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Working Party of National Experts on Science and Technology Indicators

Statistical quality review of the OECD R&D tax incentives database

A preliminary assessment

This document provides evidence for the statistical quality review of the OECD R&D tax incentives database, a unique component of the OECD statistical infrastructure on science, technology and innovation supporting policy, research and business advice. The document describes the statistical processes and outputs, provides an initial assessment against the multiple dimensions of statistical quality, and invites feedback from actual and potential users of these statistics and related material produced by the OECD.

In order to support the collection of feedback from non-governmental users on the database, CSTP and NESTI delegates are invited to review and approve this document via written procedure for subsequent release as a CSTP-declassified OECD ONE document. Approval will be assumed if no responses are received by 5 October 2023.

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Milestone 2: Statistical quality review for the OECD R&D tax incentives database

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Abstract

This document provides evidence for the statistical quality review of the OECD R&D tax incentives database, a unique component of the OECD statistical infrastructure on science, technology and innovation supporting policy, research and business advice. The document describes the statistical processes and outputs, provides an initial assessment against the multiple dimensions of statistical quality, and invites feedback from actual and potential users of these statistics and related material produced by the OECD. Feedback from database users can be sent to RDTaxStatsContact@oecd.org.

[1] This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area. The Statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities or third party. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

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Statistical quality review of the OECD R&D tax incentives database

1. Introduction

1. Since 2007, the OECD has worked to extend the international evidence on R&D tax incentives, developing methodologies and data infrastructures that have been met with considerable interest and have become widely used in the policy, statistical and academic arenas. The OECD survey on R&D tax incentives, carried out on a bi-annual basis from 2007 to 2015 and on an annual basis since, represents the main vehicle for collecting qualitative policy information and quantitative data on R&D tax incentives. R&D tax incentives represent a key innovation support instrument that had grown in importance over time while it had been excluded from regular statistical R&D reporting frameworks.

2. This work on R&D tax incentives is conducted by the OECD Directorate for Science, Technology and Innovation (DSTI), under the oversight of the Committee for Scientific and Technological Policy (CSTP)'s Working Party of National Experts on Science and Technology Indicators (NESTI), in close collaboration with the Centre for Tax Policy and Administration (CTPA). Its outputs are widely used across the entire organisation and outside, and it has been reported in the background issues paper for the 2023 Ministerial Council Meeting.

3. Members of the OECD R&D Tax Incentives expert network[2] contribute to this OECD data collection effort, carried out in line with the internationally agreed methodological guidelines laid out in the OECD Frascati Manual (OECD, 2015), which for the first time contains in its seventh edition a dedicated chapter (Chapter 13) on measuring government tax relief for R&D expenditures.

4. The OECD R&D tax incentives survey supports the production of qualitative and statistical outputs under the overall heading of the "OECD R&D tax incentives database". This database is as of April 2023 disseminated via the OECD.Stat corporate tool for statistical dissemination, the OECD INNOTAX portal on policies hosted within the OECD-EU STIP Compass, a satellite OECD website, and the OECD STI.Scoreboard platform for statistical indicators on science, technology and innovation, also hosted within the STIP Compass. Providing indicators at the interface of R&D and corporate tax policy areas, the statistics are also available through the Corporate Tax Statistics resources of the OECD.

5. Since 2003, the OECD Statistics Directorate has implemented a Quality Framework for OECD Statistical Activities under which each statistical activity of the organisation must be quality-assessed.[3] The review of the OECD R&D tax incentive indicators was proposed as a milestone in the OECD MABIS project 2020-23 as a key step towards the recognition of the database as key piece of statistical infrastructure for the OECD, bearing in mind its extensive use and unique nature, since no other organisation compiles these indicators. The review represents the latest addition to OECD statistical

[2] This network comprises delegates from the OECD Working Party of National Experts on Science, Technology and Innovation (NESTI) and Working Party No. 2 on Tax Policy and Statistics (WP2) among other national experts from science and research ministries, finance ministries, and tax revenue agencies.

[3] See https://www.oecd.org/sdd/qualityframeworkforoecdstatisticalactivities.htm

quality reviews carried out by DSTI in the broader domain of R&D and innovation.[4] The OECD quality review typically entails a self-assessment of the statistical activity by the Secretariat, supplemented with a review by external users. In the case of the RDTAX review, this entails feedback from selected national experts of the OECD R&D tax incentives expert network in addition to some preliminary usage statistics.

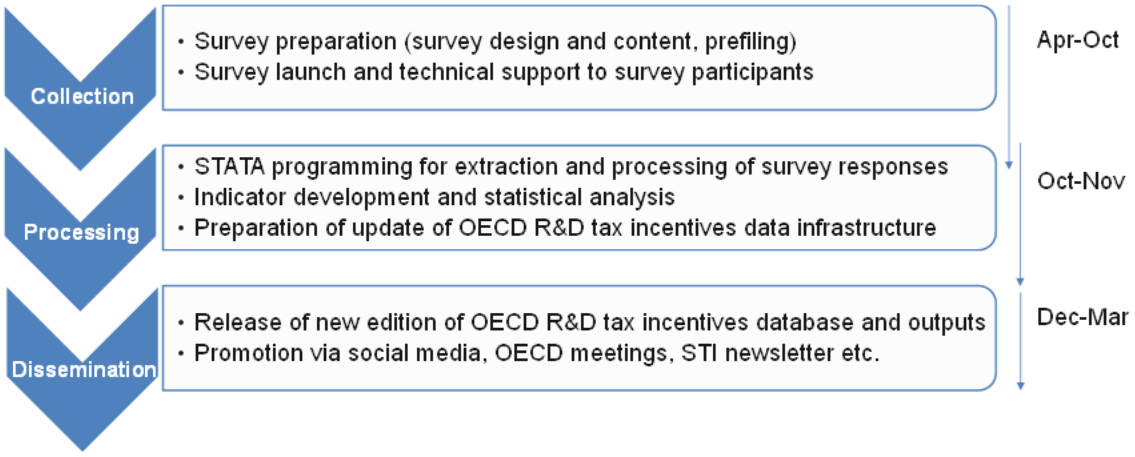
6. This report provides evidence and preliminary assessments supporting the statistical quality review for the OECD R&D tax incentives database, thus focusing on the statistical processes and outputs within the overarching operation that also contains non statistical elements, but are critical for interpretability, context and comprehensive analysis by users.

7. This report is structured as follows. Section 2 describes the statistical tools and OECD processes in place to collect, review and process national R&D tax incentives data from countries and disseminate up-to-date and internationally comparable R&D tax incentive indicators. Section 3 presents the preliminary assessment for the statistical quality review on the two main OECD indicators on R&D tax incentives. Section 4 concludes with the main next steps.

2. Statistical tools and processes

8. The annual process for the compilation of statistics on R&D tax incentives focuses on two main indicators, namely Government tax relief for R&D expenditure (GTARD) and Implied tax subsidy rates on R&D expenditures (derived based on the B-Index[5]). Figure 1 provides an overview of the main steps and timeline in the OECD collection and dissemination of data on R&D tax incentives.

Figure 1. Collection and dissemination of R&D tax incentives data – main steps and timeline



[4] Earlier DSTI quality assessments relate to the data collection process for the Research and Development Statistics (RDS), initiated in 2016 - triggered by the release of the new Frascati Manual guidelines (OECD, 2015) -, and completed in 2017 [DSTI/STP/NESTI(2017)13], and soon followed by the companion statistical processes for the OECD Main Science and Technology Indicators in 2017.

