Part III.8 - Supplementary Information Sheet for the notification of an evaluation plan

Member States must use this sheet for the notification of an evaluation plan pursuant to Art. 1(2)(a) of Regulation (EU) No 651/2014[1] and in the case of a notified aid scheme subject to an evaluation as provided in the relevant Commission guidelines.

Please refer to the Commission Staff Working Document "Common methodology for State aid evaluation"[2] for guidance on the drafting of an evaluation plan.

1. Identification of the aid scheme to be evaluated

(1) Title of the aid scheme:

Funding for research and development projects

(2) Does the evaluation plan concern:

(a) x☐ a scheme subject to evaluation pursuant to Article 1(2)(a) of Regulation (EU) No 651/2014?

(b) ☐ a scheme notified to the Commission pursuant to Article 108(3) TFEU?

(3) Reference of the scheme (to be completed by the Commission):

.....

(4) Please list any existing *ex-ante* evaluations or impact assessments for the aid scheme and ex-post evaluations or studies conducted in the past on predecessors of the aid scheme or on similar schemes. For each of those studies, please provide the following information: (a) a brief description of the study's objectives, methodologies used, results and conclusions, and (b) specific challenges that the evaluations and studies might have faced from a methodological point of view, for example data availability that are relevant for the assessment of the current evaluation plan. If appropriate, please identify relevant areas or topics not covered by previous evaluation plans that should be the subject of the current evaluation. Please provide the summaries of such evaluations and studies in annex and, when available, the internet links to the documents concerned:

Business Finland evaluation practice
Business Finland/Tekes has been systematically developing monitoring and evaluation activities for the last two decades. Evaluation of Business Finland funding is based on an overall impact model. This model describes how the impact of Business Finland funding is created and how it can be seen in funded projects, project results and outcomes and eventually as impact at the level of industries, the economy and the society.
The impact model is based on additionality theory and identifies four distinct levels of impact: (1) input additionality, i.e. what is the impact of public funding on private R&D investments; (2) behavioural additionality, i.e. what is the impact of public funding on the

[1] Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (OJ L 187, 26.6.2014, p. 1).

[2] SWD(2014)179 final of 28.5.2014.

design of R&D projects (level of ambition, quality of R&D, collaboration and networking, competences, etc.); (3) output additionality, i.e. what is the impact of public funding on the results and outcomes of the funded R&D projects; and (4) socio-economic impact, i.e. what is the impact of public funding on competitiveness, economic growth, society and environment. (5) The model helps to clarify both positive and potential negative impacts on competition, market behaviour and trade.

More than one hundred (100) ex-post evaluation reports about Business Finland/Tekes funding and activities have been carried out since the early 2000s. All reports are published in https://www.businessfinland.fi/en/for-finnish-customers/about-us/results-and-impact
Business Finland publishes an impact report annually:
https://www.businessfinland.fi/494b05/globalassets/julkaisut/bf_vaikuttavuusraportti_2023.pdf

Results of the previous evaluations:
Fornaro, P. – H. Koski – M. Pajarinen – I. Piirainen – (2020): Evaluation of Tekes R&D Funding for European Commission, Report 3/2020, Business Finland.
https://www.businessfinland.fi/4ab212/globalassets/julkaisut/3_2020-evaluation-of-tekes-rd-funding-for-the-european-commission.pdf
The objective of this study was to make an assessment of the impacts of Tekes R&D funding on firm performance regarding input, output and behavioral additivity as well as indirect impacts of R&D subsidies. The study has a descriptive analysis and advanced econometric methods to explore both the direct and indirect effects of R&D subsidies. The two-stage CDID estimation method was used. In the first stage, matching analysis was carried out by using the CEM (Coarsened Exact Matching) method, then in the second stage a DID (difference-in-differences) analysis was done to explore direct and indirect effects of Tekes subsidies.
Results of direct effects: first, there was a notable increase in R&D employment between the years prior to and after subsidy receipt among the subsidized firms compared to nonsubsidized companies. Tekes subsidies increased firms' R&D job creation by, on average, approximately 16%, or generated approximately 0.8 additional R&D workers. Second, the estimation results suggest that subsidized firms were statistically significantly more R&D-intensive than nonsubsidized firms before the receipt of R&D subsidies. Third, The estimation results do not provide any support for output additionality in terms of labor productivity. The descriptive statistical analysis shows that the firms that obtain Tekes R&D subsidies collaborate more often than nonsubsidized firms with competitors, customers and research institutions. Although the data do not allow us to conclude whether the collaboration patterns differ between subsidized and nonsubsidized firms due to Tekes R&D funding, the wide external collaboration of subsidized companies may potentially provide an advantageous environment for spreading the new knowledge generated in R&D projects.
Results of indirect effects; first, the estimation did not find any statistically significant spillover effects on any of the dependent variables analyzed. Second, the analysis suggests that R&D subsidies enhance the propensity of relatively inefficient companies to stay in business.
Conclusions: The efficient design of the R&D subsidy scheme is, however, a complex question that we cannot quantitatively explore within the scope of this project. There are currently relatively few published empirical studies that can be used to evaluate the question of whether the same effects could be obtained with differently structured innovation policy instruments.

Koski, H. – M. Pajarinen – I. Piirainen – J. Nevavuo (2020): Global Growth for Companies, Report 4/2020, Business Finland.

The main objective of the evaluation study was to measure how Business Finland export-promoting services and export-related R&D funding have succeeded to improve the global growth for Finnish companies? The estimation was done by the two-stage method: a coarsened exact matching (CEM) was followed by difference-in-differences estimations to capture the causal impacts of publicly funded export promotion activities and R&D subsidies. Results: first, the simultaneous use of export promotion services and the reception of R&D subsidies increase the probability that a firm switch to the highest 10% sales growth quantile. Second, the firms obtaining R&D subsidies seem to grow more than other firms in terms of the number of employees. Conclusion: The next steps towards a more precise impact assessment of BF activities, including both internationalization services and R&D subsidies, would require information on all applicants or all firms contacting Business Finland to either obtain R&D funding or export promotion services. To assess the impacts of R&D subsidies, the objectives or uses of subsidies should be recorded more precisely.

Viljamaa, K. – K. Piirainen – A. Kotiranta – H. Karhunen – J. Huovari (2014), Impact of Business Finland activities on productivity and renewal, Business Finland Review 315/2014, Helsinki.
https://www.businessfinland.fi/48e9dc/globalassets/julkaisut/impact_of_tekes_activities_on_productivity_and_renewal.pdf

The objective of the evaluation was the impact of Tekes RDI funding on productivity and renewing of companies in the 2000s. The methodology was based on a combined matching and difference-in-differences method (CDID) econometrics. Results: No significant differences were observed in the productivity development between Business Finland clients and the reference group. These results can be considered positive, too, as Business Finland funding responds to a market failure of SMEs. In other words, the clients are companies that would be unable to obtain funding in the private market. In addition, the analysis does not account for the spillover effects of public innovation funding.
Conclusions: The report indicates that the most significant impacts have been made by Tekes-funded projects of strategic importance to SMEs. In addition, the positive results and productivity development reported by recipients of the young innovative company funding (YIC), in particular, suggest that continuing to carefully select companies and provide more comprehensive support is worthwhile.

The impact of Business Finland Activities on Wellbeing and Environment (2014): Janne Lehenkari, J. – O. Lehtoranta – T. Loikkanen – A. Suominen – V. Valovirta (VTT)- H. Bodewes – B. Mostert – S. Zegel – G. van der Veen (Technopolis)
https://www.businessfinland.fi/globalassets/julkaisut/wellbeing_and_environment_308_2014.pdf

The objective of the evaluation was to measure impacts of Tekes activities on environment and wellbeing. This study has a focus on the societal contribution of Tekes and tries to identify long-term societal impacts of research and innovation. The methodology was based on comparison estimation of samples, which compares the innovation efforts and results between companies that have been supported and companies that have not received or applied for a support. Results: first, A significant positive effect of Tekes support on compa-

nies has been found within samples studies. Tekes support improves or increases supported companies' R&D intensity (the share of R&D expenditures in turnover), innovation outcomes (new-to-market innovations) and growth rates. Second, econometrical analysis shows that projects funded by Business Finland have had an extensive social impact. Business Finland funding has had a significant impact on areas including the growth of competence level, international innovation activities and entrepreneurship. Through networking and the growth of cooperation, Business Finland funding has created impacts worth 1.7 times the total investment.
Conclusions: Business Finland holds a unique position as a creator of networks between businesses and the research sector and as a facilitator for the utilisation of external information. Business Finland makes a significant impact on the behaviour of businesses in Finland. These changes in business models create positive impacts in Finnish society.

