



BANK OF ENGLAND

Speech

The UK's productivity growth challenge

Speech given by

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Relevance of productivity for monetary policy

It is businesses that are vital for driving productivity, and it is crucial for the Bank and MPC to engage with and hear from all sorts of business, which is why we have a national network of agencies spread across the UK. It is a pleasure to be back in the region covered by the Bank's South East and East Anglia Agency. It happens to be the region I was born and grew up in, and one I visit regularly on my bicycle at weekends, so I know what a diverse and vibrant region it is, economically and more generally.

The monetary policymaker's perspective on productivity is naturally a particular one. As MPC members, past and present, have noted, the future potential of the UK economy is not within the gift of monetary policymakers.¹ And monetary policy cannot offset the economic impacts of a large structural shock like Brexit.

Nonetheless, productivity – how much output an economy can produce using a given amount of input, such as output per hour worked – is a key determinant of the evolution of inflation, and it is one of the most important factors affecting the outlook for the UK economy and a therefore a key issue over the MPC's policy horizon.² That is particularly true now.

These are unusual times. If the MPC's February forecast materialises, annual UK GDP growth will have been greater than 1% and less than 2% for five consecutive years from 2016 to 2020 (Slide 1). To put this in context, growth has been in this range in only six of the 50 years up to 2015, and three of these were since the financial crisis. Put another way, historically we have either been growing above 2%, or in or close to recession. We have little experience of this middle ground.

Similarly, UK business investment has been unusually weak relative to past recoveries (Slide 2). Since 2008, business investment has been far below the recoveries the UK experienced after the 1979 and 1990 recessions. Around ten years after the global financial crisis, cumulative growth in business investment is still around 50 and 30 percentage points below where it was at the equivalent stage of the recoveries seen in the decades after the 1979 and 1990 recessions respectively.

The weakness of and uncertainty around the path of UK productivity is a key driver of these unusual developments, and is therefore a key consideration for monetary policy.

¹ For example Carney (2016)

² In this speech I use total value added per hour of work to measure of productivity. There are other measures of productivity, but this one is the most commonly used, and quoted, measure.

Recent developments in UK productivity

With that in mind, I thought I could best serve the panel by setting out some of the key characteristics of the weakness in productivity growth. It's important to distinguish between two elements to UK productivity since the global financial crisis. First, the *level* of productivity fell during the crisis, which history tells us isn't particularly surprising in the wake of a financial crisis.³ Second, productivity *growth* has remained weak since the crisis, and much weaker than the pre-crisis growth trend. Annual productivity growth has averaged around ½pp since 2010, compared with an average growth rate of around 2% in the decade prior to the crisis (Slide 3). Productivity growth has also been weaker than expected for other advanced economies.⁴ For this reason I'll focus on productivity growth, as this is where the challenge lies.

Productivity data can be sliced and diced in various different ways, providing different angles from which to understand and assess the recent weakness in productivity growth. In the audience today there are representatives from businesses across the East of England, from all sectors and sizes. No doubt the factors affecting your different businesses and sectors will vary.

There are four features that are worth highlighting:

First, weakness in productivity relative to pre-crisis isn't unique to the UK. Part of that global weakness is likely to reflect weak investment, which fell during the crisis and has only recovered gradually since then. The expansion in global trade and broadening of supply chains in the decade prior to the crisis is likely to have been one factor contributing to robust total factor productivity growth during that period. Since then, growth in global trade and TFP have both been subdued.

Second, the growth 'puzzle' – the weakness relative to pre-crisis trends – is concentrated in just a few sectors, with the finance and manufacturing sectors accounting for over half of the recent weakness.

The Monetary Policy Committee's latest *Inflation Report*, published two weeks ago, included a chart with different sectors' contributions to the whole economy labour productivity growth (Slide 4).⁵ The manufacturing and finance & insurance sectors made no contribution to average annual productivity growth in 2010-16. Pre-crisis, these sectors contributed around ¾pp to annual average productivity growth. So combined, they accounted for over half of the growth puzzle to 2016, despite employing only 11% of the workforce.

³ Indeed the Treasury's 2009 Budget forecast applied a downward adjustment to the trend *level* of output of around 5% between mid-2007 and mid-2010, which was within the range of external estimates of the impact of the global credit shock on medium-term potential output.

⁴ Haldane (2017)

⁵ See also Tenreyro (2018)

Three other sectors – communications, professional & scientific services, and real estate – almost fully account for the remainder of the growth puzzle.

Of course there are limitations to pre-crisis comparisons. The finance sector is a good example. Increased leverage and risk-taking with financial firms prior to the crisis is likely to have boosted measured productivity, beyond what was sustainable.

Third, both slow growth in capital per hour worked (known as capital deepening) and the efficiency with which companies put their labour and capital inputs to use (known as total factor productivity) have contributed to weak growth in roughly equal measure.

While the weakness in total factor productivity growth has been concentrated in manufacturing and finance, the weakness in capital deepening has been more widespread across sectors. In other words, whatever is driving slower capital deepening is likely to be more widespread across the economy. General uncertainty is one likely candidate, and may have been more of a feature in the UK than elsewhere, particularly in the period since the Euro area crisis. Indeed, the most commonly used measure of policy uncertainty has generally been more elevated for the UK than the equivalent measures for Europe and the US, although it has fallen back sharply from its post referendum peaks (Slide 5).

In periods of elevated uncertainty, businesses may be reluctant to undertake investment and prefer to employ more labour, which is easier to reverse, as I suggested in a speech in November last year.⁶ And a range of survey results suggest that Brexit related uncertainty is an important factor weighing on investment in the UK, despite otherwise favourable conditions for capital expenditure globally and domestically.