[5] The tax subsidy rate is defined as 1 minus B-index, a measure of the before-tax income needed by a "representative" firm to break even on USD 1 of R&D outlay (Warda, 2001).

2.1. Source data

9. R&D tax incentive statistics draw on the quantitative and qualitative information collected as part of the annual OECD R&D tax incentives survey. This survey comprises two excel-based survey modules that focus on the design and cost of R&D tax incentives respectively, the latest survey covering R&D tax incentives in nearly 50 countries over the 2000-22 period. Multiple inputs are required for the production of the two main R&D tax incentive indicators (Table 1). While the OECD GTARD indicator draws on the R&D tax expenditure figures, including accompanying metadata, collected through the cost module of the OECD R&D tax incentives survey, the estimation of B-Index indicator relies on the mostly qualitative design information collected through the design module of the survey.

Table 1. Data inputs for the production of the main OECD R&D tax incentive indicators

	Cost module	Design module
Estimates of the cost of Government Tax Relief for R&D (GTARD)	• **R&D tax expenditures** (i.e. forgone tax revenues and refundable payments where applicable) • **Metadata** on the estimation of R&D tax expenditures (e.g. accrual vs cash-based estimates)	-
Estimates of the implied marginal R&D tax subsidy rate (B-Index)	-	**Design features accounted for in the B-index modelling:** • Tax base (e.g. CIT, payroll) • Tax instrument (credit vs allowance) • Tax offset: volume-based vs incremental • Headline rates by firm size • Eligible R&D expenditures • Taxability of R&D tax benefits • Payment modalities (e.g. instalments) • Carry-over/refund provisions • Compatibility of multiple tax incentives • *Limitations (Floor, Threshold, Ceiling) • Baseline tax treatment of R&D expenditures (e.g. expensing of current expenditure, depreciation method and rates for capital expenditures)

Note: National R&D tax expenditure figures typically draw on the R&D tax relief related information reported by companies in their annual corporate income tax returns. The main OECD B-Index estimates, derived 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. Due to limited data availability, the main OECD B-Index estimates are not adjusted for provisions that bound the tax benefits received by firms (e.g. ceilings, thresholds). *Separate contemporary cross-sectional OECD estimates of marginal tax subsidy rates based on adjusted (weighted) tax credit/allowance rates are reported for several countries (OECD, 2023) based on available information on the proportion of eligible R&D subject to different marginal levels of tax relief.
Source: OECD.

2.2. Data collection

10. The annual OECD R&D tax incentives data collection is carried out on a rolling basis over the June-October period to accommodate for variability in the timing of updates of national statistics on R&D tax relief (i.e. R&D tax expenditure estimates) across reporting countries. This relatively broad time window is key for capturing the latest policy reforms, i.e. enacted and planned changes in the availability, design and implementation of R&D tax incentives in countries within the reporting year. Members of the OECD R&D tax incentive expert network typically review, update and amend the two secretariat's pre-

filled excel-based survey modules before resubmitting them to the OECD Secretariat for validation and further processing. Pre-filling is a very important part of the process as empty cells tend to generate an incentive for item non-response by countries, whereas pre-filled values encourage fact checking within countries. After carefully exploring several potential options, the OECD Secretariat has agreed with expert contact points that the collection be based on Excel-based spreadsheets.

2.3. Data processing

11. The data collected through the OECD R&D tax incentives survey are read from the source spreadsheet files and processed by the OECD with the help of the statistical software programme STATA, starting from the initial extraction of survey responses (i.e. source data) to the actual production of indicators. Several operations are hereby performed by the OECD Secretariat with a view to deriving internationally comparable R&D tax incentive indicators of the cost of R&D tax relief to governments (GTARD) and implied R&D tax subsidy rate to firms based on the B-Index.

2.3.1. Data validation

GTARD

12. The cost module of the OECD R&D tax incentives survey contains an introductory section with information on the measurement of government tax relief, including elements to be excluded (e.g. income-based tax support, baseline tax deductions for R&D expenditures), building on the OECD Frascati manual measurement guidance.

13. As new countries join in the OECD R&D tax incentives survey, the OECD Secretariat actively approaches survey participants to inquire about the scope and estimation of R&D tax expenditure figures to ensure their conformity with the OECD Frascati measurement guidelines. Since countries typically revise R&D tax expenditure figures over time (e.g. due to retrospective tax claims being processed at a later stage), changes in the cost estimates are to be expected from one survey to another, especially for more recent years. Policy reforms may also lead to larger scale changes in the cost of R&D tax relief over time. This in turn implies that a manual, in-depth review and comparison of prefilled and submitted cost figures, including metadata, are required to identify any possible inconsistencies in data reporting by countries.

14. Whenever larger scale and not directly explainable changes or jumps in the cost of R&D tax relief are observable, the OECD Secretariat consults with the national experts in the respective country to obtain additional information on the cost figures reported, including reasons for upward or downward revisions and the role of policy reforms among other explanatory factors (e.g. economic shocks). The STATA code developed by the OECD also includes some built-in checks to verify that breakdowns (e.g. GTARD by firm size, industry) are correctly reported and add up to the reported total.

B-Index

15. As in the case of R&D tax expenditure estimates, the OECD Secretariat checks that the qualitative R&D tax incentive information reported by countries is in line with the OECD Frascati manual measurement guidance (e.g. exclusion of income-based tax support, and baseline tax deductions in reporting of allowance rates) and contacts countries in case of doubt or ambiguity. The review of the design information is also carried out mostly manually by the OECD given the qualitative nature of the data and complexity of the subject matter.

16. The STATA code developed by the OECD includes a built-in check to compare the B-Index estimates derived by the OECD in the current vis-à-vis previous year. This automatised ex-post check shall help ensure that the OECD modelling correctly accounts for policy reforms and any possible revisions in the design information reported by countries. However, this check may likewise help identify possible abnormalities in design data reporting by pointing to unusual patterns in the B-Index estimates.

2.3.2. Data compilation

GTARD

17. The data collected from each country under the cost questionnaire module, including R&D tax expenditure figures and related metadata, are imported from the excel-based survey module into STATA where scheme level R&D tax expenditure figures are aggregated at country level and matched to R&D (BERD, government-financed BERD, GBARD) and economic (GDP, PPPs) indicators from the OECD MSTI database. The RDTAX dataset for upload in OECD.Stat includes two GTARD indicators that capture indirect support through R&D tax incentives at central and subnational government level. In addition, RDTAX includes two direct government support related indicators – government financed BERD and government budget allocations for R&D (GBARD) – and a combined indicator reflecting the sum of GBARD and GTARD (R&D tax support at central government level).

18. All five variables are reported in three different units (National currency million as collected, as a percentage of GDP and as a percentage of BERD) and flags are included separately for each variable, using the flags included in the cost questionnaire in the case of GTARD indicators and those reported in the MSTI database in the case of government-financed BERD and GBARD. With the release of each GTARD data series, a dedicated metadata file (PDF) is made available that includes general and country specific notes on scheme coverage and data availability: http://www.oecd.org/sti/rd-tax-stats-gtard-notes.pdf

B-Index

19. The OECD has produced a dedicated STATA code for the estimation of the B-index indicator which draws on the B-Index methodology outlined in OECD (2023) and design information collected through the design module of the OECD R&D tax incentives survey (see Table 1).

