

Public support for business R&D

Research and development (R&D) has a well-documented positive impact on growth and productivity; private and spillover R&D benefits to the UK economy are estimated at £9.8 billion annually. Governments increasingly recognise the benefits of supporting private R&D investment, but with constrained public spending the available funds have to be targeted effectively.

Research and development is a high-risk activity for firms - it entails significant investment, uncertain outcomes and knowledge spillover to other firms and organisations. Since firms will not be able to capture all the benefits of their own investment, they will perform less R&D than what would be socially optimal - justifying government incentives for private R&D.

Government subsidies can target specific projects with potential for high social returns, while tax credits is a more indirect approach - reducing the cost of R&D spending while leaving investment decisions to the companies. In the UK, initiatives such as the Research and Development Expenditure Credit Scheme and R&D tax credits for small companies aim to encourage investment.

A research paper from the Enterprise Research Centre outlines current research knowledge on the impact of R&D policy initiatives. The review by Dr Bettina Becker is the first systematic overview of research on the policies and their effectiveness in increasing private investment.

Key findings

- R&D tax credits have a positive effect on private R&D investment.
- Public subsidies can also succeed in stimulating private R&D.
- The positive effect of subsidies is particularly prevalent for small firms, which are more likely to experience financial constraints. However, most of the funding is often awarded to larger firms that would have invested in R&D regardless of public subsidy.
- There is a knowledge spillover between university research and private R&D in close proximity - especially in high-tech sectors.
- Geographic proximity can help to overcome institutional differences between R&D collaborators in the private and public sectors.
- Award of an R&D subsidy or partnership between firms can enable a firm to attract additional private funding, as it reflects positively on the firm's quality and the expected success of a project.

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Policy relevance and implications

- Both tax credits and subsidies are more effective if performed in a co-ordinated way. Tax credits appear to be the more effective short-term policy option, while direct subsidies are the more effective medium- to long-term policy.
- Subsidy levels that are too high can 'crowd out' private R&D, while lower and in particular intermediate levels stimulate private R&D. Intermediate levels of support to a larger number of firms may be more effective than a larger amount of support to fewer firms.
- A tax credit rather than a subsidy could be a more effective policy towards firms that are likely to simply replace internal funding with public funding.
- Encouraging R&D co-operation between firms and public research institutions can increase private R&D spending.
- Due to the positive effects of knowledge spillover between university research and private R&D, government support of university research is likely to enhance regional technological opportunities and increase private R&D spending. Support should particularly target those sectors where spillovers are found to be largest, such as high-tech industry.
- The positive 'proximity effect' on co-operation and institutional understanding reinforces the argument for supporting regional R&D clusters.

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BRIEF DESCRIPTION OF THE PROJECT

The findings are based on the Enterprise Research Centre paper *Public R&D policies and private R&D investment: a survey of the empirical evidence* by Dr Bettina Becker. The paper provides a systematic review and critical discussion of research literature on the effectiveness of major public policies in increasing private R&D investment.

Web: www.enterpriseresearch.ac.uk/our-work/publications/?type=research-paper

FOR MORE INFORMATION

Dr Bettina Becker, Aston Business School
Email: b.becker@aston.ac.uk

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ESRC communications team: comms@esrc.ac.uk

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