

Section 11

Econ 152

Spring 2020

GSI: Andrew Tai

Introduction

Today we'll consider the economics of inequality in the US. Mostly, I'll discuss Autor, Dorn, and Hanson (2013), which presents evidence that open trade with China reduced wages for low-middle income workers. This section is more "lecturey" than typical, since there are no specific practice problems to do. So especially I encourage your comments and discussion.

Basic facts and trends

1. Before the 90s, the US imported very little from low income countries. (Most imports were from middle to high income countries, e.g. S. Korea, Taiwan, Japan, and Europe.) Manufacturing employment/population has declined as spending on imports from China has risen.

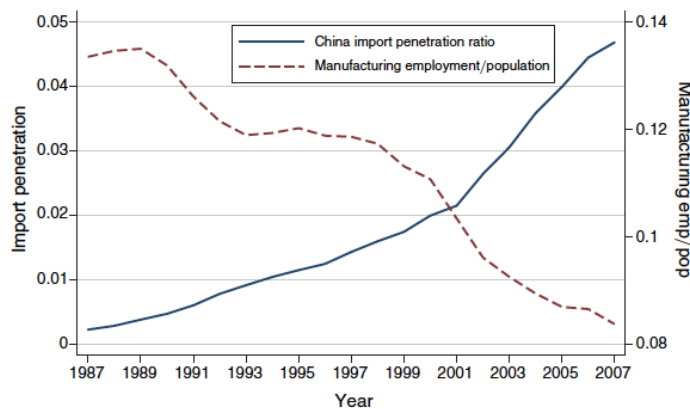


FIGURE 1. IMPORT PENETRATION RATIO FOR US IMPORTS FROM CHINA (*left scale*), AND SHARE OF US WORKING-AGE POPULATION EMPLOYED IN MANUFACTURING (*right scale*)

2. Historically, manufacturing was a large source of middle class jobs for workers with less than college education.
3. There are large geographical variations in exposure to imports from China. For example, San Jose, CA was extremely exposed, while Sacramento had low exposure.

APPENDIX TABLE 1—DESCRIPTIVE STATISTICS FOR GROWTH OF IMPORTS EXPOSURE
PER WORKER ACROSS CZs: TEN-YEAR EQUIVALENT CHANGES

		I. 1990–2000	II. 2000–2007
<i>Panel A. Percentiles</i>			
	90th percentile	2.05	90th percentile 4.30
	75th percentile	1.32	75th percentile 3.11
	50th percentile	0.89	50th percentile 2.11
	25th percentile	0.62	25th percentile 1.60
	10th percentile	0.38	10th percentile 1.03
<i>Rank</i>			
<i>Panel B. Largest and smallest values among the 40 largest CZs</i>			
1	San Jose, CA	3.15	San Jose, CA 7.32
2	Providence, RI	2.59	Providence, RI 4.99
3	Buffalo, NY	2.24	Los Angeles, CA 3.59
4	Boston, MA	1.55	San Diego, CA 3.08
5	Portland, OR	1.53	Portland, OR 2.96
6	San Diego, CA	1.52	Pittsburgh, PA 2.95
7	Newark, NJ	1.32	Chicago, IL 2.93
8	Los Angeles, CA	1.28	Milwaukee, WI 2.93
9	Bridgeport, CT	1.27	Boston, MA 2.79
10	Denver, CO	1.23	Dallas, TX 2.77
20	Forth Worth, TX	0.83	Columbus, OH 1.90
21	Phoenix, AZ	0.83	Phoenix, AZ 1.90
31	Atlanta, GA	0.61	Fresno, CA 1.56
32	Pittsburgh, PA	0.56	St. Louis, MO 1.53
33	Sacramento, CA	0.53	Tampa, FL 1.49
34	Kansas City, MO	0.51	Atlanta, GA 1.31
35	West Palm Beach, FL	0.48	Baltimore, MD 1.25
36	Fresno, CA	0.47	West Palm Beach, FL 1.22
37	Orlando, FL	0.46	Kansas City, MO 1.13
38	Houston, TX	0.45	Washington, DC 0.86
39	Washington, DC	0.21	New Orleans, LA 0.70
40	New Orleans, LA	0.19	Orlando, FL 0.59

Notes: The table reports ten-year equivalent values of (Δ imports from China to US)/worker in $kUS\$$. The statistics in panel A are based on 722 CZs and weighted by start-of-period population size. The ranking in panel B is based on the 40 CZs with largest population in 1990, and indicates the largest city of each ranked CZ.

