

# R&D Tax Incentives: Japan, 2020

## Design of R&D tax relief provisions

Japan offers volume-based and incremental tax credits that can be claimed in combination.

**Table 1. Main design features of R&D tax incentives in Japan, 2020**

Type of instrument	Volume-based R&D tax credit (Permanent measure)	Open innovation activity-based R&D tax credit (Permanent measure)	High R&D intensity tax credit (Temporary measure until FY2020)
<b>Eligible expenditures<sup>†</sup></b>	Current, MED	Current, MED, collab. R&D	Current, MED
<b>Headline rates (%)</b>	6-10 for large; 12 for SMEs [according to R&D intensity] <b>Temporary (until 31 Mar 2021):</b> 6-14 for large; 12-17 for SMEs.	20 or 25 or 30***	20 x [R&D intensity – 10 per cent]
<b>Refund and carry-over (years)</b>	No		
<b>Thresholds &amp; ceilings</b>	Base amount: - Ceiling (R&D tax relief): 25% (40% if R&D venture corporation*) of the corporation's national CIT liability before the credit is applied. <b>Temporary (until 31 Mar 2021): up to extra 10%**</b> Total: Up to 45% of corporation's national CIT liability can be deductible (60% if R&D venture corporation)	- 10% (previously 5%) of the corporation's national CIT liability before the credit is applied	10% of average annual turnover 10% of the corporation's national CIT liability before the credit is applied

CIT: Corporate Income Tax; MED: Machinery & Equipment Depreciation; R&D intensity: eligible R&D expenditures divided by average annual turnover (average amount of turnover in the applicable business year and in each business year which started within three years prior to the first day of the business year); \*Established within the past 10 years or less, not a subsidiary of a large corporation, and with carry forward losses; \*\* If i) High R&D Intensity tax credit is not used; ii) ratio of current R&D expenditure to 3-year average turnover is larger than 10% (large firms); rate of increment, i.e. percentage increase in R&D expenditure is larger than 5% (SMEs); The open innovation tax credit is applicable for joint or contracted R&D with universities and national research institutes at a rate of 30%, for joint or contracted basic or applied research or R&D for the purpose of using intellectual property rights with R&D venture corporations at a rate of 25% (previously 20%) and for other qualifying companies at a rate of 20% (new provision).

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/rntax>, March 2021.

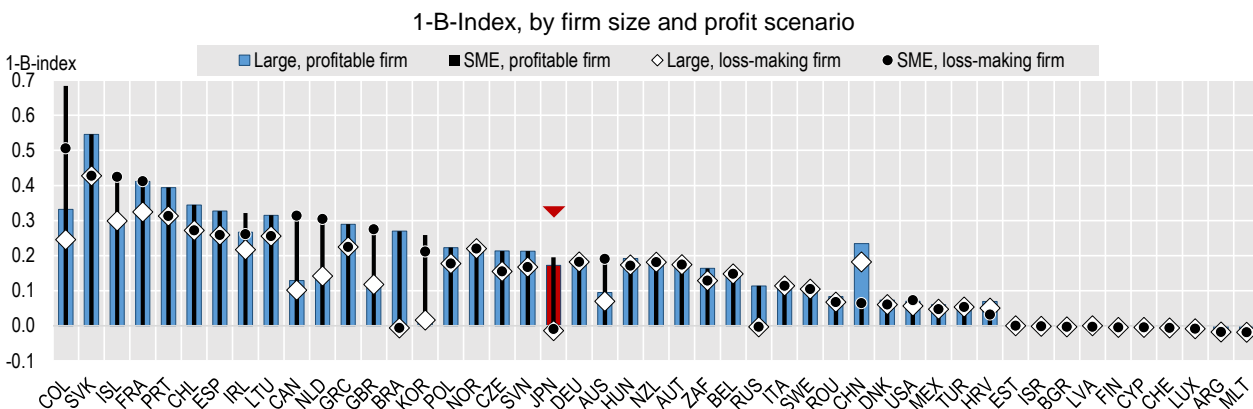
### Key features:

- In case of insufficient tax liability, unused credits are neither refundable nor can be carried-forward.
- Under each scheme, an upper ceiling applies to the value of R&D tax relief. Overall, R&D tax benefits are capped at 45% of the corporate income tax liability before the credit is applied.
- In addition to tax support from central government, **Japan** offers to SMEs municipal and prefectural R&D tax credits, with geographical differences in their main features.

