R&D Tax Incentives: United States, 2020

Design of R&D tax relief provisions

The **United States** federal government provides R&D tax relief through an incremental R&D tax credit with 4 components: two main modalities – RRC and ASC – which are mutually exclusive in their use and two additional specific schemes, which only apply to certain expenses for basic research and energy research.

Table 1. Main design features of R&D tax incentives in United States, 2020

		Federal research and experimentation (FR&E) tax credit			
Tax incentive		Regular research credit (RRC)	Alternative simplified credit (ASC)*	Credit for basic research	Energy research credit
Type of instrument		Incremental	Incremental	Incremental	Volume-based
Eligible expenditures†		Current			
Headline rates (%)		20	14 (6 if no R&D in past 3 years)	20	20
Refund		Certain start-ups only: Tax offset against PWHT instead of income tax liability			
Carry-over (years)		20 (carry-forward), 1 (carry-back)			
Thresholds	Base amount	Yes**	Yes***	Yes∞	No
Ceilings	R&D tax relief	Net income tax less the greater of TMT or 25% of tax liability above USD 25 000. For corporations and eligible small business, TMT is treated as zero, the limitation based on regular tax liability still applies.			
	Refund-specific	USD 250 000 (certain start-ups only)			

PWHT: Payroll withholding tax; TMT: Tentative Minimum Tax liability; The corporate Alternative Minimum Tax (AMT) was repealed in the beginning of 2018 * In 2009, the ASC replaced the Alternative Incremental Research Credit (AIRC). **: Product of a firm's average annual gross receipts in previous four tax years and the ratio of its qualified research expenses and gross receipts during its base period; ***: 50% of the average qualified research expenses for the three preceding years; ∞: Sum of (a) the greater of two minimum basic research floors plus (b) an amount reflecting any decrease in non-research giving to universities by the firm as compared to such giving during a fixed-base period. The United States also offers a bonus depreciation for machinery and equipment with a class life of 20-years or less (immediate write-off in 2019), independent of whether this property is used in the process of R&D. This provision is beyond the scope of this note.

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/rdtax, March 2021.

Key features:
- In the case of insufficient tax liability, unused tax credits can be carried-forward for 20 years. Since 2016, certain start-ups may elect to apply a portion of their research credit (up to USD 250 000) against their payroll tax liability, instead of their income tax liability.
- A ceiling applies to the amount of R&D tax relief that can be claimed in the reporting period.

Generosity of R&D tax support in 2020

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. In 2020, the R&D tax subsidy rate for profit-making (loss-making) SMEs in the **United States** is estimated at 0.07 (0.07), well below the OECD median of 0.20 (0.18). The tax subsidy rate for large enterprises is 0.07 (0.06) in the profit (loss)-making scenario, below the OECD median of 0.17 (0.15). These estimates focus on modelling the provisions for the RRC and ASC.

Figure 1. Implied tax subsidy rates on R&D expenditures: United States, 2020

1-B-Index, by firm size and profit scenario
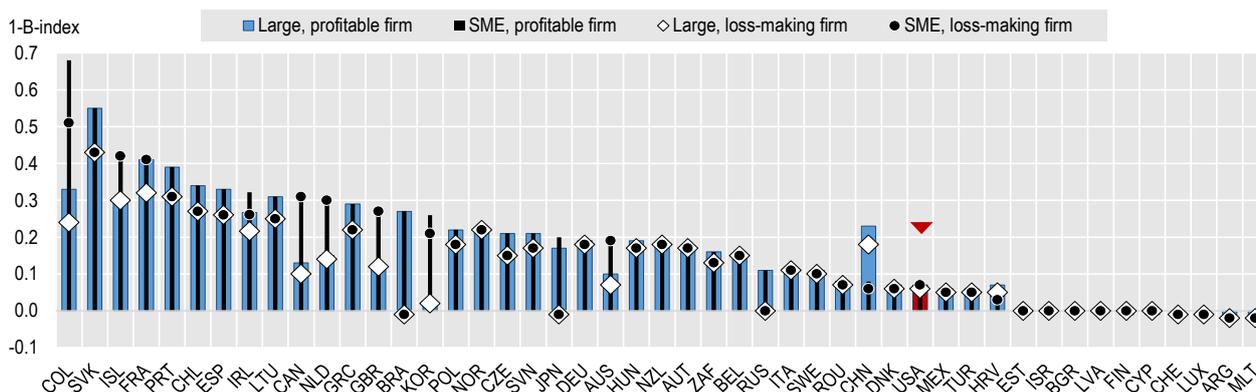
Note: Implied marginal tax subsidy rates, presented for different firm size and profitability scenarios, are calculated based on headline tax credit/allowance rates (see methodology and country-specific notes), providing an upper bound value of the generosity of R&D tax support, not reflecting the effect 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.

