

Macro Roundup Article

Headline: [Public R&D; Spillovers and Productivity Growth](#)

Article Link: https://www.arnauddyevre.com/files/arnaud_dyevre_jmp.pdf

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Tweet: New research from @ArnaudDyevre finds a 1% decline in public R&D; spillovers caused a 0.17% decline in productivity growth in the United States. Notably, the decline in public R&D; can explain a third of the deceleration in TFP since 1995.

Summary: Using a unique firm-level dataset with patent and balance-sheet information covering 70 years (1950-2020), I estimate the impact of the decline in public R&D in the US on long-run productivity growth. I first document three new facts about publicly-funded innovations: they are (i) more reliant on science, (ii) more likely to open new technological fields, and (iii) more likely to generate knowledge spillovers, especially toward smaller firms. I then use two instrumental variable strategies—a historical shift-share IV and a patent examiner leniency instrument—to estimate the impact of the decline in public R&D on the productivity of firms through spillovers. I find that a 1% decline in public R&D spillovers causes a 0.17% decline in productivity growth. Public R&D spillovers are three times as impactful as private R&D spillovers for firm productivity and their impact persists at the sector level. Moreover, smaller firms experience larger productivity gains from public R&D spillovers.

Related Articles: Moonshot: Public R&D and Growth and Bottlenecks: Sectoral Imbalances and the US Productivity Slowdown and The Productivity Slowdown in Advanced Economies: Common Shocks or Common Trends?

Primary Topic: Innovation/Research

Topics: Academic paper, Database, Fiscal Policy, GDP, Government Spending, Growth, Innovation/Research, Investment, Productivity

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