Defence, Procurement and Innovation

John Van Reenen,
LSE Ronald Coase School Professor
Digital Fellow, MIT IDE

Clark Center European Economic Experts Conference

October 9th 2026

LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

UKRI Economic and Social Research Council

poid Programme on Innovation and Diffusion

data.worldbank.org/indicator/MS.MIL.XPND.GD.ZS?locations=GB

News - Home | Twitter / Notifications | 407370400 | Google Drive | Buffer | John Van Reenen -... | British Airways - Ste... | Zoom_LSE Video Co... | Moodle | Home - Econ (Twitt... | Notifications / Twitter | Buffer - Publishing | All Bookmarks

hrome isn't your default browser Set as default

Military expenditure (% of GDP) - United Kingdom

SIPRI Military Expenditure Database, Stockholm International Peace Research Institute (SIPRI), uri: sipri.org/databases

License : CC BY-4.0



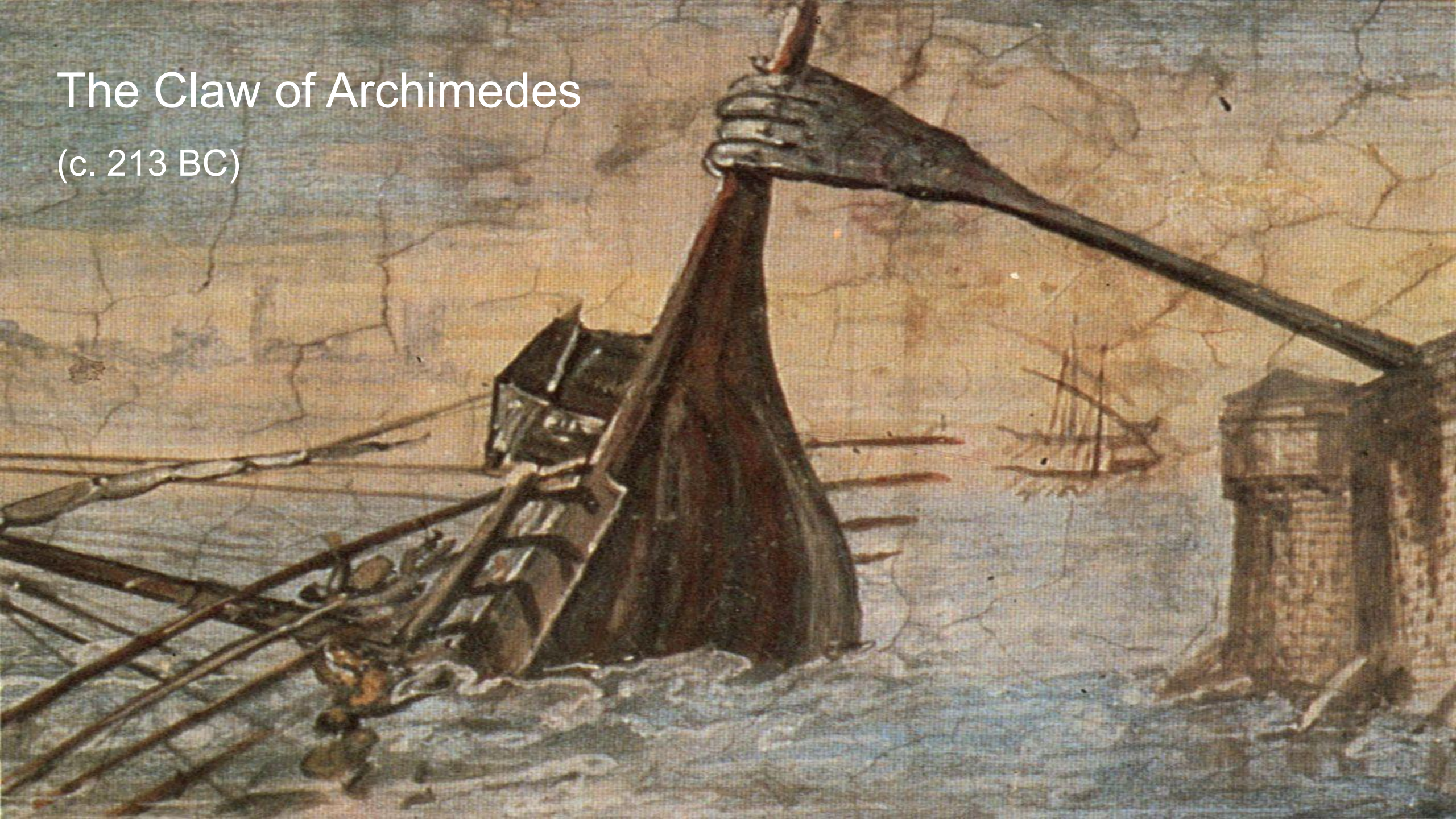
- UK military spending as a proportion of GDP fell from **7% in 1960** to **2% in 2019**
- Peace Dividend since late 1980s
- Now raised to ~2.7% (target 3.5% 2035-36)

