



Working better

John Van Reenen finds that British labour productivity still suffers from low investment in capital, basic skills and innovation.

For economists, labour productivity is the key indicator of economic health. This is because over the long haul real income growth must follow labour productivity growth. If money wages run ahead of labour productivity, prices eventually have to rise in order to bring real wages back into line.

Material wellbeing, of course, must come from earnings. This is as true whether our spending is financed from current wages, or by drawing on savings out of past wages, or by borrowing based on our (perhaps over-optimistic) expectations of future wages. Government revenue for transfers, or for services like health and education, ultimately comes from taxing productivity. So despite the popular attention on other "proximate" indicators of economic wellbeing, such as inflation, unemployment or stock market values, these are largely sideshows in the long run. Labour productivity has to be where the action is.

Some critics attack this emphasis on the primacy of

productivity. They argue that faster productivity growth can only be accompanied by greater disparities of wealth and that the costs of greater inequality are too high to bear. In my view this is completely wrong, both in politics and in economics. If we can achieve faster economic growth through productivity improvements, the fruits of this growth can be used in many different ways. There is nothing to prevent the additional growth being spent primarily on benefiting the worst off in our society through greater redistribution or on better public services. Indeed, it may be easier to get the wealthy to accept such redistributive measures in the context of faster growth than of slower growth. When average incomes are stagnating, redistribution requires an absolute reduction in the income of the better off to finance transfers to the less well off. It is no surprise that taxes, always unpopular, are least welcome during a recession.

As for the economics, there is no obvious relationship (either in theory or in practice) between the level of inequal-

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ity in a country and its level of productivity growth. Although economists tend to emphasise the need for some degree of inequality to provide incentives, very high levels of inequality can undermine productivity growth. For example, it is well recognised that excluding the poor from getting good levels of schooling can be a fundamental brake on growth through squandering a country's talents.

My reading of the empirical research is that there is no robust statistical relationship between the degree of inequality and productivity growth. It is true that the United States has a high level of productivity *and* a high level of inequality. But it is equally true that many European countries with much lower degrees of inequality are able to match the US productivity performance.

So the idea that there is inevitably a rigid trade off between equity and efficiency is profoundly mistaken. We can all share the goal of increasing the size of the economic cake through higher productivity. The disagreements will be on how to divide it up.

If productivity – and more specifically labour productivity – is the key economic goal, how should we measure it? GDP growth itself is not a good indicator. For example, a good part of the faster GDP growth of the US compared with Europe has been due to faster US population growth. The best single measure of labour productivity is real output per hour worked. This measure links most closely to hourly wages, which is the market return for labour. So what are the facts on this indicator?

First, output per hour worked is significantly lower in the UK than in our main competitors. On the latest data from the market sector, output per hour in Britain was almost 40% below that in the United States. In other words, Joe Doe in the US could take Thursday and Friday off and still produce as much as poor John Bull in the UK toiling away throughout the working week.

Figure 1: Relative output per hour worked, 1999



Source: O'Mahony and de Boer, 2002, market economy data

The gap with major European economies is also striking. Despite some recent improvement, output per hour in the market sector in the UK is around 20% below that of France and Germany. This may seem to conflict with recent headlines announcing that Britain now matches Germany in productivity. This is only true for output per worker, not for output per hour worked. German output per worker is similar to that in the UK, but the Germans work less long hours. The average German employee has the equivalent of two months' more holiday a year than the average British worker and still manages to produce the same output. The "output per worker" gap widens even further when we compare ourselves with the US, because Americans work an average of about 10 hours a month more than we do.

Does this mean that Germans are lazy or that Americans are workaholics? There should be no presumption that working longer or shorter hours is any better or worse for productivity, because it is output per hour worked that matters. In principle, each society can make its own free choice as to whether it wants to work longer or shorter hours.