20. While the qualitative survey information can in principle be extracted and imported into STATA for further processing and publication (this is done in the case of the new OECD INNOTAX portal), the B-Index estimation itself draws on a separate CSV file that contains the relevant design information and other variables required for the estimation. The direct export and use of the design information in the design module is not feasible for the B-Index modelling due to two factors:

- The data fields in the design module contain a considerable volume of textual information (e.g. description of design feature, explanatory notes) that may require additional coding,
- Choices have to be made often regarding which schemes are suitable for modelling and how to implement the model under rather specific design features (e.g. which tax credit rate to model if a range of values applies). The manual creation and update of a separate file is thus necessary to extract the relevant, quantitative information for the B-Index modelling (e.g. headline tax credit rate for SMEs).

21. With the release of each B-Index data series, a dedicated metadata file (PDF) including general and country specific notes on the schemes and provisions modelled is made available to users: http://www.oecd.org/sti/rd-tax-stats-bindex-notes.pdf

2.3.3. Adjustments

GTARD

22. No adjustments are made in the R&D tax expenditure figures reported by countries and validated by the OECD, beyond their scaling by GDP and BERD. Imputations of country specific GTARD figures, where not available for selected years, are made to derive the OECD and EU Totals but these imputed values for individual countries are not included in the RDTAX OECD.Stat dataset.

B-Index

23. Other than those highlighted under the modelling work, no additional adjustments are made in the B-Index estimates produced by the OECD. Any country-specific adjustments in the B-Index modelling are appropriately flagged in dedicated notes (see point above) and so are any follow-up revisions in the estimates following updates/revisions of the design data.

2.3.4. Dissemination

24. The first step of dissemination is through the OECD.Stat corporate statistical dissemination tool. Two statistical datasets (RDTAX and RDSUB) are made available (Table 2):

- **RDTAX**: Estimates of the cost of Government Tax Relief for R&D (GTARD)
- **RDSUB**: Estimates of the implied marginal R&D tax subsidy rate (1-B-Index) faced by firms of different firm size (SMEs and large firms) and profitability (profit-making and loss-making).

Table 2. Main indicators in the OECD R&D tax incentives database

	Statistical indicator	Years	Metadata and related resources	Additional source
RDTAX	Government tax relief for R&D expenditure	2000-2020	GTARD notes OECD (2015) Appelt et al. (2019) OECD (2023)	-
	Direct funding of BERD	2000-2020		OECD MSTI database
	Government budget allocations for R&D (GBARD)	2000-2020		OECD MSTI database
RDSUB	Implied R&D tax subsidy rates (1 – B-Index)	2000-2022	B-Index notes B-Index methodology OECD (2023)	-
	Effective tax rates for R&D (ETR)	2019-2021	González Cabral et al. (2021)	OECD CTS database

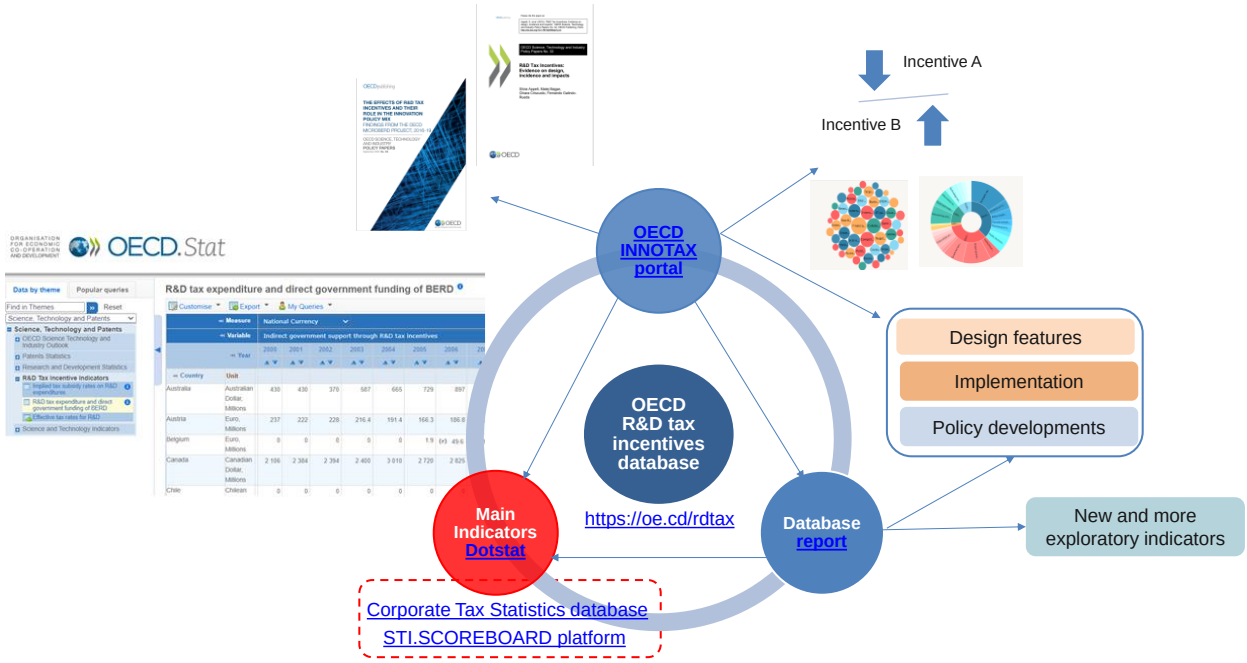
Note: This table displays the main indicators on R&D tax incentives contained in the two OECD.Stat data sets (RDTAX and RDSUB), including related indicators on direct government support (direct funding of BERD and government budget allocations for R&D sourced from the OECD database on Main Science and Technology Indicators – MSTI) and the indicator of effective tax rates for R&D produced jointly with the OECD Centre for Tax Policy and Administration and sources from the OECD database on Corporate Tax Statistics (CTS).
Source: OECD

25. The indicators available on OECD.Stat are automatically retrievable by the dedicated OECD STI.Scoreboard tool for STI indicators

(https://www.oecd.org/sti/scoreboard.htm). This allows for the indicators to be accessed by users with a thematic STI policy interest not necessarily drawn into the generic OECD statistical repository. STI.Scoreboard implements SDMX queries on the OECD.Stat cubes and allows indicators on R&D tax incentives to be visualised and downloaded alongside indicators that "live" in other OECD.Stat cubes. The OECD Corporate Tax Statistics database (https://oe.cd/corporate-tax-stats), managed by the OECD Centre for Tax Policy and Administration provides an additional channel to access the OECD.Stat indicators on R&D tax incentives to the tax policy specialist user base.

26. Figure 2 provides an overview of the dissemination structure for the indicators on R&D tax incentives, showing connections to policy databases from which they can also be accessed.

Figure 2. Main components of OECD R&D tax incentives database dissemination structure



Source: OECD

27. Since April 2023, the indicators are also available through embedded STI.Scoreboard renderings of the indicators located with the new OECD INNOTAX portal on R&D tax incentives. This portal is hosted within the OECD-EU STIP Compass, a satellite OECD website. The OECD INNOTAX portal was launched in March 2023 to provide a single access point to the latest policy design information, quantitative indicators and OECD analysis on R&D tax incentives (https://stip.oecd.org/innotax/). This allowed for significant simplification and streamlining of the official OECD webpage dedicated to R&D tax incentives (https://oe/cd/rdtax) in line with OECD communications best practice.

28. A dedicated annual report on the OECD R&D tax incentives database (OECD, 2023) that is declassified by committee after review by national contact points, highlights the latest policy developments in this area, provides a comprehensive and more detailed description of these two indicators and showcases some novel and exploratory statistics collected via the OECD R&D tax incentives survey.

3. Statistical quality review

29. The OECD Quality Framework views quality in terms of seven dimensions: relevance, accuracy and reliability, timeliness and punctuality, coherence, accessibility and interpretability and confidentiality. While not listed among the quality dimensions, an assessment of cost-efficiency is also requested.

