

INNOBOOSTER

IMPACT ASSESSMENT

Documentation Report

January 2021

 Innovation Fund Denmark

Content

Executive summary	3
1. Introduction	6
2. The Innobooster Program	8
2.1. The program in brief	8
2.2. Who applies for Innobooster.....	9
3. Methodology design	16
3.1. Program set-up and context	16
3.2. Literature review – establishing “state-of-the-art”	19
3.3. Data review – relevant and feasible impact measures.....	20
3.4. Econometric methods – considerations and choice	23
4. Results.....	30
4.1. Sample, matching and control groups.....	30
4.2. Main results	34
4.3. Heterogeneity analyses	42
5. Conclusions and perspectives	47
Literature.....	50
Appendix A. Econometric methods	51
Appendix B. Matching results	52
Appendix C. Extra heterogeneity analyses.....	57

This report has been prepared for Innovation Fund Denmark by:



McKinsey & Company

**muus
mann**

Executive summary

Innovation Fund Denmark's Innobooster program provides public support for innovative activities in the private sector to promote growth, employment and productivity in the Danish society.

The program was established in 2014 and is aimed at entrepreneurs, start-ups, small and medium-sized firms. Based on applications from private firms, grants ranging from DKK 50,000 to DKK 5 million are awarded to innovative projects with a commercial potential.

Innovation Fund Denmark has a clear ambition of evaluating the impact of its programs. Partly because it is considered as an obligation when distributing a considerable amount of public funds, partly because systematic impact assessments may identify potentials for improving the programs to increase the effectiveness of the Fund in achieving its social objectives.

These objectives will only be met if the impact assessments are based on methods that are carefully designed and represent international best practice. Therefore, the goal of the impact assessment of Innobooster has been twofold:

- To develop a “state-of-the-art” methodology design in line with the international literature upon which the impact assessment could be based. Moreover, transparency concerning the methodology design has had high priority, as results may depend crucially on the chosen evaluation method.
- To assess the extent to which Innobooster has had the impact on the participating firms which is expected according to the intervention logic of Innovation Fund Denmark and the specific effect chain for Innobooster.

In the first phase of the project, therefore, a thorough review of the program mechanisms of Innobooster was combined with a comprehensive literature survey and a review of the available data to establish the best possible methodology design. A summary of the outcome of these activities and the design process in general is included in this documentation report, while accompanying reports contain the details.

Based on the methodology design, the impact assessment was carried out in the second phase.

One important caveat concerning the impact assessment is related to data availability. Innobooster is a “young” program, and data required for the statistical analyses are only now beginning to emerge.

However, the availability of data is still limited, and it has only been possible to assess the short-term impact of Innobooster. Thus, impact is measured when the supported projects have not necessarily yet been completed, and their full potential for improving firm performance will not have been realized. More data will, of course, become available over time, which will enable analyses of the long-term impact as well as more robust analyses for the short-term impact.

With this reservation, the overall results of the impact assessment are encouraging, but not conclusive:

- Overall, the results indicate that firms receiving an Innobooster grant perform better than comparable firms – in terms of the number of R&D employees and total employees as well as turnover – when evaluated in the first year after project approval by Innobooster.
- Also, an increased probability of a change in ownership caused by Innobooster is identified, which may reflect that Innobooster firms become more investable. This may potentially be regarded as an early indicator of a significant positive long-term impact.
- This is encouraging, but given the short-term nature of the analyses does not provide a basis for conclusions regarding the long-term impact of Innobooster, and therefore if the goals of the program are achieved.
- The mixed results for value added and profit margin as impact measures illustrate this. For these impact measures, Innobooster firms perform as well as comparable firms that have applied for, but not received an Innobooster grant, but not as well as control group drawn from the population of all Danish firms when evaluated one year after the grant was approved. This is consistent with Innobooster firms being in an investment phase where costs often exceed revenue, reducing value added and profits in the short term. Only when the business idea is translated into new products and services, a positive impact on the measures related to output additionality can be expected.

	Impact measure	Estimated impact
Input additionality	Number of R&D employees	+
	Share of R&D employees	+
	Change in ownership	+
Behavioural additionality	Number of employees (FTE)	(+)
	Turnover	(+)
	Value added	?
Output additionality	Productivity	-
	Profit margin	?

+	All estimated impacts significantly positive
(+)	Some estimated impacts significantly positive and none significantly negative
-	No significant estimated impacts
?	Estimated impacts depend on choice of control group

Only future impact assessments, which can utilize that data will become available for a longer period, can establish if the expected long-term impact materializes.

Hopefully, this early attempt of assessing the impact of Innobooster as well as the methodology design upon which it is based can serve as inspiration for future impact assessments.