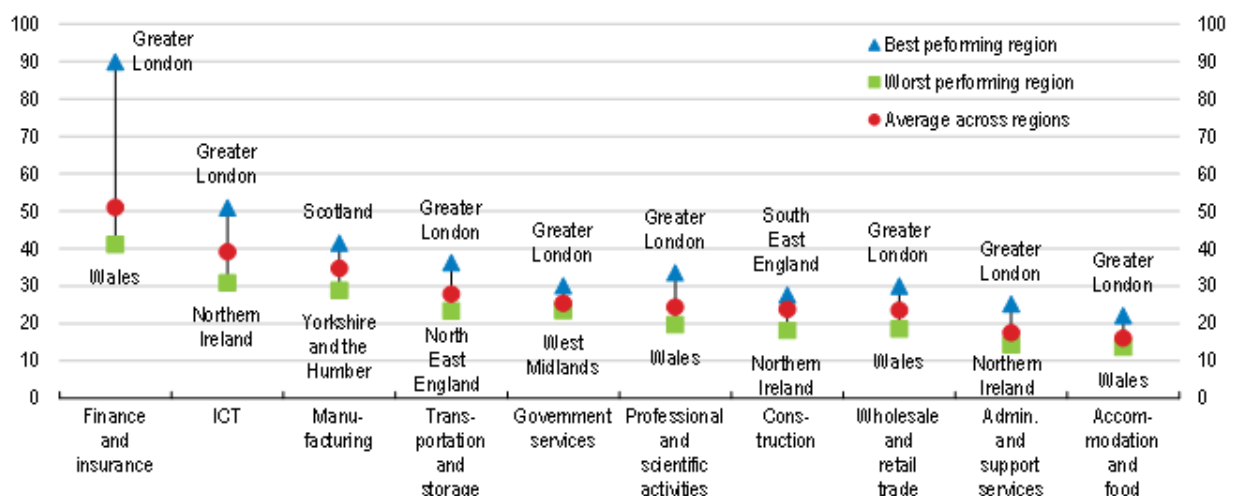


# Where to get the best bang for the buck in the United Kingdom? Industrial strategy, investment and lagging regions

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The United Kingdom has large regional disparities in productivity which contribute to differences in living standards across the country, while its less productive regions also hold back overall economic performance (OECD, 2017). High levels of productivity in London are widespread across nearly all sectors, especially among knowledge intensive services such as finance and insurance and information and communication technologies (ICT) (Figure 1).

**Figure 1. Productivity differences across regions tend to be the largest for knowledge intensive services**  
Labour productivity measured by gross value added per hour, in GBP, 2015<sup>1</sup>



1. Sectors are ranked in descending order of the average level of labour productivity. The chart uses the TL2 definition of regions which yields 12 regions for the UK.

Source: ONS (2017), "Labour productivity: April to June 2017", Office for National Statistics, October.