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, the **United States** did not undertake **changes** in its R&D tax relief provisions. The **latest change** in the design of the R&D tax credit (R&E tax credit) in the **United States** occurred in **2016** when the FR&E tax credit became permanent and a payroll tax offset up to USD 250 000 was introduced for certain start-ups.

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

The generosity of R&D tax incentives declined slightly in the **United States** over the 2000-20 period. This decline is associated to changes in the weights attached in the modelling exercise to each of the R&D tax credits during 2000-2020 (RRC, ASC/AIRC).

On the one hand, with a weighting based on qualifying R&D expenditure, more weight is attached over time to RRC claims subject to the 50% current R&D expenditure limitation (10% marginal tax credit rate) vs. excess base limitation (20% marginal tax credit rate). On the other hand, in the computation of the overall R&D tax subsidy across the two tax credits considered (RRC and ASC), a larger weight is assigned over time to the ASC, which entails a smaller subsidy rate than the RRC subject to either limitation.

In 2016, tax credits became payable for SMEs, leading to an increase in the SME tax subsidy rate estimated for the loss case. Implied tax subsidy rates increased in 2018 as a result of the corporate income tax rate reduction, reducing the amount of taxes payable[1] by FR&E tax credit recipients in the **United States**.

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

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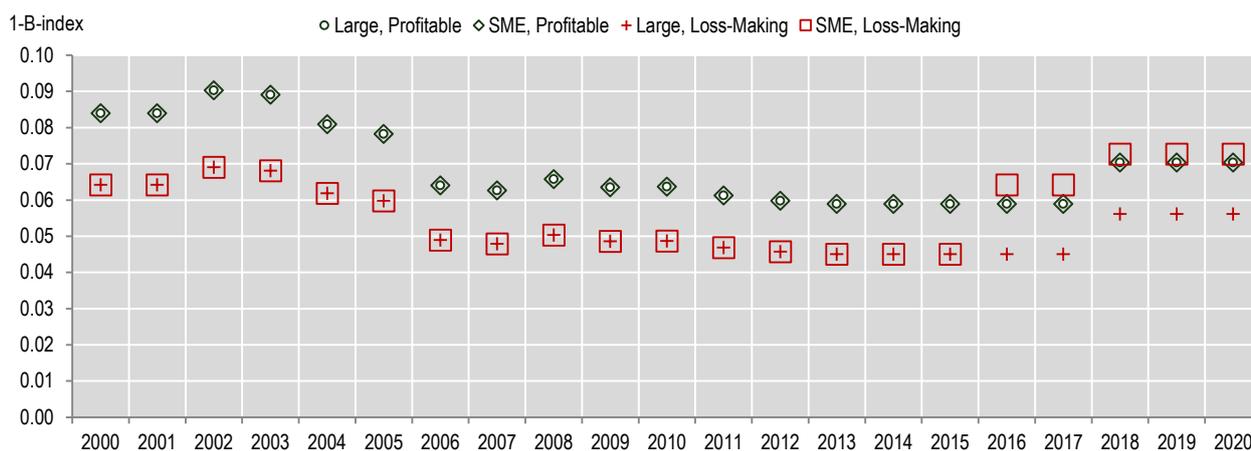
Note: Implied marginal tax subsidy rates, presented for different firm size and profitability scenarios, are calculated based on headline tax credit/allowance rates (see methodology and country-specific notes), providing an upper bound value of the generosity of R&D tax support, not reflecting the effect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

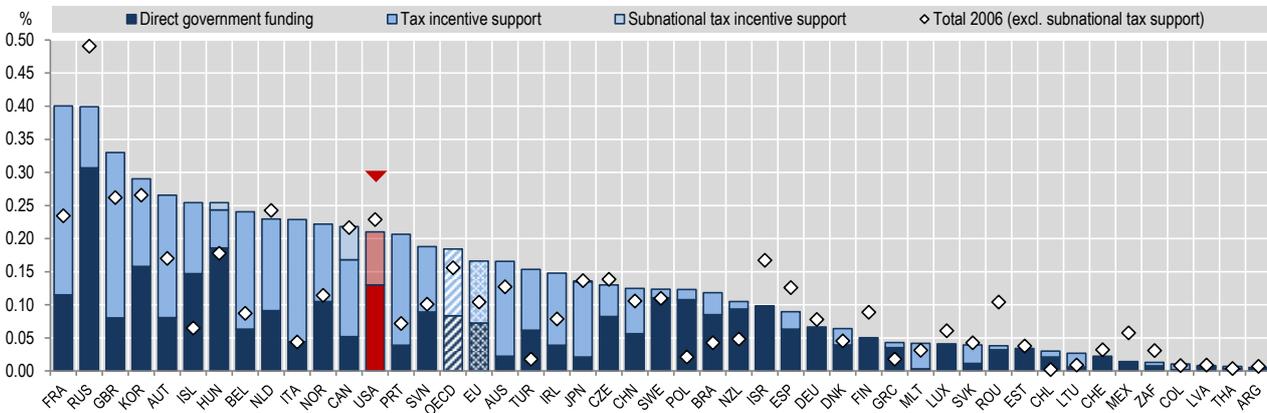*Source*: OECD, R&D Tax Incentives Database, http://oe.cd/rdtax, March 2021.