Evaluation reports published outside Business Finland:

Martikainen, E. – J. Ruotsi – M. Hallikainen (2023) Business Finlandin TKI-tukien vaikuttavuus (in Finnish)
EY Economic Advisory | Taloustieteellinen vaikutusarviointi. Business Finlandin TKI-yritystukien vaikuttavuus — Yritysten TKI-toiminta, kasvu ja ulkoisvaikutukset (tem.fi)
The objective of the evaluation was the impact of Tekes/Business Finland RDI funding on growth and spillovers during 2003-2019. The methodology was based on a combined matching and difference-in-differences method (CDID) econometrics. Results: first, publicly funded RDI subsidies have not crowd out private RDI investments, and R&D subsidies have increased companies' R&D activities and growth. R&D subsidies have weakened the link between productivity and exit from the market. Second, particularly impressive are the subsidies granted to different forms of R&D cooperation. The effects of R&D funding aimed at cooperative forms are greater than the effects of other R&D instruments. (Increase in employment and R&D intensity). Conclusions: Business Finland's R&D funding is effective as long as the problem of unproductive companies is solved.

Einiö, E. – H. Koski – T. Kuusi – M. Lehmus (2023) Innovation, reallocation, and growth in the 21st century, Publications of the Government's analysis, assessment and research activities 2022:1
Innovation, reallocation, and growth in the 21st century - Valto (valtioneuvosto.fi)
This study applies the model developed by Acemoglu et al. (2018), henceforth, AAABK, for assessing the growth and welfare implications of different types of innovation policies. Central to the AAABK model is the ratio of high-productivity and low-productivity firms in total output and how different policy measures affect this relationship. Results: The empirical findings yield, by and large, similar qualitative conclusions with the Finnish data on the effects of public policies on economic growth and welfare to those reported in the original work using the US data. Generally, increasing R&D subsidies would be a recommendable policy. The welfare impacts of R&D subsidies are highest when they accelerate the re-allocation of R&D workers to companies with high R&D productivity. The most effective innovation policy targets R&D subsidies to companies with the highest innovation capacity (i.e., in these companies, R&D employees generate the highest increase in a firm's productivity). Conclusions: If subsidies are allocated to companies with low innovation capacity or to low-productivity companies that are close to exiting the market, there will be less innovation and slower economic growth.

Journal articles or research reports:

Einiö, E. (2014) R&D Subsidies and Company Performance: Evidence from Geographic Variation in Government Funding based on the ERDF Population-Density Rule,:Review of Economics & Statistics. Oct2014, Vol. 96
http://www.mitpressjournals.org/action/doSearch?AllField=eini%C3%B6
The goal of this paper was the identification of the causal effect of R&D support on company performance is based on geographic variation in government funding arising from a population-density rule. The methodology of instrumental variables (IV) was used to estimate causal relationships. Results: first, it was found the positive impacts on R&D investment, employment, and sales among the participants who were granted an R&D subsidy as a result of additional aggregate R&D support funding in their region. Second, although there are no instantaneous impacts on productivity, the study provides evidence of long-term productivity gains. Conclusions: The study adds credence to the view that public policies promoting innovative activities in the business sector may have a big impact on private R&D effort and improve productivity in the long run. As every program has its own selection rules and managerial practices, results concerning the effectiveness of one are not directly generalizable to others.

Takalo, T. - Tanayama, T. – O. Toivanen, (2013), Estimating the Benefits of Targeted R&D Subsidies, Review of Economics and Statistics, 95, 255 – 272.
http://www.mitpressjournals.org/action/doSearch?AllField=takalo
The goal of the study was to provide a framework to assess the societal value of public R&D aid, and use this framework to study the effects of public R&D aid on a public agency allocating it and on beneficiaries investing in R&D. The methodology was based on the estimation of the unique Bayesian equilibrium of the theoretical model, which yield the core of the econometric model, providing estimation equations concerning the firms' application and investment decisions and the agency's subsidy rate decision with minor modifications. By using R&D project-level data it was possible to estimate different benefits and costs of the public R&D aid scheme and thereby generate an estimate of the social rate of return to public R&D aid. Results: Then the expected welfare effects of the whole aid scheme can be assessed Main result was that 30 – 50 % of Business Finland funding spreads as a spillover to the society. 1 euro of Business Finland funding combined with 1 euro of company investment in RDI increases the spillover effect by 1 EUR. Conclusions: To produce a welfare analysis, strong but standard assumptions were used. The spillover effect can be interpreted as (domestic) externalities and our calculated rate of return on subsidies as a social rate of return if one is willing to assume that the agency giving subsidies is a benevolent social planner. In that case, our estimates suggest that the expected program benefits exceed the opportunity cost of public funds.

Ali-Yrkkö, J. (2004) Impact of Public R&D Financing on Private R&D – Does Financial Constraint Matter? ETLA The Research Institute of the Finnish Economy, Discussion Papers no. 943. Helsinki.
http://www.etla.fi/julkaisut/dp943-fi/
The study analysed the impact of public R&D aid on the beneficiaries. The main goal was to study whether public and private R&D financing are substitutes or complements. The methodology used in this study was instrumental variable (IV) estimation in order to analyse causal relationships. In the model, private R&D will be the dependent variable, and the control variables are public R&D aid and net sales, which is used as a proxy for expected market demand. Results: regressions indicate that public R&D funding does not crowd out privately financed R&D. Instead, they suggest that receiving a positive decision to

obtain public R&D finance increases private R&D efforts. Econometrical results show that for every euro of public R&D funding, the total amount of the R&D activity in companies increases 2.02 times, i.e. it roughly doubles it.

Challenges

Determining the causal impact of R&D subsidy to beneficiaries' output is not a simple empirical question for several reasons:

1. If public R&D aid crowds out private R&D in equal amount (and this is not controlled), then the measured impact is not a causal effect. This is not a problem according to the existing literature. There are also indications that public R&D aid stimulates private R&D spending.

2. The positive effect of R&D on output comes with lags. This should also apply to R&D aid. As researchers typically have only a limited period of data, the output effect might not be observed. This causes a particular problem since the impact on output and markets typically materialize only several years after the completion of the aided project. Furthermore, statistical data comes available with a delay of 1-2 years. Hence, given that the average duration of an aided project is 2-3 years, the economic and market impact of projects funded during 2023-2026 should not be subject to econometric analysis before 2027-2030. In view of this, the data used in this evaluation will also include projects and beneficiaries from the previous R&D aid scheme. Using only data from projects and beneficiaries from the 2023-2026 period would most likely yield little if any real evidence of impacts, especially potential negative ones. As the R&D scheme has changed only slightly from the previous period, the results will be valid for the purposes of mid-term evaluation. The final evaluation towards the end of the period will evidently include a larger share of projects funded during this period.

3. Public R&D aid has externalities through many different channels. Basic estimations may yield downward biased estimates (this might be one reason why no positive effect is found). However, it is difficult to identify these effects and measuring externalities empirically would require a significant amount of time and research resources.

4. Heterogeneity problem. Typically, only the mean impact is estimated, even though there might be differences between different beneficiaries. To consider the possibility of heterogeneous effects, results should be estimated for different groups.

5. Beneficiary survival. According to economic theory, non-productive companies should decline in size and exit the marketplace, whereas productive companies should grow and gain larger market share. When the researcher is conducting causal analysis using multiple periods (with balanced data), there is a built-in sample selection problem in the study. This sample selection problem increases with the length of the study period.

6. Selection problem. If there are unobserved factors that affect the probability of receiving the aid and the future productivity, then results might be biased. Perhaps one of the most important control variables is the beneficiary's own R&D development. If one wants to evaluate the causal impact of an R&D subsidy on beneficiary productivity, then the impact of the subsidy should be evaluated while controlling for the beneficiary's own R&D.

2. Objectives of the aid scheme to be evaluated[3]

2.1. Please provide a description of the aid scheme specifying the needs and problems the scheme intends to address and the intended categories of beneficiaries, for example size, sectors, location, indicative number:

R&D scheme

The aid scheme is for research and development projects (hereafter R&D scheme). The aid scheme is based on Art. 25 of the General Block Exemption Regulation.

