



Rediscovering local roots and interactions in management

Conference Proceedings

Short papers

Bari (Italy)

29-30 June 2023

Sinergie-SIMA Management Conference Proceedings
Rediscovering local roots and interactions in management
29-30 June 2023
Mercure Villa Romanazzi Carducci (Bari)

ISBN 978-88-94-7136-3-3

The Conference Proceedings are published online on https://www.sijmsima.it

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edited by

Arabella Mocciaro Li Destri, Marta Ugolini, Angeloantonio Russo and Savino Santovito

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European R&D grants: assessing the impact of SME Instrument on Technology Transfer activity

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Framing of the research. The utilization of European funding to promote corporate research and development (R&D) is a widely accepted solution to tackle the issue of private underinvestment in R&D (Nelson, 1959; Arrow, 1972). R&D grants have been suggested to be more effective in influencing the direction of technological change and addressing specific societal challenges, in comparison to other policy measures such as R&D tax credits (Azoulay and Li, 2020 Van Reenen, 2020). The impact of these market failures is primarily felt by innovative SMEs, with financial resource constraints being a significant obstacle to R&D activities, especially with regards to technology transfer (Bukvic and Barlett, 2008). Hence, European funding can play a vital role in stimulating R&D and bridging the financing gap for small and medium-sized enterprises (SMEs) (Cincera et al., 2016; Mina et al., 2021).

However, despite a tendency to report positive results, empirical evidence has not provided a conclusive answer on the effectiveness of R&D subsidies, as noted by Dimos and Pugh (2016) and Bloom et al. (2019). While R&D grants have the potential to encourage firms to increase their investment in R&D activities, the ultimate impact of such policies may depend on various factors, such as the design of the subsidy program and the characteristics of the firms that receive the subsidies. Furthermore, R&D subsidies may have unintended consequences, such as encouraging firms to engage in rent-seeking behavior or skewing their R&D efforts towards short-term goals rather than long-term breakthrough innovations.

Despite the potential limitations of R&D grants, they remain a crucial tool for policymakers seeking to promote technological progress and economic growth of SMEs. As such, continued research into the effectiveness of these policies is essential in order to develop grant programs that can maximize their benefits while minimizing potential drawbacks. As shown by several studies, European funding can play a crucial role in stimulating R&D and closing the funding gap for SMEs (Cincera et al., 2016; Mina et al., 2021). The support of European funding can enable SMEs to access the necessary resources and expertise to develop new technologies and innovations, thereby promoting economic growth and competitiveness. Indeed, several studies have demonstrated the positive impact of grants on the survival of small and medium-sized enterprises, as well as on their ability to maintain employment levels, invest in tangible assets, and increase sales or turnover (Dvouletý et al., 2021; Pergelova and Angulo-Ruiz, 2014). More concretely, grants are a form of financial assistance that can provide a boost to SMEs struggling to stay afloat or expand their operations. Studies have shown that grants can have a range of positive outcomes, including helping SMEs weather financial challenges and avoid bankruptcy, retaining or even increasing their workforce, investing in new equipment or facilities, and boosting sales or revenue.

Furthermore, European funding can also provide SMEs with access to international networks and markets, facilitating their integration into the global economy (Mulier and Samarin, 2021). This is particularly important for SMEs, which often lack the resources and capabilities to compete globally on their own (Gabrielsson et al., 2004).

By promoting innovation and competitiveness among SMEs, European funding can contribute to the overall economic growth and development of the European Union. As the European Commission notes, "The EU's future growth and jobs depend on its ability to support the creation of new companies and the growth of existing ones, particularly small and medium-sized enterprises" (European Commission, 2021).

Given the importance of European financing in promoting R&D and economic growth of SMEs, the present study aims to investigate its role in fostering innovation and competitiveness among SMEs.

