

R&D Tax Incentives: Denmark, 2021

Design of R&D tax relief provisions

Denmark offers companies in a tax loss position the possibility to earn a refund for deficit-related R&D expenditures. Since 2018, companies can also claim an enhanced R&D tax allowance at a rate of 1.5%.

Table 1. Main design features of R&D tax incentives in Denmark, 2021

| | | R&D tax credit for deficit related R&D expenses | Enhanced R&D tax allowance | Accelerated Depreciation |
|-------------------------------|----------------------------|---|----------------------------------|---|
| Tax incentive* | | Tax credit | Tax allowance | Accelerated Depreciation of R&D capital |
| Type of instrument | | Volume-based | Volume-based | |
| Eligible expenditures† | | Current, depreciation | Current, depreciation | Machinery and equipment |
| Headline rates (%) | | 22 (corporate income tax rate) | 30 (income years 2020 and 2021)* | 100 |
| Refund | | Yes (deficit related R&D expenses) | n.a. | |
| Carry-over (years) | | n.a. | Indefinite | |
| Ceilings | R&D expenditure | DKK** 25 million per year (equivalent to tax benefits of DKK5.5 million at CIT rate of 22%) | | DKK 850 million |

*This rate is raised to 5% in 2021-22, 8% in 2023-25, and 10% in income year 2026. ** 1 DKK= 0.134 EUR (Q3 2021)

Note: For more details, see [OECD R&D Tax Incentive Compendium](#) and [Eligibility of current and capital expenditure for R&D tax relief](#)
 Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, December 2021.

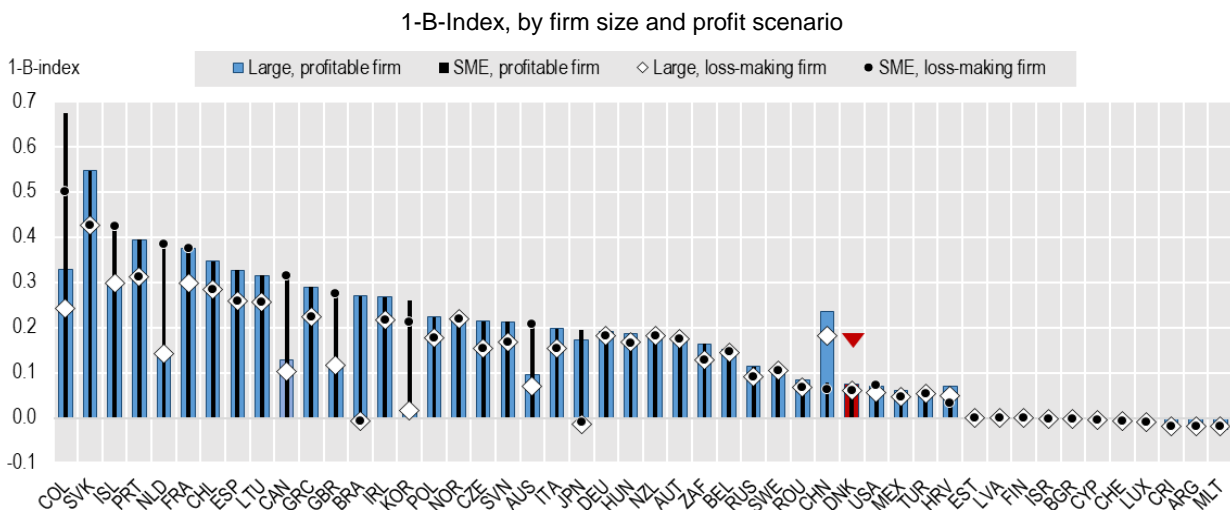
Key features:

- Companies receive tax credits corresponding to 22% of any deficit related to R&D expenses. The maximum level of tax relief is DKK 5.5 million per year (22% of DKK 25 million).
- In response to the COVID-19 outbreak, the enhanced R&D tax allowance is available at a rate of 30% in the income years 2020 (previously 3%) and 2021 (previously 5%) subject to cap of DKK 850 million on qualifying R&D expenditures. Under the tax deduction scheme, firms can carry over used claims over an indefinite period in the case of insufficient tax liability.

Generosity of R&D tax support in 2021

Differences in the design of R&D tax incentives introduce significant variation in the expected generosity of tax relief per additional unit of R&D investment. In 2021, the R&D tax subsidy rate for SMEs and large firms in Denmark is estimated at 0.07 (0.06) in the profit (loss)-making scenario. These subsidy rates are well below the OECD median of 0.20 (0.18) and 0.17 (0.15) estimated for profitable (loss-making) SMEs and large firms respectively. These estimates model the provisions for the R&D tax credit for deficit-related R&D expenditures, the enhanced R&D tax allowance and accelerated depreciation of R&D capital.