[1] A taxpayer that claims a research credit must reduce the business deduction for research expenditures by the amount of the credit claimed or take a reduced credit that equals the gross credit times (1 - tc), where tc equals the highest statutory corporate tax rate.

Policy support for business R&D: the policy mix

The **United States** is placed above the OECD average in terms of total government support to business R&D as a percentage of GDP, at a rate equivalent to 0.21% of GDP in 2016 (latest figure available).

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:

- Between 2006 and 2016, government support for BERD as a percentage of GDP decreased by 0.02 percentage point (pp) in the **United States**, while the OECD average (2006-18) increased by 0.03 pp.
- From 2006 to 2016, business R&D intensity in the **United States** increased from 1.79% to 2.02%.
- In 2016, tax incentives accounted for 38% of total government support for BERD in the **United States**.

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, 2013 / 2016

By firm size[*], 2013, share in percent   By industry[**], 2016, share in percent
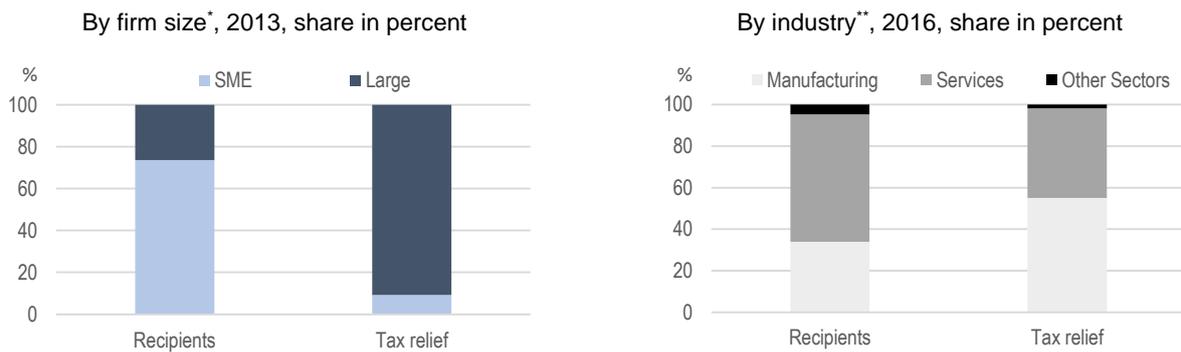
Note: Figures refer to the FR&E tax credit. *SMEs are defined as enterprises with gross receipts of less than USD 50 million. **Economic activity is defined based on IRS SOI corporate tax data as follows: Manufacturing (manufacturing); Services (wholesale and retail trade, transportation and warehousing, information, finance and insurance, real estate, rental and leasing, professional scientific and technical services, management of (holding) companies, administrative support and waste management services and various services); Other sectors (agriculture, forestry, fishing and hunting, mining, utilities and construction)

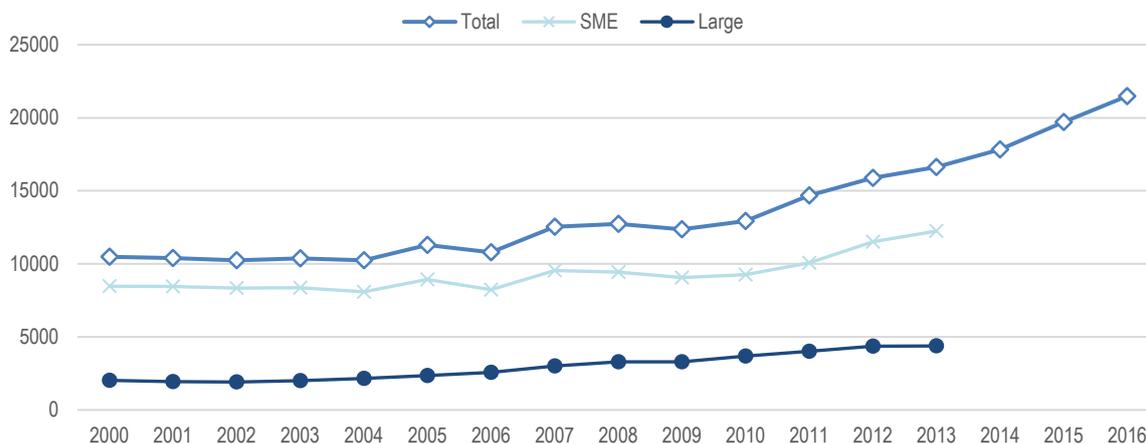*Source*: OECD, R&D Tax Incentives Database, http://oe.cd/rdtax, March 2021.

