

in brief...

# Boffins in the USA: the boost to UK productivity

**The US innovation boom since 1990** has had major benefits for the UK economy. According to new research by CEP's director **John Van Reenen** and colleagues, without the growth in US spending on research and development (R&D) in the 1990s, UK productivity would have been about 5% lower in 2000.

R&D is important for innovation and productivity, not just for pushing forward the technological frontier in itself but also making it possible for firms to learn about and absorb innovations from elsewhere, including the output of basic science. Foreign direct investment can play a significant role in this 'technology transfer', and so can 'outsourcing' R&D to overseas locations.

This research indicates that the 'special relationship' between the UK and the United States exists not only in politics but also in economics. UK firms that have placed a large number of their researchers in the United States have been able to tap into the new ideas of US scientists. Bringing these ideas from places like Silicon Valley back to the UK helps boost our productivity.

The study analyses the accounts of large R&D performing firms (188 in the UK and 570 in the United States) between 1990 and 2000 to test the 'technology sourcing' hypothesis. This is the idea that foreign research labs located on US soil tap into US R&D 'spillovers' and improve home country productivity. The results show that UK firms that had

**The productivity benefits of US-based R&D suggests that policy-makers should not subsidise firms into relocating their labs back to Europe**

established a high proportion of US-based inventors by 1990 benefited disproportionately from the growth of the US R&D stock over the next ten years. What's more, the benefits of such technology sourcing were larger in industries where the productivity gap with the United States was greater.

The report also looks at US firms investing in R&D labs in the UK. Unfortunately for the Americans, the benefits of UK research have not been so large. Just as with particular industries, it turns out that technology sourcing is more important for countries that have 'most to learn'. So when it comes to the special relationship, the UK benefits much more from US R&D than vice versa.

A key question for both research and policy is what is the ideal place for UK and European companies to locate their R&D – near universities, near their production facilities, at home, overseas? Many European policy-makers fearing 'delocalisation' are trying to get firms to relocate their R&D labs back to Europe in order to reach the 'Lisbon agenda' target of getting R&D up to 3% of GDP. But the evidence on the productivity benefits of US-based R&D suggests that they could be shooting themselves in the foot.



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This article summarises 'How Special is the Special Relationship? Using the Impact of US R&D Spillovers on UK Firms as a Test of Technology Sourcing' by Rachel Griffith, Rupert Harrison and John Van Reenen, CEP Discussion Paper No. 659 (<http://cep.lse.ac.uk/pubs/download/dp0659.pdf>). **Rachel Griffith** and **Rupert Harrison** are at the Institute for Fiscal Studies and University College London. **John Van Reenen** is director of CEP.