Trade and Globalization

ECON 499: Economics of Inequality

Winter 2018

International trade

- **Law of comparative advantage**: Nations benefit from trade by specializing in production of goods with lowest relative costs
- Comparative advantages always exist (by definition), so nations always benefit from trade (in the aggregate)
- Gains and losses from trade are unevenly distributed, may impact inequality
- Middle-skill jobs may have been outsourced, contributing to labor-market polarization

Stolper-Samuelson theorem

- As the price of a good rises in international markets, the returns to the factor used most intensively in the production of that good will increase
- Labor market in America has become polarized, largely low-skill and high-skill labor
- Price increase in low-skill products with decrease inequality, price increase in high-skill products will increase inequality

Example

- Suppose a low-income country enters the global market and exports goods
- Abundance of low-skill workers means they export low-skill products
- Increase in supply $\rightarrow$ decrease in global price
- Returns to low-skill workers in the US declines (Stolper-Samuelson)
- Returns to low-skill workers in low income countries increases

Empirical evidence

- Trade liberalization has contributed to rise in skill premium in the US
- Effects are generally small, most of the rise comes from somewhere else
- Theory does **not** hold in developing countries, which have also seen increased wage polarization
- SBTC seems to do a better job of explaining broad patterns

Trade costs and technology

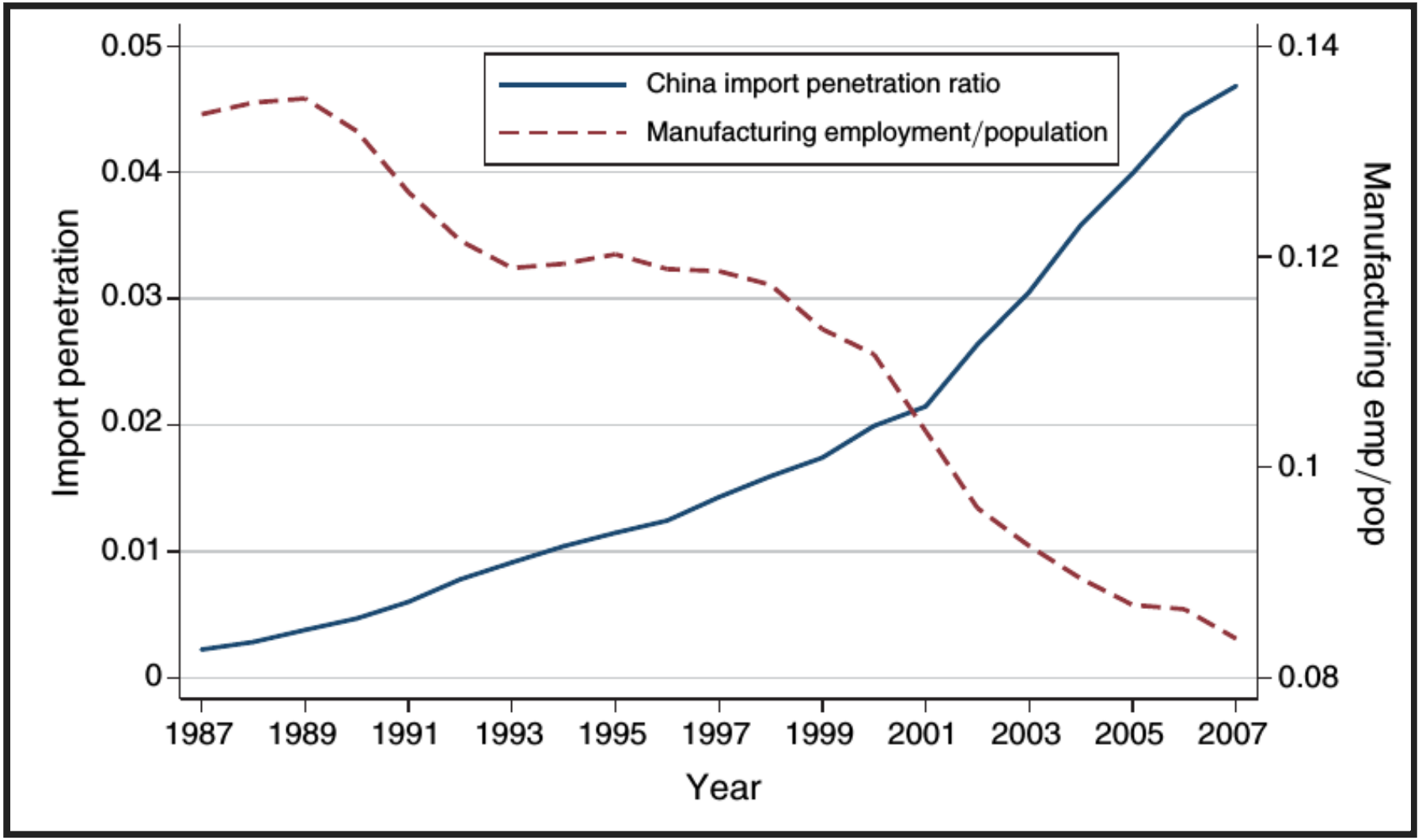
- Skilled workers are more productive because they are better able to use sophisticated technology
- Much of this technology (computers) is imported from overseas
- Cheaper imports allow firms to buy more computers, makes skilled workers more productive
- Contributes to increase in skill-premium
- This impacts all countries similarly
- Cheap technology and SBTC overwhelm the Stolper-Samuelson effects

Winners and losers

- Trade and globalization have small effects on inequality
- Generally, everyone is made better off by trade (some more so than others)
- Who are the losers from trade? How do they lose?