3.1. Quality dimensions

3.1.1. Relevance, user needs and perceptions

OECD view of relevance

30. Relevance is a qualitative assessment of the value contributed by the data. Value is characterised by the degree to which the data serves to address the purposes for which they are sought by users. It depends upon both the coverage of the required topics and the use of appropriate concepts. Relevance may be indirectly assessed by ascertaining whether there are processes in place to determine the views of users and the uses they make of the data. Users include the Secretariat, Committees, member governments, and other external users.

OECD self-assessment

31. The R&D tax incentive data collected and disseminated by the OECD under the auspices of the OECD Working Party of National Experts on Science and Technology Indicators (NESTI) emerges out of demand from OECD member countries and are partly based on the guidelines set out in the OECD Frascati Manual (Chapter 13) and, as such, on sound methodology and concepts. The latter were the outcome of nearly ten years of OECD data collection and regular dialogue with members of the OECD R&D tax incentives expert network which bring in their experience at national level. Furthermore, NESTI works under the mandate of the OECD Committee for Science and Technology Policy (CSTP) with an aim to respond to its analytical and policy needs.

32. The main users of the OECD R&D tax incentive indicators include OECD analysts, EC analysts, national policy makers and delegates, scholars and tax policy analysts. The OECD indicators on R&D tax incentives are extensively used in OECD and EC flagship publications as well as academic studies (e.g. Hall, 2019) and national innovation policy reports (e.g. EFI, 2022). This includes the OECD STI Outlook[6], OECD Innovation Policy Reviews, OECD Economic Surveys, ad hoc studies such as a recent OECD STI-ECO study on the R&D tax credit in Iceland, the European Semester country reports[7] as well the Science, Research and Innovation Performance of the EU (SRIP) [8]report. The frequent use of OECD R&D tax incentive indicators demonstrates the relevance of these indicators for policy makers. On the other hand, the need for more detailed data for certain policy relevant dimensions (e.g. directionality of R&D tax support) make breakdowns of available indicators and adaptions to specific groups a high priority.

[6] https://www.oecd.org/sti/oecd-science-technology-and-innovation-outlook-25186167.htm The 2021 OECD STI Outlook contained a dedicated chapter on government support for business R&D and innovation featuring the OECD R&D tax incentives indicators.

[7] https://economy-finance.ec.europa.eu/publications/2023-european-semester-country-reports_en

[8] See https://research-and-innovation.ec.europa.eu/strategy/support-policy-making/support-national-research-and-innovation-policy-making/srip-report_en

33. Beyond policy making circles, the OECD indicators and companion qualitative information are extensively used by researchers and business advisory companies in multiple contexts. The indicators have received media coverage among prestigious business journals as well as by internet media following tax and innovation policy issues.

34. Another dimension of relevance is the breadth of territorial coverage among member countries, partners and key economies. The OECD R&D tax incentives data collection and resulting indicators currently cover 49 countries. This includes all OECD member countries and EU countries alongside other selected major economies (Argentina, Brazil, China, South Africa, Russian Federation[9], Thailand), but at present not all OECD accession countries (e.g. Peru) or G20 countries (e.g. India, Indonesia) are covered. The main OECD R&D tax incentives indicators can thus not be fully used to meet increasingly frequent demands for indicators for the G20 area or for all CSTP participants.

35. While a dedicated user satisfaction survey has not been carried out to date, frequent exchanges with STI and tax experts, policy makers and academic experts fulfil this function in practice. The annual meeting of the OECD R&D tax incentives expert network, open to NESTI and WP2 delegates among other STI and tax experts as well as EU officials, provides a platform to collect feedback on the OECD measurement work in this area. In selected cases, academic experts are also invited to the annual meetings of this expert group to present their work and point to unmet data needs in this area, in particular in the context of analytical applications. The outcomes of recent rounds of the CSTP Programme of Work and Budget process continues to show that the committee highly values this line of line of work and measurement above several others.

36. User feedback on the OECD R&D tax incentive indicators was last collected from experts at the 2022 OECD R&D tax incentives expert meeting (see Section 3.2). National experts expressed their overall satisfaction with the coverage and international comparability of the OECD R&D tax incentive indicators as well as their relevance for policy making and analysis. However, they also pointed to some unmet user needs such as the provision of more granular R&D tax relief statistics (e.g. by main economic activity, policy priority areas) to inform about the directionality of R&D tax support.

37. Up until now, granular data of GTARD by main economic activity are only available for a subset of countries (OECD, 2023) and have thus not been included in the OECD.Stat. By contrast, data on the distribution of R&D tax support by policy area is currently not readily available and would require a more in-depth, semantic analysis of R&D tax relief project descriptions. While such an analysis goes beyond the scope of the annual OECD R&D tax incentive data collection, the OECD may carry out such a pilot analysis in the future subject to data availability and country participation.

[9] In response to Russia's large-scale aggression against Ukraine, the OECD Council decided on 8 March 2022 to immediately suspend the participation of Russia and Belarus in OECD bodies. In view of this decision, the OECD suspended its solicitation of official statistics on R&D tax incentives from Russian authorities, leading to the absence of more recent statistics on R&D tax subsidy rates for this country in the OECD database, while previously compiled data are still available. In the case of Russia, the estimates of implied marginal R&D tax subsidy rates reported for 2022 draw on information collected through OECD desk-based research and are not based on officially transmitted information.

3.1.2. Accuracy and reliability

OECD view of accuracy and reliability

38. The accuracy of statistical outputs in the general statistical sense is the degree of closeness of computations or estimates to the exact or true values that the statistics were intended to measure. Reliability refers to the closeness of the initial estimated value to the subsequent estimated value.

OECD self-assessment

39. The OECD Secretariat reviews and validates the quantitative and qualitative information collected as part of the OECD R&D tax incentives survey (see Section 2) with a view to ensuring the conceptual accuracy of the OECD R&D tax incentive indicators, i.e. their alignment with the OECD Frascati Manual guidelines. Furthermore, several automatic checks are built in the OECD STATA code to check and verify the accuracy of the data reported by countries and indicators produced by the OECD.

40. With a response rate of more than 90%[10], the country coverage of the OECD R&D tax incentives survey is comparatively high. However, some countries may offer multiple R&D tax incentives and the coverage of selected schemes may only be partial. Item-non-response is rather low in the case of R&D tax expenditure figures and the main design features reported by countries as part of the OECD survey. R&D tax expenditure estimates are available for 95 out of the 104 R&D tax incentive schemes[11] (91%) covered in the latest survey, whereas B-Index estimates are available for all 49 countries, covering the main R&D tax incentive schemes in each country over the 2000-22 period (see B-Index notes). The latter illustrates the completeness of the design data collected as part of the survey.

41. The accuracy of the two main R&D tax incentive indicators is not significantly impacted by imputations. Imputations of country specific GTARD figures, where not available for selected years, are made to derive the OECD and EU Totals[12] but the imputed values for individual countries as such are not publicly reported. Likewise, no imputations are undertaken in the case of the B-Index data series which is essentially complete.[13]

42. Corrections of GTARD and B-Index figures may be necessary due to a misclassification of tax relief measures as R&D tax incentives. In 2022, for instance, a correction of the B-Index and GTARD estimates was undertaken in agreement with experts in Israel who reconfirmed the non-R&D specific nature of Israel's accelerated depreciation provision, disqualifying it as R&D tax incentive measure. Correction of R&D tax expenditure figures have also been necessary when reported R&D tax expenditure figures

[10] The latest OECD R&D tax incentives survey in 2022 had response rate of 92%, with no response received from China, Romania and Thailand.

