boost investment – in either physical infrastructure or skills. In the UK, there’s a strong case to be made for more resources to be channelled into both of these areas: the International Monetary Fund, while (now) applauding Britain’s economic performance, remains scathing about its creaking infrastructure. But an investment boom means a spending splurge. And – with the banks still tightening their belts and the leading parties all committed to further spending cuts in the next Parliament – it’s not clear where this new funding will come from.

PRODUCTIVE THINKING?

If we can’t fork out more money, we need think creatively about how we can ensure that the resources that we do invest go further. We need a much smarter approach to investing in productivity than in the past – one that draws on innovative ideas that are backed by rigorous research. Here are three good starting-points:

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1. **Think links.** There is growing recognition that an understanding of infrastructure interdependency must sit at the heart of decision-making. Getting utilities to work together would be a start. For example, trials carried out by Transport for London (TfL) have found that better co-ordinated street works to replace Britain's aging infrastructure could substantially reduce both costs and congestion. TfL found that projects in which a single utilities contractor coordinated work across a range of utilities (gas, electricity and water) in one area reduced the total number of days for the works by more than half. The study also estimated that having a single designated body to synchronise the different works and share relevant information in a timely way could reduce highway management and planning costs by 20-50%.

Even within the different infrastructure areas, more joined-up long-term thinking would help. Take transport, for example: if High Speed 2 is coming into London's Euston Station, where is the thinking about how to handle the surge of passengers who will change on to local connections there? And why sink £15 billion into a new rail link to connect London's major business centres with Heathrow Airport when it still isn't clear whether the new runway will be at Gatwick instead? These sorts of questions have prompted the Treasury to introduce a new planning framework that will explicitly embed interdependency assessments into capital projects. And last year the UK's different sector regulators formed a new network to help them co-operate more effectively. But we need to hold the next Government to account to ensure that these initiatives survive and deliver the substantial savings on offer.

2. **Think R&D.** The question of whether R&D really "pays its way" has been something of an obsession for economists of late – perhaps unsurprising in light of evidence that there has been a slowdown in R&D investment since the 1970s. There have been numerous studies into this question recent years and – while the results vary – they point to a median private rate of return to R&D in the region of 20 to 25%. That's at least £1.20 back from every £1 invested. But society-wide returns are typically two-to-three times larger than this. This is because R&D has the power to create spillover benefits, whereby one breakthrough triggers a wave of others (Sir Isaac Newton's image of "standing on the shoulders of giants" still holds true today). Moreover, the evidence suggests that – perhaps because of these spillover effects – public R&D investments attract additional private investment, rather than displacing it.

The UK, with its prestigious universities and history of revolutionary inventions, should be a world leader in R&D. But instead, it spends less of its output on R&D than other major European countries. The EU has challenged member states to spend 3% of output on R&D by 2020, and the UK is nowhere near that level. Meanwhile, whatever the level of spend, we

also need to make sure that the funds get to where they can be most effective. A recent study¹ carried out by Jonathan Haskel of Imperial College Business School and Gavin Wallis of University College London suggested that – at least in terms of its impact on private sector productivity – public R&D leads to higher returns when it is channelled through research councils than when it is handed directly to higher education institutions or Government departments. This is not to say that the public sector should fund only this kind of R&D – it is possible that there may be long lags between university research and productivity-enhancing private sector innovation, or that this type of research may boost productivity through other mechanisms than their impact on the private sector. Further evidence on these issues should be a priority. However, the evidence does indicate that research councils should play a prominent role in the mix.

3. **Think online.** The connectivity offered by the web offers the single biggest fillip to productivity of our age. In the UK, internet-related expenditure already accounts for a larger a share of GDP than in any other major economy – but if we want to match spending power with saleable output, we need to exploit the evolution of internet use more effectively, as it becomes not just a means of communication but increasingly embedded in physical objects as well. In manufacturing sensor networks already monitor logistics movements. In agriculture, similar networks are being deployed across farmlands to improve crop yields. And in transport, plans are afoot to publish a code of practice that will allow the testing of autonomous cars to go ahead on Britain’s roads.

Research by Frontier and Accenture indicates that this shift to the so-called “industrial internet of things” could add \$300 billion to UK GDP by 2030, and with additional targeted public and private sector investments, this figure could increase to more than \$500 billion. The Frontier/Accenture analysis suggests that – for the UK – these targeted investments should focus on ensuring that companies can hire people with the skills needed to tap into these opportunities. Policymakers must decide whether to plug the gap that currently exists by nurturing talent within the existing workforce (perhaps following a model similar to the one recently adopted in China to concentrate investment in a “talent hub” in the city of Wuxi) or by tailoring immigration policies to attract the skills from abroad. Whatever the chosen approach, an incoming Government needs to seize these opportunities, or watch our competitors snatch them from us.

CONCLUSIONS

Many economists’ response to the productivity problem is to demand that infrastructure and other public investment decisions should be “taken out of the hands of politicians” and left to commissions – staffed, naturally, by economists. This, it is argued, is the only way to achieve long-term consistency (and

persistence) in pursuing improvement. Given Britain's poor long-term planning record in infrastructure, and inevitable tendency to cut investment rather than services in a fiscal crisis, it's not hard to see why these economists think they could do better. But in a democracy, these are decisions for elected governments to take. And election time is the moment to catch their attention: to urge more focus in the political debate on productivity, as the motor of sustainable growth in living standards. In this bulletin, we have tried both to explore the problem – and to provide practical ideas to help. Anybody listening?

¹ *Haskel, J. and Wallis, G. (2013), "Public support for innovation, intangible investment and productivity growth in the UK market sector", Economics Letters, 119(2), 195-98*

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