

The UK productivity puzzle through the magnifying glass: A sectoral perspective

Category: Labour markets, Productivity, Uncategorized, United Kingdom

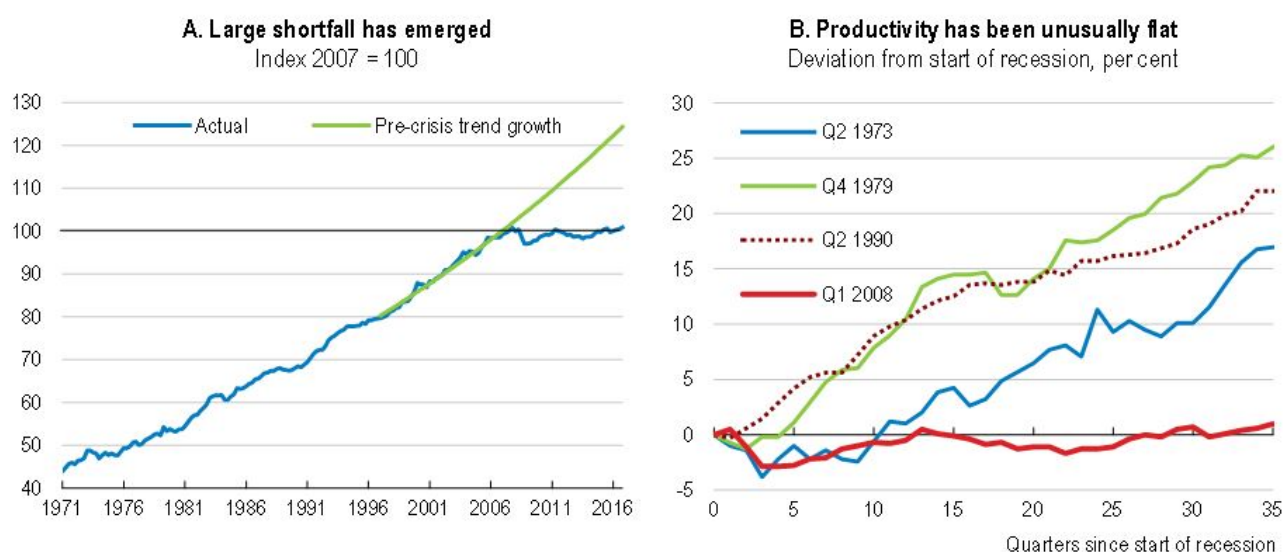
written by oecdecoscope | August 17, 2018

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Labour productivity has flatlined since the global financial crisis, which contrasts with its recovery profiles from past recessions over the last decades (Figure 1). The productivity shortfall, defined as the gap between actual productivity and the level implied by its pre-crisis trend growth rate, reached nearly 20% at the end of 2016. This unprecedented levelling off represents the so-called productivity puzzle, with the level of output being surprisingly weak relative to high total hours worked in the economy. At the aggregate level, the weakness in productivity is driven by subdued investment developments and total factor productivity, and this underperformance appears to be mainly structural rather than cyclical.

Figure 1. Labour productivity has disappointed since the financial crisis

Output per hour¹



1. Output refers to real gross value added. Pre-crisis trend growth is calculated between 1997 and 2007, and is projected from 2008 onwards.

Source: OECD calculations based on ONS (2017), "Labour productivity: Oct to Dec 2016", Office for National Statistics, April.

