

## Macro Roundup Article

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

**Article Link:** [https://www.arnauddyevre.com/files/arnaud\\_dyevre\\_jmp.pdf](https://www.arnauddyevre.com/files/arnaud_dyevre_jmp.pdf)

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Publication	London School of Economics
Publication Date	November 14, 2023

**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: 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

**Permalink:** <https://www.edwardconard.com/macro-roundup/new-research-from-arnauddyevre-finds-a-1-decline-in-public-rd-spillovers-caused-a-0-17-decline-in-productivity-growth-in-the-united-states-notably-the-decline-in-public-rd-can-explain-a-third-of?view=detail>

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