The R&D scheme covers also innovation aid to SMEs (Art. 28 of the GBER) to the extent that costs for obtaining and validating industrial property rights generated in the R&D project can be accepted as eligible costs for SMEs with the maximum aid intensity of 50 per cent (Art. 13 of the Government Decree). This aid only covers a minor part of the scheme, the estimated total annual budget being less than one per cent (probably even less than 0,5 per cent) of the total budget of the scheme.

National legal basis

The national legal basis for the aid scheme for research and development projects is Government decree on funding for research, development and innovation (1444/2014) (hereafter the Government Decree), in particular chapters 1 (common provisions) and 2 (specific provisions on R&D scheme) of it.

Rationale

Rationale of the R&D scheme is defined in the Government Decree**.** According to the Government Decree (Art. 4), granted aid to R&D to projects shall contribute to the improvement in the capabilities (*behavioural additionality*) or renewal of the beneficiary (*output additionality*), national or international networking of undertakings (*behavioural additionality*) or increase in employment, turnover or export of the beneficiary (*output additionality*).

Eligible activities

According to the Government Decree (Art. 11), eligible activities funded under the R&D scheme are research and development activities that fulfil the definition of fundamental research, industrial research, experimental development or feasibility study as defined in Art. 2 of the Decree. The definitions are in accordance with the respective definitions of the GBER.

According to the Government Decree (Art. 12), the aid intensity of the funded projects may be increased through bonuses as defined in Art. 25 (6) of the GBER, with the exception of regional bonuses.

Beneficiaries

[3] Beyond providing a general description of the objectives and eligibility rules of the scheme, the aim of this section is to assess how the eligibility and exclusion rules of the scheme may be used to identify the effect of aid. In some cases, the precise eligibility rules may not be known in advance. In those cases the best available expectations should be provided.

According to the Government decree (Art. 3), funding in the R&D aid scheme can be granted to undertakings operating in Finland. This includes companies of all sizes, start-ups, SMEs and large companies.

This evaluation plan covers R&D aid granted to all beneficiary groups. However, start-ups receiving aid for young and innovative enterprises are excluded from the evaluation plan because the main form of aid granted to them is aid for young and innovative enterprises (start-up aid), whereas the role of R&D aid is smaller and only complementary. Furthermore, the objectives of aid for young and innovative enterprises are different from R&D aid, which would unnecessarily complicate the evaluation. The amount of companies receiving aid for young and innovative enterprises is approximately 80-100 companies per year.

The R&D scheme is a horizontal scheme targeting all companies. An estimated 40-50 % is allocated to companies participating in nationally important thematic programmes. The rest is allocated to companies based on a continuous open call without any predefined thematic or sector preference. The resulting distribution between industries and sectors is estimated to reflect the renewal capabilities of the economy. Data from preceding schemes indicates that the current R&D scheme will not be unduly selective with regards to specific sectors or industries. See distribution of Business Finland funding in Annex I (Table 1) in the end of this evaluation plan.

Number of beneficiaries

The estimated number of the beneficiaries of the R&D scheme will be between 300-500 SMEs and large companies annually, around 2000 for the total period 2019-2023, and it is expected to grow during the aid scheme 2023-2026 because of the increase of public R&D funding (see point 2.4. budget and duration). Over 2/3 of these are estimated to be growth SMEs. Of the aid granted from the R&D scheme, 60-70 % is allocated to growth SMEs.

2.2. Please indicate the objectives of the scheme and the expected impact, both at the level of the intended beneficiaries and as far as the objective of common interest is concerned:

Objectives and expected impact.
The aim of the R&D scheme is to generate sustainable economic, social and environmental development and improve net wellbeing. The R&D scheme is targeted to R&D-projects with high technological challenge aiming at significant breakthroughs, and which are expected to provide the largest benefits for the economy and society in the long-term. The specific objectives of the scheme are the following:

Objective 1: Increase innovative effort, technological development and innovation in the economy. This is expected to spur innovation-driven growth and net welfare.
Objective 2: Increase output, employment, and productivity, and accelerate company growth and internationalization. This is expected to strengthen the economic performance of the business sector and improve welfare.
Objective 3: Improve the functioning of the innovation system by increasing co-operation and networking in R&D activities. This is expected to facilitate further utilisation of existing knowledge and spur knowledge spillovers.
Objective 4: Induce technology spillovers to generate societal benefits from innovation externalities. This is expected to result in larger net societal gains from the scheme by

increasing gross social returns and by accelerating the realization of systemic transformations.
Objective 5: Minimize adverse effects on product markets and competition. This is expected to result in larger net societal gains from the scheme by reducing gross social costs.

2.3. Please indicate possible negative effects, on the aid beneficiaries or on the wider economy, that might be directly or indirectly associated with the aid scheme[4]:

Finland is a small open economy with small domestic markets. The main target group of potential beneficiaries for the R&D scheme are companies aiming to grow in international markets. These companies seldom compete in domestic markets. Hence, we do not expect to find significant negative impacts of the aid.

One possible negative effect that could be associated with the aid scheme is the crowding out of private investments. However, we consider this effect limited taking into account that the aid intensities are in accordance with the GBER, that the funding is granted based on transparent, objective and non-discriminatory eligibility and selection criteria, and that the scheme is a horizontal scheme, with funding being available to all companies, regardless the sector, company size or location.

One possible negative effect is sectoral concentration of funding. Even though the R&D scheme is horizontal, certain sectors might receive more funding than the others based on the size and importance of the sector or based on the structural changes in the Finnish economy. However, based on the experiences from the previous aid schemes and prior structural changes in the economy, this effect is expected to be limited.

See evaluation questions and results indicators on this issue in points 3.1. and 4.1.

2.4. Please indicate (a) the annual budget planned under the scheme, (b) the intended duration of the scheme[5], (c) the aid instrument or instruments and (d) the eligible costs:

Budget and duration

The annual budget of the R&D scheme is maximum EUR 600 million. The actual annual sum depends on the annual state budget. Part of the funding is loan so the expected aid amount is EUR 470 million.

Government in Finland is committed in increasing R&D funding about 280 million euros per year by 2030 (goal: R&D funding/GDP is 1,2% in 2030). Allocations of funding for different sectors will be decided later. Therefore, the annual budget will increase yearly. 600M is a rough estimate for the budget in 2026."

The duration of the R&D scheme is 1.1.2023-31.12.2026.

[4] Examples of negative effects are regional and sectorial biases or crowding out of private investments induced by the aid scheme.

[5] Aid schemes defined in Article 1(2)(a) of Regulation (EU) No 651/2014 are excluded from the scope of the Regulation six months after their entry into force. After having assessed the evaluation plan, the Commission may decide to extend the application of the Regulation to such schemes for a longer period. Member States are invited to precisely indicate the intended duration of the scheme.

Aid instruments

According to the Government Decree (Art.3), funding for R&D projects in the R&D scheme is either in the form of grants or loans or their combination. Choice of the funding instrument depends on the stage of the project. Grants are mainly used for more challenging R&D (industrial research, experimental development with longer time-to-market) and loans for closer to market experimental development (such as pilots and demonstrations).

The loans are repayable advances. The loan must be paid back in annual instalments irrespective of the outcome of the project (Art. 7 of the Government Decree). However, in exceptional cases, the loan may be retroactively converted into a grant if the project or the commercialisation of its results does not succeed. The conversion is possible only provided that the maximum aid intensity is not exceeded (Art.10 of the Government Decree). Only a small portion of loans is converted as the prerequisites for the conversion are strict. The first option is to prolong the loan term.

The loan instrument is the same as the loan instrument in the previous aid scheme (N 356/2007). The gross grant equivalent can be calculated ex ante. The calculation method is included in the description of the aid scheme.

The maximum aid intensities are defined in Art. 11 of the Government Decree and are in accordance with the maximum aid intensities of Art. 25 of the GBER. Bonuses to SMEs and to collaborative projects are possible in accordance with Art. 12 of the Government Decree which corresponds to the conditions of Art. 25 (6) of the GBER. The R&D scheme covers also innovation aid to SMEs (Art. 28 of the GBER) to the extent that costs for obtaining and validating industrial property rights generated in the R&D project can be accepted as eligible costs for SMEs with the maximum aid intensity of 50 per cent (Art. 13 of the Government Decree).