Figure 2: Average annual hours per worker, 2002



Source: OECD Employment Outlook, 2003



It is not clear why Europe is lagging behind

This is the context in which the data on British performance need to be analysed. On the surface, Britain's output per person is satisfactory. Although we still remain a way behind the US, we are pretty close to the French and Germans.

The main reason for this is simple. In recent decades Britain has had a much more successful record in getting people into jobs than other main European countries. The proportion of working age people in jobs is 73% in the UK, compared with 65% in Germany and 61% in France.

It is hard to argue that these lower employment rates in Europe are the result of benign social choices. The large numbers of young people, older people and women who are not working in Germany and France might have chosen to do so, if their national institutions had been different. The higher measured productivity of Continental Europe compared with the UK may well in part reflect the fact that so many low productivity Germans and French are excluded from the employment numbers. It is easy to improve your measured productivity by keeping the least skilled workers out of a job. However, this is unlikely to be the full story, as British productivity was lower than the French or German even in the 1980s when the UK had much higher unemployment than they did.

Figure 3: Employment rate of working age population, 2002



Source: OECD Employment Outlook, 2003

If the latest data do point to a continuing UK labour productivity gap, is it bigger or smaller than it used to be? It is useful to distinguish between three key periods.

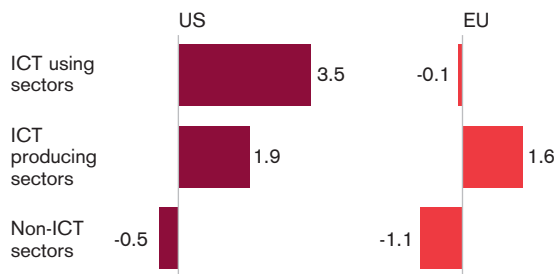
■ First, after 1945 Britain and the other Western European countries enjoyed a "golden age" of economic growth. Europeans were chasing the US productivity frontier. This catching up was driven by the spread of new ideas from the US to the rest of what now constitutes the OECD. Because catching up is easier than innovating at the technological frontier, US productivity growth was generally slower than in Western Europe. However, the catch-up process was much slower for the UK than for France and Germany and we slipped down the productivity rankings. Research at the CEP has shown that part of the reason for slower UK catch up, historically, is due to relatively low levels of investment in R&D and human capital.



■ The second period is more of a mixed story. Following the oil shocks of the mid-1970s, the productivity growth rates in both the US and Europe slowed significantly. From about 1980 productivity began to rise in the UK, especially in manufacturing. The deregulation of product and labour markets helped to halt the UK's long relative productivity decline. But, though we started to do better in absolute terms, it was not enough to significantly improve our position in the productivity rankings.

■ Third, there appears to have been a structural shift in US productivity growth in the mid-1990s. It went from about 1.2% a year between 1977 and 1995 to 2.2% a year between 1995 and 2001. Information and Communication Technologies (ICTs) were an important part of the explanation of faster US productivity growth in the late 1990s. The falls in quality-adjusted computer prices accelerated after 1994 and led to big productivity growth in sectors like semiconductors and retailing. These growth rates were not matched in European countries and the previous long convergence between US and Europe productivity staggered to a halt.

Figure 4: Change in annual growth in output from 1990-95 to 1995-2001



Source: O'Mahony and Van Ark, 2003

More capital per worker means more output per worker

From an accounting point of view, the main reason for this third period was the slower productivity growth in those European sectors using ICT intensively like retail, wholesaling and finance. Productivity in the ICT-using sectors in the US grew during the late 1990s at around 5% a year, more than twice as fast as its rate of growth in the first half of the 1990s. The same sectors in Europe only saw growth of 2% a year, slightly less than in the early 1990s. Since it is likely that ICT is available at about the same price in Europe as in the US, it is not clear why Europe is lagging behind. It is a fact, however, that as the IT revolution introduced new forms of capital European economies failed to exploit its benefits in terms of enhanced productivity and prosperity as fully as did the US.

