



Evaluation of business R&D grant schemes: new challenges, new opportunities

Grants and loans play a vital role in public innovation policy, prompting businesses to spend more on R&D and helping them overcome barriers to innovation such as risk aversion and market failures. With large sums – and even larger outcomes – at stake, R&D policy-makers need robust and reliable information, which demands a lot from evaluation methodologies. A Mutual Learning Exercise (MLE), carried out by the European Commission’s Policy Support Facility (PSF), explores the challenges and opportunities they face when developing R&D grant evaluation schemes fit for modern times.

In a fast-evolving R&D innovation policy landscape, new perspectives and better methods to understand the effects, evaluate the performance and improve the delivery of these schemes have come to light. New perspectives such as systems of innovation, clusters and knowledge transfer have been added. Methods such as surveys and econometric modelling have been improved, while analytical tools such as mapping the intervention logic of policy schemes have been fine-tuned. Nevertheless, many of the challenges facing innovation policy evaluation remain.

Building on earlier work on this topic, the MLE presents a number of good practices and demonstrates some of the latest evaluation techniques being explored by R&D evaluation practitioners from 12 countries. It explores three core areas: the added-value of taking a behavioural change perspective (understanding how the R&D and innovation behaviour of companies changes in response to policy measures); how novel combinations of mixed-method approaches can be used to overcome some of the key issues facing evaluation; and the opportunities and challenges offered by big data (and data linking) in policy evaluations.

Challenges – old and new

MLEs involve a structured exchange of knowledge and best practice by national research and innovation (R&I) stakeholders from a range of European countries, supported by a team of policy experts. National participants had the opportunity to raise concerns and challenges faced when evaluating the effects of their interventions, and to present recent approaches in how they seek to overcome these problems.

As with other innovation support interventions, evaluation of business R&D grants schemes faces a number of long-standing challenges which include:

- Skewed effects (i.e. a handful of firms benefit a lot, most do not)
- Lagged effects (effects do not emerge for some time)
- Paucity of data (there can be a lack of information on how effects are exhibited)
- Low observability (meaningful effects can be difficult to observe directly and some, including spill-overs, may be indirect)
- Fluidity of companies (firms show significant variability and can change rapidly)
- Attribution of effects (effects due to the programme concerned or to other programmes/factors).

“At the same time, new challenges are emerging such as the need for greater understanding of the detailed behavioural effects of innovation support (to better tailor its delivery), and to grasp the opportunities offered by ‘big data’, notes Martijn Poel the rapporteur of the MLE.

The MLE was able to showcase a number of new and often experimental approaches to the way in which these old and new challenges could be addressed. Participants were able to learn from the lessons already experienced by a range of leading international practitioners in evaluation design and implementation, and to offer further examples or pose questions from their own national contexts.

National agencies are now extensively engaged in developing data platforms on the activities and results arising from their funded research projects and in linking this data to further, external data sources, such as business registries. Examples were provided by the UK and Norway, while France and Sweden indicated that they were also moving in this direction. The linkage of data from, for

instance, national statistical offices, for use in specific evaluations is also gaining prevalence and examples from France, Norway and Spain were highlighted.

Participants were presented with diverse examples of how qualitative approaches — case studies, detailed surveys and interviews — may be mobilised to better understand the narratives underlying the ways in which companies use support schemes in practice, and how they impact on firm behaviour.

A case from Spain showed how the challenge of firm heterogeneity might be overcome when developing an understanding of behavioural effects, while a Norwegian evaluation examined the sustainability of such effects, thereby addressing the issue of time-lagged impacts.

The use of new evaluation frameworks, as presented by the UK and Sweden, offered evidence of schemes where the major ambition is to assess the behavioural change induced at the level of sectoral innovation systems. These schemes, involving public and private actors, are concerned with the development of a particular set of technologies, such as in the healthcare sector.

The rich discussion surrounding mixed-method approaches showed that no single evaluation approach is able to provide a comprehensive picture of the performance of a policy instrument.

"The use of several complementary methodologies in combination allows policy-makers to triangulate the aspects of performance to better understand if, how and why a particular instrument is successfully addressing the rationale for which it was designed and implemented," notes Marzenna Weresa the Chair of the MLE.

All participants were able to cite national examples of evaluations that employed mixed-method approaches, with some notable cases offered by Austria, Lithuania (which also utilised an innovative web-scraping methodology), Norway and the UK.

Where to from here?

The MLE process generated valuable policy insights and information on leading-edge developments in evaluation approaches which extend well beyond the exercise itself.

A key policy implication was that, by gaining a more fine-grained understanding of how R&D business and innovation grants affect firm behaviour, policy-makers can improve the design of schemes. By considering how interventions change firm behaviour, policy schemes can be fine-tuned and better targeted which, in turn, helps to reduce the dead-weight loss of schemes.

"Insights like this should not be contained to one-off reports or exercises. This sort of dialogue should be maintained beyond the PSF, ideally through the development of an international community of evaluation practitioners who could share experience on commissioning and conducting evaluations," suggests the Chair of the MLE Marzenna Weresa.

For further information:

The Final Report of the PSF Mutual Learning Exercise on the evaluation of business R&D grants schemes can be found at: <https://rio.jrc.ec.europa.eu/en/library/mle-evaluation-business-rd-grant-schemes-final-report-behavioural-change-mixed-method>

The PSF Mutual Learning Exercise on the evaluation of business R&D grant schemes is detailed here: <https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-evaluation-business-rd-grant-schemes>

Twelve countries participated in the MLE: Austria, Belgium (Brussels Capital-Region), Croatia, France, Germany, Lithuania, Norway, Slovenia, Spain, Sweden, Turkey and the United Kingdom. The MLE involved three learning visits to participating countries (Norway, Sweden, UK) to meet local stakeholders and learn from hands-on experience. Discussions tackled the issues of 'Big Data'; Behavioural change and behavioural additionality; and mixed-methods approaches to evaluation