[11] Cost estimates are not available for tax incentives that imply an accelerated depreciation of capital inputs used in the context of an R&D project. The preferential tax treatment is more difficult to establish in the case of such incentives. The latter are also prone to only account for a small share of total R&D tax support in a given country due to the comparatively small weight attached to R&D capital expenditures on average.

[12] Missing country-specific values are imputed applying the average growth rate in R&D tax relief over the last three years (moving average). The robustness of OECD and EU totals to different imputation methods (e.g. compound annual growth rate of last three years) is tested.

[13] B-Index estimates are missing for 2021 and 2022in the case of Thailand, where the retrospective extension of the R&D tax allowance has not been confirmed yet.

comprised the value of baseline tax deductions, departing from OECD reporting guidelines. Most inaccuracies of this type are already identified by the OECD Secretariat at the stage of data validation and lead to an immediate update and revision of country responses. Given the long track-record of the OECD R&D tax incentives survey and international measurement guidance available, errors of this kind have become progressively less common over time.

43. As discussed in Section 2, R&D tax expenditure figures for recent years are often preliminary and partial as get revised by countries in successive years. The OECD Secretariat verifies the nature and scope of the revisions reported by countries as part of the annual survey process and accounts for such revisions in the update of figures in OECD.Stat. Any additional, interim updates are only undertaken in the case of larger scale revisions by countries outside the regular data collection cycle. Interim updates may be required due to reporting errors, significant changes in the estimation of national R&D tax expenditure figures or important updates in the policy design information available. A recent change in the baseline tax treatment of R&D expenditures in the United States (expensing provision) outside the regular data collection cycle required, for instance, an interim update of the 2022 B-Index estimates for the United States. Over the past five years, 1-2 additional interim updates of GTARD and/or B-Index estimates (outside the regular data collection cycle) were typically necessary in any given year, suggesting that the overall level of data accuracy is satisfactory, and the extent of errors in data reporting fairly low.

3.1.3. Timeliness and Punctuality

OECD view of timeliness

44. The timeliness of data products reflects the length of time between their availability and the event or phenomenon they describe, but considered in the context of the time period that permits the information to be of value and still acted upon. Closely related to the dimension of timeliness, the punctuality of data products is also very important, both for national and international data providers. Punctuality implies the existence of a publication schedule and reflects the degree to which data are released in accordance with it.

OECD self-assessment

45. The timeliness of the data published by the OECD is largely determined by the timeliness of the data it receives from the contributing organisations. The Secretariat itself can also be a potential source of delay, which may occur during collection, processing, derivation, or dissemination.

46. The OECD R&D tax incentives survey collects recent design information for the year in which the survey is carried out, ensuring the timeliness of the B-Index indicator that draws upon this information. The latest B-Index estimates – reflecting the expected R&D tax subsidy rates to firms of different size and profitability - typically become available in the same year, with figures on OECD.Stat being updated in December.

47. While the GTARD indicator is also updated at the same time as the B-Index indicator, it provides a less timely picture of the magnitude of R&D tax relief in countries. Information on the cost of R&D tax support typically becomes available with a time-lag of two to three years. Reliable data on R&D tax incentives are based on tax returns for completed tax years. Budgetary data can be timelier but it is also subject to a greater degree or error. The OECD is in the process of exploring the scope for combining tax return and budget-based estimates to provide a timelier view on the magnitude of R&D tax support.

48. The Secretariat has considered in the past whether a rolling update would be preferable and manageable with the available resources. The current approach seems at the present the preferable compromise.

3.1.4. Accessibility

OECD view of accessibility

49. The accessibility of data products reflects how readily the data can be located and accessed from within OECD data holdings. The range of different users leads to such considerations as multiple dissemination formats and selective presentation of metadata. Thus, accessibility includes the suitability of the form in which the data are available, the media of dissemination, and the availability of metadata and user support services. It also includes the affordability of the data to users in relation to its value to them and whether the user has reasonable opportunity to know that the data are available and how to access them.

OECD self-assessment

50. The OECD R&D Tax Incentives database (quantitative indicators) is published in line with the open-readiness criteria for OECD.Stat datasets, following OECD quality data standards[14] ensuring the use of self-explanatory variable labels, availability of metadata at data set and lower levels, including definition of relevant units and ensuring a successful export in all standard available format, together with information on the terms and conditions of use. A machine-readable CSV file (https://oe.cd/ds/rdtax) containing all the data is also available for direct download. The database version (year of data collection and number of data update, e.g. OECD R&D Tax Incentives Database 2020/2) is specified in the OECD.Stat R&D Tax Incentives database (Metadata and Data download section) and in the excel-based version of the database.

51. No restrictions apply to data considered suitable for external OECD usage, and data suitable for external use are freely available. The quantitative data are accessible through the main OECD R&D tax incentives website (https://oecd/rdtax) which includes a direct link to the OECD R&D Tax Incentives database (OECD.Stat):

- RDTAX: https://stats.oecd.org/Index.aspx?DataSetCode=RDTAX
- RDSUB: https://stats.oecd.org/Index.aspx?DataSetCode=RDSUB

52. The only software needed to access the qualitative and quantitative data is an Internet browser. The quantitative data, including/ flags, are retrievable with the OECD.API (https://data.oecd.org/api/) via SDMX queries. The indicators in OECD.Stat are then directly accessible from statistical packages/software such as Stata, R and Python. The user has also the possibility of manual exports from the OECD.Stat platform (https://stats.oecd.org/). In that case, the available formats for the quantitative data include Excel, XML and CSV formats. These output files can be loaded in various kinds of software ranging from MS Excel to more advanced statistical packages (e.g. R, Python, Stata).

53. Comprehensive general and country specific notes are included in the CSV file for download (https://oe.cd/ds/rdtax) as well as in separate PDF documents for each indicator (available in the OECD.Stat Metadata viewer and download sections).

- RDTAX: http://www.oecd.org/sti/rd-tax-stats-gtard-notes.pdf

[14] https://www.oecd.org/sdd/qualityframeworkforoecdstatisticalactivities.htm

- RDSUB: http://www.oecd.org/sti/rd-tax-stats-bindex-notes.pdf

54. The use of semantic search based on textual keywords is facilitated by the OECD R&D tax incentives database (OECD.Stat). As the latter is linked to the OECD INNOTAX portal, OECD STI Scoreboard platform and OECD Corporate Tax Statistics database, the main OECD R&D tax incentive indicators are also accessible via these three portals.

3.1.5. Interpretability

OECD view of interpretability

55. The interpretability of data products reflects the ease with which the user may understand and properly use and analyse the data. The adequacy of the definitions of concepts, target populations, variables and terminology, underlying the data, and information describing the limitations of the data, if any, largely determines the degree of interpretability. The range of different users leads to such considerations as metadata presentation in layers of increasing detail. Definitional and procedural metadata assist in interpretability: thus, the coherence of these metadata is an aspect of interpretability.

OECD self-assessment

56. The OECD R&D Tax Incentives database (quantitative indicators) is published in line with the open-readiness criteria for OECD.Stat datasets, ensuring the use of self-explanatory variable labels and availability of metadata at data set and lower levels, including UPR (Units, Power code, Reference period) metadata.

57. The vocabularies used in the OECD R&D Tax incentives database build upon the guidelines for measuring government tax relief for R&D, provided in Chapter 13 of the 2015 OECD Frascati Manual. The metadata creation further builds upon the open-readiness criteria for OECD.Stat datasets. Comprehensive general and country specific notes are included in the CSV file for download (https://oe.cd/ds/rdtax) as well as in separate PDF documents to guide different users in applying the OECD R&D tax incentives indicators.