Eligible costs

The eligible costs are defined in Art. 13 of the Government Decree in accordance with the Art. 25 of the GBER and include personnel costs, costs of instruments and equipment, costs of buildings and land, costs of contractual research, knowledge and patents, additional overheads and other operating expenses.

The R&D scheme covers also innovation aid to SMEs (Art. 28 of the GBER) to the extent that costs for protecting by IPRs the results generated in the project can be accepted as eligible costs for SMEs. This is defined in Art. 13 of the Government Decree.

2.5. Please provide a summary of the eligibility criteria and the methods for selecting the aid beneficiaries. In particular, please describe the following: (a) the methods used for selecting beneficiaries (e.g. such as scoring), (b) the indicative budget available for each group of beneficiaries, (c) the likelihood of the budget being exhausted for certain groups of beneficiaries, (d) the scoring rules, if they are used in the scheme, (e) the aid intensity thresholds and (f) the criteria the authority granting the aid will take into account when assessing applications:

Ex ante evaluation

The beneficiaries are selected through an open continuous competitive call. Funding is always based on the project application with a detailed project plan.

Each project application in the R&D scheme is analyzed by a team of 2-4 experts employed by Business Finland (hereafter the ex-ante evaluation team). Each ex- ante evaluation team contains technical,

business and financial expertise. The final funding decision is made in accordance with Business Finland internal hierarchy.

In order a project to be funded it must fulfil the eligibility criteria and the selection criteria.

Eligibility criteria

There are four levels of eligibility criteria for beneficiaries and funded projects checked by Business Finland prior each granting decision in the R&D scheme:

1. Legal criteria for the eligibility of the beneficiary
2. Criteria for the eligible beneficiary set in the Business Finland strategy
3. Legal criteria for eligible projects
4. Criteria set in Business Finland strategy and policies for eligible projects

1. *Legal criteria for the eligibility of a beneficiary* (Art. 3 of the Government Decree)
• the applicant has operations in Finland
• the applicant is not an undertaking in difficulty
• the applicant has financial resources to carry out profitable business
• the applicant is not subject to an outstanding recovery order following a previous Commission decision declaring an aid illegal and incompatible with the internal market (deggendorf condition)
• the applicant is an undertaking (economic activities), no natural persons

Specific reasons for funding are needed if
• the applicant has tax debt and has not agreed with the tax agency for a plan for paying back the debt
• there is negligence in the applicant's previous projects funded by Business Finland or as regards to Business Finland loans
• the applicant or its responsible persons has a history of financial discrepancies

2. *Criteria for the eligible beneficiary set in the Business Finland strategy*

Business Finland funding is targeted in particular at pioneering R&D projects that aim to renew businesses and industries. The main focus of Business Finland strategy is growth companies with the passion and ability to succeed, who are seeking renewed growth in global market.

3. *Legal criteria for the eligibility of a project*
• A detailed project plan that enables proper project follow-up, taking into consideration the flexibility needed in R&D – a project plan in phases possible (Art. 3 of the Government decree)
• the project has not started prior the project application has been submitted to Business Finland (Art. 3 of the Government decree)
• eligible costs relate to R&D activities in accordance with the project plan (Art. 13 of the Government Decree)
• the expected impacts of the project can be defined (Art. 4 of the Governments Decree)

4. Criteria set in Business Finland strategy and policies for eligible projects:

Business Finland funds R&D projects that would not be as ambitious or as wide without Business Finland funding. The funding is focused on the most challenging projects. The funding criteria are transparent and the same everywhere in Finland.

Selection criteria

After checking the eligibility of the application, the ex-ante evaluation team evaluates the following aspects in accordance with Business Finland internal evaluation guidelines:
• financial and personal resources of the applicant and networks with other players
• the innovation and capabilities to be developed in the project, the business that should follow the R&D work
• the impact of Business Finland funding (incentive effect)

• indirect impacts of the project

Each of these four criteria includes a minimum level which the application must reach. This minimum level is used as cut-off criteria to identify applications which in principle could be funded.

Cut-off criteria

Business Finland ex-ante evaluation team gives "scores" to all project plans in accordance with the following table. Projects receiving scores according to the given thresholds will be evaluated further. Each criterion has equal weight.

Cut-off criteria for funding	**Funding can be granted**	**No funding (If one of these risks are estimated to be realised)**
Financing risk: The financial situation of the applicant is analyzed in order to ensure that the beneficiary has financial resources to carry out the project and to carry out the business where the results of the project are utilized,	Financing risk is between 0-80 %	Financing risk is big (80 - 100 %)
Developing and market risk Market failure is analyzed through the developing and market risk, e.g. is it easy to enter the market, is there private funding easily available. If the market risk is low, there is no market failure and funding is not granted.	Developing and market risk between 20-100	Developing and market risk is low (0 - 20 %)
Innovativeness The idea must be new in the market, not just new to the applicant, thus leading to radical changes in the applicants business and in the market. This way also the effects to competition are minimized as funding is not provided to ideas that only replicate existing solutions. For SMEs, the innovation must be new in the Finnish market while for large companies a global novelty is required.	Innovativeness is between 40-100 %	Innovativeness is low (0 - 40 %)
Large companies: Share of experimental development; This is analyzed to ensure the spill-over effect. More spill-overs are generated when the R&D is far from the market than close to the market.	Share of experimental development is between 0-60 %	Share of experimental development is high (60 - 100 %) .

Personnel risk Personnel risk is analyzed to ensure that the applicant has suitable resources to carry out the project and to create the business where the results are utilized.	Personnel risk is between 0-60)	Personnel risk is high (60 - 100 %)
Incentive effect (impact of Business Finland funding)	At least one of the impacts can be verified.	No verified impacts

Full ex-ante evaluation of applications

The full evaluation of applications that reach the minimum level of the cut-off criteria is based on the detailed assessment of the four main criteria described above. Each criterion is assessed in accordance with the following:

1. *Financial and personnel resources of the applicant and networks with other players.*
The following aspects are assessed when evaluating the financial and personnel resources
• the company has a credible financing plan for the project (including its own and external funding)
• the company has credible financial resources for the business where the results are utilized
• the company has credible personnel resources and knowledge for the project and for the following business
• the quality and quantity of networks and collaboration to be used in the project, also international collaboration

2. *The innovation and capabilities to be developed in the project, the business that should follow the R&D work*
The following aspects are evaluated in order to verify the innovativeness:
• how the project relates to the strategy of the company?
• does the project increase the productivity?
• what new business does the project generate?
• does the project generate new knowledge, or new businesses based on this new knowledge?
• what new does the project create to the clients of the company, what is the understanding of the company of its clients' needs?
• what is the competitive advantage compared to the market or to the sector in question?
• does the project create new jobs or help to retain jobs?
• does the project enhance internationalization of the business of the company?
• IPR-situation, existing and new IPRs as well as possibilities to protect the results of the project

3. *The impact of Business Finland funding (incentive effect)*
Funding can be granted to projects prided that one of the following impacts can be verified:
• the size of the project increases or networking in the projects is wider
• project is more ambitious (wider field of application, wider utilization of results, more ambitious results)
• the project can be carried out faster
• the beneficiary increases the amount it uses in R&D

4. Indirect impacts of the project
Besides direct impacts on the beneficiary, also indirect impacts of the project on other organisations (turnover, export, jobs), on the economy and on the environment and society are estimated. The objective is to choose projects that in total provide best impacts and benefits in the long-term.

No scoring rules

Business Finland does not use any scoring system in the evaluation, but different criteria are balanced / weighed against each other in order to choose the projects that are expected to provide the best impacts. Business Finland has tested scoring systems but not chosen any as no suitable scoring system has been

found. Based on the long experience of Business Finland project evaluation, the best projects with the widest impacts can be chosen through a wider and more flexible evaluation than through a strict scoring system.

Funding is granted to projects that gain most of the given public funding by generating the most valuable results to be exploited in the businesses of the beneficiaries.

Allocation

There are no fixed allocations of R&D scheme between SMEs and large companies. More than 50 per cent of funding is granted to SMEs (53 % in 2023) while 40 to 50 per cent to large companies. This share is expected to remain the same during the aid scheme.

The sectoral distribution of funding is expected to follow the trends from previous aid scheme (Annex I (Table 2) in the end of this evaluation plan.)

The share between grants and loans was 55/45 percent in 2023. The proportion of grants is estimated to increase but depends on the annual state budgets.