Purpose of the paper. The SME Instrument (SMEi) is a well-established funding program within Horizon 2020 that was introduced in 2014. Its primary objective is to support high –potential innovation and consolidate the EU's policy efforts to promote European competitiveness in advanced technologies, matching its excellence in science. The program

Sinergie-SIMA 2023 Management Conference Rediscovering local roots and interactions in management 29-30 June 2023 - LUM University and the University of Bari (Italy) Conference Proceedings ISBN 978-88-94-7136-3-3 DOI 10.7433/SRECP.EA.2023.01

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provides funding for SMEs to develop and bring new products, services, and processes to market as well as to access new markets. Moreover, the SMEi has facilitated technology transfer activity through patens activity. Within the framework of the SMEi instrument, businesses participate in a grant competition where the amount of funding can vary from as little as ϵ 0.5 million to as much as ϵ 2.5 million. Research and development activities that are eligible for funding include prototyping, testing, design, performance evaluation, monitoring, demonstrating, piloting, validating for market duplication, scaling, and application development. Grants cover 70% of all eligible costs associated with the proposed project for a period of 12 to 24 months. The intended outcome of the project is a market-ready product, process, or service (Di Minin et a., 2016).

The SMEi has two types of winners. The first type receives economic compensation while the second type is awarded a Seal of Excellence. The Seal of Excellence is a quality label granted to project proposals submitted under a Horizon Europe call for proposals that meet a predefined quality threshold but were not funded due to budget constraints (European Commission, 2023). More concretely, the Commission awards this seal to recognize the value of project proposals and encourage other funding organizations to benefit from Horizon Europe's high-quality evaluation process.

The aim of this paper is to determine whether SMEi contributes to fueling technology transfer activities, specifically in terms of new patent activity. In other words, this paper investigates whether SMEs improve their technology transfer performance, as measured by the numbers of patents, in the two years following their financing period. Thus, the analysis relies on SMEs that applied for funding to the Horizon 2020 SME Instrument (SMEi) program Phase 2, during the period 2014 to 2020. We have selected this stage because Phase 2 fundings focuses on sustaining innovation projects underpinned by a strategic business plan and a feasibility assessment. During this period, SMEs are requested to reach the market with a new idea (product, process, service) or to develop a business innovation plan which includes a detailed commercialization strategy and a plan on how to attract private investors.

Methodology. To evaluate the impact of the SMEi on technology transfer, we use propensity score matching (PSM) and difference in differences (DID) models to compare innovation performances (patent stock and patent applications) of SMEs that received the SMEi fundings with the correspondent performances experienced by a counterfactual group of SMEs that was awarded with the Seal of Excellence.

We retrieved the information on 3810 SMEi Phase 2 applicants that have achieved the qualification score in the evaluation cycle from eCORDA proposal database. The dataset contains applicants' data and project data for the evaluated project (both funded and not funded) that apply to the SMEi. To analyze the effect on technological transfer of SMEi, we further combined patent information over the period 2013-2021 obtained from Bureau van Dijk Orbis Intellectual Property database. By matching the two datasets, we obtain an unbalanced panel of 2039 firms.

To identify the causal effect of SMEi, we need to control for those elements that might have driven the acknowledgment of the "Main list" status. We need to make sure that our analysis rules out any significant difference between "Main list" and "Below available budget" SMEs in terms of these characteristics. Hence, we run a k-nearest PSM by using a set of variables related to the SMEi proposal (proposal duration, total cost of the project, requested EU contribution, coordinator country, and year of application). After the application of the PSM, the final sample comprises 1152 SMEs. Then, we specify a DID model by introducing both individual and time fixed effect and by clustering at firm level the standard errors.

Results. In Table 1, we report the preliminary results of the DID model to evaluate the impact of the SMEi on technology transfer. We present the results of being funded by the SMEi on the stock of patents and the applications of new patents. In both cases, the impact is positive and statistically significant, meaning that being funded by the SMEi lead to higher technological transfer with respect to the SMEs not funded.

The estimate of DID is higher in column 1 rather than column 2, but this result could be biased by potential acquisition of patents by SMEs. By focusing on the estimated coefficient of DID in column 2, we can isolate the effect of the policy on knowledge production of SMEs by both reflecting the inventive performance of the firm and having a close link to the invention (OECD, 2015).

This preliminary analysis confirms the positive effect of EU public policy in the short term by fostering technology transfer and the innovative performances of SMEs. These preliminary results show that the policy promotes the SMEs involvement in the commercialization of knowledge, hence generating and fostering competitiveness and growth. These early findings demonstrate that the policy encourages SMEs to participate in the commercialization of knowledge, thereby promoting competitiveness and growth. Moreover, the policy has fostered a culture of innovation and entrepreneurship among SMEs, leading to the creation of new products and services and the expansion of existing markets. Overall, the positive effects of the EU public policy on SMEs highlight the importance of continued investment in technology and innovation for economic growth and development.

