

**Funding Private-Public Partnerships and Impact on Firm Performance & Innovative Performance:
Evidence from Denmark**

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Abstract

While public-private partnerships between public research organizations, such as universities and hospitals, and private firms are an established policy tool around the world for the delivery of social or public services, their use as a tool to spur innovation and translational research to spur the flow of investments in the basic sciences into commercial application has attracted renewed interest. This article examines empirical data from the Danish National Advanced Technology Foundation (DNATF or Højteknologifonden in Danish), an agency that funds partnerships between universities and private companies to develop technologies important to Danish industry. Using regression discontinuity methods, we causally assess the effect of such funding schemes on firm performance – survival, employment and growth – and firm innovative performance – quantity, quality and nature of patents and papers – by comparing funded and unfunded firms. We use a regression discontinuity subsample of small and medium enterprises just above and just below the funding cutoff threshold, and find convincing evidence that receipt of funding has a compelling effect on firm performance and innovative performance three to four years after receipt of funds. Selection of a firm to receive funding helps it to stay financially viable and significantly decreases the likelihood of bankruptcy by up to 1.11 times four years after funding application. Funding also increases the average number of headcount by 10.3 to 12.7 more employees for funded firms, respectively two and three years after application. For innovative performance, funding increases granted patents by 13.3 times and peer-reviewed publications 7.8 times, but its effect is mainly felt on quality of the innovations as peer-reviewed citations for funded firms are 38.1 times greater than those of unfunded firms. Finally, public-private partnership funding also alters the nature of knowledge produced as well as the collaborative behavior of scientists since funded firms collaborate 6.1 times more with colleagues in academia.

Keyword: innovation; firm performance; public-private partnership funding; translational research; small and medium enterprises; regression discontinuity