## Generosity of R&D tax support in 2020

Differences in the design of R&D tax incentives drive significant variation in the expected generosity of tax relief per additional unit of R&D investment. In 2020, the marginal tax subsidy rate for profit-making (loss-making) SMEs in **Japan** is estimated at 0.20 (-0.01), equal to (well below) the OECD median of 0.20 (0.18).

**Figure 1. Implied tax subsidy rates on R&D expenditures: Japan, 2020**



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/rntax>, March 2021.

The tax subsidy rate for large enterprises amounts to 0.17 (-0.01) in the profit (loss)-making scenario, equal (well below) to the OECD median of 0.17 (0.15). These estimates focus on modelling the provisions for the volume-based R&D tax credit.

### 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 2020, changes in the availability and scope of R&D tax incentives represented the most frequent type of policy reform (OECD, 2020), along with adjustments to the headline R&D tax credit/allowance rates and adjustments of thresholds or upper ceilings on qualifying R&D expenditure or tax relief amounts. In response to the COVID-19 pandemic, several countries increased the generosity of R&D tax relief or introduced modifications to the administration of R&D tax incentives to facilitate and accelerate R&D funding.

In 2020, **Japan** did not undertake **changes** in its R&D tax relief provisions. The **latest change** in the design of the R&D tax credit in **Japan** occurred in **2019**. In this year, the upper limit of the volume-based tax credit rates was extended for two years and the tax credit limitation increased for certain start-ups and SMEs. Furthermore, the Open innovation activity-based R&D tax credit was extended to apply to joint or contracted R&D with R&D venture corporations at a rate of 25% and to joint or contracted basic or applied research with large corporations etc. at a rate of 20%. In addition, the maximum tax relief available to firms under the open innovation tax credit was raised from 5% to 10% of the corporation tax liability in the applicable fiscal year.

### Trends in the generosity of R&D tax support

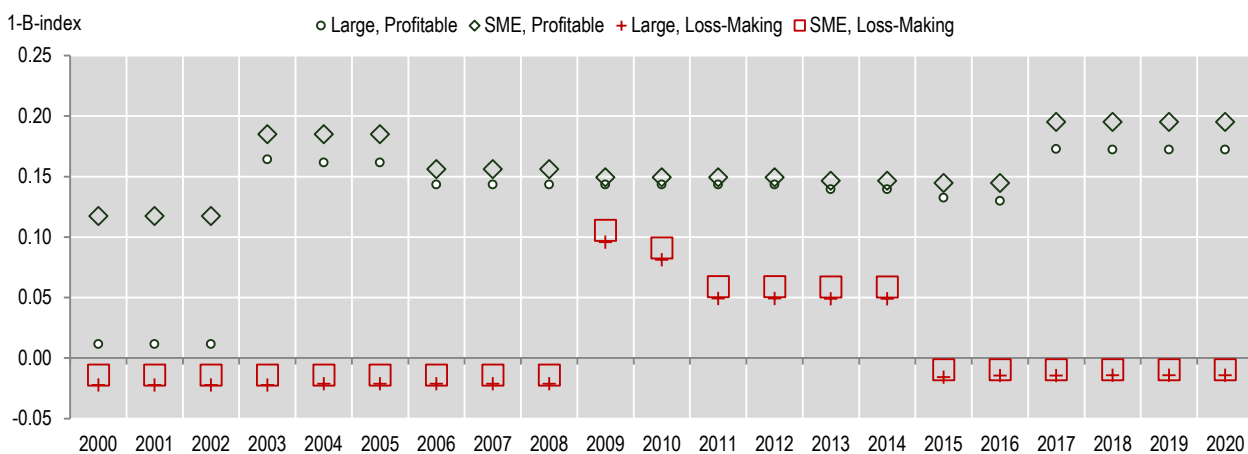
The generosity of the R&D tax credit regime varied significantly in **Japan** over the 2000-20 period across the four scenarios considered. Before 2002, an incremental tax credit was in place with a volume-based part only available to SMEs. This explains the gap between the R&D tax subsidy rates estimated for SMEs vs. large firms in those years. With the extension of the volume-based tax credit to large firms in 2003 at a slightly less favourable rate, this gap almost disappeared.

Following the reduction of the volume-based and incremental tax credit rates, a marked drop in R&D tax subsidy rates occurred in 2006. Subsidy rates increased in 2017 when the volume-based tax credit rates were raised as a temporary measure and remained stable ever since.