Finally, our results are in line with the findings of empirical analysis of the U.S. Small Business Innovation Research (SBIR) program, a U.S. program that inspired the SMEi policy design. Studies of the SBIR program have highlighted the policy relevance of technology and knowledge transfers from publicly funded research to SMEs (Hayter and Link, 2021; Link, 2020). These studies have shown that policies that support innovation and technology transfer are effective in promoting the growth and competitiveness of SMEs (Berger et al., 1992). Our findings similarly suggest that the EU public policy has been successful in promoting technology transfer and innovation among SMEs, which has contributed to the growth and development of these businesses. Continued support for these policies will be important for the sustained success of SMEs in the EU.

Tab. 1: Results of the DID model

	Patent stock	Patent applications	
DID	0.1467***	0.1022***	
	(0.02714)	(0.0205)	
Observations	8092	8092	
N of Firms	1152	1152	
Firm FE	Yes	Yes	
Year FE	Yes	Yes	
Note : Clustered standard errors (in parentheses). *p<0.1; **p<0.05; ***p<0.01			

Research limitations. This study has certain limitations that serve as potential avenues for future research. Firstly, the analysis is limited to a specific time frame, as the effects of the European grant are assessed only within the two years following its allocation. Therefore, future studies could explore a wider time span to fully comprehend the longer-term impacts of the grant. Secondly, while some research highlights the importance of the intangible aspects of technology transfer (Campbell et al., 2020; Cucino et al, 2022), our analysis solely focuses on the tangible benefits, such as patent applications. Future research could adopt a qualitative approach and examine a sample of case studies to investigate the social and reputational benefits of the European grant that are not quantifiable through a quantitative analysis alone. By doing so, we can obtain a more holistic understanding of the impact of the European grant beyond the scope of patents. Moreover, we need to overcome the selection bias and loss of information arising from the presence of missing data in the ORBIS IP database by using the multiple imputation technique developed by Honaker and King (2010), drawn from the statistics literature, to generate a balanced panel and solving the problem of selection bias and randomly missing data

Managerial implications. The findings of this study have important managerial and policy implications. Firstly, companies that intend to participate in the European funding policy for research and development should pay particular attention to the protection of their intellectual property. Since the quality of the proposal is a fundamental criterion for obtaining funding, companies should focus on designing an ambitious and high-risk research and development plan that also has strong commercial potential. In this sense, the European funding policy for research and development can be seen as a sort of catalyst for the adoption of open innovation practices, which improve resource management and awareness of intellectual property (Spithoven et al., 2013; Van De Vrande et al., 2020).

Secondly, the R&D managers of companies that have obtained European funding should design and implement open innovation strategies in order to maximize the impact of the funding. The adoption of open innovation practices can increase companies' ability to transfer the knowledge acquired during the research and development project to other contexts and sectors, thus creating additional business opportunities. Furthermore, collaboration with other companies and research institutions can accelerate the process of commercializing the acquired knowledge.

In summary, our conclusions suggest that companies that intend to participate in the European funding policy for research and development should pay attention to the protection of their intellectual property and design open innovation strategies to maximize the impact of the funding.

From a policy perspective, the SMEi aims to create a unique and specialized group of companies that drive EU competitiveness and growth. Policymakers should consider these findings to optimize the allocation of resources for SMEs seeking European grants. By providing SMEs with the necessary support and tools, policymakers can drive innovation, economic growth, and job creation.

Moreover, this study provides valuable information for managers and policymakers to make informed decisions regarding the allocation of resources for SMEs seeking European grants. It is recommended that managers adopt open innovation practices to maximize the impact of the grant, while policymakers develop ad hoc tools to incentivize the best SMEs to apply for the seal of excellence qualification. Moreover, the study's findings are consistent with the empirical analysis of the U.S. Small Business Innovation Research (SBIR) program. Studies of the SBIR program have shown that policies supporting innovation and technology transfer are effective in promoting the growth and competitiveness of SMEs (Chowdhury et al., 2022; Leyden and Link, 2015; Link and Scott, 2010). Our findings similarly suggest that the EU public policy has been successful in promoting technology transfer and innovation among SMEs. Policymakers can continue to learn from and leverage the experiences and successes of programs like the SBIR to further improve the effectiveness of EU policies aimed at supporting SMEs.

