

VARIATION IN THE EFFECT OF R&D INVESTMENT ON FIRM PRODUCTIVITY: UK EVIDENCE

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Abstract

The effect of R&D investment on productivity has been investigated since the 1970s. R&D leads to innovations, which enables businesses to introduce new products and processes with significant scope for productivity gains and growth. However, the sources of heterogeneity in empirical findings have not been modelled in a coherent manner. In this paper, we investigate the extent of variation in the effects of R&D capital on firm productivity, using different R&D types and controlling for market concentration and technology classes. The evidence from 10,316 UK firms between 1998-2012 indicates that the effect of R&D capital on firm productivity is higher when: (i) firms are more R&D-intensive or located in more concentrated industries; (ii) firms are specialised suppliers of technology or located in the science-based technology class; and (iii) R&D investments consist of applied R&D, experimental R&D, intramural R&D and privately-funded R&D compared to basic R&D, extramural R&D or publicly-funded R&D.

Keywords: R&D, knowledge capital, productivity, meta-analysis

JEL Classification: D24, O30, O32, C49, C80

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