Key points:

- In the **United States**, SMEs accounted for 74% of R&D tax relief recipients in 2013, while the share of R&D tax support accounted for by SMEs amounted to around 9% in this year. 91% of R&D tax benefits were allocated to large firms, comprising 26% of the population of R&D tax relief recipients in 2013.
- In 2016, firms in services represented around 61% of R&D tax relief recipients in the **United States**, followed by firms in manufacturing with a share of 34%. The share of R&D tax benefits accounted for by the latter amounted to 55% in that year, while this share amounted to 43% in the case of firms in services.

Trends in the uptake of R&D tax incentives

Between 2000 and 2016, the number of R&D tax relief recipients effectively doubled in the **United States**, from around 10 500 R&D tax relief recipients in 2000 to 21 500 R&D tax relief recipients in 2016. Over the period 2000-2013 period (for which relevant data are available), SMEs, defined as enterprises with gross receipts of less than USD 50 million, accounted for the majority of R&D tax relief recipients in the **United States**, with a share of around 70-75% in more recent years.

Figure 5. Number of R&D tax relief recipients, United States, 2000-2016

*Note:* Figures refer to the FR&E tax credit.

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

Trends in government support for business R&D

Between 2000 and 2016, government support for BERD in the **United States** was largely skewed towards direct funding. An increase in the importance of R&D tax incentives is noticeable from 2009 onwards, both in absolute and relative terms.

Figure 6. Direct funding of business R&D and tax incentives for R&D, United States, 2000-16

As a percentage of GDP, 2015 prices (right-hand scale)
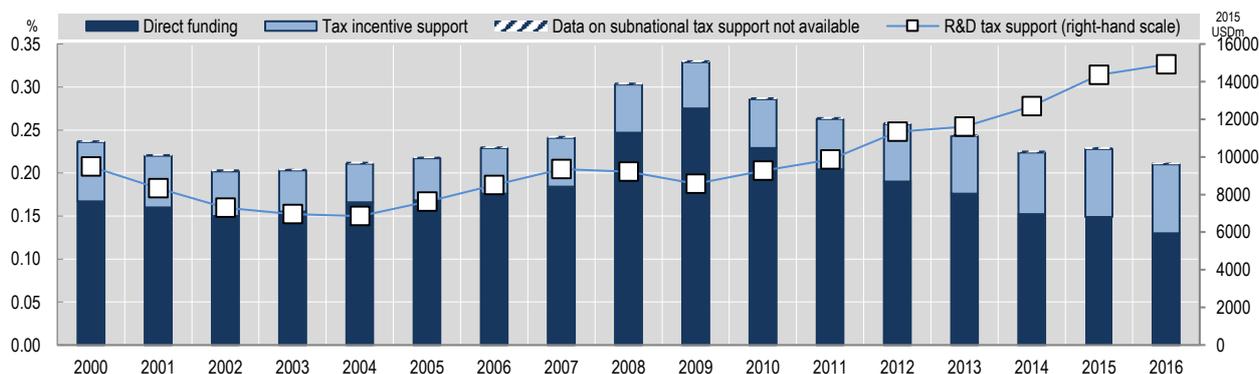
Source: OECD, R&D Tax Incentives Database, http://oe.cd/rdtax, March 2021.

- The cost of government tax support for R&D rose (in 2015 prices) from USD 9.5 billion in 2000 to USD 14.9 billion in 2016 (1 USD = 0.855 EUR, Q3 2020).
- As percentage of GDP, tax support remained practically unchanged at 0.07% of GDP over this period, reaching 0.08 in 2016.
- Direct funding of BERD decreased from 0.17% of GDP in 2000 to 0.13% of GDP in 2016.
- The share of R&D tax incentives in total government support declined from 29% in 2000 to 16% in 2009 at the peak of the global financial crisis, and steadily increased thereafter to 38% in 2016.

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