

What role do R&D tax reliefs play in encouraging UK R&D?

The UK Government's Industrial Strategy has committed to increase investment in research and development (R&D) in the UK to 2.4% of GDP by 2027, with a longer-term goal of 3%¹. Delivering this will need significant increases in investment from both public and private sources.

Government has committed to increase public investment with an additional £7bn over a five year period². This direct investment alongside various other measures such as the R&D Tax credits scheme can be used to encourage and stimulate further investment by businesses.

This document outlines how current tax relief for R&D is offered under R&D tax credits.

What are R&D tax reliefs?

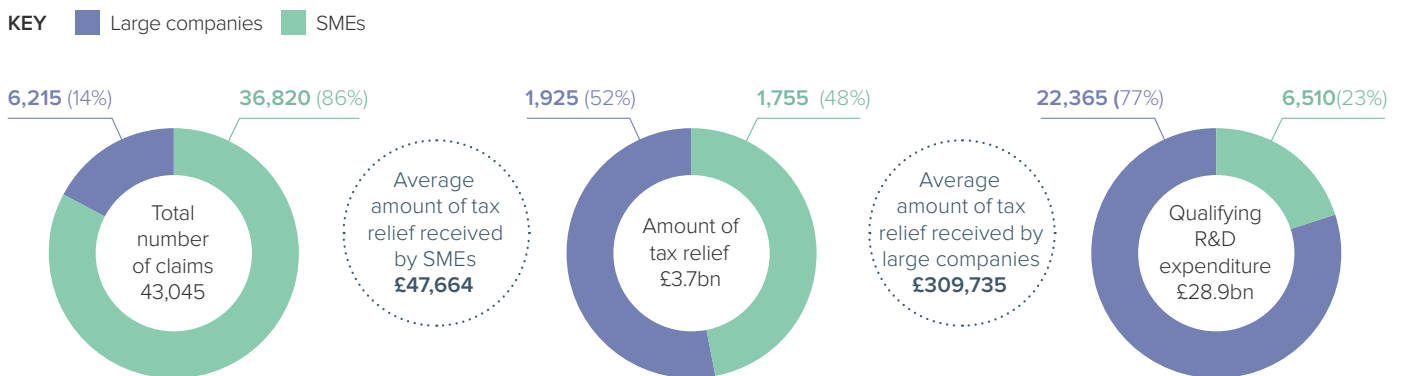
R&D tax reliefs are designed to encourage greater R&D spending, leading in turn to greater investment in innovation. They work by either reducing a company's liability to corporation tax or by making a payment to the company³. The rate of relief depends on whether a company is an SME or a large company.

R&D has a specific definition for tax purposes. To qualify, projects must advance knowledge or capability in science and technology, and try to resolve uncertainties that a competent professional could not easily solve. It can include the creation of new processes, products or services that make improvements to existing ones, or duplicate them in a new way⁴.

What costs qualify? Companies can claim tax relief for expenses on staff, energy, software, and clinical trial volunteers, among others. Costs with production, use and creation of patents, or expenditure with land or machinery do not qualify⁵.

In 2015-16 businesses received £3.7bn in R&D tax relief based on £28.9bn qualifying R&D expenditure.

FIGURE 1 Breakdown of claims under R&D tax relief schemes 2015-16



HM revenue and Customs (2018) Research and Development Tax Credits Statistics (2015-16 Provisional revised figures)

1 HM Government (2017). Industrial Strategy: Building a Britain fit for the future.
 2 HM Treasury (2017). Autumn Budget 2017.
 3 HM Revenue & Customs (2018). Research and Development (R&D) tax reliefs. See www.gov.uk/guidance/corporation-tax-research-and-development-rd-relief.
 4 There are two schemes for claiming R&D tax credits: The Research & Development Expenditure Credits (RDEC) and the more generous Small or Medium-sized Enterprise (SME) scheme. A company qualifies for the SME scheme if it has less than 500 employees with either an annual turnover under £100 million or a balance sheet under £86 million.
 5 Capital expenditure can be claimed separately, under the R&D Capital Allowances scheme.

