

Distributional Consequences of Trade and Technology

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Political Opposition to International Trade

“America is being absolutely devastated with bad trade deals.”

“China is robbing us blind in trade deficits and stealing our jobs.”

President Donald Trump

How Did We Get Here?

In the 1990s, freer trade was seen as bringing prosperity for all

- President Bill Clinton, NAFTA signing, 1993

“We have made a decision now that will... promote more growth, more equality, better preservation of the environment, and a greater possibility of world peace.”

- GE analyses show that globalization has raised US living standards but the nature of trade's distributional impacts has been surprising

The Economic Consequences of Trade

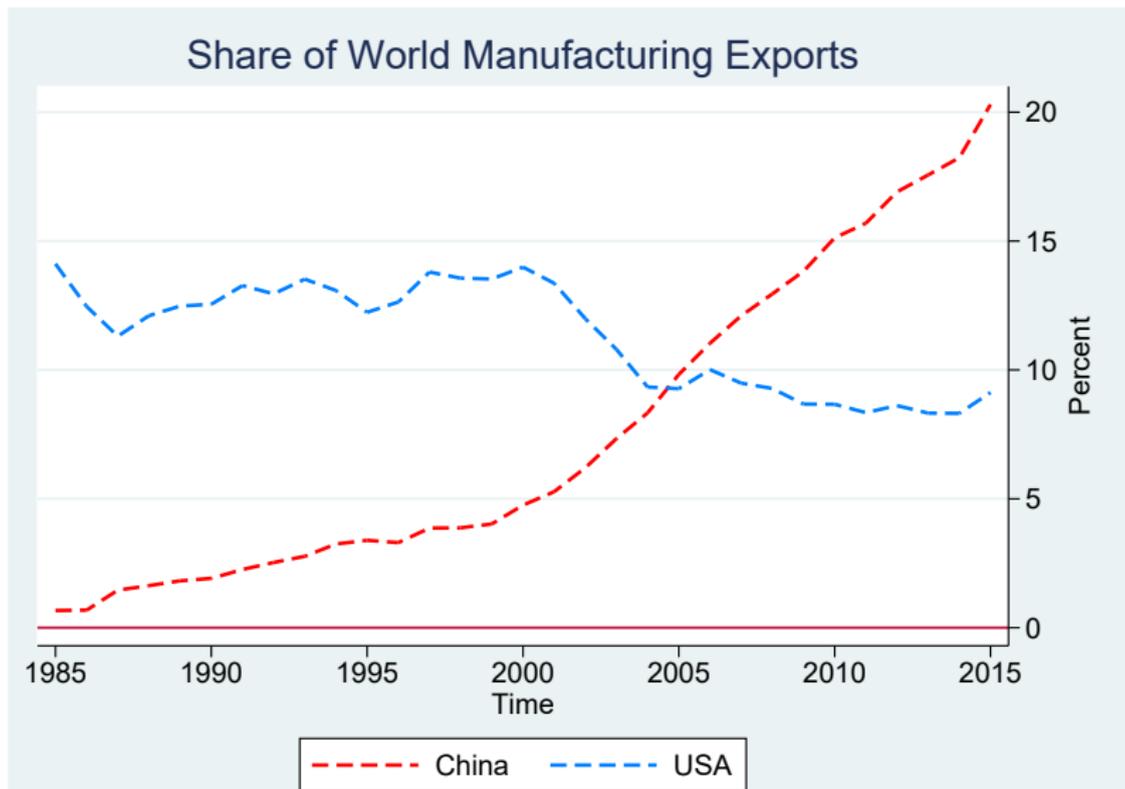
Economists have long known that international trade, while generating net welfare gains, also creates winners and losers

- Paul Krugman and Maurice Obstfeld (1988)