Fourth, the slowing in UK productivity growth since the crisis has primarily reflected slower growth of high-productivity companies. As discussed in the MPC's latest Inflation Report, productivity growth varies widely between companies, and has tended to come from those companies at the frontier of the productivity distribution.⁷ That remains the case, but the *slowing* in productivity growth since the crisis reflects slower growth of the top end of that distribution. I am just comparing the distributions of productivity pre and post-crisis, so these aren't necessarily the same companies becoming less productive.

The outlook

That's productivity growth over the past. What then of the outlook for productivity (Slide 6)?

Ahead of the MPC's February meeting, we conducted our annual stocktake of the supply side of the economy. This stocktake was especially important in light of the unusual times the UK finds itself in and the

⁶ Ramsden (2017)

⁷ Haldane (2017)

importance of supply-side developments for the economic outlook. We didn't change our assessment of underlying productivity, but we have revised down our assessment of spare capacity within firms, which has implications for actual productivity growth in the short term.

Productivity growth is the key determinant of the economy's potential growth rate, the rate at which the economy can grow without generating inflation pressures, in other words its speed limit. The most recent data show signs of productivity growth rising in the second half of 2017. But quarterly growth has been volatile of late and we'll have to wait and see whether the pickup is sustained in the near-term. The MPC's best collective judgement is that productivity growth will settle at just over 1% over the next three years. That is a pickup from the pace since 2010, but it is still around half the pre-crisis rate.

But in terms of the economy's potential growth rate, these hints of somewhat higher productivity growth need to be balanced by the prospect that workforce growth will slow somewhat, due to lower inward migration and demographic effects.

Overall, it's the MPC's view that the economy's speed limit is likely to be around 1½%. That means that with very little spare capacity in the economy, even the unusually weak actual growth of around 1¾% over the forecast horizon – which you can see here in the MPC's projection for GDP from the latest Inflation Report (Slide 7) – is still sufficient to generate excess demand.

There are of course significant risks in both directions to the outlook for productivity.

To the downside, there are at least two reasons to think that productivity won't pick up to its pre-crisis rate. The first is that after such a long period of weak productivity growth it is reasonable to argue that we are in a new paradigm of lower productivity growth, and that is reinforced by the global nature of the weakness. The second is that the dampening effect of Brexit on productivity growth – both through the effect of uncertainty on business investment in the short run and through the need to anticipate and respond to post-Brexit trading relationships – is likely to continue for some time.

To the upside, productivity, although volatile, has tended to grow by around 2% on average for many decades, if not centuries. Productivity could ultimately pick up by more than expected globally and if there is a global upswing in trade and investment that benefits the United Kingdom. Additionally, if there is clarity around the transition and future trading arrangements post-Brexit, this could continue to reduce uncertainty, support business investment and lead to a stronger-than-expected pickup in productivity growth. Early evidence from the Bank's Decision Maker Panel Survey suggests that the impact of Brexit holding back business investment growth may be less in 2018 than 2017.

What is the Bank's role in this context?

I have been thinking about the whole range of policy challenges associated with productivity since the aftermath of the financial crisis in my former role at the Treasury. My role has changed since then, and I naturally have a different focus in my new role. It is the Bank's responsibility to deliver monetary and financial stability. But by delivering low inflation, a safe and sound financial system, and a payments and settlements system that operates smoothly, we are ensuring the right environment for business investment.

But our responsibilities for the financial sector mean that our role doesn't stop there. For example, we can play an important role in supporting the development of new technologies (Slide 8). The Real Time Gross Settlement (RTGS) renewal programme, which I oversee at the Bank, is a major investment in the UK's financial infrastructure which will deliver a range of new features and capabilities. RTGS is the means by which central bank reserves are transferred between banks big and small, and settles around £600bn of transactions per day. Although we decided that distributed ledger technology wasn't sufficiently mature to support the core RTGS system, we will ensure the system works with that technology, however it evolves. We are ensuring that the next generation of RTGS service creates a world-leading payments landscape for the UK.

We can also be a catalyst and a convener for broader developments. We have been working with the FinTech sector, a sector we previously had little to no interaction with. As the Bank's Executive Director for Banking, Payments and Financial Resilience, Andrew Hauser, highlighted here in Cambridge late last year, our engagement in the FinTech sector has improved our familiarity with FinTech products, concepts and firms, and also given FinTech firms insights into the emerging questions and needs central banks might have, as policymakers, regulators and operators.⁸ In recognition, the Bank won 'Initiative of the Year' last month from Central Banking, for the work we did with firms working on new and emerging financial technology.⁹

Interacting with these innovative disrupters has reminded me that there are reasons to be optimistic about productivity growth in the longer-term, stretching beyond the horizon relevant for monetary policy. We are here in Cambridge, home to Silicon Fen. The city is home to around 1700 science and technology companies, including over 200 biotech companies and a large array of science infrastructure.¹⁰ A survey by our Agents across the UK last year suggested that the biggest positive driver of investment intentions was the desire to achieve future efficiency gains. One feature of the drive for efficiency gains has been investment in automation, AI and robotics. According to the OECD, meanwhile, the density of industrial robots in the UK is one of the lowest in the OECD.¹¹ Although this doesn't appear to be a positive news story, it demonstrates the potential the UK has to increase the quantity and quality of capital intensity. Investment

⁸ Hauser (2017)

⁹ Central Banking (2018)

¹⁰ Office for Life Sciences (2017)

¹¹ OECD (2017)

in new technologies could indeed support a pickup in productivity. And on that positive note, I look forward to the panel discussion and your questions for us.

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