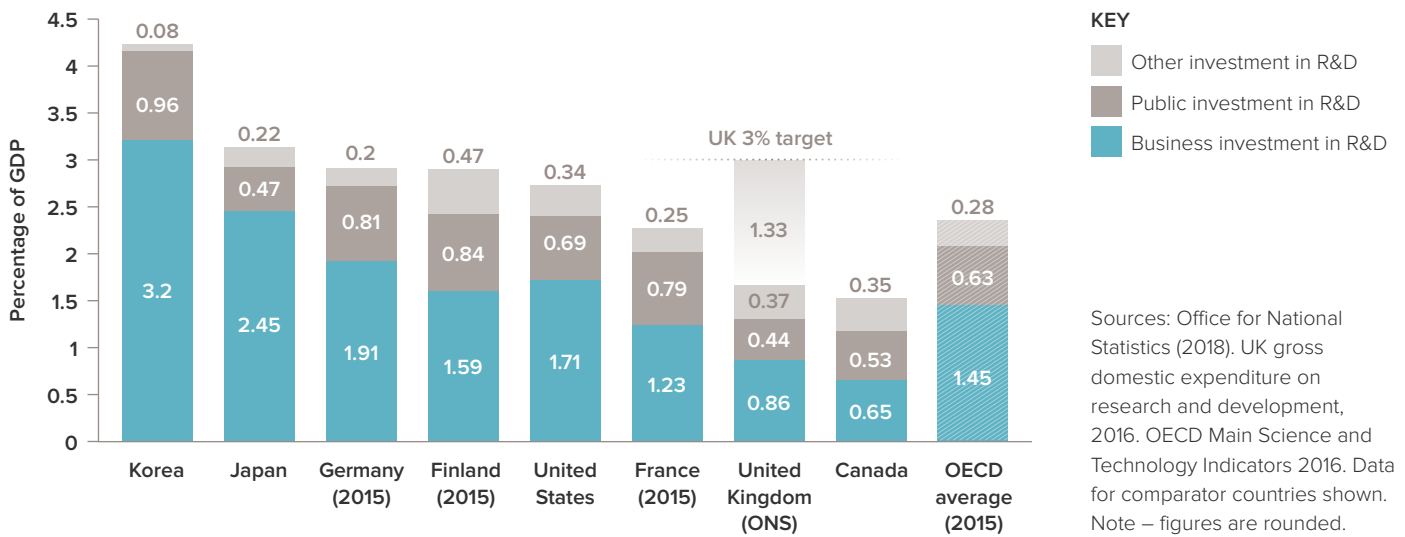
Tax relief is one of many elements intended to create a thriving environment that encourages business investment in R&D

The UK lags behind its global competitors when it comes to business investment in R&D (see figure 2). Fiscal incentives such as R&D tax reliefs are one of the many levers Government has to help encourage businesses to invest in R&D, but there are various other ways to do this. Together, these must help create a vibrant environment for businesses to invest more and locate their R&D in the UK.

HMRC estimates that for every £1 spent on R&D tax reliefs, between £1.53 and £2.35 is additionally spent on R&D by UK companies.⁶

- Mechanisms to encourage business investment in R&D include:
- Innovate UK Schemes
 - Small Business Research Initiative
 - Industrial Strategy Challenge Fund
 - Initiatives from devolved administrations
 - EU Framework Programmes and European Regional Development Funds
 - Patent Box
 - Enterprise Investment Scheme
 - Seed Enterprise Investment Scheme
 - Venture Capital Trust
 - British Business Bank

FIGURE 2 How does UK investment in R&D by businesses compare internationally?



