

# **Commercialization of University-Originating Technologies and Its Relationship to Sources of Research Funding**

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## **Abstract**

Universities are increasingly looking beyond federal government funding and to the private sector to support their research activities. Private firms invest in research activities at universities based, at least in part, on their expected high return on investment. From the perspective of universities, is federal research funding fungible with private sector funding at least with respect to the possibility of commercialization of the resulting technologies? This question is the central focus of this study.

We seek to understand the commercialization outcomes (e.g., licensing income, number of licenses, number of start-ups, etc...) at universities when the research is funded with private sector support when compared with federal research funding. We have analyzed university technology transfer data from over a 100 universities from 1991-2010. This panel data includes detailed information about licensing, start-up activity, technology transfer office characteristics, and the amount of both federal and private sector funding. We use Structural Equation Modeling to investigate university commercialization activity in relation to industry and government funding. We apply the Arellano-Bover dynamic panel model to unbalanced panel data for the years 1991-2010.

We find strong and robust empirical results in line with previous studies such as a positive impact on academic research from the growth of technology transfer offices. In addition, we find that industry funding positively affects the total number of licenses but negatively affects total licensing revenues. We also discuss the implications of our empirical results for university commercialization activity.