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



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.

Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, December 2021.

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.

Denmark undertook the **most recent changes** in its R&D tax relief provisions in **2020**:

- The enhanced tax allowance rate was raised to 30% for the income years 2020 and 2021.
- In conjunction with the increase in the enhanced tax allowance rate, a ceiling on eligible R&D expenses of DKK 850 million was introduced for the income years 2020 and 2021.
- The payment of the 2019 tax credit for deficit related R&D expenses was advanced/anticipated to June 2020 (initially November 2020).

All these policy changes were taken **in response to the COVID-19 crisis**.

Trends in the generosity of R&D tax support

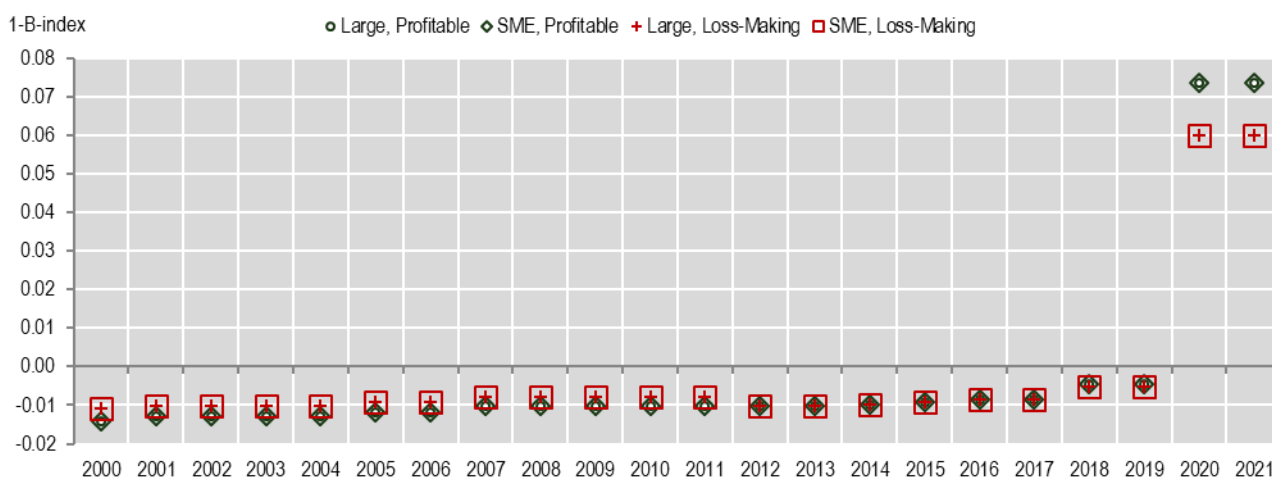
Until 2021, the generosity of R&D tax incentives has remained fairly stable in Denmark for each of the four scenarios considered. Denmark offered an accelerated depreciation for machinery and equipment related R&D expenditure until 2017. Without full expensing of R&D capital expenditure or any other enhanced tax relief provisions in place, this implies a negative marginal tax subsidy rate in both profit scenarios. In the case of loss-making firms, this subsidy rate is slightly higher in net present value terms due to the ability to carry over losses. Changes in corporate income tax rates result in smaller variations in tax subsidy rates.

With the introduction of a tax credit for R&D-related losses in 2012, a reinstatement of baseline tax deduction is offered in the loss-making case. With this tax credit in place, the deviation in tax subsidy rates between profitable and loss-making firms disappears. The introduction of an enhanced R&D tax allowance of 1.5% in 2018 results in a very small increase in tax subsidy rates. The small difference in the rates between profitable and loss-making firms is attributable to the carry-over provision.

As the rate of the enhanced R&D allowance is temporarily raised in 2020 (for income-years 2020 and 2021) in response to the COVID-19 outbreak, the estimated R&D tax subsidy rate increases significantly in 2020 from 0.0 (-0.01) to 0.07 (0.06) in the profit (loss) case. With no further change in the design of the Denmark's R&D tax incentives, these estimates remain unchanged in 2021 across the four scenarios considered.

Figure 2. Implied tax subsidy rates on R&D expenditures: Denmark, 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.

