R&D Tax Incentives: Korea, 2018

Design features

Korea provides R&D tax credit through a hybrid R&D tax credit and a volume-based investment credit.

- Under the hybrid R&D tax credit, R&D tax relief generally equals the larger of the volume-based or the incremental tax offset.
- In case of insufficient tax liability, unused credits can be carried forward for 5 years (10 for start-ups).
- Under the volume-based R&D tax credit, tax benefits are limited in case of large companies where the maximum tax credit rate – a function of the R&D expense ratio – is capped at 3%.

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

<table>
<thead>
<tr>
<th>Type of instrument</th>
<th>R&amp;D tax credit</th>
<th>R&amp;D investment credit</th>
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</thead>
<tbody>
<tr>
<td>Eligible expenditures&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Hybrid (volume or increment)*</td>
<td>Volume-based</td>
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<tr>
<td>Headline rates</td>
<td>Volume: 1 - 3 [1 + 0.5 R&amp;D expense ratio]<strong>, 8 (HPE), 25 (SME)</strong>*</td>
<td>Increment: 25, 40 (HPE), 50 (SME)****</td>
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<tr>
<td>Carry-over (years)</td>
<td>5 (carry forward) / 10 years for start-ups</td>
<td>No</td>
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<td>Refund</td>
<td>No</td>
<td></td>
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<tr>
<td>Ceiling (Tax credit rate)</td>
<td>3% (large firms)</td>
<td>No</td>
</tr>
</tbody>
</table>

R&D expense ratio = R&D/revenue; HPE: High Potential Enterprise (not SME but carry out an SME activity, respect rules about being part of a group, and sales smaller than KRW 500 billion); *: the R&D tax credit generally equals the greater of either 1) the volume-based tax offset, or the 2) incremental tax offset; **: 20~30 for large firms and HPE under the Growth Industry and Basic Technology scheme; ***: 30~40 for SMEs under the Growth Industry and Basic Technology scheme; 15/10 for firms losing SME status (see compendium); ****: 40 for firms losing the SME status and HPE. Korea also offers an income-based tax incentive for outcomes of R&D activities.


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 Korea is estimated at 0.26 (0.21), above the OECD median of 0.20 (0.17). The tax subsidy rate for large enterprises is equal to 0.03 (0.02) in the profit (loss)-making scenario, below the OECD median of 0.13 (0.10).

The generosity of R&D tax incentives in Korea has experienced changes over the 2000-18 period, looking at the four different scenarios. In the case of large firms, a drop in implied tax subsidy rates follows the reduction of the incremental tax credit rate applicable to large firms from 50% to 40% in 2003, from 40% to 30% in 2017, and from 30% to 25% in 2018. With this latest reduction of the incremental tax credit rate, the volume-based tax offset becomes more favourable for large firms. The definition of the base amount in excess of which R&D expenditure qualifies for the incremental tax credit was adjusted from 2013 to 2015, the number of years based on which the average R&D spend is computed (initially 4 years) being reduced by one year each year. This resulted in a step-wise decrease of the R&D tax subsidy rate estimated for large firms over those years. For SMEs, an increase in marginal tax subsidy rates occurred in 2009 where the volume-based tax credit rate for SMEs was raised from 15% to 25%. Changes in the R&D investment tax credit rate led to some smaller variations in implied tax subsidy rates over the 2000-18 period.

**Figure 1. Implied tax subsidy rates on R&D expenditures: Korea, 2000-18**


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-tax-stats/index.pdf. For notes regarding the modelling of the country-specific time series, see http://www.oecd.org/sti/rd-tax-stats/index-notes.pdf.

<sup>1</sup> Disclaimer: http://oe.cd/disclaimer
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


- Korea ranks fifth among OECD and partner economies in terms of total government support to business R&D as a percentage of GDP, equivalent to 0.27% of GDP in 2016.
- From 2007 to 2016, total government support for BERD as a percentage of GDP remained stable in Korea, while the OECD median (2006-2016) increased by 0.02 percentage points.
- During this period, business R&D intensity in Korea increased from 2.29% to 3.29%.
- In 2016, R&D tax incentives accounted for 50% of total government support for BERD in Korea.

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, Korea, 2007-16 
As a percentage of GDP, 2010 prices (right-hand scale)


- Between 2007 and 2016, the importance of tax incentives has increased in Korea in absolute terms, whereas the relative magnitude of tax vs. direct support has remained fairly stable over this period.
- As percentage of GDP, tax support reached a peak of 0.19% in 2012 and amounted to 0.14% in 2016.
- Direct funding of BERD sustainedly rose from 0.11% of GDP in 2000 to 0.14% in 2016.
- The share of R&D tax incentives in total government remained fairly stable over the 2007-16 period, varying between 49% and 54% and reaching 50% in 2016.


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