In conclusion, tour study highlights the importance of EU public policy in promoting innovation and technology transfer among SMEs. Policymakers must continue to invest in programs like the SMEi to support SMEs in their efforts to commercialize knowledge, generate growth, and remain competitive in today's global economy.

Originality of the paper. The role of European funding in promoting R&D among SMEs is critical, as it can help bridge the financing gap and stimulate innovation, as highlighted by previous studies (Cincera et al., 2016; Mina et al., 2021). One program that supports such innovative projects is the SMEi, which rewards high-risk and ambitious innovation proposals with the potential to disrupt the European market. The program encourages combining market-close innovation with market-oriented approaches to enhance competitiveness (Padilla et al., 2018).

Despite the importance of public support in promoting innovation among SMEs, questions remain regarding the impact of the SMEi instrument on technology transfer activities of SMEs. Therefore, this study aims to investigate

whether the SMEi has supported the patenting capacity of SMEs. While previous studies have focused on the financial performance of SMEs that have received European funding, this study aims to analyze the technology transfer activities of SMEs that have received funding and those that have received the seal of excellence qualification.

The findings of this study can be valuable for policymakers and SMEs seeking to design effective strategies to promote innovation and enhance technology transfer activities. By identifying the impact of the SMEi on the patenting capacity of SMEs, policymakers can optimize the allocation of resources to support SMEs in developing their intellectual property and drive innovation and economic growth. Moreover, SMEs can utilize the findings to enhance their patenting capacity and develop effective strategies for technology transfer activities.

Overall, the study sheds light on the potential impact of the SMEi on technology transfer activities of SMEs and highlights the importance of designing effective policies and strategies to support SMEs in promoting innovation and enhancing competitiveness in the European market.

Keywords: R&D grant; technology transfer; SMEi; innovative firms; European funding