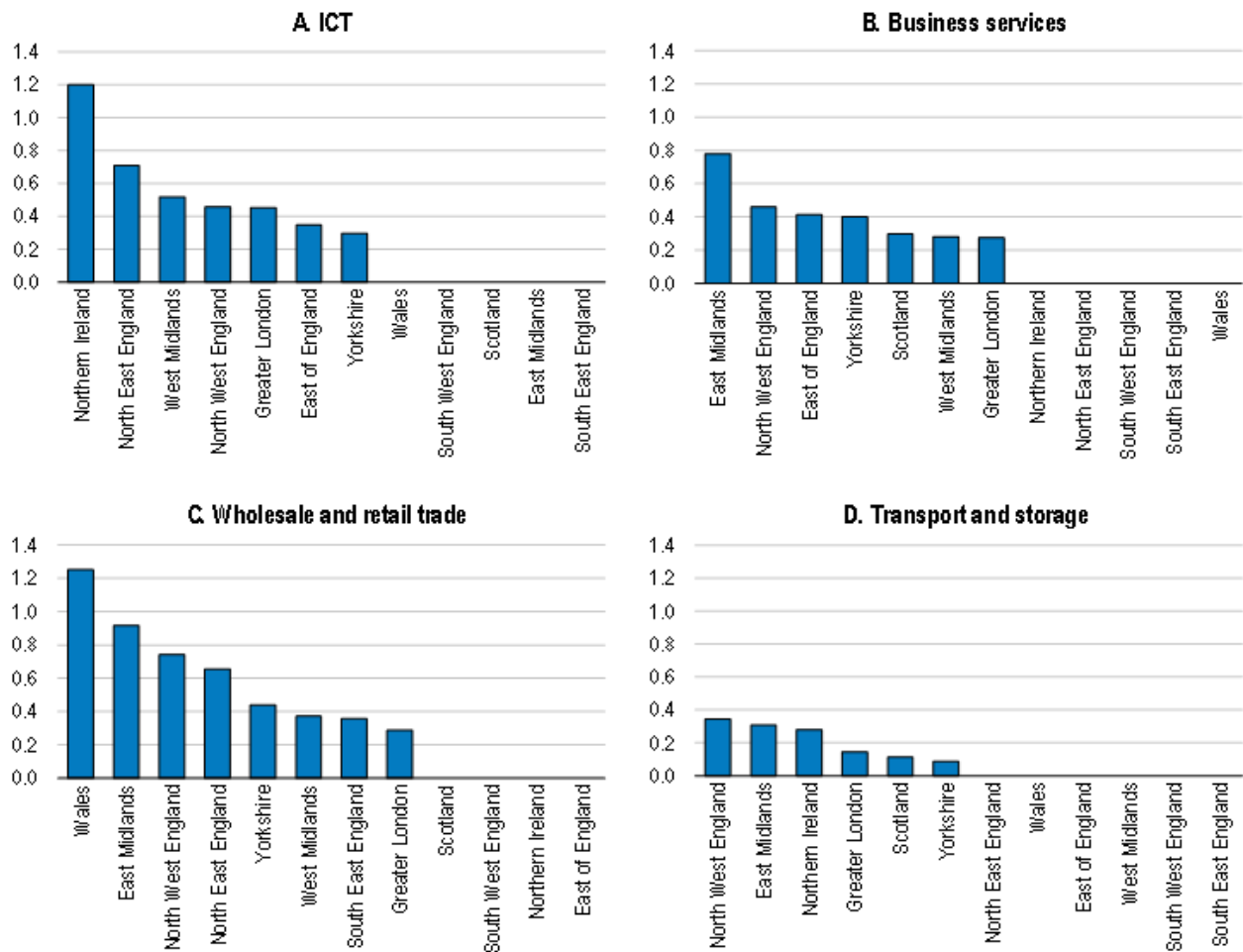
To narrow these gaps in productivity, the government is preparing a modern industrial strategy to boost labour productivity across the whole country (HM Government, 2017). The strategy has a broad sectoral focus, going beyond manufacturing industries, and aims to improve the local and regional business environment so that both successful businesses and potential new ones can thrive. Devising the optimal strategy raises the question of the optimal allocation of scarce resources in meeting these targets. Our recent study (Kierzenkowski et al. 2017) aims to contribute to the policy choices linked to the strategy and finds that the catch up of firms with the national best performers in services sectors can give large productivity benefits for most lagging regions, in particular knowledge intensive services such as ICT and business services, but also wholesale and retail trade.

Our study also identifies the sectoral strengths of each region and shows that while each region has productivity leaders, the concentration of such firms is the highest in the south of England, surrounding London, especially in ICT and business services. In turn, differences in the representation of the most productive firms in regions are strongly related to differences in regional productivity.

Given low levels of investments in the UK economy and the role new capital goods can play in adopting the latest technologies, our study quantifies the amount of regional and sectoral productivity increases that can be achieved by raising capital intensity. The greatest potential to increase productivity in most regions is by raising the capital intensity of services sectors, which are more responsive to capital intensity increases, in particular in many lagging regions (e.g. northern parts of England, Northern Ireland) (Figure 2).

