

# Mergers and Innovation

## An Empirical View

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# The Key Question

Is there a (contestable) presumption that  
innovation will decline with merger???

What does the empirical literature say?

# The Empirical Literature

- Exhibits several types of studies
- Will briefly review it here, along with a  
“Believability Index” and a “Generalizability-given-believability Index”
  - ★ The former denoted with (0-3) blue stars
  - ★ The latter denoted with (0-3) red stars

# Cross-Industry Regressions

- e.g., the “Inverted U” of Aghion et al, 2005, *QJE* (\*/\*\*\*)
  - ▶ 17 2-digit industries, 1973-94, 385 industry-years
  - ▶ Finds competition *increases* innovation
  - ▶ Similarly earlier papers:
    - ★ Nickell (1996, *JPE*), Blundell et al (1999, *REStud*)

# Case Studies of Individual Industries

- Intel-AMD/Microchips in Goettler and Gordon, 2011, *JPE* (\*/-)
  - ▶ Structural dynamic industry model with innovation
  - ▶ Finds competition *reduces* innovation:
    - ★ R&D ↑ 4.2% if Intel was a monopolist
- Seeds in Moser and Wang, 2015, Working Paper (\*/-)
  - ▶ Natural experiment: Monsanto enters soy
  - ▶ Finds *mixed evidence*:
    - ★ Trials down but patents up after M entry

# Panel-data regression within individual industries

- “Big Pharma” in Ornaghi, 2009, *IJIO* (\*\*/\*\*)
- ▶ Event studies: 27 mergers on innovation, 1988-2004
- ▶ Finds competition *increases* innovation:
  - ★ R&D ↓ 10%+, Patents ↓ 20%+ after mergers of big drug companies

# The Key Question - Redux

Is there a (contestable) presumption that  
innovation will decline with merger???

**Yes:** The balance of empirical evidence supports it

# The importance of mechanisms

- That being said, context and details matter
- The theory literature is good at identifying *mechanisms*
  - ▶ Mechanisms which can be evaluated in a particular case



# Three Important Mechanisms

- How substitutable are *products within product lines*?
- How substitutable are *firms' R&D departments*?
- What influences appropriability and will this change with merger?

# The Key Challenge

- What is the evidentiary standard?
  - ▶ We know how to quantify competitive harms in static environments
    - ★ HMT, UPP, Merger Simulation, etc.
  - ▶ That's unlikely for mergers and innovation
    - ★ One can/should collect the inputs but the ultimate decision will likely need to rely (more) on judgement