

Direct funding of firms' R&D

Governments have long used direct funding to stimulate firms' R&D through various instruments, including matching grants, subsidized loans, and venture capital and seed funds. Besides basic research and product development, eligible activities for funding may also include training, process innovation, technology commercialization, early stage funding for technology start-ups, etc. Public funding covers a variable proportion of the costs of an R&D project, requiring co-financing by beneficiary firms.

A key objective of direct funding programs is to induce an “additionality” effect in firms, with the result that they end up investing more of their own resources in R&D than originally planned. Besides providing much needed funding to complement internal resources, public R&D funding may produce a signal effect that facilitates firms' access to external sources of finance and raises the interest of firms' top management in the project. In addition to input additionality (e.g. more R&D expenditure), public funding can also result in output additionality (e.g. better results in terms of innovation) by focusing on measurable results, like patents or new products. In addition, public funding programmes may also influence the behavior of firms when organizing their R&D activities (behavioral additionality). For example, programmes can target firms that have not previously engaged in collaboration with universities or public research institutes.

Direct funding can be offered across the board to all firms investing in R&D, but the most common practice is to run a competitive selection process targeting specific thematic areas and types of firms. Indeed, R&D grants are increasingly being aligned with strategic priority areas and designed to contribute to other policy goals, such as promoting innovation in SMEs, entrepreneurship, collaboration among firms, or university-industry collaboration.

The competitive selection process may be structured around a permanent call for proposals or around periodic calls with fixed deadlines. The review panel that ranks proposals should ensure a transparent, fair and merit-based competition for resources. The proposal evaluation often involves an independent peer review by scientific experts. Following the award of grants, the execution of firms' projects may last several years and public funds are often provided in tranches against the accomplishment of a set of defined goals. Continuous outreach, monitoring and evaluation are important to increase the efficiency of public funding.

Compared to other forms of public support to business R&D, such as tax incentives, direct funding has the advantage of being able to target specific activities and actors that are of greatest interest in meeting public policy goals. However, direct funding requires relatively higher bureaucracy and administration costs, and raises the problematic prospect of governments “picking out winners”.

Several factors determine the impact of direct funding of firms' R&D: direct funding of firms' R&D will be more effective when it is stable over time. Other factors that determine the impact of an R&D incentive package are its scope of coverage, its magnitude relative to other countries, its ease of implementation in the different stages of the R&D cycle and the balanced use of different types of instruments. When evaluating the impact of public funding on firms' R&D, the objective should be not only to measure change but also to determine if the observed change can be attributed directly to program intervention, since there are many other factors influencing the evolution of firms' R&D.

References

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