Firms in a loss-making position effectively lost their tax benefits throughout the 2000-17 period, except for 2009-14 when a carry-over option existed in Japan (3/2/1 years in 2009/10/11-14).

**Figure 2. Implied tax subsidy rates on R&D expenditures: Japan, 2000-20**

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.

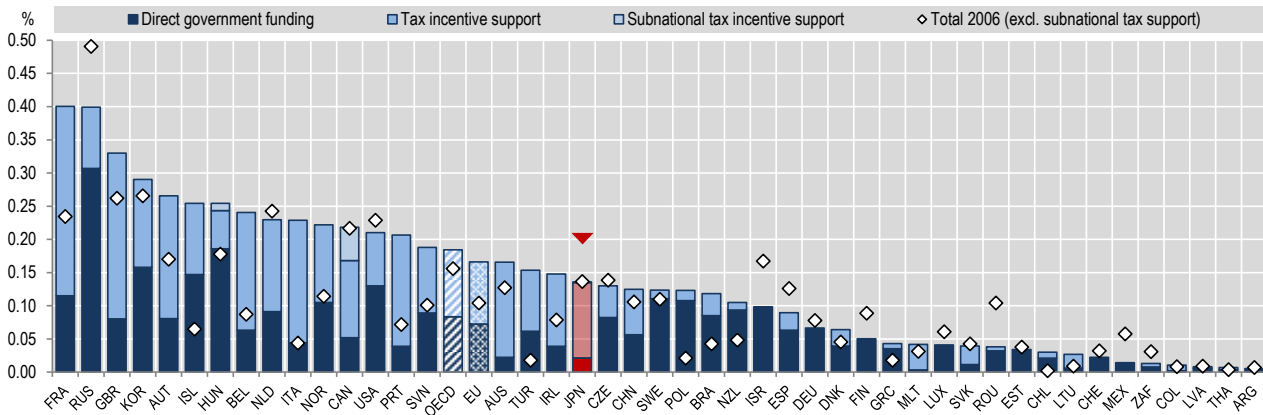
Source: OECD, R&D Tax Incentives Database, <http://oe.cd/rdtax>, March 2021.

### Policy support for business R&D: the policy mix

In 2018, **Japan** is placed below the OECD average in terms of total government support to business R&D as a percentage of GDP, with a value equivalent to 0.14% of GDP.

**Figure 3. Direct government funding of business R&D and tax incentives for R&D, 2018 (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>, March 2021.

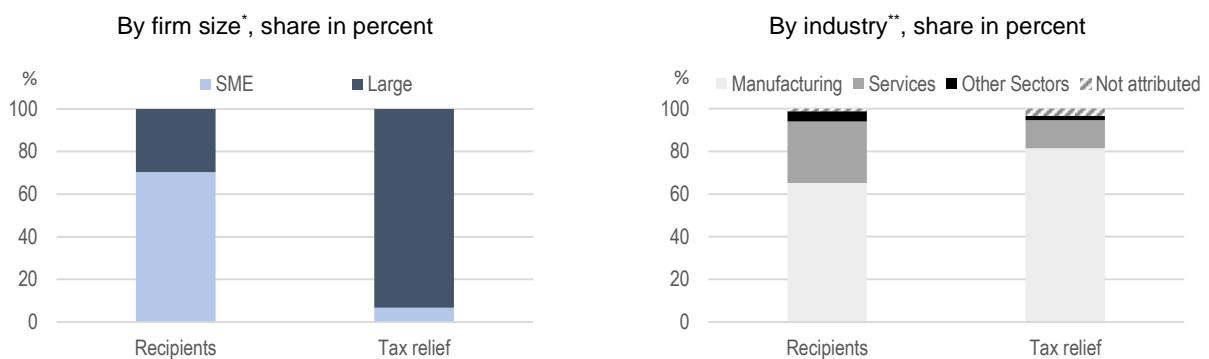
**Key points:**

- From 2006 to 2018, total government support for BERD as a percentage of GDP (excl. subnational tax support) decreased in **Japan** by 0.002 percentage point (pp), while the OECD average increased by 0.03 pp.
- During this period, business R&D intensity in **Japan** increased slightly from 2.53% to 2.6%.
- In 2018, R&D tax incentives accounted for 84% of total government support for BERD in **Japan**.