This does not appear to be due to measurement error or to the “bubble economy” of the late 1990s, since US productivity growth continued to roar ahead in the 21st century despite the hi-tech crash in 2001 and despite the impact of 9/11.

What was happening to UK productivity during this period? The most recent data seem to show that here the UK has in fact held its own with US since 1995 – a remarkable achievement given the strong showing of the US. There has also been some narrowing of the UK productivity gap with France and Germany since the beginning of the 1990s. However, as we have seen, the UK still carries a significant labour productivity deficit and it is unclear whether the momentum of recent years will close the gap there with France and Germany.

In formal terms, the productivity gap between Britain and another country can be broken down into two parts: first, the quantity of the inputs and, second, how they are used. There are two key types of input. One relates to capital. Giving workers more and better equipment to use should enable them to produce more output from a given hour

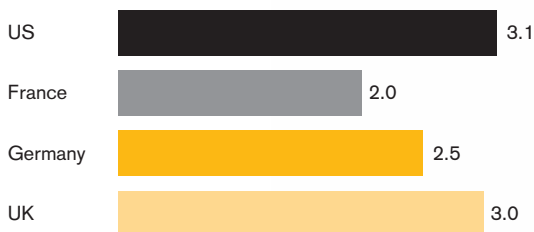
worked. Economists call this “capital deepening”: more capital per worker means higher output per worker.

The other type of input relates to skills. Here, improving the human capital of an economy by increasing the supply of education should also raise productivity. But inputs do not explain the whole story, which is where different ways of working come in. After we have deducted the contributions of capital and skills from output per hour we are usually left with an explained residual element that goes under the rather inelegant name of “total factor productivity”. Differences in total factor productivity relate to different ways of working, for example through better ways of organising firms or using better technology. They help explain what we do with our fixed capital and our human capital. How does the UK compare on these measures?

If labour productivity is about the amount of capital and how it is used, we have a substantial gap with France, Germany and the US. Britain has much lower capital invested per hour worked than other major countries and this accounts for around 80% of our labour productivity gap with France and Germany. Add in the UK’s skill deficit and this explains just about the whole productivity gap with Continental Europe.

However, this is not true of our productivity gap in relation to the US. Increasing the proportion of machines to workers to American levels would only make up about half of the gap. Nor would higher skill levels close the gap. Around half the gap between UK and US labour productivity is due to higher US total factor productivity – in other words, to different ways of working.

Figure 5: Annual growth rates in output per hour, market economy, 1995-2001



Source: O'Mahony, Groningen



Part of the story on capital is government failure

This leaves us two key questions. First, why is there less capital per hour worked in Britain? And, second, what is the secret of the US productivity story if it is not in fixed or human capital?

Part of the story on capital is government failure. Government investment in roads, houses, schools and hospitals historically has been low in the UK compared with other countries. Basic numeracy and literacy skills amongst the adult population in Britain – key components of our human capital – are also notoriously poor. This may be slowly changing with educational reform, but low adult skills may be a factor behind low investment.

Another important part of the capital story, however, may be that UK managers choose to invest less than their foreign counterparts because the return is lower. Why invest in new plant or IT that will not deliver a significant return?

This leads us to the second question. Why do US workers create so much more output for their fixed and human capital inputs? What is it that they do to work more effectively that makes such a significant difference on a macro-economic level? The answers must address both of these questions by digging below the figures to understanding what drives productivity – at the business level.

To tackle these questions the CEP has launched a new programme on Innovation and Productivity. One stream of this work will be to rigorously investigate whether managerial practices are a cause of the productivity gap through collecting primary data at the firm level across countries. Initial results suggest that different management practices are critical in accounting for productivity differences between countries and within countries. We also find that the return to ICT use is much higher in organisations with management best practice – which may be why the US has benefited the most from the recent technological upheavals.

The research is at an early stage but Watch This Space for more results...

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This article is an edited version of a speech he made at a seminar on productivity in London on 15 March this year, jointly hosted by McKinsey & Co and the LSE.

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