

Company Outcomes Research for Evaluating SBIR (CORES)

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CORES

- Effort to build a platform to evaluate the Small Business Innovation Research (SBIR) program on the basis of existing longitudinal administrative data
- Sponsored by the Small Business Administration (SBA) and the National Science Foundation (NSF)
- Implemented in cooperation with Census, using its Longitudinal Business Database (LBD)

SBIR Program Basics

- A congressionally-mandated set-aside program for federal R&D awards
 - Federal agencies with annual extramural R&D budgets over \$100 million required to allocate 3.2% of R&D budget to SBIR and STTR
 - Eleven Federal agencies participate in SBIR – each does SBIR differently
 - SBA provides program support and coordination
 - SBIR awards -- about \$2 billion annually
- Phase I awards -- \$150,000. Phase II awards up to \$1.5m for 2-year research project
- Congress wants to know whether it's working

Key Goals and Metrics

- SBIR Goals
 - Stimulate technological innovation
 - Meet Federal research and development needs
 - Foster and encourage participation in innovation and entrepreneurship by women and socially or economically disadvantaged persons
 - Increase private-sector commercialization of innovations derived from Federal research and development funding
- Commercial success considered most important. Not easy to define:
 - Getting to market?
 - Returns on government investment?
 - Revenue or jobs benchmarks?
 - Big winners (the next Google?)
- Current practice to use multiple metrics (Nat'l Academies)

Data Challenges

- Traditional approach
 - Focus – project evaluation (return to specific award)
 - Survey data collection – GAO, National Academies, TechLink
- Major problems with this approach
 - Self-reported data often unreliable
 - Small firm employees change frequently, innovation takes long time. May be no one to answer Qs 10 years post-award.
 - Uncertain attribution of returns to SBIR award
 - Nonlinear paths—single award typically doesn't lead to a single product

Alternative – Firm Outcomes

- Look beyond individual products to the sustained success of recipient organization
 - Arguably more important than project level success
- Allows replacement of surveys by administrative data
- NSF willing to fund exploration of this new perspective on SBIR program success

Overview of CORES

- CORES = Company Outcomes Research for Evaluating SBIR
- Identifies firms through SBA's SBIR awards database, links those firms to Census LBD
- Key independent variables
 - Payroll
 - Employment
 - Birth, death/merger
 - Revenues every 5 years (via Economic Census)
- In future, may include patents

Challenge – Meeting Census Confidentiality/Privacy Rules

- Census will only release table cell data that meets its disclosure standards (which are themselves confidential)
- Census cannot guarantee in advance that a particular research design will meet its release standards
- Compromises necessary to reduce risk of not meeting disclosure standards

CORES Pilot Project

- Pilot project aims to address questions of concern to the NSF SBIR program
 - Are outcomes different for small and large firms?
 - Are outcomes different for startups and established firms?
 - Are outcomes different for firms with multiple SBIR Phase II awards and those with only one or two?
- Answers to these questions will help NSF improve its SBIR program design

CORES Pilot Project Design

- N = 6,500 firms receiving SBIR Phase II awards across the 11 SBIR agencies
- Year of first Phase II award – between CY1995 and CY2014
- Number of cohorts = 8
- Annual outcomes data
 - Disaggregated by firm size and age at time of first award, by number of SBIR awards
 - Identifies number of deaths and mergers

Pilot Project Timeline

- CORES was initiated in Spring 2017
- Data is expected from Census in late July/early August 2018
- Final report due to NSF and SBA September 2018
- Short timeline for such a project
 - SBA and Census had existing data sharing agreement that was template for Inter-Agency Agreement (IAA)
 - CORES team had extensive connections to staff at Census, NSF, SBA
 - Team had substantial experience with SBIR program and data

CORES as SBIR Research Platform

- CORES is a data platform for answering many questions about SBIR program performance
- Designed to reduce the cost and time necessary to answer such questions
 - Having agency agreements in place and awards data cleaned and ready to go provides a sound platform for future research
- In future rounds, we expect cost of each research project reduced by half and time to complete by two-thirds

CORES as SBIR Research Platform

- CORES costs to be shared by various SBIR agencies
- The agencies will give CORES team a range of research requests
- Ideally, completed projects will be delivered within 6 months
- CORES model may be applied to evaluation of other business assistance programs, in support of evidence-based policymaking

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