Selected Countries and Economies

ookies to optimize functionality and give you the best possible experience. If you continue to navigate this website beyond this page, cookies will be placed on your browser. To learn more about cookies, click here.

Help / Feedback

17°C Mostly cloudy 17:16 17/04/2026


The Claw of Archimedes
(c. 213 BC)

Volume 107, Issue 1

January 2025



Previous Article

Next Article

Article Contents

Abstract

Introduction

January 03 2025

The Intellectual Spoils of War? Defense R&D, Productivity, and International Spillovers

Enrico Moretti, Claudia Steinwender, John Van Reenen

Author and Article Information

The Review of Economics and Statistics (2025) 107 (1): 14–27.

https://doi.org/10.1162/rest_a_01293 **Article history**

Cite PDF Permissions Share Views

Abstract

We examine the impact of government funding for R&D – and defense-related R&D in particular – on privately conducted R&D and its ultimate effect on productivity growth. We estimate longitudinal models that relate privately funded R&D to lagged government-funded R&D using industry-country level data from OECD countries and firm level data from France. To deal with the potentially endogenous allocation of government R&D funds, we use changes in predicted defense R&D as an instrumental variable. In many OECD countries, expenditures for defense-related R&D represent by far the most important form of public subsidies for innovation. In both datasets, we uncover evidence of

Government (defence) R&D

- **Data**
  - Industry-country-year OECD panel (26 countries over 23 years)
  - French firm-level panel data (12,539 firms 1980-2015).

- Focus on impact of defence R&D directly (& as IV for govt. R&D)
  - Strong evidence for **crowd-in** of private R&D by public R&D
  - Positive impact on domestic (& international) productivity growth
  - Consistent with recent macro approaches (Gavanni et al., 2026)

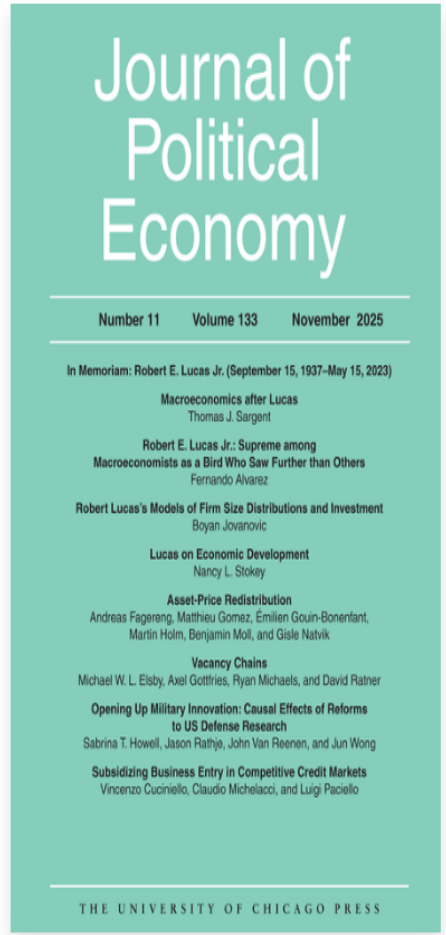
- Is $1 in defence R&D better than $1 in non-defence R&D?
  - Interesting question, but not the current policy relevant question which is ‘how can we make defence uplift pro-growth?’