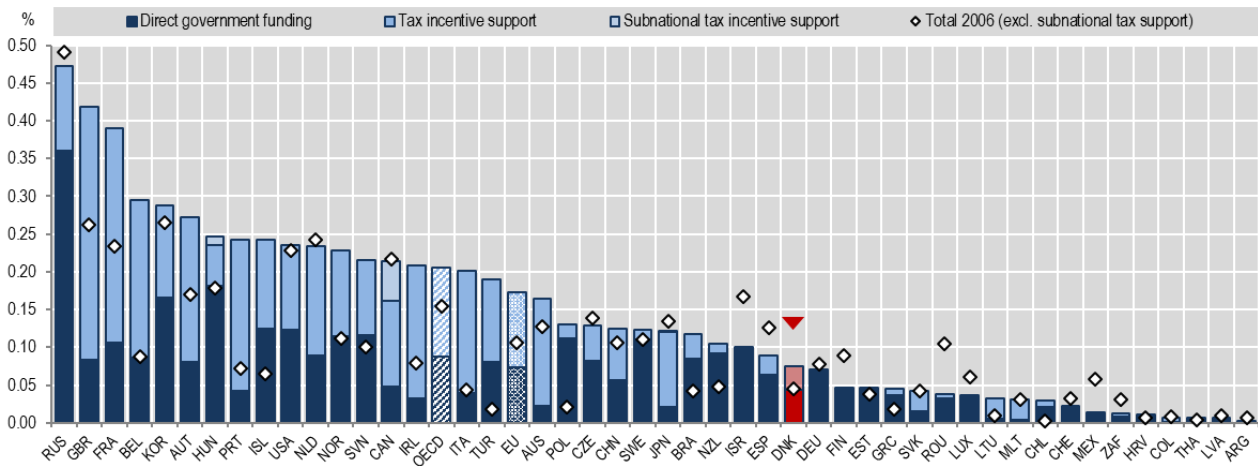
Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, December 2021.

Policy support for business R&D: the policy mix

In 2019, **Denmark** is placed below the OECD average in terms of total government support to business R&D as a percentage of GDP, at a rate equivalent to 0.08% 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



Note: Data on subnational tax support are only available for a group of countries.

Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, December 2021.

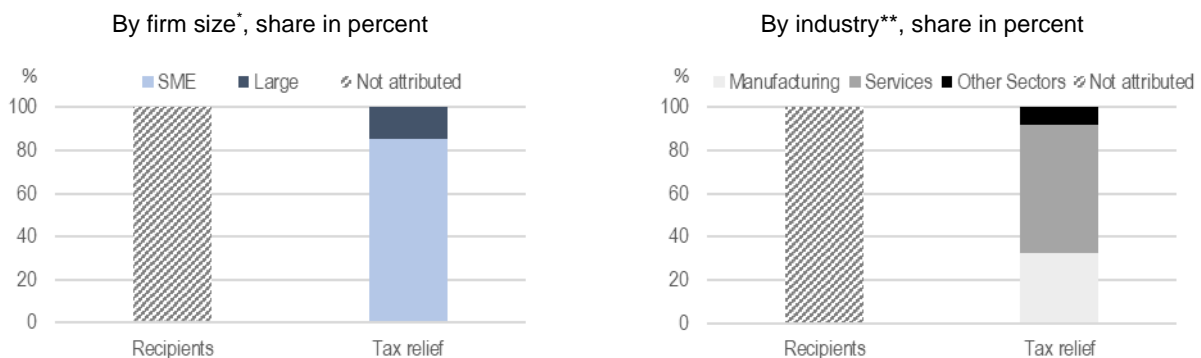
Key points:

- From 2007 to 2019, total government support for R&D as a percentage of GDP increased in **Denmark** by 0.03 percentage point (pp), while the OECD average increased by 0.05 pp.
- During this period, business R&D intensity in **Denmark** increased from 1.76% to 1.82%.
- In 2019, tax incentives accounted for 42% of total government support for BERD in **Denmark**.

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



Note: Figures refer to the accelerated depreciation for R&D capital assets, the enhanced R&D tax allowance and R&D tax credit (deficit-related). *SMEs are defined as firms with 1-249 employees. **No details on the industry classification available.

Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, December 2021.