References

- AZOULAY P., GRAFF ZIVIN J., LI D., SAMPAT B.N. (2019), "Public R&D Investments and Private-sector Patenting: Evidence from NIH Funding Rules", *The Review of Economic Studies*, vol. 86, n. 1, pp. 117–152.
- AZOULAY P., LI D. (2020), Scientific Grant Funding, National Bureau of Economic Research, MA.
- ARROW, KENNETH JOSEPH (1972), "Economic Welfare and the Allocation of Resources for Invention", In: Readings in Industrial Economics. Springer, pp. 219–236.
- BARTLETT W., V. BUKVIC (2008), *Promoting Innovation in Slovenia Through Knowledge Transfer to SMEs*, in Potter J. (ed.), Entrepreneurship and Higher Education, OECD Publishing, Paris, https://doi.org/10.1787/9789264044104-14-en.
- BERGER R.E., LITTLE C.J., SAAVEDRA P.J. (1992), "Commercialization activities in the SBIR program (part 1)", *The Journal of Technology Transfer*, vol. 17, n. 4, pp. 27-39.
- BUKVIC V., BARTLETT W. (2003), "Financial barriers to SME growth in Slovenia", *Economic and Business Review*, vol. 5, n. 3, p. 161
- CAMPBELL A., CAVALADE C., HAUNOLD C., KARANIKIC P., PICCALUGA A. (2020), *Knowledge Transfer Metrics Towards A European-wide set of harmonised indicators*, Karlsson Dinnetz, M. (Ed.), EUR 30218 EN, Publications Office of the European Union, Luxembourg, ISBN 978-92-76-18885-8, doi:10.2760/907762, JRC120716.
- CHOWDHURY LINK A.N., VAN HASSELT M. (2022), "Public support for research in artificial intelligence: a descriptive study of US Department of Defense SBIR Projects", *The Journal of Technology Transfer*, vol. 47, n. 3, pp. 762-774.
- CINCERA M., RAVET J., VEUGELERS R. (2016), "The sensitivity of R&D investments to cash flows: comparing young and old EU and US leading innovators", *Economics of Innovation and new technology*, vol. 25, n. 3, pp. 304-320.
- CUCINO V., DEL SARTO N., FERRIGNO G., PICCALUGA A.M.C., DI MININ A. (2022), "Not just numbers! Improving TTO performance by balancing the soft sides of the TQM", *The TQM Journal*, (ahead-of-print),
- DE MARCO C.E., MARTELLI I., DI MININ A. (2020), "European SMEs' engagement in open innovation When the important thing is to win and not just to participate, what should innovation policy do?", *Technological Forecasting and Social Change*, vol. 152, pp. 119843.
- DI MININ A., DE MARCO C.E., KARAULOVA M. (2016), "SME Instrument—So Far So good?", In: Berkeley Roundtable on the International Economy.
- DVOULETÝ O., SRHOJ, S., PANTEA S. (2021), "Public SME grants and firm performance in European Union: A systematic review of empirical evidence", Small Business Economics, vol. 57, pp. 243-263.
- GABRIELSSON M., SASI V., DARLING J. (2004), "Finance strategies of rapidly-growing Finnish SMEs: born internationals and born globals", *European Business Review*, vol. 16, n. 6, pp. 590-604.
- HAYTER C.S., LINK A.N. (2022), "From discovery to commercialization: Accretive intellectual property strategies among small, knowledge-based firms", *Small Business Economics*, vol. 58, n. 3, pp.1367-1377.
- HONAKER J., KING G. (2010), "What to do about missing values in time-series cross section data", *American journal of political science*, vol. 54, n. 2, pp. 561–581.
- LEYDEN D.P., LINK A.N. (2015), *Public Sector Entrepreneurship: U.S. Technology and Innovation Policy,* New York: Oxford University Press
- LINK A.N. (2021), "Knowledge transfers from federally supported R&D", *International Entrepreneurship and Management Journal*, vol. 17, pp. 249-260.
- LINK A.N., SCOTT J.T. (2010), "Government as Entrepreneur: Evaluating the Commercialization Success of SBIR Projects", *Research Policy*, vol. 39, pp. 589–601
- MALECKI E.J. (1981), "Government-funded R&D: some regional economic implications", *The Professional Geographer*, vol. 33, n. 1, pp. 72-82.
- MINA A., DI MININ A., MARTELLI I., TESTA G., SANTOLERI P. (2021), "Public funding of innovation: Exploring applications and allocations of the European SME Instrument", *Research Policy*, vol. 50, n. 1, pp. 104131
- MULIER K., SAMARIN I. (2021), "Sector heterogeneity and dynamic effects of innovation subsidies: Evidence from Horizon 2020", Research Policy, vol. 50, n. 10, pp. 104346.
- NELSON R. (1959), "The Simple Economics of Basic Scientific Research", *Journal of Political Economy*, vol. 67, n. 3, pp. 297–306
- OECD F.M. (2015), Guidelines for Collecting and Reporting Data on Research and Experimental Development.
- PADILLA P., DE VOLDERE I., DUCHÊNE V. (2018), Is the SME-Instrument Delivering Growth and Market Creation. Assessment of the Performance of the First Finalized Phase II Projects. Bruxelles

- PERGELOVA A., ANGULO-RUIZ F. (2014), "The impact of government financial support on the performance of new firms: the role of competitive advantage as an intermediate outcome", *Entrepreneurship & Regional Development*, vol. 26, n. 9-10, pp. 663–705.
- SANTOLERI P., MINA A., DI MININ A., MARTELLI I. (2022), "The causal effects of R&D grants: evidence from a regression discontinuity" *Review of Economics and Statistics*, pp. 1-42.
- SPITHOVEN A., VANHAVERBEKE W., ROIJAKKERS N. (2013), "Open innovation practices in SMEs and large enterprises", Small business economics, vol. 41, pp. 537-562.
- VAN REENEN J. (2020), Innovation Policies to Boost Productivity. Tech. rep. Policy Proposal 2020-13, The Hamilton Project, Brookings.
- VAN DE VRANDE V., DE JONG J.P., VANHAVERBEKE W., DE ROCHEMONT M. (2009), "Open innovation in SMEs: Trends, motives and management challenges", Technovation, vol. 29, n. 6-7, pp. 423-437.

Websites

European Commission. (2023), Seal of Excellence. Retrieved March 15, 2023, from https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/seal-excellence en