6 HM Revenue & Customs (2015). Evaluation of Research and Development Tax Credit.

Tax relief for R&D is increasing

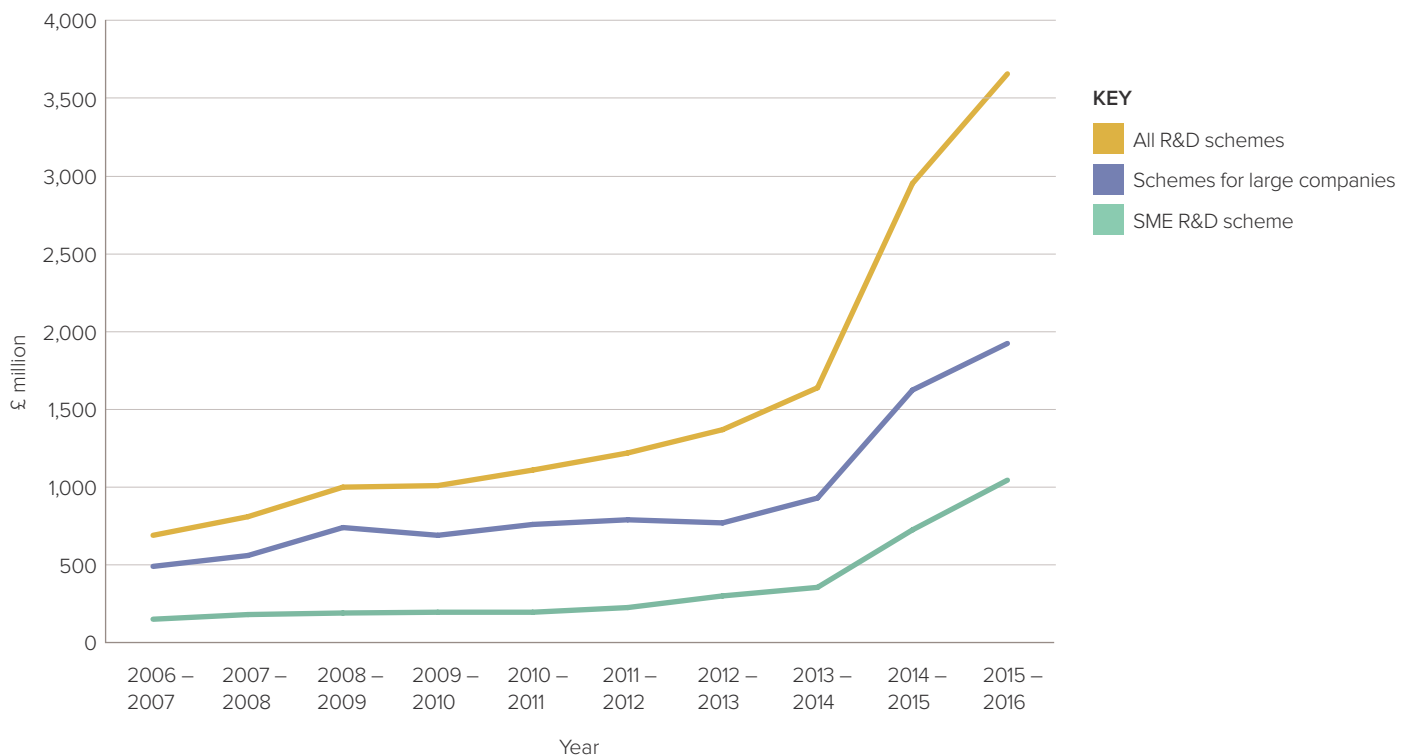
Since its creation in 2000, a number of changes have been introduced to R&D tax reliefs in an attempt to encourage businesses to invest more in R&D.

Over the years, the rate of relief has gradually increased to make the scheme more generous and the minimum £10,000 R&D expenditure cap and link to staff payroll was removed. This led to a significant increase in claims by SMEs. As the benefit received through the SME scheme depends on the rate of Corporation Tax, recent changes to Corporation Tax have also affected the amount companies receive.

The amount of tax relief given via R&D tax reliefs has increased more than five-fold in the past ten years, from £640m in 2005-06 to £3.7bn in 2015-16.