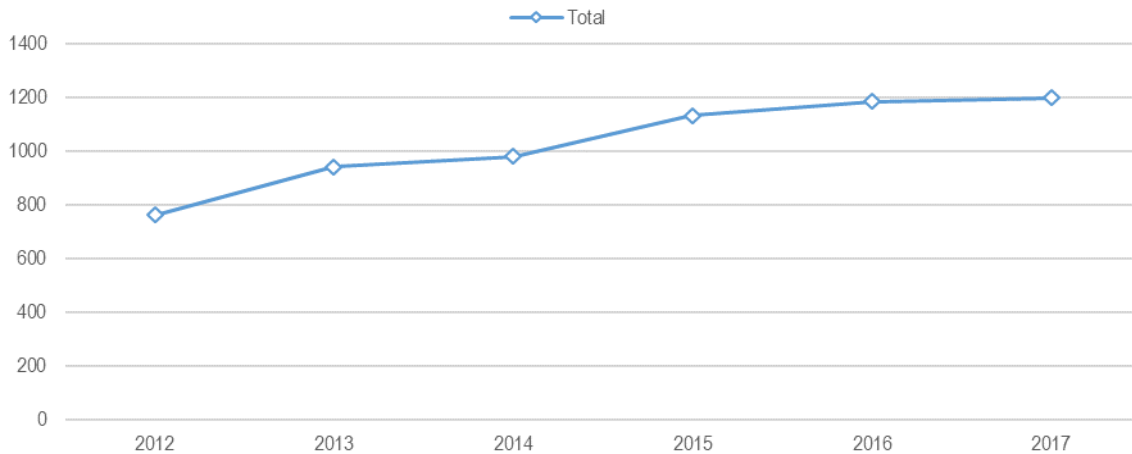
Key points:

- In **Denmark**, the share of R&D tax support accounted for by SMEs amounted to around 85% in 2019 while 15% of R&D tax benefits were allocated to large firms.
- In 2019, the share of R&D tax benefits accounted for by firms in services amounted to 59%, while this share amounted to 33% in the case of firms in manufacturing and to 8% for other sectors.
- Data on the number of R&D tax relief recipients by firm size or industry are currently not available.

Trends in the uptake of R&D tax incentives

Over the period 2012-2017 (the period for which relevant data are available), the number of firms receiving R&D tax support through the tax credit for deficit-related R&D expenditure increased in **Denmark**. Starting from around 760 recipients in 2012, the number of R&D tax relief recipients reached 1 200 in 2017.

Figure 5. Number of R&D tax relief recipients, Denmark, 2012-2017



Note: Figures refer to R&D tax credit (deficit-related).

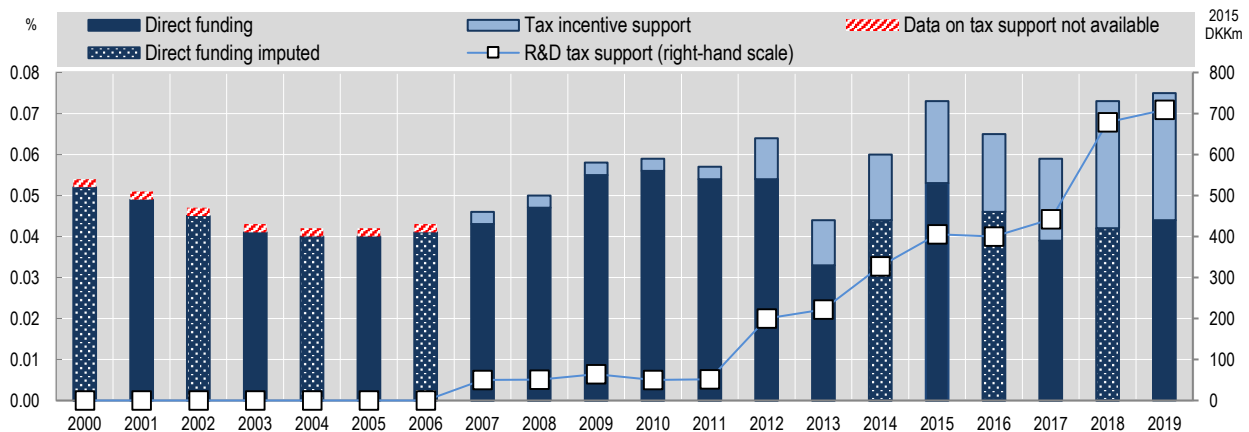
Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, December 2021.

Trends in government support for business R&D

Between 2007 and 2019 (the period for which relevant data are available), the importance of R&D tax incentives has increased in Denmark, both in absolute and relative terms.

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

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



Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, December 2021.

- The cost of government tax relief for R&D rose (in 2015 prices) from DKK 50 million in 2007 to DKK 200 million in 2012 when an R&D tax credit for deficit related R&D expenses was introduced. The cost of R&D tax support steadily increased thereafter to reach DKK 709 million in 2019.
- Direct funding of BERD declined from 0.05% in 2012 to 0.03% of GDP in 2013 to revert back and reach 0.04% of GDP in 2019.
- The share of R&D tax incentives in total government support increased over the 2007-19 period, from 6% in 2007 to 16% in 2012 and 42% in 2019.

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