R&D Tax Incentives: United Kingdom, 2021

Design of R&D tax relief provisions

The United Kingdom provides R&D tax relief through a volume-based R&D tax allowance which, in the case of large companies, was replaced by a volume-based tax credit (RDEC) in 2016.

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<th>Table 1. Main design features of R&amp;D tax incentives in United Kingdom, 2021</th>
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<tbody>
<tr>
<td><strong>Corporate Tax Credit for Research &amp; Development</strong></td>
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<tr>
<td>Tax incentive*</td>
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<tr>
<td>Type of instrument</td>
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<tr>
<td>Eligible expenditures†</td>
</tr>
<tr>
<td>Headline rates (%)</td>
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<tr>
<td>Refund</td>
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<td>Carry-over (years)</td>
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<th>Ceilings</th>
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<td>R&amp;D tax relief</td>
<td>EUR 7.5 million per project (SMEs)</td>
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<td>Subcontracted R&amp;D</td>
<td>- If connected subcontractor, lower of:</td>
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<td>- payment made to subcontractor;</td>
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<td>- relevant expenditure of subcontractor</td>
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<td></td>
<td>- If unconnected subcontractor, 65% of total subcontracted R&amp;D costs</td>
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<tr>
<td>Refund-specific</td>
<td>14.5% of surrenderable loss capped at GBP 20 000 in repayments per year plus three times the company's total PAYE* and NIC** liability (certain exemptions apply)</td>
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* Payroll for employer, ** National Insurance contributions. The United Kingdom also offers an accelerated depreciation (research and development allowance - RDA scheme) of machinery and equipment, buildings and intangibles used in the process of R&D (immediate write-off). In addition, the UK provide an income-based tax incentive for outcomes of R&D activities. This incentive is beyond the scope of this note.

Key features:

- Under the R&D tax allowance, eligible subcontracted expenditures are limited to 65% of total costs (uncapped). A refund is available to SMEs for up to 14.5% of the period’s surrenderable loss (capped).
- There is no upper limit to the amount of refundable credits in the case of the RDEC scheme.

Generosity of R&D tax support in 2021

Differences in the design of R&D tax incentives drive a significant variation in the expected generosity of tax relief per additional unit of R&D investment. In 2021, the marginal tax subsidy rate for profit-making (loss-making) SMEs in the United Kingdom is estimated at 0.27 (0.27), well above the OECD median of 0.20 (0.18). The tax subsidy rate for large enterprises is equal to 0.12 (0.12) in the profit (loss)-making scenario, below the OECD median of 0.17 (0.15).

Figure 1. Implied tax subsidy rates on R&D expenditures: United Kingdom, 2021

1-B-Index, by firm size and profit scenario

Note: Implied marginal tax subsidy rates, presented for different firm size and profitability scenarios, are calculated based on headline tax credit/allowance rates (see methodology and country-specific notes), providing an upper bound value of the generosity of R&D tax support, not reflecting the effect of thresholds and ceilings that may limit the amount of qualifying R&D expenditure or value of tax relief.

Recent developments in R&D tax relief provisions

Regular reforms of R&D tax incentives lead to continuous changes in the availability, scope and generosity of R&D tax incentives. Such reforms relate to the launch of new tax incentives, the R&D definition adopted for tax purposes, changes in tax credit and allowance rates, adjustments of thresholds or upper ceilings on qualifying R&D expenditure or tax relief amounts, or changes in the terms and availability of refunds.

In 2021, the United Kingdom undertook one change in its R&D tax relief provision. A cash credit cap for the SME tax allowance regime was introduced with effect from 1 April 2021. This introduction had been delayed by one year, i.e. from 1 April 2020 to 1 April 2021. From 1 April 2021, the amount of payable R&D tax credit which a SME can claim is limited to GBP 20 000 plus three times the company’s total PAYE and NIC liability for the period.

Trends in the generosity of R&D tax support

In the United Kingdom, implied marginal R&D tax subsidy rates for (profitable and loss-making) SMEs have increased since the introduction of an SME-specific tax allowance in 2000. This increase is directly linked to the step-wise enhancement of SME tax allowance rates, from initially 50% to 75% in 2008, 100% in 2011, 125% in 2012 and 130% in 2015.

In the case of large firms, R&D tax subsidy rates increased in four occasions: 2002, when the tax allowance was extended to large firms, 2008, when the tax allowance rate for large companies was raised from 25 to 30%, 2018, when the rate of the R&D tax credit for large companies (RDEC) was raised from 11% to 12% and finally, 2020, when the RDEC rate was further increased to 13%.

In addition, changes in corporate income tax (CIT) rates led to smaller fluctuation in the R&D tax subsidy rates estimated for SMEs and large firms throughout this period, i.e. in the years 2008, 2011-15 and 2017.

Following the introduction of the refundable R&D tax credit in 2013, tax subsidy rates for profitable and loss-making large firms coincide as do those for profitable and loss-making large SMEs. In 2020, tax subsidy rates for large firms increased when the rate of the refundable R&D tax credit was raised from 12% to 13%. In 2021, the tax subsidy rates estimated for SMEs and large firms stayed at their 2020 level in the profit (loss) case.