58. A dedicated report (PDF format) describing the data and possible applications (OECD, 2019) is available on the R&D tax incentives website (https://oe.cd/rdtax).

3.1.6. Coherence and comparability

OECD view of coherence and comparability

59. The coherence of data products reflects the degree to which they are logically connected and mutually consistent. Coherence implies that the same term should not be used without explanation for different concepts or data items; that different terms should not be used without explanation for the same concept or data item; and that variations in methodology that might affect data values should not be made without explanation. Coherence has four important sub-dimensions: within a dataset, across datasets, over time, and across countries. Ensuring coherence across countries is one of the major sources of value added provided by the OECD. The role of metadata in explaining possible changes in concepts or methodologies over time and across countries is fundamental. Unexplained inconsistencies across datasets can seriously reduce the interpretability and credibility of OECD statistics. Comparability is a measurement of the impact of differences in applied statistical concepts, measurement tools and procedures where statistics are compared between geographical areas or over time.

OECD self-assessment

60. Coherence can apply at various levels in the case of the two main OECD R&D tax incentive indicators – GTARD and the B-Index – included in OECD.Stat.

Coherence across countries and over time

61. Data on R&D tax expenditures and the design features of R&D tax incentives are collected by the OECD for each national R&D tax incentive scheme on the basis of an internationally agreed methodology (Chapter 13 of the OECD Frascati Manual). Methodological information is collected together with the national statistical data. Consistency checks are systematically carried out (see Section 2) and deviations from the Frascati guidelines – hence from international comparability – are documented in the metadata available in OECD.Stat. Breaks in data series (e.g. due to changes in national estimation methods) are also systematically flagged and explained.

62. The OECD modelling of R&D tax incentives likewise relies on a well-established methodology (Warda, 2001) – the B-Index indicator – that helps quantify the generosity of R&D tax incentives based on their design features. Any country-specific adjustments in the B-Index modelling are appropriately flagged in the B-Index metadata notes and so are any follow-up revisions in the estimates following updates or revisions of the design input data.

Coherence within data set (RDTAX and RDSUB)

63. Different vintages of the RDTAX and RDSUB datasets may not be fully coherent. As discussed in Section 2, countries typically revise their GTARD estimates over time, especially those for more recent years. This implies that the RDTAX data sets of older vintages automatically get outdated over time. The same applies for the RDSUB dataset (B-Index indicator), even though to a smaller extent as retrospective design data revisions or updates for a given year are by far less common.

64. In addition to the B-Index indicator, the RDSUB data set contains the ETR indicator, developed jointly with OECD/CTPA. The B-Index and ETR indicators are conceptually related and draw upon the same design information (OECD, 2021), ensuring the coherence of different R&D tax incentive indicators within the RDSUB dataset.

Coherence with other OECD data on R&D tax incentives

65. The OECD data on R&D tax incentives are fully coherent. Any update of the two OECD.Stat data sets (RDTAX, RDSUB) entails an automatic update of the OECD INNOTAX portal, OECD STI Scoreboard platform and OECD Corporate Tax Statistics (CTS) database. All three portals are linked to the two OECD.Stat datasets on R&D tax incentives. Likewise, any update of the ETR indicators in the CTS database involves an automatic update of the ETR indicators in the RDSUB data set.

Coherence with external sources of R&D tax relief statistics

66. Some countries (e.g. Australia, Belgium, United Kingdom, United States) publish their own GTARD statistics at different points in time. The GTARD estimates reported by countries as part of the OECD R&D tax incentives survey and published by the OECD are by and large consistent with national R&D tax relief statistics albeit reporting and processing time lags may sometimes drive a wedge, as in most other statistical areas. National reports are often used for survey prefilling purposes. Incoherences can only arise to the extent to which countries publish updated GTARD estimates after the official OECD R&D tax incentive data collection cycle.

67. While countries typically use the B-Index estimates produced by the OECD for their own policy analysis, there have been some instances – in particular prior to the release of the RDSUB data set in 2018 - where academic experts computed their own B-Index estimates for analytical applications (e.g. Thomson, 2017). Deviations from the OECD estimates may arise if different modelling assumptions and/or input parameters are applied in academic studies. The OECD makes available comprehensive metadata with general and country-specific metadata for users to be able to identify any modelling differences.

Coherence with other OECD statistics on R&D

68. In response to user needs, R&D tax incentive indicators are combined with other OECD R&D indicators for normalisation and comparison purposes, with the objective to obtain a more comprehensive indicator of government financial support for R&D. Some alignment issues between these indicators coming from different sources have been reported and documented in the OECD reports and metadata.

- The ratio comparison with Business Expenditures on R&D may present issues of scope and time alignment. Furthermore, because tax support may be provided for R&D expense or potentially other activities, this may not match the statistical coverage of BERD which is reported on a performance basis.
- The comparison with government funding of Business Expenditures on R&D, frequently presented in an additive fashion, is impacted by the same problem that arises when combining administrative and survey-based indicators.
- The comparison with statistics of Government Budget Allocations for R&D implies the use of administrative data sources and exhibits a high degree of coherence. It would be ideal if GBARD were available broken down by beneficiary sector as a substitute for the more heterogeneous sum of GTARD and Government-funded-BERD.

69. Consultations with countries indicate that these challenges are well understood and that an imperfect association is more informative than the complete exclusion of these indicators or their isolated, decontextualised presentation. Indeed, the work on R&D tax incentives and the examination of coherence has enabled the detection of a significant number of instances of misreporting in the case of the GERD and GBARD indicators. Within countries, it has also contributed to informing statistical revisions.[15]

3.1.7. Confidentiality

OECD view of confidentiality

70. Confidentiality is a property of data indicating the extent to which their unauthorised disclosure could be prejudicial or harmful to the interest of the source or other relevant parties. A) Confidentiality policy refers to Legislative measures or other formal procedures which prevent unauthorised disclosure of data that identify a person or economic entity either directly or indirectly. B) Confidentiality data treatment refers to the rules applied for treating the data set to ensure statistical confidentiality and prevent unauthorised disclosure.

[15] See DSTI/STP/NESTI(2022)8/FINAL

OECD self-assessment

71. The B-Index indictor reflects the notional R&D tax subsidy that firms of different size (SME, large firms) and profitability (profitable, loss-making) can expect to receive when investing one additional monetary unit in R&D. It is a theoretical construct, computed based on the key design features of R&D tax incentives, not drawing on any confidential microdata. No rules must thus be applied to ensure the statistical confidentiality of the data.

72. Countries report GTARD (R&D tax expenditure) figures for each R&D tax incentive scheme as part of the OECD R&D tax incentive data collection, typically drawing upon firm level corporate tax returns. The OECD aggregates the scheme level R&D tax relief figures up to the country level – the relevant unit of analysis. As the scheme level R&D tax relief cost figures are non-confidential in nature, no specific confidentiality procedures are typically applied by countries when reporting these figures. Confidentiality issues primarily arise in the context of breakdowns (GTARD by firm size or main economic activity) where countries do from time to time set certain values to missing (cell suppression) in line with national confidentiality rules. Such breakdowns are for now not included in the official RDTAX dataset even though they can be sometimes featured in the annual report with the agreement of the countries providing the data.

73. No personal data other than the identity of the national expert contact points is processed in the statistical processing of data on tax incentives. These contact details are managed as any other official contact lists by the OECD.