Since the financial crisis of 2008, tax incentives for R&D have become more generous in many countries to improve competitiveness and stimulate long-term economic growth.⁷

FIGURE 3 Cost of support of R&D tax credits schemes



HM revenue and Customs (2018) Research and Development Tax Credits Statistics. Note 2015-16 are provisional revised figures, and 2014-15 are revised figures.

⁷ Oxford University Centre for Business Taxation (2015). Effectiveness of fiscal incentives for R&D: quasi-experimental evidence.

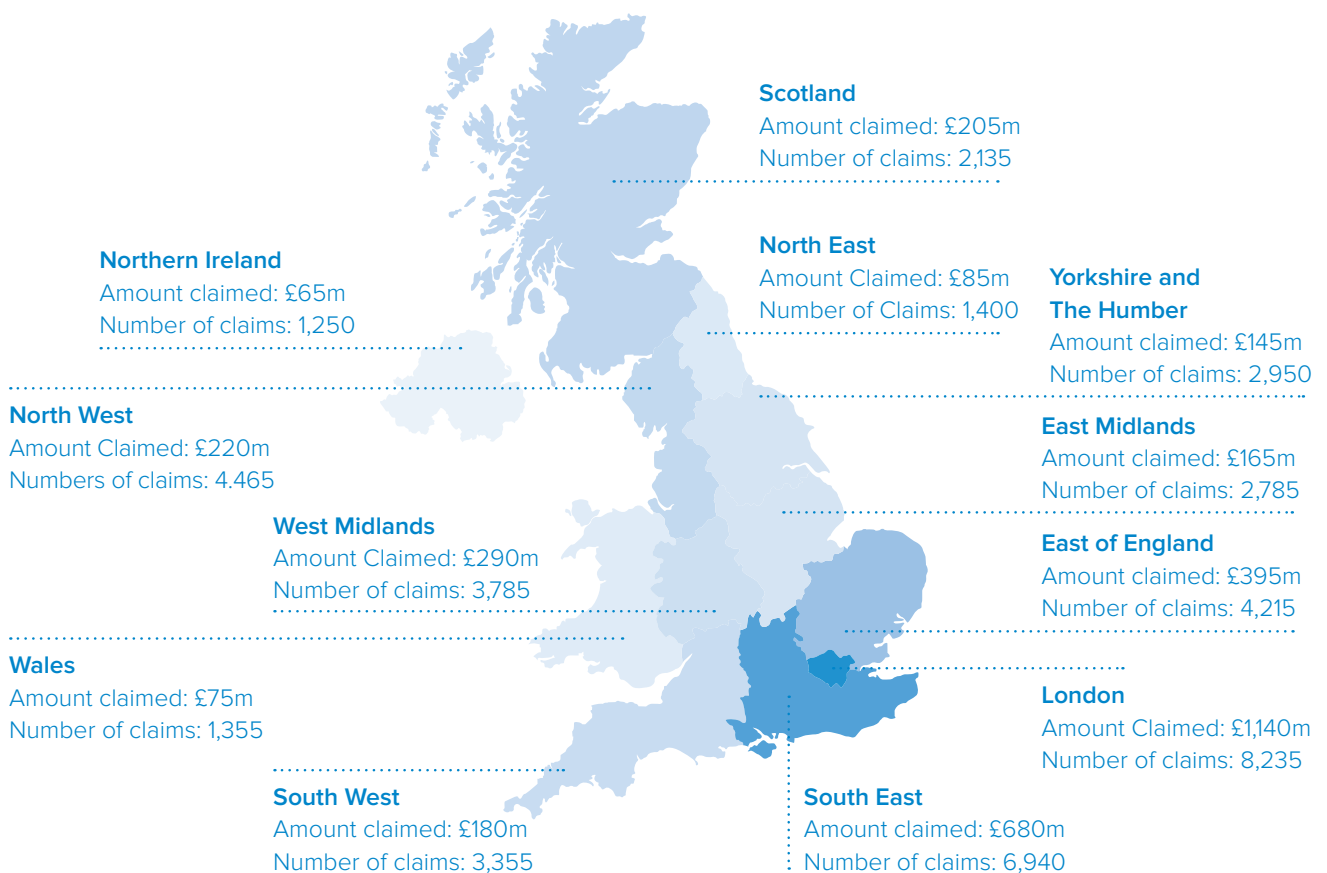
How does use of R&D tax reliefs vary across the UK?