### 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, 2018**



Note: Figures refer to the total of R&D tax credits in Jpn. \*SMEs are defined as firms with 1-249 employees and with a stated capital no larger than JPY 100 million. \*\*Economic activity is defined as follows: Manufacturing (corporations with non-consolidated tax declaration in Textile, Chemical, Steel and metals, Machinery, Food, Publishing and printing), Services (corporations with non-consolidated tax declaration only), Other Sectors (corporations with non-consolidated tax declaration only), Not attributed (corporations with approval of consolidated tax declaration).

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

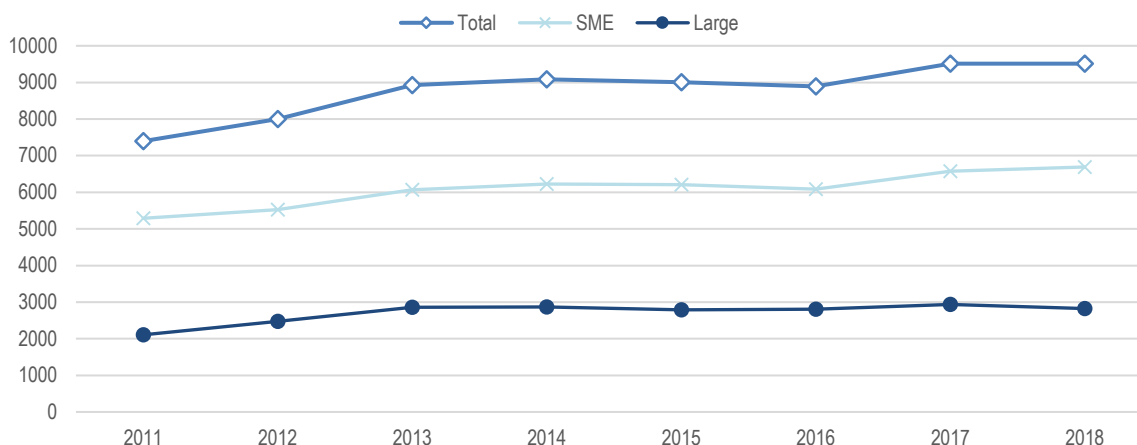
**Key points:**

- In **Japan**, SMEs accounted for 70% of R&D tax relief recipients in 2018, while the share of R&D tax support accounted for by SMEs amounted to around 7% in this year. 93% of R&D tax benefits were allocated to large firms, comprising 30% of the population of R&D tax relief recipients in 2018.
- In 2018, firms in manufacturing represented around 65% of R&D tax relief recipients in **Japan**, followed by firms in services with a share of 29%. The share of R&D tax benefits accounted for by the latter amounted to 13% in that year, while this share amounted to 81% in the case of firms in manufacturing.

## Trends in the uptake of R&D tax incentives

Over the period 2011-2018 (for which relevant data are available), the number of R&D tax relief recipients increased steadily in **Japan**, reaching close to 9 500 recipients in 2018. Most of this increase is attributable to SMEs. Over the 2011-18 period, SMEs accounted for around 70% of R&D tax relief recipients in **Japan**.

**Figure 5. Number of R&D tax relief recipients, Japan, 2011-2018**



Note: Figures refer to the Total R&D tax credits.

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

## Trends in government support for business R&D

**Japan** has offered R&D tax incentives since 1967. The cost of government tax relief for R&D increased significantly in recent years from JPY 353 billion (in 2015 prices) in 2011 to JPY 627 billion in 2017 (100 JPY = 0.806 EUR, Q3 2020).

**Figure 6. Direct funding of business R&D and tax incentives for R&D, Japan, 2000-18**

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



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

- As a percentage of GDP, total tax relief for BERD rose from 0.07% of GDP in 2011 to 0.115% in 2018. R&D tax incentives provided at central government level accounted for 99% of tax support throughout the 2011-18 period. The cost of tax incentives at central government level increased sharply following the extension of the volume-based tax credit to large firms in 2003 (0.02% of GDP, up from 0.013% in 2002), declined during the 2008 global crisis (0.055% of GDP in 2008) to revert and then increase significantly in 2013 (0.124% of GDP) when a tax credit for collaborative R&D was introduced.
- Direct funding of BERD decreased slightly from 0.035% in 2000 of GDP to 0.021% in 2018.
- The share of tax incentives in total government support increased from 73% in 2011 to 84% in 2018. Subnational tax incentives accounted for a very small share of total tax support (1%) over these years.

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