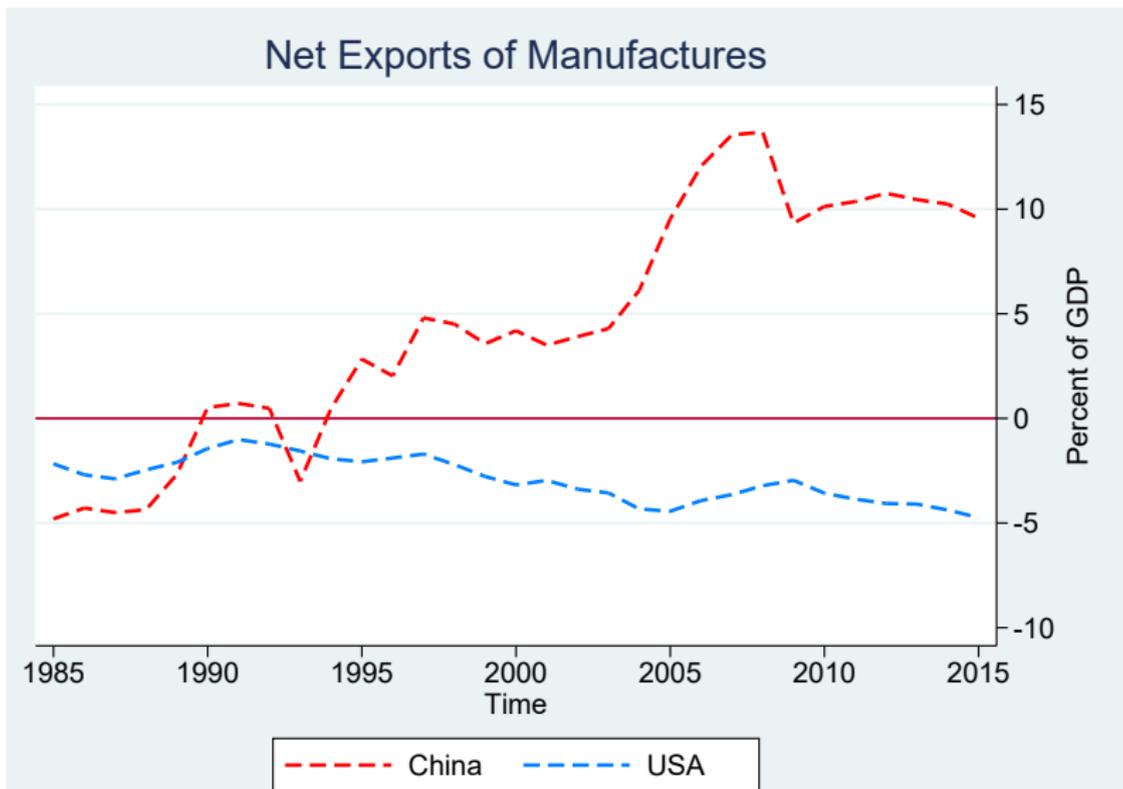
“Owners of a country’s abundant factors gain from trade, but owners of a country’s scarce factors lose.”

- Until this decade, consensus was that trade had only modestly affected the US labor market — *China’s rise has amended this view*

China Trade Shock I: Sudden Opening of a Large Economy



China Trade Shock II: Extreme Comparative Advantage



Localized Consequences of Greater International Competition

Economic Impacts of Trade with China

(Bernard Redding & Schott, Autor Dorn & Hanson, Pierce & Schott, Many Others)

- Industries/regions producing goods that China exports
 - Plant closure, job loss, LF exit, income declines, eroded tax base
- Industries/regions producing goods/services that China imports
 - Growth in employment, housing prices, tax revenues
 - US gains may have primarily been in services, gone to owners of IP

Localized Consequences of Technological Change

Economic Impacts of Exposure to New Technology

(Autor & Dorn, Goos & Manning, Michaels et al., Acemoglu & Restrepo, Others)

- US regions more specialized in activities subject to automation and (or) the use of industrial robots have seen...
 - Polarization in employment outcomes (loss of routine jobs)
 - Greater earnings inequality
 - Lower employment, earnings decline, labor force exit

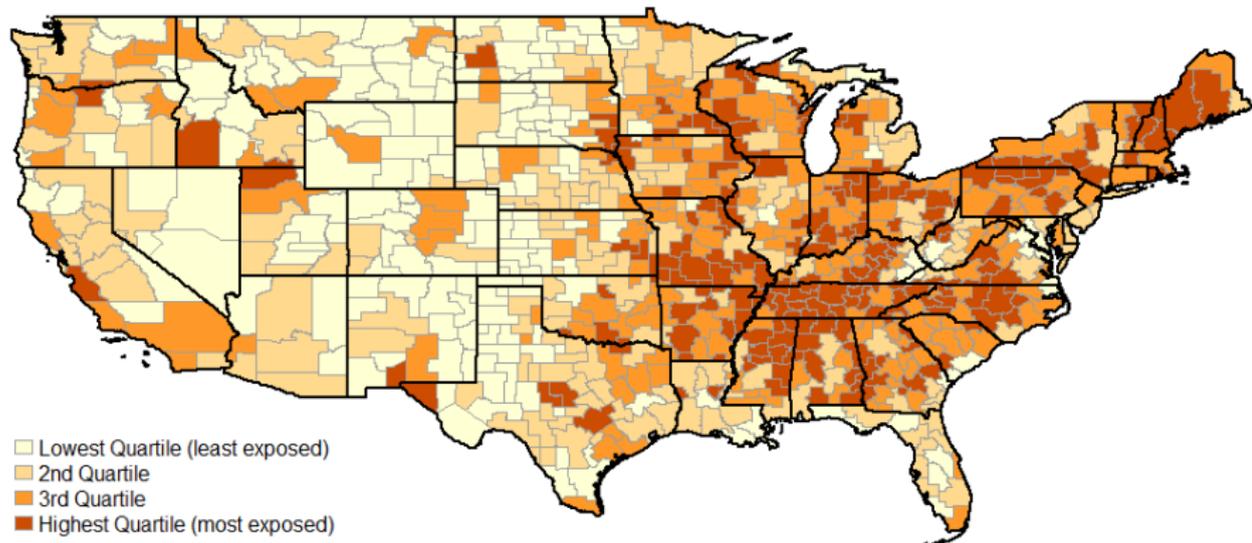
Separating Local Impacts of Trade and Technology