Opening Up Military Innovation: Causal Effects of Reforms to US Defense Research

Sabrina T. Howell, Jason Rathje, John Van Reenen, and Jun Wong

Abstract

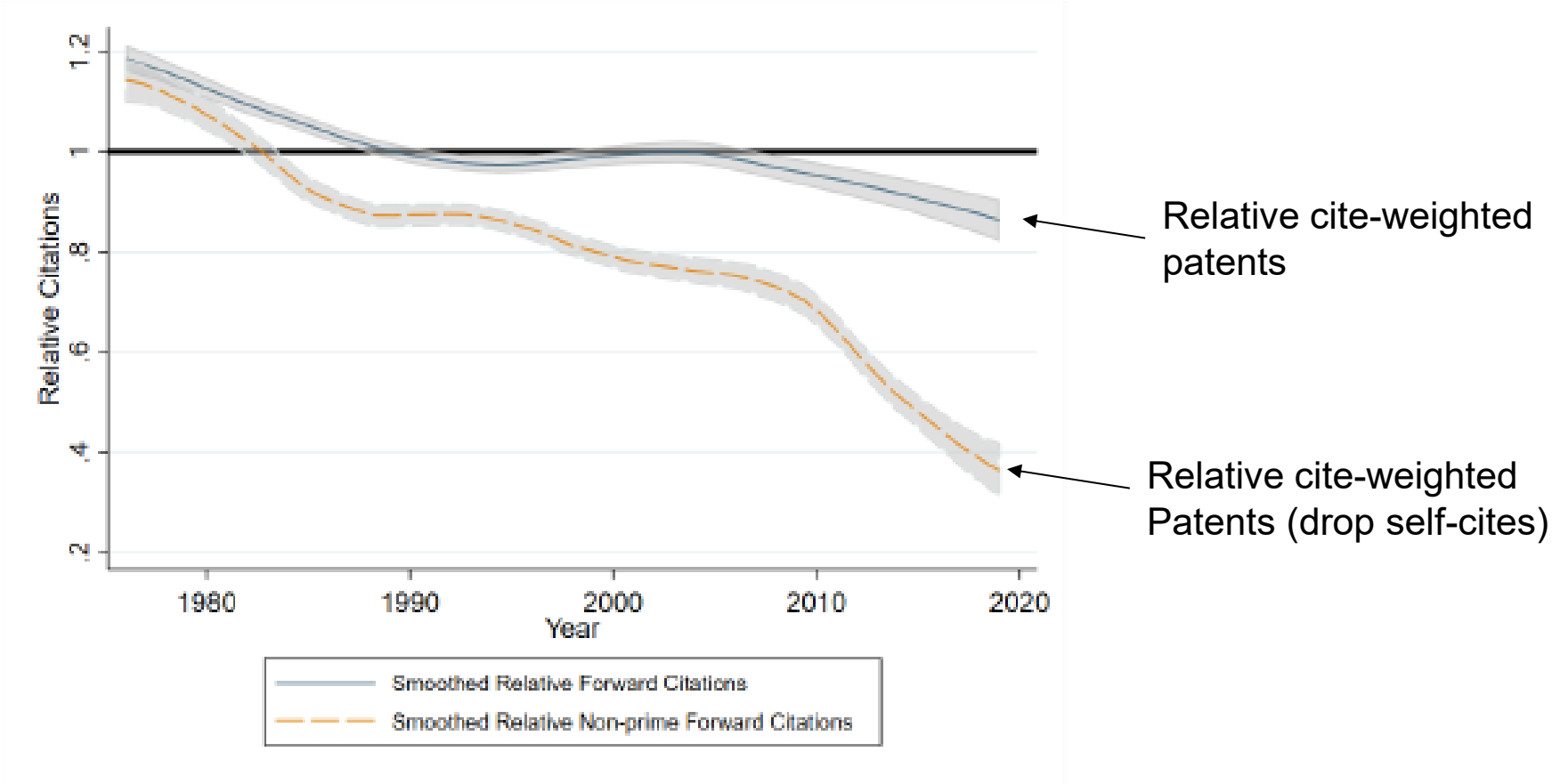
For governments procuring innovation, one choice is whether to specify desired products (a conventional approach) or allow firms to suggest ideas (an open approach). Using a US Air Force R&D grant program where open and conventional competitions were held simultaneously, we find that open awards increase both commercial innovation and technology adoption by the military. In contrast, conventional awards have no positive effects on new technology but do create more program lock-in. We present evidence that openness matters over and above inducing differential selection, for example, of less well-established firms. These results suggest benefits from open approaches to innovation procurement.