Aid intensities

The maximum aid intensities are defined in Art. 11 of the Government Decree and are in accordance with the maximum aid intensities of Art. 25 of the GBER. Bonuses to SMEs and to collaborative projects are possible in accordance with Art. 12 of the Government Decree which corresponds to the conditions of Art. 25 (6) of the GBER.

2.6. Please mention specific constraints or risks that might affect the implementation of the scheme, its expected impacts and the achievement of its objectives:

Based on the experiences from the previous aid scheme, the reluctance or incapability of companies to carry out R&D activities due to, for example, the economic recessions or change in geopolitical situation can be considered a specific risk or constraint likely to affect the implementation of the scheme, its expected impacts, and the achievement of its objectives.

In order to address these risks, Business Finland typically enhances its activation measures to encourage companies to engage in R&D projects as means to improve their competitiveness. Normally aid is granted below maximum aid intensities, which allows Business Finland to slightly increase the aid intensities during difficult economic conditions (while still remaining below the maximum aid intensities). Furthermore, Business Finland may support aided SMEs in managing their cash flow by applying shorter reporting periods (e.g. reporting every two months instead of the normal six months).

Changes in the state budget can be mentioned as another possible constraint or risk including decrease in the total annual budget of Business Finland or changes in the share of funding between funding instruments.

3. Evaluation questions

3.1. Please indicate the specific questions that the evaluation should address by providing quantitative evidence of the impact of aid. Please distinguish between (a) questions related to the direct impact of the aid on the beneficiaries, (b) questions related to the

indirect impacts and (c) questions related to the proportionality and appropriateness of the aid. Please explain how the evaluation questions relate to the objectives of the scheme:

The evaluation questions are based on the objectives described in chapter 3. Each question is linked to the relevant objective(s) (see point (6) for objectives).

Direct impact of the aid on beneficiaries

Evaluation Question	Objective Addressed
Input additionality:	
Q1: Do supported firms increase R&D inputs as a result of public support? To what extent R&D inputs are increased?	Increase innovative effort in the economy.
Output additionality:	
Q2: Do supported firms produce more innovative output as a result of public support? To what extent innovative output is increased?	Increase technological development and innovation.
Q3: Do supported firms improve their economic performance as a result of public support? To what extent performance is increased?	Increase output, employment, and productivity.
Behavioral additionality:	
Q4: Do supported firms increase networking in technological development projects with other businesses and research organizations?	Improve the functioning of the innovation system by increasing co-operation and networking in R&D activities.

Indirect impact of the aid scheme

Evaluation Question	Objective Addressed
Q5: Does public support induce input, output, or behavioural additionality among unsupported firms.	Induce technology spillovers to generate societal benefits from innovation externalitie
Q6: What are the potential indirect negative effects of the scheme on the rivals of the supported firms.	Minimize adverse effects on product markets and competition.

Proportionality and appropriateness of the aid scheme

Evaluation question	Objective Addressed
Q7: Could the same effects have been obtained with different structure of aid instruments (appropriateness) or with less aid (proportionality)?	Efficient design of the support scheme.

4. Result indicators

4.1. Please use the following table to describe which indicators will be built to measure outcomes of the scheme, as well as the relevant control variables, including the sources of data, and how each result indicator corresponds to the evaluation questions. In particular, please mention (a) the relevant evaluation question, (b) the indicator, (c) the source of data, (d) the frequency of collection of data (for example, annual, monthly, etc.), (e) the level at which the data is collected (for example, firm level, establishment level, regional level, etc.), (f) the population covered in the data source (for example, aid beneficiaries, non-beneficiaries, all firms, etc.):

Evaluation question	Indicator	Source	Frequency	Level	Population
Direct impacts of the aid scheme					
Q1: Do supported firms increase R&D inputs as a result of public support? To what extent R&D inputs are increased?	I1. Share of firms deciding to invest in RDI (supported vs. non-supported firms	Finnish Annual R&D Survey Panel maintained by Statistics Finland	annual	firm level	all firms
	I2. Innovation expenditures as a percentage of turnover (supported vs. non-supported firms)	Finnish Annual R&D Survey Panel maintained by Statistics Finland	annual	firm level	all firms
	I3. Share of firms which create RDI jobs (supported vs. non-supported firms)	Finnish Annual R&D Survey Panel maintained by Statistics Finland	annual	firm level	all firms
	I4. Number of RDI jobs created (supported vs. non-supported firms)	Finnish Annual R&D Survey Panel maintained by Statistics Finland	annual	firm level	all firms
Q2: Do supported firms produce mode innovative output as a result of public support? To what extent innovative output is increased?	I5. Share of firms which filed new patent applications.	Finnish Firm-Level Patent Database by Finnish Patent and Registration Office	annual	firm level	all firms
	I6. Number of patents created (supported vs. non-supported firms)	Finnish Firm-Level Patent Database by Finnish Patent and Registration Office	annual	firm level	all firms

	I7. Share of firms which made new product innovations (supported vs. non-supported firms)	CIS	every other year	firm level	all firms
	I8. Share of firms which made new process innovations (supported vs. non-supported firms)	CIS	every other year	firm level	all firms
Q3: Do supported firms improve their economic performance as a result of public support? To what extent performance is increased?	I9. Tangible and intangible assets of firms (supported vs. non-supported firms)	Financial Statement Panel; The Business Register (Statistics Finland)	annual	firm level	all firms
	I10. Employment of firms (the person-years of labor, full-time equivalent) (supported vs. non-supported firms)	Financial Statement Panel; The Business Register (Statistics Finland)	annual	firm level	all firms
	I11. Turnover of firms (supported vs. non-supported firms)	Financial Statement Panel; The Business Register (Statistics Finland)	annual	firm level	all firms
	I12. Value added of firms (supported vs. non-supported firms)	Financial Statement Panel; The Business Register (Statistics Finland)	annual	firm level	all firms
Q4: Do supported firms increase networking in technological development projects with other businesses and research organizations?	I13. Share of firms which collaborate with competitors (supported vs. non-supported firms)	CIS	every other year	firm level	all firms
	I14. Share of firms which collaborate with customers (supported vs. non-supported firms)	CIS	every other year	firm level	all firms
	I15. Share of firms which collaborate with universities and	CIS	every other year	firm level	all firms

	research institutions (supported vs. non-supported firms)				
Indirect impacts of the aid scheme					
Q5: Does public support induce input, output or behavioural additionality among unsupported firms? Q6: What are the potential indirect negative effects of the scheme on the rivals of the supported firms?	This analysis will be based on a descriptive study examining how R&D inputs, innovative output, financial position and competitive position (results indicators) of the non-supported firms (both non-supported applicant firms and non-supported non-applicant firms) has changed compared to general trends of their market segments and compared to the aid beneficiary in the relevant market segment. Furthermore, the study will be complemented with a micro-econometric approach comparing the development of non-supported firms by amount of aid in the same product field (see more point 5.1.	Finnish Annual R&D Survey Panel by Statistics Finland Finnish Firm-Level Patent Database by Finnish Patent and Registration Office CIS Financial Statement Registry by Statistics Finland	annual, every other year	firm level	all firms
Proportionality and appropriateness of the aid scheme					
Q7: Could the same effects have been obtained with different structure of aid instruments (appropriateness) or with less aid (proportionality)?	I16. Indicators I1-I15 (subsidy grantees vs. non-supported)	see the sources above	annual	firm level	all firms
	I17. Indicators I1-I15 (loan grantees vs. non-supported)	see the sources above	annual	firm level	all firms

	I18. Indicators I1-I15 (subsidy grantees vs. loan grantees)	see the sources above	annual	firm level	all firms

Please explain why the chosen indicators are the most relevant for measuring the expected impact of the scheme:

When considering input additionality, it is essential to measure how innovative the companies are (I1) and what is a role of innovation activities (I2), as well as employment (I4). When considering output additionality, patents, new product, and process innovations are crucial measures for innovativeness (I5, I6). Also, investments for intangible assets measure efficiently innovative activities (I9). When estimating economic performance, then employment, turnover, value added are essential indicators (I10-I12). One of the most essential measures in innovation policy are spillover effects and therefore it is important to estimate collaboration activities of firms (I13-I15).