The intensity of R&D activity varies depending on geographical location and industry, and claims under R&D tax relief schemes may reflect these differences.

A regional breakdown of total tax relief claims can be misleading because relief claims are recorded based on the location of a company's head office rather than where the R&D is performed.

This may particularly affect figures for large companies, but claims under the SME R&D scheme can better reflect current levels of uptake in an area.

FIGURE 4 Which areas of the UK claim under the SME R&D scheme?



HM revenue and Customs (2018) Research and Development Tax Credits Statistics (2015-16 Provisional revised figures)
 Note, figures are rounded to the nearest £5m. Figures exclude claims where region is not known.

A review by the European Commission suggests that the impact of R&D tax incentives in terms of stimulating business R&D is stronger for young companies and SMEs⁸.

⁸ European Commission (2017). R&D tax incentives: How to make them most effective?

What do R&D tax incentive regimes look like in other countries?

Tax support for R&D in other countries can vary significantly, with some of our key competitors offering generous relief whilst others have very limited tax incentives.

The optimal balance of R&D support varies from country to country, as each tool addresses different market failures and stimulates different types of R&D.⁹

The European Commission is seeking to reform tax incentives for R&D across the EU in order to spur investment.¹⁰

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In France, the rate of tax relief for R&D differs across geographical regions.
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In South Korea, a higher rate of relief can be given for specific industries or areas of technology to encourage further investment.
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Japan has changed its definition of R&D for tax purposes in 2017 so that it includes activity in the service sector.¹¹
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In Japan, equipment and machinery costs can be claimed under the main tax relief scheme.
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Basic research does not qualify for tax relief in Iceland or Norway.
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Germany currently has no tax policy to support private R&D investment but the coalition government has proposed new measures targeting SMEs.
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South Korean companies get a higher rate of tax relief if they spend more compared to the previous year.
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Countries such as the Netherlands and the United States permit young firms and start-ups to claim more generous R&D tax relief than older firms.
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9 OECD (2017). OECD review of national R&D tax incentives and estimates of R&D tax subsidy rates, 2017

10 European Commission (2017). Towards a European R&D Incentive? An assessment of R&D Provisions under a Common Corporate Tax Base. JRC Technical Reports.

11 PwC. Japan: Corporate - Tax credits and incentives. See <http://taxsummaries.pwc.com/ID/Japan-Corporate-Tax-credits-and-incentives> (accessed 17 August 2018).

Factors to consider

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The definition of R&D for tax relief purposes is struggling to keep pace with developments in technology-driven areas of the economy such as artificial intelligence, digital, cyber and Fintech¹².

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Support for R&D via the R&D tax relief schemes does not directly count towards the Government's 2.4% target. However, it helps stimulate and leverage companies to increase their investment.

In general, tax incentives are considered to be more suited to encourage R&D to develop applications within a short time frame. Direct grant support, on the other hand, is generally more suitable for longer-term, high-risk R&D that generate wider public goods.¹³

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Charities and universities are currently not able to claim tax relief under the R&D tax relief scheme.

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It is difficult to compare R&D expenditure with the amount of tax relief claimed because the reporting periods for each are different. It would be helpful to publish figures that would allow such comparisons to be drawn.

¹² Council for Science and Technology. 2017 Harnessing science and technology for economic benefit across the UK,

Letter to the Prime Minister July 2017. The definition for R&D is based on the internationally recognised Frascati Manual definition.

¹³ OECD 2010. Measuring innovation: a new perspective