R&D Tax Incentives: Japan, 2018

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 on the value of R&D tax relief. Overall, R&D tax benefits are capped at 40% of the corporate income tax liability before the credit is applied.

Table 1. Main design features of R&D tax incentives in Japan, 2018

<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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</thead>
<tbody>
<tr>
<td><strong>Tax incentive</strong></td>
<td><strong>Tax credit</strong></td>
<td></td>
</tr>
<tr>
<td>Type of instrument</td>
<td>Volume-based</td>
<td>Incremental</td>
</tr>
<tr>
<td>Eligible expenditures†‡</td>
<td>Current, MED, collaborative R&amp;D</td>
<td>Current, MED</td>
</tr>
<tr>
<td>Headline rates (%)</td>
<td>6-10 for large; 2 for SMEs</td>
<td>20 or 30</td>
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<tr>
<td>Temporary (until FY2018):</td>
<td>6-14 for large; 12-17 for SMEs</td>
<td>20 x [R&amp;D intensity – 10 per cent]</td>
</tr>
<tr>
<td>Refund/CARRY-OVER</td>
<td>No</td>
<td></td>
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<tr>
<td>Thresholds &amp; ceilings</td>
<td>45% of the corporation’s national CIT liability before the credit is applied</td>
<td></td>
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<tr>
<td>Temporary (until FY2018):</td>
<td>up to extra 10%</td>
<td></td>
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<tr>
<td>Ceiling (R&amp;D tax relief)</td>
<td>5% of the corporation’s national CIT liability before the credit is applied</td>
<td></td>
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<tr>
<td>Total</td>
<td>10% of average annual turnover</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40% of company’s national CIT liability before the credit is applied</td>
<td></td>
</tr>
</tbody>
</table>

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). † 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).

Recent developments and trends

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 across OECD and partner economies and over time. In 2018, 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 (0.17). 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 0.13 (0.10). These estimates focus on modelling provisions of the volume-based R&D tax credit (Scheme 1).

The generosity of the R&D tax credit regime varied significantly in Japan over the 2000-18 period in 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 the 2009-14 period where 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, 2000-18

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

- Large, Profitable
- SME, Profitable
- Large, Loss-Making
- SME, Loss-Making


Note: Implied marginal tax subsidy rates, presented for different firm size and profitability scenarios, are calculated 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. For more information on the calculation of implied tax subsidy rates, see [http://www.oecd.org/sti/rd-taxstats-bmdex-methodology.pdf](http://www.oecd.org/sti/rd-taxstats-bmdex-methodology.pdf), and for notes regarding the modelling of the country-specific time series, see [http://www.oecd.org/sti/rd-tax-stats-bmdex-notes.pdf](http://www.oecd.org/sti/rd-tax-stats-bmdex-notes.pdf)

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Public support for business R&D: the policy mix
Governments adopt various instruments to incentivise R&D by business. In addition to direct support such as grants and buying R&D services, 30 out of the 36 OECD countries provided fiscal incentives in 2018.

Figure 2. Direct government funding of business R&D and tax incentives for R&D, 2016 (nearest year)
As a percentage of GDP


- Japan is positioned slightly above the OECD median in terms of total government support to business R&D as a percentage of GDP, equivalent to 0.13% of GDP in 2016.
- From 2006 to 2016, government support for BERD as a percentage of GDP remained on the same level in Japan, while the OECD median increased by 0.02 percentage points.
- During this period, business R&D intensity in Japan declined from 2.53% to 2.47%.
- In 2016, R&D tax incentives accounted for 82% of total government support for BERD in Japan.

Trends in government support for business R&D
Over the last decade, a general trend towards non-discretionary instruments such as R&D tax incentives has been observed. This trend is far from uniform and the policy mix can vary by country and over time.

Figure 3. Direct funding of business R&D and tax incentives for R&D, Japan, 2000-16
As a percentage of GDP, 2010 prices (right-hand scale)


- Japan has offered R&D tax incentives since 1967. The cost of R&D tax support increased sharply following the extension of the volume-based tax credit to large firms in 2003, declined during the 2008 global crisis to revert and then increase significantly in 2013 when a tax credit for collaborative R&D was introduced. In 2016, R&D tax support amounted to JPY 585 billion (in 2010 prices), up from JPY 405 billion in 2012 (1 JPY = 0.009 USD, 31.12.2018).
- As a percentage of GDP, R&D tax support rose from 0.01% of GDP in 2000 to 0.11% in 2016.
- Direct funding of BERD decreased slightly from 0.035% in 2000 of GDP to 0.02% in 2016.
- The share of R&D tax incentives in total government support fluctuated notably over the 2000-16 period, amounting to 28% in 2000, 79% in 2005, 73% in 2010 and 82% in 2016.


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