The China Shock

- Historically, imports from low-wage countries have been small
- Since 2000, low-income share of imports has doubled, almost entirely due to increased imports from China
- Many of the imports require "routine" labor (manufacturing, for instance)


China import penetration ratio
Manufacturing employment/population
Import penetration
Manufacturing emp/pop
0.05
0.04
0.03
0.02
0.01
0
0.14
0.12
0.1
0.08
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
Year

Autor, Dorn, Hanson (2013)

- For each "commuting zone" in the US, compute the "trade exposure," – the percentage of local industries that produce goods that are also exported by China
- Compare the outcomes in these zones before and after Chinese imports increased (2001, when China joins WTO)
- Does trade exposure explain differences in employment, wages, etc?

Effects of China shock

- Increased Chinese imports does not affect migration out of exposed areas (recall "Moving to Opportunity" and the Icelandic volcano)
- China shock has significant and large effects on unemployment in exposed areas
- Unemployment effects larger for non-college educated workers
- Unemployed manufacturing workers shift into other industries, decreasing wages for others in the area

Wages

TABLE 6—IMPORTS FROM CHINA AND WAGE CHANGES WITHIN CZS, 1990–2007: 2SLS ESTIMATES

Dependent variable: Ten-year equivalent change in average log weekly wage (in log pts)

	All workers (1)	Males (2)	Females (3)
Panel A. All education levels			
(Δ imports from China to US)/worker	−0.759***	−0.892***	−0.614***
	(0.253)	(0.294)	(0.237)
R^2	0.56	0.44	0.69
Panel B. College education			
(Δ imports from China to US)/worker	−0.757**	−0.991***	−0.525*
	(0.308)	(0.374)	(0.279)
R^2	0.52	0.39	0.63
Panel C. No college education			
(Δ imports from China to US)/worker	−0.814***	−0.703***	−1.116***
	(0.236)	(0.250)	(0.278)
R^2	0.52	0.45	0.59

Notes: $N = 1{,}444$ (722 CZs × two time periods). All regressions include the full vector of control variables from column 6 of Table 3. Robust standard errors in parentheses are clustered on state. Models are weighted by start of period CZ share of national population.

Employment

TABLE 5—IMPORTS FROM CHINA AND EMPLOYMENT STATUS OF WORKING-AGE POPULATION WITHIN CZs, 1990–2007: 2SLS ESTIMATES

Dependent variables: Ten-year equivalent changes in log population counts and population shares by employment status

	Mfg emp (1)	Non-mfg emp (2)	Unemp (3)	NILF (4)	SSDI receipt (5)
Panel A. 100 × log change in population counts					
(Δ imports from China to US)/worker	−4.231***	−0.274	4.921***	2.058*	1.466***
	(1.047)	(0.651)	(1.128)	(1.080)	(0.557)
Panel B. Change in population shares					
All education levels					
(Δ imports from China to US)/worker	−0.596***	−0.178	0.221***	0.553***	0.076***
	(0.099)	(0.137)	(0.058)	(0.150)	(0.028)
College education					
(Δ imports from China to US)/worker	−0.592***	0.168	0.119***	0.304***	—
	(0.125)	(0.122)	(0.039)	(0.113)	
No college education					
(Δ imports from China to US)/worker	−0.581***	−0.531***	0.282***	0.831***	—
	(0.095)	(0.203)	(0.085)	(0.211)	

Notes: N = 1,444 (722 CZs × two time periods). All statistics are based on working age individuals (age 16 to 64). The effect of import exposure on the overall employment/population ratio can be computed as the sum of the coefficients for manufacturing and nonmanufacturing employment; this effect is highly statistically significant ($p \leq 0.01$) in the full sample and in all reported subsamples. All regressions include the full vector of control variables from column 6 of Table 3. Robust standard errors in parentheses are clustered on state. Models are weighted by start of period CZ share of national population.

Employment substitution

TABLE 7—COMPARING EMPLOYMENT AND WAGE CHANGES IN MANUFACTURING AND OUTSIDE MANUFACTURING, 1990–2007: 2SLS ESTIMATES

Dependent variables: Ten-year equivalent changes in log workers and average log weekly wages

	I. Manufacturing sector			II. Nonmanufacturing		
	All workers (1)	College (2)	Noncollege (3)	All workers (4)	College (5)	Noncollege (6)
Panel A. Log change in number of workers						
(Δ imports from China to US)/worker	−4.231*** (1.047)	−3.992*** (1.181)	−4.493*** (1.243)	−0.274 (0.651)	0.291 (0.590)	−1.037 (0.764)
R^2	0.31	0.30	0.34	0.35	0.29	0.53
Panel B. Change in average log wage						
(Δ imports from China to US)/worker	0.150 (0.482)	0.458 (0.340)	−0.101 (0.369)	−0.761*** (0.260)	−0.743** (0.297)	−0.822*** (0.246)
R^2	0.22	0.21	0.33	0.60	0.54	0.51

Notes: $N = 1{,}444$ (722 CZs × two time periods). All regressions include the full vector of control variables from column 6 of Table 3. Robust standard errors in parentheses are clustered on state. Models are weighted by start of period CZ share of national population.

Mobility and labor shocks

- We saw that moving can have large benefits for workers, but mostly for younger people and their children
- But even when jobs disappear, people don't move very frequently
- Negative shocks can be long-lasting
- Low intergenerational mobility means these shocks can persist for decades
- Policy?