Journal of Political Economy
Volume 133, Number 11
November 2025

Activate Windows
Go to Settings to activate

Defence Ideas becoming Harder to Find? US Defence firms were 20% *more* innovative on average in 1976 to 40% *less* innovative in 2019



Notes: *Patents weighted by future citations in six "Prime" defense contractors (Lockheed Martin, Boeing, Raytheon/UTC; Harris/L3; Northrop-Grumman, General Dynamics) & all their post 1976 acquisitions. Innovation measures relative to other firms in same technology-class by year (so 1.2 means 20% higher relative innovation rate)..*

US AirForce experimented with 'Open' approach to R&D procurement

- Admin data on >21k applications & evaluation scores of SBIR proposals 2003-19 & outcomes through 2021. Focus on 2017-19 proposals when Open & Conventional programs run simultaneously

Findings:

- Open attracted more **new entrants** – young firms & those that had never applied for SBIR in the past

- **RDD:** Open has better outcomes than Conventional: VC Funding; DoD tech adoption; Novel patents

- Conventional "better" only for future SBIR contracts (lock-in by "mills")

DoD Tech Adoption 10 percentage points higher for Open program winners. Zero Effect for Conventional program

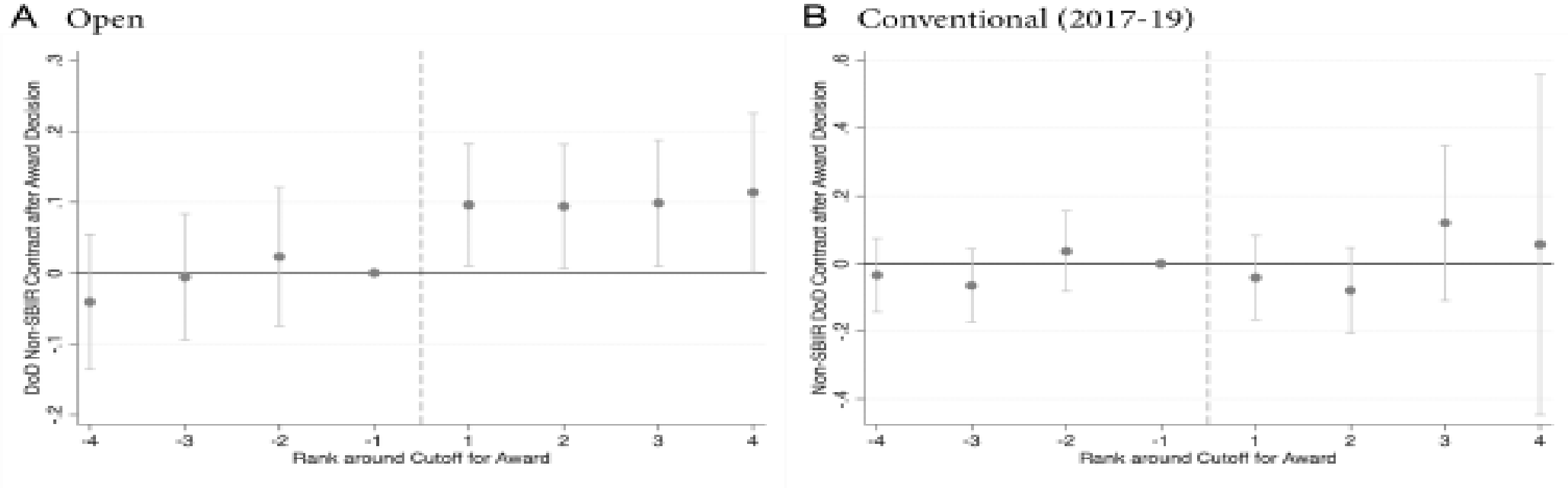


FIG. 3.—Probability of technology adoption (DoD non-SBIR contract) by rank around cutoff. The figure shows the probability that an applicant firm had any non-SBIR DoD contracts valued at more than $50,000 after the award decision. The *x*-axis shows the applicant's rank around the cutoff for an award. A rank of 1 indicates that the applicant had the lowest score among winners, while a rank of −1 indicates that the applicant had the highest score among losers. We plot the points and 95% confidence intervals from a regression of the outcome on a full complement of dummy variables representing each rank as well as fixed effects for the topic. The omitted group is rank = −1. We include first applications from 2017 to 2019.

Lessons being learned from Open program?



