

Foreign Competition and Domestic Innovation

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Overview

- Impact of globalization on domestic firms:
 - Increased competition at home
 - Outsourcing / offshoring capabilities
 - Increased market opportunities overseas
- This talk:
 - Theoretical predictions
 - Empirical findings

Effects on Domestic Innovation: Theory

- Increased competition at home:
 - (-) squeeze profits and cause downsizing
 - (+) encourage innovation as a path to “escape competition”
- Outsourcing / offshoring:
 - (+) reallocate resources from production to innovation
 - (-) increase distance between R&D and production
 - (-) decrease need for cost-saving technologies

The Rise of China



Empirical Investigation

- Measure the *overall* effects of Chinese import growth on large U.S. firms' innovative activities
 - Key outcome variable: change in firm patenting
 - Key explanatory variable: change in Chinese industry import penetration
 - Key time periods: 1991-1999 and 1999-2007
- Potential confounding factors:
 - Changing demand in domestic markets
 - Global technological trends

Autor, D, D Dorn, G H Hanson, G Pisano and P Shu (2016), "Foreign Competition and Domestic Innovation: Evidence from U.S. Patents." NBER Working Paper No. 22879.

Useful Facts

- U.S. manufacturing is a locus of U.S. innovation
 - Less than 1/10 of U.S. employment
 - More than 2/3 of U.S. R&D spending
 - More than 3/4 of U.S. corporate patents
- Computer and chemical sectors experienced distinct trends between 1991 and 2007
 - Computers and electronics experienced huge increase in patenting and import exposure
 - Chemicals experienced decline in patenting and no change in import exposure

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Key Findings

- Within sectors, industries facing more import competition show decline in patenting
- Trade-exposed U.S. industries also see reduced sales, employment, profits, and R&D spending, suggesting that they downscale *both* production and innovation
- Effects most negative in initially less profitable, more indebted firms

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Additional Evidence

- Evidence from Canada (Kueng Li & Yang 2016)
 - More trade-exposed Canadian industries have more exits
 - Surviving firms in more trade-exposed industries experience a strong decline in process innovations
- Evidence from Europe (Bloom Draca & Van Reenen 2015)
 - More trade-exposed European industries are subject to higher rates of plant shutdown and lower overall employment growth
 - Surviving firms in more trade-exposed industries patent more and expand investment in IT