The economic questions

- In theory, international trade is welfare enhancing. I.e., both countries' total wealth will increase with trade.
 - Before this paper, that was the end of the discussion...
 - But what about distributional concerns? Who wins and who loses?
- What was the effect of import competition on manufacturing workers? How do we measure the causal impact?

Research design

Exercise. What's wrong with this regression?

$$Wages_{CZ} = \beta \times \%(Exposure)_{CZ} + e_i$$

The main idea. Autor, Dorn, and Hanson come up with a way to estimate a quasi-experiment. Manufacturing jobs are generally similar across sector, but imports from China are concentrated in certain sectors (e.g., textiles and apparel, electronics). They use this to construct a diff-in-diff among CZs that are manufacturing heavy:

- The treatment group is CZs that manufacture in sectors that are more exposed to imports from China
- The control group is CZs that manufacture in other sectors

They use these groups to estimate the **causal** impact of import competition from China on employment outcomes (unemployment rates, wages, etc.)

Exercise. Are there any issues with this?

Results

- What is this graph saying?

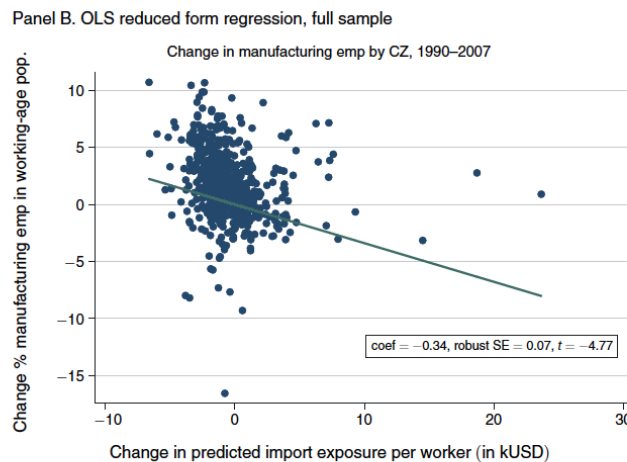


FIGURE 2. CHANGE IN IMPORT EXPOSURE PER WORKER AND DECLINE OF MANUFACTURING EMPLOYMENT:
ADDED VARIABLE PLOTS OF FIRST STAGE AND REDUCED FORM ESTIMATES

- How about this table?

TABLE 4—IMPORTS FROM CHINA AND CHANGE OF WORKING-AGE POPULATION
IN CZ, 1990–2007: 2SLS ESTIMATES
Dependent variables: Ten-year equivalent changes in log population counts (in log pts)

	I. By education level			II. By age group		
	All (1)	College (2)	Noncollege (3)	Age 16–34 (4)	Age 35–49 (5)	Age 50–64 (6)
<i>Panel A. No census division dummies or other controls</i>						
(Δ imports from China to US)/worker	–1.031** (0.503)	–0.360 (0.660)	–1.097** (0.488)	–1.299 (0.826)	–0.615 (0.572)	–1.127*** (0.422)
R^2	—	0.03	0.00	0.17	0.59	0.22
<i>Panel B. Controlling for census division dummies</i>						
(Δ imports from China to US)/worker	–0.355 (0.513)	0.147 (0.619)	–0.240 (0.519)	–0.408 (0.953)	–0.045 (0.474)	–0.549 (0.450)
R^2	0.36	0.29	0.45	0.42	0.68	0.46
<i>Panel C. Full controls</i>						
(Δ imports from China to US)/worker	–0.050 (0.746)	–0.026 (0.685)	–0.047 (0.823)	–0.138 (1.190)	0.367 (0.560)	–0.138 (0.651)
R^2	0.42	0.35	0.52	0.44	0.75	0.60

Notes: $N = 1,444$ (722 CZs \times two time periods). All regressions include a constant and a dummy for the 2000–2007 period. Models in panel B and C also include census division dummies while panel C adds 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 commuting zone share of national population.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

- They also find increased Social Security disability payments (interesting – why?), earlier retirements, and increases in other welfare payments.

Follow-up questions

- How do those who left the labor force survive?
- What other employment did people take? Was it better or worse?
 - Did people change industries?
- Did people move? Why or why not?
- (More sociological) What's the link to disability and retirement? Is there a link to NEETs, opioids, and other sociological issues?