R&D Tax Incentives: People’s Republic of China, 2019

Design features

China provides R&D tax relief through a volume-based R&D tax allowance.
- The headline rate is 75% for SMEs and large enterprises, up from 50% in 2017 and 2019 respectively.
- In the case of insufficient tax liability, unused credits can be carried-forward for 5 years. With effect of January 2018, this carry-over period has been extended to 10 years in the case of SMEs and so-called high and new technology enterprises (HNTEs).
- In the case of subcontracted R&D, R&D tax relief is limited to 80% of eligible costs (per project).

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

<table>
<thead>
<tr>
<th>Tax incentive*</th>
<th>R&amp;D tax allowance (Superdeduction)</th>
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<tbody>
<tr>
<td>Type of instrument</td>
<td>Volume-based</td>
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<td>Eligible expenditures†</td>
<td>Current and depreciation (machinery and equipment, land and buildings)</td>
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<td>Headline rates (%)</td>
<td>75</td>
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<tr>
<td>Refund</td>
<td>No</td>
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<td>Carry-over (years)</td>
<td>5 (carry-forward) – 10 (SMEs and HNTEs)</td>
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<td>Ceilings</td>
<td>Subcontracted R&amp;D (domestic R&amp;D service providers)</td>
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<td>Tax relief limited to 80% of eligible costs (per project); no cap currently applies in the case of foreign R&amp;D service providers</td>
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* China also offers an accelerated depreciation of machinery and equipment used in R&D (immediate write-off up to a limit of CNY 1 million and declining balance depreciation at a rate of 40% above this limit). In addition, China provides customs duty and value added tax exemptions for purchases of R&D equipment. It also provides income-based tax incentives (reduced corporate income tax rate for high and new tech enterprises and Advanced Technology Service Enterprises and a tax concession on technology transfer) for outcomes of R&D activities. The latter incentives are beyond the scope of this note.

† 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 China is estimated at 0.08 (0.06), well below the OECD median of 0.19 (0.17). The tax subsidy rate for large enterprises is equal to 0.23 (0.18) in the profit (loss)-making scenario, larger than the OECD median of 0.14 (0.10). These estimates model the provisions for the R&D tax allowance and the accelerated depreciation of R&D capital.

Since the broader implementation of the R&D tax allowance in China in 2008, implied marginal subsidy rates have remained stable until 2017, when the R&D tax allowance rate was raised for SMEs from 50% to 75%, leading to an increase in the implied tax subsidy rate for SMEs from 0.15 (0.12) to 0.23 (0.18) in the profit (loss) making scenario. In 2019, the tax allowance rate of 75% was extended to large firms, leading to an increase in the implied subsidy rate for large firms from 0.15 (0.12) to 0.23 (0.18) in the profit (loss) making scenario. At the same time, a preferential corporate income tax of 10% (vs. 25%) was introduced for SMEs, reducing the value of tax deductions which are directly linked to the CIT rate. This led to a drop of the implied marginal R&D tax subsidy rate for SMEs from 0.23 (0.19) in 2018 to 0.08 (0.06) in 2019 in the profit (loss) making scenario.

Figure 1. Implied tax subsidy rates on R&D expenditures: China, 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 which may limit the amount of qualifying R&D expenditure or value of R&D tax relief.

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† The R&D super deduction was introduced as part of China’s “Medium to Long Term Plan for the Development of Science and Technology” in 2006 but broadly implemented by provinces not before 2008. In this year, the State Administration of Taxation issued “Administrative Measures for the Pre-tax Deduction of Enterprise Research and Development Expenses” which provided a unified and simplified framework for implementing this R&D tax incentive in China (Zhen et al, 2018).
Public support for business R&D: the policy mix

In 2017, China is close to the OECD median in terms of total government support to business R&D as a percentage of GDP, at a rate equivalent to 0.13% 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 2009 to 2017, total government support for BERD as a percentage of GDP increased in China by 0.02 pp, while the OECD median (2006-17) increased by 0.015 pp.
- During the 2009-17 period, business R&D intensity in China increased from 1.22% to 1.66%.
- In 2017, R&D tax incentives accounted for 55% of total government support for BERD in China.

Trends in government support for business R&D

The importance of R&D tax relief has increased in absolute terms in China since 2009, whereas the relative magnitude of tax vis-à-vis direct support fluctuated between 2009 and 2017.

**Figure 3. Direct government funding of business R&D and tax incentives for R&D, China*, 2000-17**

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

* Data on tax support not available
** Data on subnational tax support not available

- The cost estimate of tax incentive support covers the R&D tax allowance

Source OECD, R&D Tax Incentive Database, [http://oe.cd/rdtax](http://oe.cd/rdtax), December 2019

- The importance of R&D tax relief has increased in absolute terms in China since 2009, whereas the relative magnitude of tax vis-à-vis direct support fluctuated between 2009 and 2017.
- The cost of R&D tax support (central government level) rose (in 2010 prices) from CNY 19 780 million in 2009 to 47 627 million in 2017 (1 CNY = 0.128 EUR, Q3 2019).
- As percentage of GDP, R&D tax support increased from 0.05% to 0.07% of GDP during this period.
- Direct funding of BERD similarly increased from 0.05% to 0.06% of GDP between 2009 and 2017.
- The share of R&D tax incentives in total government support varied somewhat over this period, declining from 50% in 2009 to 45% in 2013 and reverting back to 55% in 2017.