3.1.8. Cost and burden

OECD view of efficiency

74. The cost-efficiency with which a product is produced is a measure of the costs and provider burden relative to the output. Provider burden is a cost that, while borne by the provider, is a cost to society nevertheless. Whilst the OECD does not regard cost-efficiency as a dimension of quality, it is a factor that must be taken into account in any analysis of quality as it can affect quality in all dimensions. If a product can be produced more efficiently with the same quality, then resources released can be used to improve the quality of that product or other products. Procedures which prevent unauthorised disclosure of data that identify a person or economic entity either directly or indirectly.

OECD self-assessment

75. The maintenance and update of the two OECD R&D tax incentive indicators primarily rely on the part-time input (50%) of one economist who is responsible for the OECD R&D tax incentive data collection and indicator development and typically supported by one intern during the preparation and launch of the survey. In addition, one statistician assists in the maintenance of the two OECD.stat data sets, including upload of relevant metadata.

76. Funding for the OECD R&D tax incentive statistics is mostly based on voluntary contributions with additional part 1 funding from the CSTP Programme of Work and Budget. The support from the European Commission's Horizon programmes stands out as the main source of funding, having contributed to the consolidation of this infrastructure through the TAX4INNO and MABIS projects.

77. The Secretariat makes all efforts to continuously improve the cost-efficiency of the maintenance of the R&D tax incentive data infrastructure. A regular assessment of the processes is in place with a view to find ways to improve them. Over the past years,

different data file management (e.g. Kiteworks) and survey solutions (e.g. Checkbox, Lime survey) have been explored, and the extraction and processing of quantitative and qualitative survey responses has been largely automatised via a computer-based, codified process that renders it easier and faster to generate new outputs, update, audit and make them usable by third parties.

78. Considerable time and resource are devoted to pre-filling the two excel-based survey modules for each country, sending these by email, following up with respondents by email, and processing the responses received into STATA for indicator development and their upload on OECD.Stat via Statworks. Considerable efficiencies might be gained by having one integrated platform for undertaking and managing the collection of data (including sharing data with countries, receiving/managing their responses/updates, processing and warehousing the data, and producing publication tables and charts) but no satisfactory one-stop-shop solution has yet been identified since potential choices do not meet internet security requirements of either OECD or national contact points.

79. As the two excel-based survey modules of the OECD R&D tax incentives data collection are prefilled, national experts can focus on reviewing, updating and amending the prefilled survey information as necessary. As previously noted, prefilling is particularly important as the survey collects comprehensive and detailed quantitative and qualitative information on R&D tax incentives, including metadata. While the OECD background research and prefilling effort is very time-demanding, it significantly reduces the response burden of countries and minimises the probability of item non-response. While the survey burden is kept to a minimal level, the required time investment by survey respondents in updating the survey ultimately depends on the number of R&D tax incentives and type of policy reforms each year. Several countries offer multiple R&D tax incentives (e.g. Japan: 4 tax incentives; Italy: 7; Hungary: 9). In these cases, the survey response time is prone to be above average. That said, for most countries which offer one or two R&D tax incentives, survey response time should be moderate.

3.2. User feedback and usage statistics

80. The annual meeting of the OECD R&D tax incentives expert network provides a stable platform to discuss the latest outputs of OECD work in this area and to systematically collect feedback from national experts on the use of these outputs for their own analysis and policy making. In addition, the usage of the GTARD and B-Index indicators in the two OECD.Stat datasets – RDTAX and RDSUB - can be monitored via OECD.Stat Dashboards.

81. The fragmentation in the information on the use of R&D tax incentive statistics makes a more comprehensive analysis of the OECD web presence - the two OECD.Stat datasets and R&D tax incentives webpage – challenging for the moment, in particular as relevant web usage statistics are not directly accessible by DSTI following the switch to a new and streamlined R&D tax incentives landing page in Q2 2023.[16] Work is underway on the side of OECD Public Affairs and Communication (PAC) Directorate to make the new usage dashboards for the new landing pages accessible to Directorates. Moreover, a more comprehensive analysis of the OECD web presence in this area of work by the OECD PAC

[16] The previous OECD R&D tax incentives website consisted of three pages each of which had multiple URLs due to mirroring across multiple site sections. This implies that some work would be required to pull up and add together in Google Analytics but it is unclear at the moment whether those are still accessible following the launch of the new RDTAX landing page.

Impact team is envisaged for Q3 2023 to support a broader assessment of the impact of the OECD-EC MABIS project.

3.2.1. User feedback from the 2022 OECD R&D tax incentives expert meeting

82. The 2022 OECD R&D tax incentives expert meeting contained a dedicated session to collect feedback on the OECD R&D tax incentives database (2021 edition), including the main R&D tax incentive indicators produced by the OECD. Experts from New Zealand and Norway led the discussion. The discussion highlighted key achievements of the OECD R&D tax incentive indicators, their use in policy analysis and policy making as well as potential areas for improvement and extension.

Key achievements and policy relevance:

- International comparability – availability of harmonized quantitative data on R&D tax incentives for OECD countries.
- Provision of a more complete picture of government government efforts to support business R&D by combining R&D tax incentive data with the data on direct government funding.
- Availability of relevant comparative R&D statistics that facilitate a comparison of government tax relief for R&D to direct government funding at the aggregate level.
- Time-series perspective of indicators which facilitate highly relevant overviews of the main trends in the magnitude and generosity of R&D tax support.
- The ability to make international comparisons of the design and implied generosity of R&D tax incentives through the B-Index indicator, especially useful in the policy design phase independently from the assessment of money spent by governments.

Possible areas for extension, improvement and data development:

- Inclusion of additional R&D tax relief statistics and breakdowns such as:
  - R&D tax support by detailed industry sector (over time)
  - R&D tax support devoted to priority policy areas, potentially socioeconomic objectives or technology domain.
  - Business expenditures qualifying for R&D tax support, total (provided in annual report but not a core statistic) and by industry.
- Development of evidence on the simultaneous use of R&D tax credits and direct funding by businesses
- Provision of a more comprehensive picture of R&D and innovation support, i.e. add data on support for non-R&D innovation activities
- R&D and innovation tax incentives for non-business beneficiaries

83. National contact points engaged in the provision and use of data have emphasized the importance of the international comparability of the OECD indicators and their high policy relevance in providing a more complete and integrated view of government efforts to support business R&D through the tax system. However, they also highlighted that there is scope for further developing the existing OECD data infrastructure by covering additional, more novel R&D tax relief statistics some of which (e.g. GTARD by detailed industry – collected since 2021, qualifying R&D – collected since 2020) have been reported by countries as part of the annual OECD R&D tax incentives survey but feature for now

only in the OECD R&D tax incentives database report given their more experimental nature. Other connected suggestions go beyond the direct measurement of R&D tax incentives and involve a more granular and comprehensive measurement of the full landscape of business innovation support, which point in the direction of developing complementary data and statistical resources with different units of analysis.