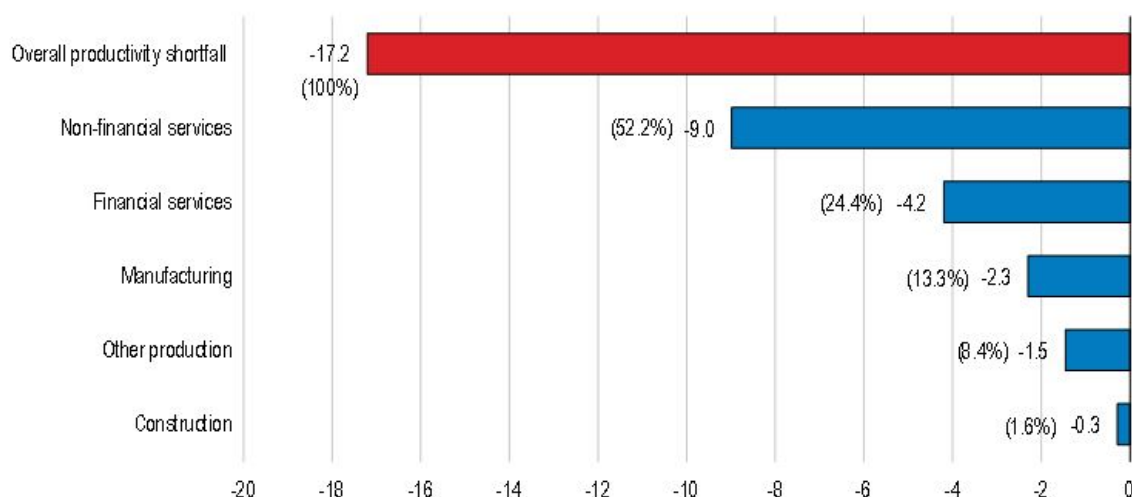
Using disaggregated data at the sectoral level provides additional insights about the determinants of the productivity puzzle, as shown in a recent OECD Economics Department Working Paper (Kierzenkowski et al., 2018). There has been a marked increase in the dispersion of productivity performance across UK sectors since the crisis, with sectors lagging behind becoming even more disconnected from the best-performing sectors (at a given point in time). Moreover, the aggregate productivity slowdown appears to be mainly driven by the weakness in productivity within each sector, which suggests sector-specific determinants of the productivity shortfall.

To investigate the issue further, it is possible to calculate the contribution of each sector to the aggregate productivity shortfall since 2007. Such calculation shows that half of the gap is explained by non-financial services (with information and communication being the largest contributor), a fourth by financial services, and another fourth by manufacturing, other production and construction (Figure 2). All but non-financial

services and the construction sectors contribute disproportionately to the productivity shortfall compared to their shares in overall output and hours worked of the UK economy.

Figure 2. Services sectors account for a large share of the productivity shortfall

Contributions of sectors to the productivity shortfall relative to 1997-2007 trend growth, percentage points and percentages in brackets, Q4 2016¹



1. Other production refers to agriculture, forestry and fishing (section A), mining and quarrying (section B), electricity, gas, steam and air conditioning supply (section D) and water supply, sewerage, waste management and remediation activities (section E). Imputed rental is excluded from the gross value added of real estate activities.

Source: OECD calculations based on ONS (2017), "Quarterly National Accounts: Oct to Dec 2016", Office for National Statistics, March; and ONS (2017), "Labour Productivity: Oct to Dec 2016", Office for National Statistics, April.

In non-financial services, large increases in self-employed with no employees may have reduced the economies of scale and scope of organised work (Figure 3, Panel A), while the production of the sector has become less capital-intensive at the same time. Greater mismatches between changing skills and created jobs may have also curbed productivity growth, in particular in the information and communication sector where many high-skilled occupations have been created but where increases in labour quality have been comparatively weak.