5. Envisaged methods to conduct the evaluation

5.1. In light of the evaluation questions, please describe the envisaged methods to be used in the evaluation to identify the causal impact of the aid on the beneficiaries and to assess other indirect impacts. In particular, please explain the reasons for choosing those methods and for rejecting other methods (for example, reasons related to the design of the scheme)[6]:

Direct impacts

The *direct causal impact* of the aid scheme will be identified by employing the matching method (for example CEM, Coarsened Exact Matching). The conditional independence assumption will be guaranteed by including as control variables company characteristics (industry, geographical location, age, export activity, and financial statement variables including total assets, turnover, and profits) and measures of research productivity and innovativeness (R&D and patenting activity in previous years), available in the R&D survey panel. The approach will also control for the potential biases arising from self-selection of applicants by controlling for the decision to apply for R&D support by employing a sample of applying firms (that is, rejected and supported firms). The relevant treatment and control groups are defined for each evaluation question and result indicator in section 5 (are displayed in parentheses – first is the treatment group; second is the control group).

The main econometric challenge is to guarantee that the evaluation analysis compares similar companies in the treatment and control groups. If some of the characteristics related to both the allocation of support and evaluation outcome variables are not controlled for, this may risk the reliability of the results. The econometric specification employed will minimise the risk of having such confounding unobservable factors affecting the results by including a rich set of control variables covering a vast set of company characteristics that may be conceived to result in differences in innovative performance. Most notably, the availability of comprehensive firm-level series of pre-determined innovative inputs and outputs for supported and unsupported (both applicant and non-applicant) companies will mitigate concerns about unobserved research effort that would likely bias the estimates when not properly controlled for.

6 Please make reference to SWD(2014)179 final of 28.5.2014.

Also, the dynamics and evolution of impacts over time from 3 years before the aid to 3 years after the aid would be measured for treatment group and control group as well as to test possible common and parallel trends between these groups in order to estimate how the effect of the aid changes over time.

Evaluation is targeted to the newest R&D programme, but because of time lags considering results and impacts of R&D aid also older data should be available to guarantee a quality of estimation. Sensitivity analysis will be carried out for different compositions and definitions.

Both beneficiaries and no-beneficiaries can get other aid type. Therefore it is necessary to check that other aid types will not distort the estimation results. It is recommended to discuss in the final report how other aid types might affect to the beneficiaries and non-beneficiaries.

Indirect impacts

Credible examination of indirect effects is more challenging than in the case of direct effects. The analysis of *indirect effects* will be based on a descriptive study examining how R&D inputs, innovative output and competitive position of the non-supported firms (both non-supported applicant firms and non-supported non-applicant firms) has changed compared to general trends of their market segments. The analysis of the indirect effects will also examine whether any negative performance of the non-supported firms vis-à-vis the general market trends have not been caused by the aid granted under the scheme to the supported firms of the same relevant market.

Furthermore, the study will be complemented with a micro-econometric approach comparing the development of non-supported firms by amount of aid in the same product field. In this analysis, narrow market segments with high and low levels of aggregate R&D support are identified by detailed industry classification. The analysis examines whether non-supported firms with high aggregate R&D support in their market segment are performing worse than similar non-supported firms with low aggregate R&D support in their market segment. To disentangle indirect effects along the technology dimension, similar approach examining R&D expenditure and patenting will be implemented for a subsample of companies with patenting histories for which technology fields may be identified from the technology classes of their patents, allowing for examination of innovative performance by high and low aggregate R&D aid across narrowly defined technology fields. Reliable comparisons between the non-supported firms with high and low exposure to the scheme's intervention will be guaranteed with the matching method controlling for R&D and patenting history and a rich set of other company characteristics (as described above).

This part of the analysis may be complemented with qualitative surveys on changes in the competitive environment and product market prospects of supported, non-supported applicant, and non-applicant firms.

Sectoral effects

To investigate and compare the potential heterogeneous effects of the programme across sectors and by firm type the analysis will be replicated for sub-samples of companies. The evaluation is applied separately for different sectors (at as fine degree as data allows, but at least for high- and low-R&D intensity sectors separately for manufacturing and services) to disentangle the potential sector specific effects. The analysis will also be implemented by splitting the full sample by the size of the firm and by the financial position of the firm (e.g. net indebtedness) to provide further information on the success in targeting the support and whether there are any differences in the effects between companies with good and bad financial position.

Question 7 will be examined by using sub-samples with only subsidy grantees or loan grantees in the treatment group. Complementary approach quantifying the relative efficiency of the subsidy and loan instruments compares subsidy grantees to loan grantees in the matching framework.

The specific matching technique that will be employed in the analysis is the Propensity Score Matching which efficiently compares similar treated and untreated firms in the case of a large set of control variables.

5.2. Please describe precisely the identification strategy for the evaluation of the causal impact of the aid and the assumptions on which the strategy relies. Please describe in detail the composition and the significance of the control group:

The control group consists of companies which have not received aid from the R&D scheme (non-beneficiaries). The non-beneficiaries will be identified by employing the matching method. The conditional independence assumption will be guaranteed by including as control variables:

- company characteristics (size, industry, geographical location, age, financial statement variables, export activity)
- measures of research productivity and innovativeness (R&D and patenting activity in previous years), available in the R&D survey panel.

5.3. Please explain how the envisaged methods address potential selection bias. Can it be claimed with sufficient certainty that observed differences in the outcomes for the aid beneficiaries are due to the aid?

The selected evaluation method will control for the potential biases arising from self-selection of applicants by controlling for the decision to apply for R&D support by employing a sample of applying firms (that is, rejected and supported firms).

5.4. If relevant, please explain how the envisaged methods intend to address specific challenges related to complex schemes, for example schemes that are implemented in a differentiated manner at regional level and schemes that use several aid instruments:

The R&D scheme is a national scheme and implemented in similar fashion in all geographical areas. Evaluation question 7 addresses the specific question related to the use of the two different aid instruments i.e. grants and loans.

6. Data collection

6.1. Please provide information on the mechanisms and sources for collecting and processing data about the aid beneficiaries and about the envisaged counterfactual.[7] Please provide a description of all the relevant information that relates to the selection phase: data collected

[7] Please note that the evaluation might require sourcing of both historical data and data that will become progressively available during the deployment of the aid scheme. Please identify the sources for both types of information. Both types of data should preferably be collected from the same source as to guarantee consistency across time.

on aid applicants, data submitted by applicants and selection outcomes. Please also explain any potential issue as regards data availability:

External statistics

The key datasets used in the evaluation are maintained by Statistics Finland. The data cover a comprehensive population of companies in the supported, applicant unsupported, and non-applicant unsupported groups. The key feature of Finnish business data is that extensive administrative data sources and specific business surveys, including data held by Business Finland, can be merged by a company-specific identifier code which is unique and unchanged across databases.

The external data sources are the following:

- *Statistics Finland Annual R&D Survey:* This is an official annual survey of the SF. It covers all companies over 100 employees, almost all R&D active companies with less than 100 employees, and a random sample of R&D-inactive companies with less than 100 employees. The sampling frame is drawn from administrative business registries. The data cover longitudinal information on annual basis on all key innovative inputs used in the analysis (R&D expenditure, R&D employment, number of researchers, type of R&D, etc.). The data are available for researcher use within around 16 months from the end of the relevant statistical year. Currently comprehensive panel is available for the period 1995-2023.

- *Statistics Finland Innovation Survey*: This is an official biannual survey of the SF. It is based on the Community Innovation Survey (CIS) with added country specific questions. It includes information on key innovative outputs (process and product innovation) and innovation co-operation. The survey covers all companies with at least 250 employees and a random sample of smaller companies. Latest currently available data is for the period 2020-2022.

    - Finnish Patent and Registration Office Database: This database covers patents granted for and applied by Finnish companies. The data is most recent for patents applied in Finland. The data can be complemented with the most recent international patent database (Espacenet).

- *Financial Statement Panel:* This data includes the most essential profit and loss account and balance sheet data of basically all enterprises in Finland.

- *The Business Register*: This data includes enterprises' addresses, branches of industry, size categories of personnel and turnover, dates of establishments and importer/exporter data. The data can be derived on both enterprise and establishment levels. The data sources of the Business Register are several administrative records and Statistics Finland's direct inquiries to enterprises.

- *Enterprise Subsidy Database:* This database covers information on all subsidies and loans allocated by some major business subsidy programmes by beneficiary firm. Specifically, it covers information on Business Finland loans and subsidies since 2000. This data will be complemented with more detailed data from Business Finland databases (see section Business Finland Internal Data)

All datasets can be merged by unique company id numbers except the EPO PATSTAT data which can be merged by company name and address.