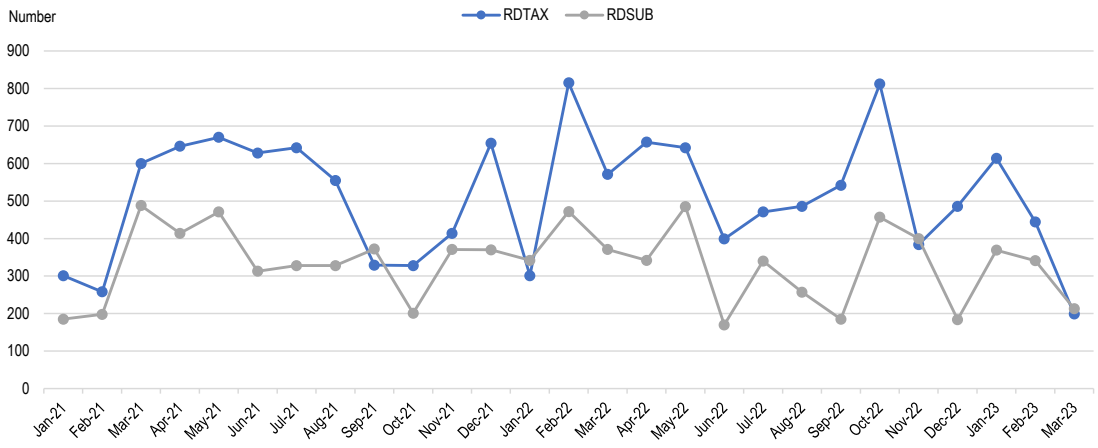
3.2.2. OECD.Stat usage statistics

84. The first edition of the OECD R&D tax incentives indicators was released on OECD.Stat through the publication of the RDTAX and RDSUB datasets (data cubes) in November 2018 (OECD, 2019). OECD.Stat usage statistics are currently available for these two data sets for the period Jan 2021 to March 2023. Figure 3 shows how the number of unique page views has evolved over this period, both on a monthly (Panel A) and quarterly basis (Panel B), drawing on the OECD.Stat usage statistics.

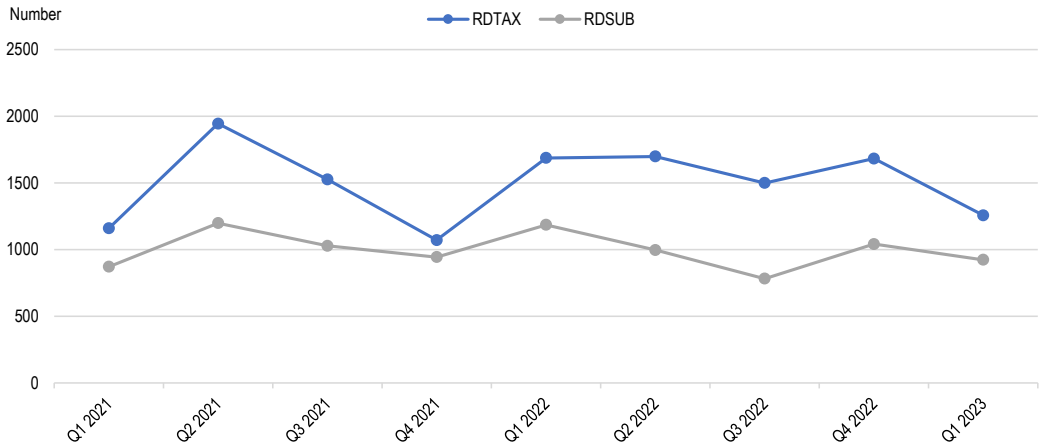
Figure 3. RDTAX and RDSUB usage, Jan 2021-March 2023

Number of unique page views

Panel A. Monthly time series



Panel B. Quarterly time series



Note: Usage statistics accessed on 27 July 2023.
Source: https://powerbi.oecd.org/reports/powerbi/OECD Statistics and Data Governance Dashboards/Data Dissemination Dashboards/OECD.Stat Dashboard

85. There are some notable fluctuations in the number of unique page views per month over Jan 2021 – March 2023 period, some spikes observable following the release of a new edition of R&D tax incentives indicators (e.g. December 2021, January 2023). Throughout this time period, the RDTAX dataset, containing the GTARD and direct funding indicators, tends to attract more unique page views per month (Panel A) or quarter (Panel B) than the RDSUB data set which includes the B-Index indicator and since 2021 also an ETR indicator for selected years. Over the said period, the RDTAX dataset witnessed 513 unique page views per month (502 on average in 2021 and 547 on average in 2022), while the RDSUB dataset attracted 332 unique page views (337 on average in 2021 and 334 on average in 2022). This outcome may be attributable to the inclusion of multiple, complementary indicators within RDTAX and the high policy relevance attributed to such combined data (see user feedback in previous section).

86. In total, RDTAX attracted close to 14 000 unique page views from Jan 2021 to March 2023, compared to 9000 unique page views in the case of RDSUB. Whereas a moderate increase is observable in the total number of unique page views from 2021 to 2022 in the case of RDTAX (6025 in 2021 vs 6566 in 2022), the number of unique page views stayed broadly constant in the case of RDSUB (4039 in 2021 vs 4005 in 2022). These partial usage statistics appear to suggest that there is a robust demand for the two sets of OECD R&D tax incentives indicators. A more comprehensive analysis of the OECD web presence envisaged for Q3 2023 is intended to provide additional details in the usage patterns by geographical location and over a more long-term period.

4. Next steps

87. This report has documented key aspects pertaining to the statistical quality of the processes and outputs in the OECD R&D tax incentives indicators database, which has become a mainstay of the OECD statistical infrastructure. The evidence presented in this document provides the basis for the internal OECD statistical review planned for Q3 2023, from which recommendations will be drawn. Feedback from database users can be sent to RDTaxStatsContact@oecd.org.

88. These recommendations will be considered for implementation in work starting in late 2023 in the anticipated follow-up project to the MABIS project.

References

Appelt, S., F. Galindo-Rueda and A. González Cabral (2019), "Measuring R&D tax support: Findings from the new OECD R&D Tax Incentives Database", OECD Science, Technology and Industry Working Papers, No. 2019/06, OECD Publishing, Paris, https://dx.doi.org/10.1787/d16e6072-en.

EFI (2022), Jahresgutachten zu Forschung, Innovation und technologischer Leistungsfähigkeit Deutschlands 2022, https://www.e-fi.de/fileadmin/Assets/Gutachten/2022/EFI_Gutachten_2022.pdf

Eurostat and European Statistical System (2014). ESS handbook for quality reports. https://ec.europa.eu/eurostat/documents/3859598/6651706/KS-GQ-15-003-EN-N.pdf

González Cabral, A., S. Appelt and T. Hanappi (2021), "Corporate effective tax rates for R&D: The case of expenditure-based R&D tax incentives", OECD Taxation Working Papers, No. 54, OECD Publishing, Paris, https://doi.org/10.1787/ff9a104f-en.

Hall, B. (2019), "Tax Policy for Innovation", NBER Working Papers, No. 25773,https://www.nber.org/papers/w25773.

OECD (2023), Report on the OECD R&D tax incentives database, released June 2023. DSTI/STP/NESTI(2022)8/FINAL

OECD (2015), Frascati Manual 2015: Guidelines for Collecting and Reporting Data on Research and Experimental Development, The Measurement of Scientific, Technological and Innovation Activities, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264239012-en.

OECD (2011). Quality Framework for OECD Statistical Activities http://www.oecd.org/sdd/qualityframeworkforoecdstatisticalactivities.htm

OECD (2010), Tax Expenditures in OECD Countries, OECD Publishing, Paris, www.oecd.org/gov/budgeting/taxexpendituresinoecdcountries-oecdpublication.htm

Thomson, R. (2017), "The Effectiveness of R&D Tax Credits", Review of Economics and Statistics, Vol. 99/3, pp. 544-549, http://dx.doi.org/10.1162/REST_a_00559.

Warda, J. (2001), "Measuring the Value of R&D Tax Treatment in OECD Countries", in OECD Publishing (ed.), STI Review No. 27: Special Issue on New Science and Technology Indicators, http://www.oecd.org/sti/37124998.pdf