(after controlling for industry skill, capital, computer intensity)

- Whereas new technology leads *plants to renovate*, competition from Chinese imports leads *plants to close*
 - Most of job loss due to the China shock results from plant closure (Bernard et al., Acemoglu et al., Asquith et al.)
 - Among surviving plants, China shock leads to reduced investment (Pierce & Schott)
- Whereas tech Δ has hit regions specialized in routine jobs, China shock hit regions specialized in less automatable jobs
 - Correlation between exposure to China shock, automation ≈ 0 (Autor Dorn & Hanson)

Local Exposure to Rising Import Competition in the US

Trade Exposure by Commuting Zone, 1990-2007



Local Labor Market Impacts of Import Competition

Declines in Employment, Participation in Labor Force



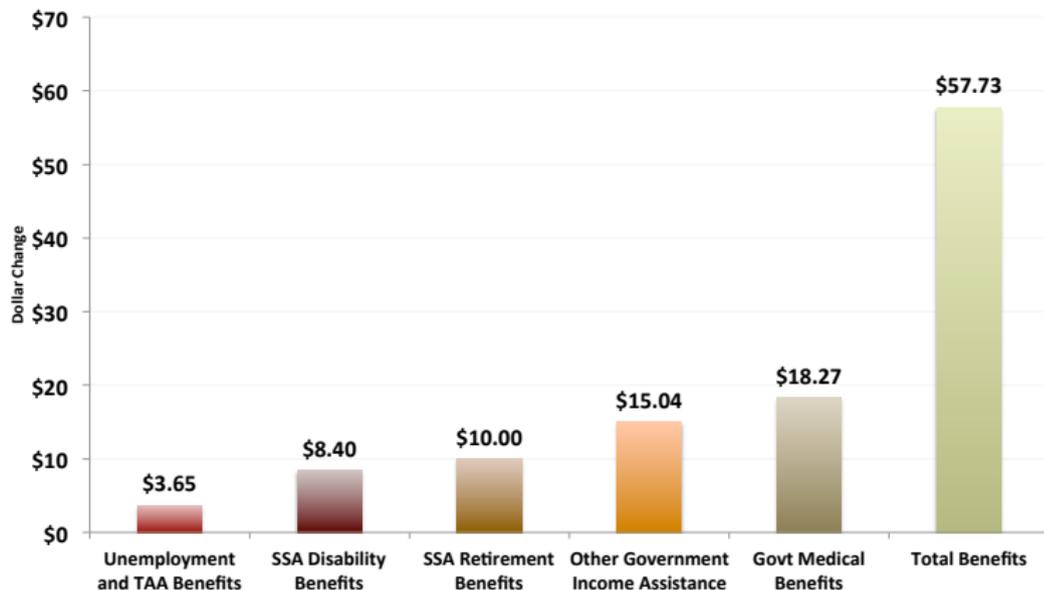
Why Are Scarring Effects of Manuf. Job Loss So Severe?

- Manufacturing is unique in paying less-educated males high wages
 - Job loss adversely affects marriage, family structure, mortality
- Most job loss is due to plant closure and therefore permanent
 - Impact on communities is like an extended local recession
- Mobility response of less-skilled workers to job loss is weak
 - Due to social policies, housing markets, family structure

Do Government Benefits Replace Lost Income?

No and uptake of benefits is not in programs we'd have expected

Effect of an \$1000 Per Worker Increase in Imports from China during 1990-2007 on Dollar Change of Annual Transfer Receipts per Capita



Will Tariffs Bring Back US Manufacturing Jobs?

- Tariffs may lead US consumers to substitute Chinese imports with imports from other countries, rather than with US goods
 - US consumers may be more likely to switch to buying from Bangladesh or Vietnam than from Ohio or North Carolina
- Even if manuf. production returns to US, previous plant deaths mean this production would occur in new, modern facilities
 - Such 21st century factories tend to be much less labor intensive than the 20th centuries factories that shut down in 1990s and 2000s