Business Finland provides the list of all aided companies to Statistics Finland. Although normally these types of statistics only cover a sample of smaller companies, this ensures that all beneficiaries receiving aid from the R&D scheme regardless of size and sector are fully covered by the Statistics Finland Annual R&D Survey and Innovation Survey.

Complementary Business Finland granting data available for the evaluators.

The databases available in the research facilities of Statistics Finland may be complemented with applicant specific application data and beneficiary-specific funding data collected by Business Finland. The data can be merged with other data sources by company id numbers.

Business Finland databases include information of Business Finland or Tekes-funded projects. The databases include basic information from the ex-ante project evaluations, monitoring and ex-post project evaluations since 1990 as well as extended evaluation and monitoring information since 1999 on all Business Finland projects. This data covers the whole life cycle of projects including project applications, ex-ante evaluation, funding decisions, project reporting, cost statements and payments, project amendments including amendments to loans and reimbursement of loans. Information is available at company level and at project level.

The data is collected continuously through a well-structured procedure and stored in Business Finland project management, customer resource management and document management systems, as well as data warehouse. Project applications are submitted through an electronic application portal and this application data is stored in the project management system. Ex-ante evaluation is then done in the project management system in accordance with standardized procedure. All data on selection process and data received during project monitoring, including interim and final reporting, cost statements and payments as well as amendments, are stored in the above-mentioned systems.

Ex-ante evaluation (project appraisal) data includes:

1) Financial information, such as sources of financing, international co-operation, strategic importance to the beneficiary, novelty, risks, challenges, other partners, exploitation of results.

2) Ex-ante evaluation information, such as beneficiary description, goals, technological and knowledge development, resources and co-operation, exploitation of results and commercialization.

The information from the intermediate, final and ex-post project reports (submitted by beneficiaries three years after a project has ended) includes:

Interim, final and ex-post project reports

Interim report:

1. Changes in finances and viability of the project
2. Other relevant changes (if necessary)
3. Project information
   i. progress related to the project plan
   ii. co-operation and use of resources
   iii. possible problems and changes to the project plan

Final report

1. Estimates of future turnover, exports and jobs
2. Project questions
   i. Goals (achieved, failed)
   ii. Results (new products and services)
   iii. new knowledge and improvements in competitiveness
   iv. improvements in market position and position in relevant value chains
   v. new patents and other IPR
   vi. commercialisation plans
   vii. sustainability (energy and environment)
   viii. Summary of the results
   ix. Summary of the utilisation

Ex-post project report (answering is voluntary)

- How goals have been achieved?
- How commercialisation goals have been achieved?
- How Business Finland services impacted on the project?
  - Project results
  - Patents
  - Trademarks
  - Licences
  - Spin-offs
- Broader impacts of the project on economy (external impacts)
- Impacts on global value chains and markets
- Impacts on social spillovers (climate change)
- Estimates of future turnover and exports

6.2. Please provide information on the frequency of the data collection relevant for the evaluation. Are observations available on a sufficiently disaggregated level, that is to say at the level of individual undertakings?

All hard data is collected annually except for the Statistics Finland Innovation Survey (CIS) which is collected every other year. The Statistics Finland Annual R&D survey data are available for researcher use within around 16 months from the end of the relevant statistical year. CIS data becomes available within two years from the relevant time period.

All statistical data can be accessed by any researcher for scientific and statistical purposes in the premises of Statistics Finland. Researchers within the EU can gain online access to the data via a research institution holding an online access license. The complementary Business Finland data is similarly available at the level of individual companies. Hence, there is no need to rely on aggregated data.

Business Finland collects continuously data on each R&D project. This data is available for evaluation purposes continuously.

6.3. Please indicate whether the access to the necessary data for conducting the evaluation might be hindered by laws and regulations governing confidentiality of data and how those issues would be addressed. Please mention other possible challenges related to data collection and how they would be overcome:

Statistical data can be accessed by any researcher for scientific and statistical purposes in the premises of Statistics Finland and only used in their laboratory. Researchers within the EU can gain online access to the data via a research institution holding an online access license.
All Business Finland data on funded projects is confidential, except such general information that must be published in accordance with Art. 9 of the GBER. Thus, project applications and project plans as well as all data on ex-ante and ex-post evaluation, monitoring and reporting is confidential in accordance with the Act on the Openness of Government Activities (621/1999).

Business Finland data can be used inside Business Finland. The data can also be accessed at the premises of Statistics Finland. If Business Finland data needs to be delivered directly to an evaluator, it can be used only as encrypted files. Persons who use data are required to make a personal non-disclosure agreement with Business Finland including detailed identification of the computer where the data will be used. Moreover, all evaluators are required to sign a confidentiality agreement.
Data used in evaluation will be saved in Business Finland and Statistics Finland databases so that the results can be replicated in further studies. Data concerning applications and funding decisions, including applications, project plans, funding decisions, project reports and amendments, is stored for 25 years.

Other challenges
Responding to statistical surveys is voluntary in Finland which means that there will be some gaps in the statistical data. In addition, there are the normal delays in the availability of statistical data.

6.4. Please indicate whether surveys of aid beneficiaries or of other undertakings are foreseen and whether complementary sources of information are intended to be used:

Several beneficiary surveys and interviews can be carried out by external evaluators if needed for the scheme evaluation. Business Finland will not have access to survey or interview data of individual beneficiaries or scheme managers carried out by external evaluators. However, this data will be made available for further evaluations in the evaluators' files.

The main source of complementary information available for the evaluators is the Business Finland data.

7. Proposed timeline of the evaluation

7.1. Please indicate the proposed timeline of the evaluation, including milestones for data collection, interim reports, and involvement of stakeholders. If relevant, please provide an annex detailing the proposed timeline:

Final evaluation will be carried out during the aid scheme:

Final evaluation will be carried out during 2025-2026 and results can be published in June 2026. The final report will be submitted to the Commission by 30 June 2026 and published as Business Finland report during September-October 2026.

Data used in the final evaluation will be R&D projects that have been completed during 2020-2024. CIS data will be available for two periods 2020-2022 and 2022-2024, but also earlier periods are available if needed in the evaluation. This allows viable econometric analysis in combination with the early indication of expected or unexpected results and impacts from the new scheme.

Final impacts and possible negative impacts cannot be evaluated fully during the aid scheme because projects will be completed in 2024 at the earliest and normally impacts can only be measured 3-5 years after the project has been completed. This is why also data of projects funded in the previous R&D scheme (years 2015-2022) will be used in the evaluation, or data can be even from the longer period, for example, since early 2000s, which could be useful especially in productivity estimation. For involvement of stakeholders, see point 9.2.

7.2. Please indicate the date by which the final evaluation report will be submitted to the Commission:

The final report will be submitted to the Commission by 30 June 2026.

7.3. Please mention factors that might affect the envisaged timeline:

Nothing foreseen.

8. The body conducting the evaluation

8.1. Please provide specific information on the body conducting the evaluation or, if not yet selected, on the timeline, procedure and criteria for its selection:

Timeline for selection of the external evaluator

The international invitation to tender will be published in August 2025. Completed tenders must be delivered no later than end of August 2025. The final evaluation is planned to begin January 2026.

Procurement procedure

Business Finland plans the invitation of tender and publishes it in order to procure the evaluation. All invitations of tender are open to all evaluators. The most economically advantageous proposal is selected, based on the following criteria: quality (team skills, implementation plan) and price. The detailed evaluation plan including the approach, methodologies and data is designed by the tenderer and included in the proposal.

Selection procedure

A role of each key expert and an estimate of their level of involvement (team skills) must be presented in the table of Person Skills which is part of the tender. The table of Person Skills is required for each person involved in the evaluation. The information contained in the table will only be used when the tenders are being compared. Making use of and involving top experts in carrying out the assessment evaluation will be taken into account in tender comparison, in relation to their workload. Comparison sub -criteria of person skills are, in particular:

- persons' knowledge and expertise on international and the Finnish innovation research and innovation systems, and research and innovation policy,

- adequate and proven experience and methodological knowledge of carrying out innovation impact assessments and econometrical analysis comparable to the extent and demands described in the invitation to tender,

The tenderer is required to submit a plan for implementing the evaluation. The plan must relate to the service description in the invitation to tender, and the objectives and tasks contained in it. Amount of work has to be specified. The implementation must be in accordance with this evaluation plan. The tenderer may attach to the tender a description of possible complementary methods and data they plan to use.