Figure 2. Implied tax subsidy rates on R&D expenditures: United Kingdom, 2000-21

1-B-Index, by firm size and profit scenario

Note: Implied marginal tax subsidy rates, presented for different firm size and profitability scenarios, are calculated based on headline tax credit/allowance rates (see methodology and country-specific notes), providing an upper bound value of the generosity of R&D tax support, not reflecting the effect of thresholds and ceilings that may limit the amount of qualifying R&D expenditure or value of tax relief.

Policy support for business R&D: the policy mix

In 2019, the United Kingdom is placed among the OECD countries that provide the largest level of government support to business R&D as a percentage of GDP, at a rate equivalent to 0.42% of GDP.

**Figure 3. Direct government funding of business R&D and tax incentives for R&D, 2019 (nearest year)**

As a percentage of GDP

![Graph showing direct government funding, tax incentive support, subnational tax incentive support, and total 2006 (excl. subnational tax support) as a percentage of GDP.]

**Note:** Data on subnational tax support are only available for a group of countries. *For the United Kingdom, the reference year is 2014 instead of 2006 due to a break in-series in government tax relief for R&D, linked to the inclusion of additional claims in the production of HMRC tax relief statistics (HMRC, 2021).*


**Key points:**
- From 2014* to 2019, total government support for BERD as a percentage of GDP increased in the **United Kingdom** by 0.16 percentage point (pp), while the OECD average (2006-19) increased by 0.05 pp.
- From 2014 to 2019, business R&D intensity in the **United Kingdom** increased from 1.07% to 1.17%.
- In 2019, tax incentives accounted for 80% of government support for BERD in the **United Kingdom**.

**Distribution of R&D tax relief recipients and government tax relief for R&D**

The distribution of R&D tax relief recipients and government tax relief for R&D expenditures (GTARD) provide insights into what types of firms claim and benefit from tax relief.

**Figure 4. Number of R&D tax relief recipients and value of government tax relief for R&D, 2019**

By firm size*, share in percent

![Graph showing percentage of recipients and tax relief by firm size (SME vs. Large).]

**By industry**, share in percent

![Graph showing percentage of recipients and tax relief by industry category (Manufacturing, Services, Other Sectors).]

**Note:** Figures refer to the Corporate R&D Tax Credit and RDEC Schemes. Recipient figures are based on claims. *SMEs meet the conditions specified in the EU SME definition except that can have up to 500 employees, turnover up to EUR 100m and have a balance sheet total of up to EUR 86m. **Economic activity is classified based on SIC 2007 as follows: manufacturing (code C), services (codes G-S), other sectors (codes A,B,D,E,F), not attributable (calculating as remaining difference to total GTARD).*


**Key points:**
- In **United Kingdom**, SMEs accounted for 95% of R&D tax relief recipients in 2019, while the share of tax support accounted for by SMEs amounted to around 64%. In the same year, 36% of R&D tax benefits were allocated to large firms, comprising 5% of the population of R&D tax relief recipients.
- In 2019, firms in services represented 68% of R&D tax relief recipients in **United Kingdom**, followed by firms in manufacturing with a share of 22%. The share of tax benefits accounted for by the latter amounted to around 25% in that year, while this share reached 65% in the case of firms in services.

For more information, please visit: [http://oe.cd/rdtax](http://oe.cd/rdtax)
Trends in the uptake of R&D tax incentives

Over the period 2000-2019, the number of R&D tax relief recipients increased significantly in United Kingdom, reaching 85,900 in 2019. The sharp increase from 2013 onwards, primarily attributable to SME claims, can be linked to a number of factors which include an increase in SME allowance rates (2012-13, 2015-16) and the payable credit rate (2014-15), the introduction of a new payable tax credit for large companies in 2013 as well as the inclusion of additional claims from 2014 onwards. Between 2014 and 2019, the number of SMEs receiving R&D tax support increased more than two-fold from 31,765 to 81,520, while the number of large firms receiving tax support rose by 15%, from 3,795 in 2014 to 4,370 in 2019. Over the 2000-19 period, SMEs accounted for 90% of R&D tax relief recipients in United Kingdom.

Figure 5. Number of R&D tax relief recipients, United Kingdom, 2000-2019

Note: Figures refer to the Corporate R&D Tax Credit and RDEC Schemes and correspond to claims rather than recipients. Break in-series in 2014 (see notes for Fig 3). The figures for 2018 and 2019 are provisional.


Trends in government support for business R&D

Between 2000 and 2019, the importance of R&D tax support has increased significantly in United Kingdom, both in absolute and relative terms. The upward trend from 2013 onwards, mirroring the trend in the number of R&D tax relief recipients, can be attributed to the same set of factors discussed earlier (see Figure 5).

Figure 6. Direct funding of business R&D and tax incentives for R&D, United Kingdom, 2000-19

As a percentage of GDP, 2015 prices (right-hand scale)


- As percentage of GDP, R&D tax support increased from 0.05% of GDP in 2006 to 0.34% in 2019.
- Direct funding also increased over this period – from 0.07% in 2006 to 0.08% of GDP in 2019.
- The share of tax incentives in total government support increased from 39% in 2006 to 80% in 2019.


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