

**Manuel Kaar / Dr. Jeanette Müller**

Benefits and barriers of an enterprise's participation in publicly funded R&D projects. The example of Swiss enterprises in the field of renewable energy

**Master's Thesis**

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# The Impact of Participation in Publicly Funded R&D Projects on Firm Competitiveness: Benefits and Barriers to the Use of National and EU Funding Programmes on the Example of Swiss SMEs in the Field of Renewable Energy

by

**Manuel Kaar**

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## **Abstract**

This thesis studies the involvement of small and medium-sized enterprises (SMEs) in publicly funded research and development (R&D) projects. SMEs represent 99% of all companies in Europe and are important drivers of innovation, yet many lack the necessary resources to engage in formal research activities. Providing these firms with the possibility to make use of public funding programmes for R&D projects therefore constitutes a way of stimulating them to innovate. Reviews of such programmes, however, show that SME participation is frequently lower than desired by policy makers. This raises the question of the benefits SMEs can gain from such projects and the barriers that negatively influence their ability to participate. The author hypothesises that taking part in publicly funded R&D projects can positively influence an SME's competitiveness through a specific set of advantages gained from participation. The second hypothesis is that companies with previous experience in such projects evaluate their participation positively. Finally, the author puts forward that a number of specific barriers limit SMEs' ability to participate. The hypotheses were tested by means of an online survey among Swiss SMEs in the field of renewable energy, as well as interviews with representatives of national and EU funding bodies. The results support all three hypotheses and confirm the importance of the public measures. Participation in publicly funded R&D projects can indeed have positive impacts on an SME's competitiveness. Also, companies tend to evaluate their participation positively. SMEs with previous experience in such projects were well-informed about the specifics of a participation prior to filing an application, whereas a substantial lack of information exists on the part of companies without previous experience. This study adds to the existing pool of literature on SME competitiveness, and through its narrow focus addresses a very specific area where little research has been conducted to date. As such, the thesis is of relevance to the business, research, and political communities.

## Statutory declaration

"I, the undersigned, declare that I have written this thesis myself and that I have not used any sources or resources other than stated for its preparation. I further assert that I have indicated all direct and indirect quotations. I declare that all statements and information contained herein are true, correct and accurate to the best of my knowledge and belief. This thesis has not been submitted elsewhere for examination purposes."

**Date:** 31 January 2011

**Name:** Manuel Kaar

Signature



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## List of abbreviations

Abbreviation*	Description
ANOVA	Analysis of variance
CHF	Swiss franc (currency)
CIP	The Competitiveness and Innovation Framework Programme of the European Union
CORE	Swiss Federal Energy Research Commission
CRF	Cost-covering remuneration for feed-in to the electricity grid from renewable energy sources in Switzerland
CTI	Commission for Technology and Innovation / The Swiss Innovation Promoting Agency
DDPS	Swiss Federal Department of Defence, Civil Protection and Sport
DETEC	Swiss Federal Department of the Environment, Transport, Energy and Communications
DG	Directorate-General (European Union)
EC	European Commission
EU	European Union
EUR	Euro (currency)
FDEA	Swiss Federal Department of Economic Affairs
FDFA	Swiss Federal Department of Foreign Affairs
FDHA	Swiss Federal Department of Home Affairs
FDJP	Swiss Federal Department of Justice and Police
FOAG	Swiss Federal Office for Agriculture
FOEN	Swiss Federal Office for the Environment
FOPH	Swiss Federal Office of Public Health
FP	Framework Programme for Research and Technological Development of the European Union
FP7	Seventh Framework Programme for Research and Technological Development of the European Union
GDP	Gross Domestic Product