Eligibility of each tender will be verified. Tenders have to follow the requirements of tender and tenderer's financial information etc.

8.2. Please provide information on the independence of the body conducting the evaluation and on how possible conflict of interest will be excluded during the selection process:

The body conducting the evaluation is typically a consultant company or a research organization. The evaluation body is always independent from Business Finland and from the Ministry of Employment and Economy. Thus, there is no conflict of interest. A specific conflict of interest clause is included in the invitation of tender and the agreement between Business Finland and the evaluation body. The independency is ensured, and any conflict of interest avoided through a transparent, non-discriminatory and objective international procurement procedure.

8.3. Please indicate the relevant experience and skills of the body conducting the evaluation or how those skills will be ensured during the selection process:

A role of each key expert and an estimate of their level of involvement (team skills) must be presented in the table of Person Skills which is part of the tender. The table of Person Skills is required for each person involved in the evaluation. The information contained in the table will only be used when the tenders are being compared. Making use of and involving top experts in carrying out the assessment evaluation will be taken into account in tender comparison, in relation to their workload. Comparison sub -criteria of person skills are, for example:
• persons' knowledge and expertise on international and the Finnish innovation research and innovation systems, and research and innovation policy.
• adequate and proven experience and methodological knowledge of carrying out innovation impact assessments and econometrical analysis comparable to the extent and demands described in the invitation to tender.

8.4. Please indicate which arrangements the granting authority will make to manage and monitor the conduct of the evaluation:

After selecting the evaluators, Business Finland facilitates evaluation process by
1) forming a steering group.
2) helping in practical issues such as data collection, helping to identify persons to be interviewed and offering meeting rooms for workshops and steering group meetings.
3) publishing final evaluation reports and other material for communication.

The role of Steering group is to ensure that the evaluators focus on the evaluation questions and that evaluation proceeds according to the agreed schedule. Steering group does not participate or influence the actual evaluation work.
Members of the steering group are expected to be the directors of R&D funding and Strategy Unit from Business Finland, officer from Business Finland evaluation function, and officer from the Ministry of Employment and the Economy. There is also possibility to ask members from Ministry of Finance, Ministry of Education and Culture, Academy of Finland and Research and Innovation Council. As the role of the steering group is operative there are no stakeholders as members, but stakeholders participate in the evaluation through interviews and seminars.
During the evaluation, the evaluator presents the outcomes to the representatives of Business Finland steering group on 2 or 3 occasions. The purpose of this is to discuss the relevance of evaluation findings against the evaluation objectives and questions, and to identify potential needs for further data.

8.5. Please provide information, even if only of an indicative nature, on the necessary human and financial resources that will be made available for carrying out the evaluation:

Business Finland has human resources of 1-3 officers to govern evaluations.
The evaluation is done by an independent evaluator. The budget is approximately 60-80 000 EUR. This represents 10-15 per cent of total annual resources allocated to evaluation activities at Business Finland.

9. Publicity of the evaluation

9.1. Please provide information on the way the evaluation will be made public, that is to say, through the publication of the evaluation plan and the final evaluation report on a website:

The evaluation plan is published on Business Finland web page once approved by the Commission.
The evaluation results are published in English. The evaluator will also prepare a summary in Finnish and presentation material of the main results.
All evaluation reports are published in Business Finland publication series.
https://www.businessfinland.fi/suomalaisille-asiakkaille/tietoa-meista/tulokset-ja-vaikutukset

9.2. Please indicate how the involvement of stakeholders will be ensured. Please indicate whether the organisation of public consultations or events related to the evaluation is envisaged:

In the end of evaluation, the validation workshop will be organised where main public bodies are represented including the Ministry of Employment and Economy, evaluator organisations and Business Finland representatives as well as relevant stakeholders. Relevant stakeholders are the organisations representing potential beneficiaries of the scheme (industrial associations etc.), public funding agencies (such as TESI, Finnvera, Finpro), policy makers (Ministries, Prime Minister's Office), relevant research organisations (collaborating with beneficiaries, having evaluation expertise) and other relevant organisations.

The main contribution from the stakeholders will be received during the validation workshops. Relevant stakeholders are also systematically consulted during the design of new funding schemes.
After the validation workshops, the evaluation reports will be published in Business Finland publication series.

9.3. Please specify how the evaluation results are intended to be used by the granting authority and other bodies, for example for the design of successors of the scheme or for similar schemes:

The evaluation results are presented and utilised in all units of Business Finland which are responsible for funding in the R&D scheme. Business Finland uses the evaluation results in planning of the future R&D scheme as well as other aid schemes, in planning future thematic programmes, in its ongoing strategy work and in planning other revisions of the services and organization of Business Finland. The results are also used to verify that negative effects on the market have been minimized and that no unexpected negative effects have occurred.

The Ministry uses the evaluation results to evaluate how Business Finland has fulfilled the objectives set by the Ministry for funding and other operations, to plan the future objectives for Business Finland funding and other operations as well as to further develop the overall R&D system and state aid in Finland.

9.4. Please indicate whether and under which conditions data collected for the purpose or used for the evaluation will be made accessible for further studies and analysis:

Data used in evaluation will be saved in Business Finland and Statistics Finland databases so that the results can be replicated in further studies. Data concerning applications and funding decisions, including applications, project plans, funding decisions, project reports and amendments, is stored for 25 years.

On data protection, see point 6.3.

9.5. Please indicate whether the evaluation plan contains confidential information that should not be disclosed by the Commission:

There is no confidential information in the evaluation plan.

10. Other information

10.1. Please indicate here any other information you consider relevant for the assessment of the evaluation plan:

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10.2. Please list all documents attached to the notification and provide paper copies or direct internet links to the documents concerned:

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ANNEX I

Table 1. Distribution of Business Finland funding by industrial sectors (Awarded total R&D-funding, 1000 EUR)

Standard Industrial Clasification TOL 2008	2016	2017	2018	2019	2020	2021	2022	2023
A Agriculture, forestry and fishing	795	256	981	0	0	243	42	517
B Mining and quarrying	2 351	-2 466	578	8 463	2 044	2 355	0	1 077
C Manufacturing	76 465	94 217	122 529	119 078	210 916	150 798	214 060	178 611
D Electricity, gas, steam and air conditioning supply	1 325	1 753	7 884	5 074	18 980	1 356	24 723	1 448
E Water supply; sewerage, waste management and remediation activities	1 633	2 783	1 660	856	2 599	1 231	1 279	645
F Construction	4 228	4 067	2 142	3 028	4 673	1 716	382	1 657
G Wholesale and retail trade; repair of motor vehicles and motorcycles	10 584	10 854	13 810	8 770	21 270	9 895	5 210	14 392
H Transportation and storage	914	1 408	2 468	947	2 402	2 401	678	614
I Accommodation and food service activities	489	427	602	0	274	243	256	2 666
J Information and communication	75 736	80 677	78 301	84 514	105 471	94 111	78 473	64 199
K Financial and insurance activities	1 465	120	1 642	2 169	2 681	2 881	1 608	1 860
L Real estate activities	7 826	518	883	191	93	0	1 432	0
M Professional, scientific and technical activities	54 571	58 547	52 277	51 155	67 806	51 322	90 940	87 294
N Administrative and support service activities	1 942	1 715	5 782	3 822	4 047	1 900	2 313	942
O Public administration and defence; compulsory social security	722	1 195	1 520	6 412	209	673	335	2 081
P Education	4 741	3 076	5 525	1 806	2 107	1 742	1 278	239
Q Human health and social work activities	2 239	3 020	2 094	8 998	888	1 459	214	1 389
R Arts, entertainment and recreation	1 517	1 636	0	662	904	464	251	86
S Other service activities	534	457	875	5 830	0	0	1 126	93

Table 2. Distribution of Business Finland by enterprise size (Awarded total R&D-funding, 1000 EUR)

Enterprise size	2016	2017	2018	2019	2020	2021	2022	2023
Micro	77 261	72 126	74 730	67 436	77 869	77 925	118 479	62 762
Small	61 987	70 741	66 293	76 352	96 636	55 176	59 590	62 609
Medium-sized	53 320	30 183	38 761	29 093	53 354	40 191	35 455	58 281
Large	56 433	90 595	120 039	138 045	215 892	150 308	210 707	175 268