R&D Tax Incentives: Japan, 2019

Design features

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

- 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 prefectoral R&D tax credits, with geographical differences in their main features.

Table 1. Main design features of R&D tax incentives in Japan, 2019

<table>
<thead>
<tr>
<th>Scheme 1: Volume-based R&amp;D tax credit (Permanent measure)</th>
<th>Scheme 2: Open innovation activity-based R&amp;D tax credit (Permanent measure)</th>
<th>Scheme 3: High R&amp;D intensity tax credit (Temporary measure until FY2018)</th>
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<tbody>
<tr>
<td><strong>Type of instrument</strong></td>
<td>Volume-based tax credit</td>
<td>Incremental tax credit</td>
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<td><strong>Eligible expenditures</strong></td>
<td>Current, MED</td>
<td>Current, MED, collaborative R&amp;D</td>
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<td><strong>Headline rates (%)</strong></td>
<td>6-10 for large; 12 for SMEs (according to R&amp;D intensity) Temporary (until 31 Mar 2021): 6-14 for large, 12-17 for SMEs</td>
<td>20 or 25 or 30*** 20 x (R&amp;D intensity – 10 per cent)</td>
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<tr>
<td><strong>Refund/Carry-over</strong></td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Thresholds &amp; ceilings</strong></td>
<td>Base amount</td>
<td>Ceiling (R&amp;D tax relief)</td>
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<td></td>
<td>25% (40% if R&amp;D venture corporation) of the corporation’s national CIT liability before the credit is applied. Temporary (until 31 Mar 2021): up to extra 10%**</td>
<td>10% (previously 5%) of the corporation’s national CIT liability before the credit is applied</td>
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<tr>
<td><strong>Total</strong></td>
<td>Up to 45% of corporation’s national CIT liability can be deductible (40% if R&amp;D venture corporation)</td>
<td>10% of the corporation’s national CIT liability before the credit is applied</td>
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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 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).

For additional information: OECD R&D Tax Incentive Compendium and Eligibility of current and capital expenditure for R&D tax relief


Recent developments and trends

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 2019, the marginal tax subsidy rate for profit-making (loss-making) SMEs in Japan is estimated at 0.20 (-0.01), close to (well below) the OECD median of 0.19 (0.17). The tax subsidy rate for large enterprises amounts to 0.17 (-0.01) in the profit (loss)-making scenario, above (well below) the OECD median of 0.14 (0.10). These estimates focus on modelling the provisions for the volume-based R&D tax credit (Scheme 1).

The generosity of the R&D tax credit regime varied significantly in Japan over the 2000-19 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. 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 1. Implied tax subsidy rates on R&D expenditures: Japan, 2000-19


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

In 2017, Japan is slightly above the OECD median in terms of total government support to business R&D as a percentage of GDP, with a value equivalent to 0.15% of GDP.

Figure 2. Direct government funding of business R&D and tax incentives for R&D, 2017 (nearest year)
As a percentage of GDP

- From 2006 to 2017, total government support for BERD as a percentage of GDP (excl. subnational tax support) increased in Japan by 0.01 pp, while the OECD median increased by 0.015 pp.
- During this period, business R&D intensity in Japan remained constant at 2.53%.
- In 2017, R&D tax incentives accounted for 84% of total government support for BERD in Japan.

Trends in government support for business R&D

Japan has offered R&D tax incentives since 1967. The cost of R&D tax relief increased significantly in recent years from JPY 350 billion (in 2010 prices) in 2011 to JPY 662 billion in 2017 (100 JPY = 0.838 EUR, Q3 2019).

Figure 3. Direct government funding of business R&D and tax incentives for R&D, Japan, 2000-17
As a percentage of GDP, 2010 prices (right-hand scale)

- As a percentage of GDP, total tax relief for BERD rose from 0.07% of GDP in 2011 to 0.12% in 2017, R&D tax incentives provided at central government level accounting for 99% of tax support throughout the 2011-17 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 0.023% in 2017.
- The share of tax incentives in total government support increased from 73% in 2011 to 84% in 2017. Subnational tax incentives accounted for a very small share of total tax support (1%) over these years.