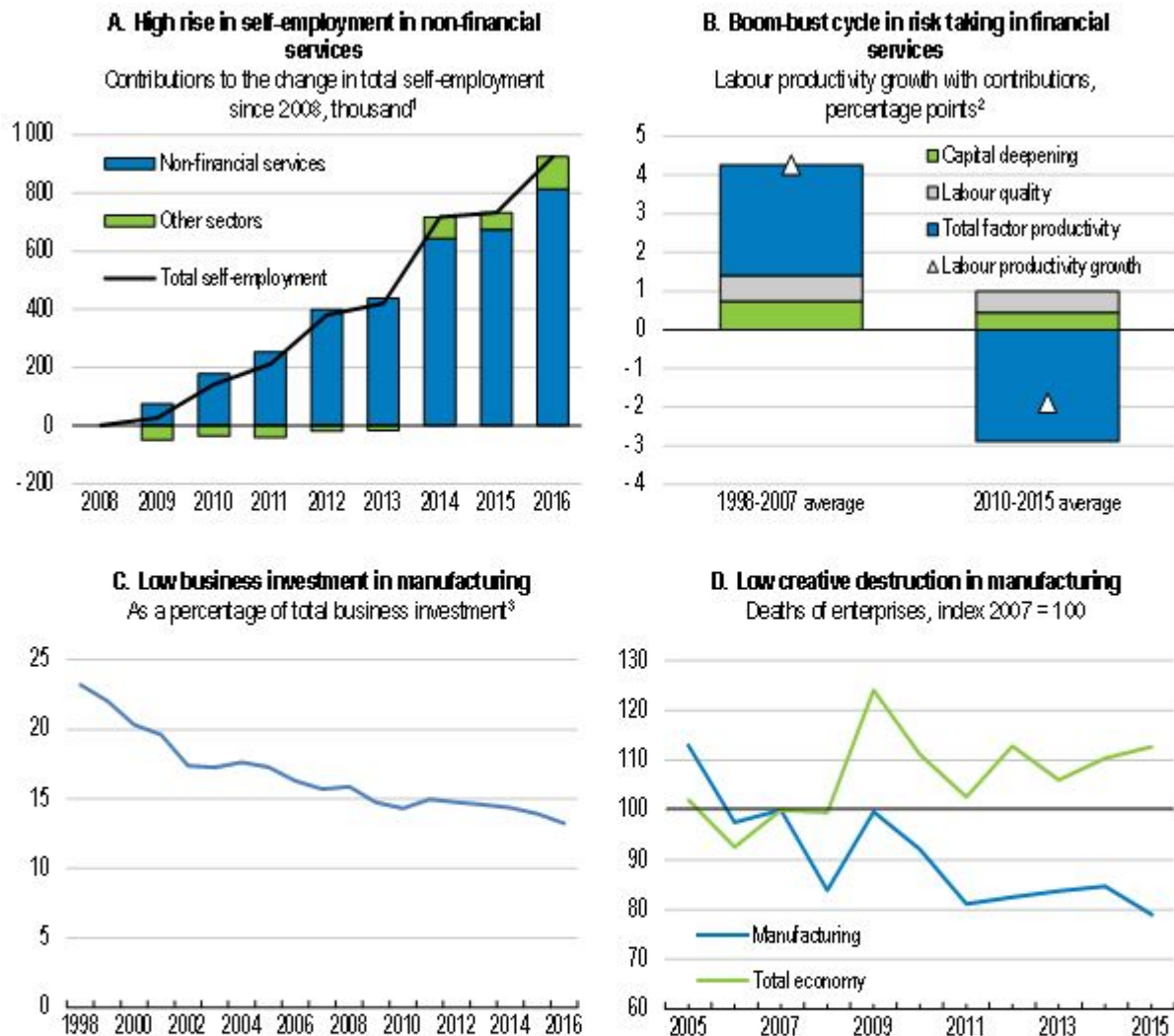
In financial services, stagnant labour productivity is mainly linked to reduced risk-taking and leverage, as reflected by the decline in total factor productivity following its steep

increases in the run-up to the crisis (Figure 3, Panel B). Although the measurement of output of the financial sector is difficult, this finding is corroborated by the relative size of the financial sector, which was expanding quickly to become significantly larger than in the rest of the G7 in the run-up to the crisis. Looking ahead, the key issue is the extent to which the financial sector can add to productivity growth of the UK economy without undermining financial stability.

In manufacturing, low accumulation of the capital stock (Figure 3, Panel C), suggests a greater substitution from capital towards labour in the production process and a drag on the productivity of the sector. Also, there are indications that weak corporate restructuring may have been another driver, with company exits being smaller than in the overall economy (Figure 3, Panel D). Particularly, in low-tech manufacturing, the percentage of capital and labour that is held up by zombie firms (defined as firms which persistently fail to cover their interest payments from current profits) is estimated to be respectively at around 18% and 13% (OECD, 2017).

The UK productivity puzzle is also partly explained by pre-crisis developments, which include a low tangible investment in comparison with other OECD countries, a too rapid expansion of the financial sector despite the comparative advantage of the City, productivity gains in the manufacturing sector that were insufficiently “offensive” (driven by innovation), and a secular decline of the oil and gas sectors with dwindling resources in the North Sea.

Figure 3. Some possible drivers of the UK productivity puzzle at the sectoral level



1. Data refer to population aged 15 and over.
2. Labour productivity is defined as output (i.e. real gross value added) per hour worked. Contributions to labour productivity growth are calculated using a factor augmenting production function with a weight of 0.59 for hours worked and labour quality while total factor productivity is calculated as a residual. Capital deepening refers to net capital stock per hour worked. Labour quality is measured as the difference between the quality adjusted labour input (QALI) and hours worked.
3. In real terms. Data refer to private sector investment.

Source: Eurostat (2017), "Employment and Unemployment (Labour Force Survey)", *Eurostat Database*, May; and OECD calculations based on data from Office for National Statistics.

References:

Kierzenkowski R., G. Machlica and G. Fulop (2018), "The UK productivity puzzle through the magnifying glass: A sectoral perspective", *OECD Economics Department Working Papers*, No 1496, OECD Publishing.

OECD (2017), *OECD Economic Surveys: United Kingdom 2017*, OECD

Publishing.