**Figure 2. Sector-region labour productivity impacts in services sectors**

Impact of 1% increase in capital intensity on labour productivity, per cent<sup>1</sup>



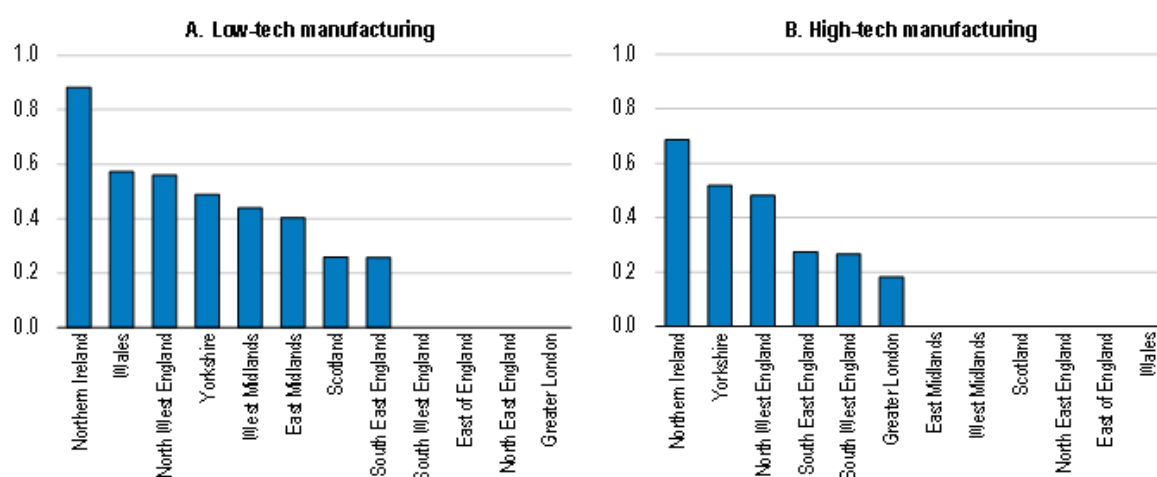
1. The values are obtained using equation (4). The impacts are measured in percentages (approximated by changes in logarithms) and are ranked from the largest to the smallest impact. Only those sectors are shown where the estimated impacts are correctly signed and significant, and which represent a significant share of total regional employment. Yorkshire refers to Yorkshire and The Humber.

Source: Calculations based on the Orbis firm-level data by Bureau van Dijk.

A strong focus on services would also be consistent with the position of UK sectors in global value chains (Criscuolo and Timmis, 2017). However, more granular analysis regarding the type of investment used to raise capital intensity suggests that R&D spending could be effective in raising the productivity of the manufacturing sector in some regions (Figure 3).

**Figure 3. Sector-region productivity impacts of higher R&D capital intensity in the manufacturing sector**

Impact of 1% increase in R&D on labour productivity, per cent1



1. The values are obtained using equation (4). The impacts are measured in percentages (approximated by changes in logarithms) and are ranked from the largest to the smallest impact. Only those sectors are shown where the estimated impacts are correctly signed and significant and which represent a significant share of total regional employment. Yorkshire refers to Yorkshire and The Humber. R&D: research and development.

Source: Calculations based on the Orbis firm-level data by Bureau van Dijk and ONS (2016), "Annual gross fixed capital formation by Industry and Asset", Dataset, Office for National Statistics, September.

Of course, there are several complementary factors to capital intensity that are likely to play a key role in boosting productivity of lagging regions but which can be harder to take into account in a systematic, quantitative manner. Key among them is the availability of skills and their matching to jobs, especially given that regional job-to-job mobility is likely to be held back by a low price elasticity of housing supply. In addition, the ecosystem of companies including the role of infrastructure as well as the density of consumers and suppliers are also likely to play a crucial role.

## Bibliography

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