US Trade and Labor Markets: The Case of China

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International Commerce and the World Economy

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Pre-China Shock

Key prediction of H-O model: trade will tend to make low-skilled workers worse off in country such as US

Prior to 1990s, most trade North-North, and imports from low-wage countries small – little distributional impact (Krugman, 2008)

Beginning in 1990s, economists began to worry about rising wage inequality in US

At same time, low-skill wages and employment fell, and manufacturing employment contracted in US

Consensus by 2000: technological change and not trade to blame
Pre-China Shock

Three pieces of evidence supported conclusions:

- Share of US employment in manufacturing sector in decline post-1945 (see Figure 1)
- Rise in wage inequality and fall in low-skilled wages not closely correlated with trade openness
- Evidence of skill-biased demand shift due to adoption of new technology

Answer to Freeman’s (1995) question, “Are your wages set in Beijing?” was an emphatic “no” from trade economists (Autor et al., 2016)
US Manufacturing

Figure 1: US Manufacturing Share of US Employment

Source: St. Louis Federal Reserve Bank
China’s Rise

- In late 1980s, considerable skepticism about China’s economic future despite decade of reforms
- Economic reformers regained political control in early-1990s, pushing creation of Special Economic Zones (SEZs) – 20 in 1991 to 150 in 2010
- Encouraged significant inflows of foreign direct investment (FDI) – 0.7% of GDP in 1980s to 4% of GDP in 1990s and 2000s
- Production for export markets grew at fast pace (Figure 2) – China’s share of global manufacturing increasing from 2% in 1991 to 19% in 2013
China and World Manufacturing

Figure 2: China’s Share of World Manufacturing

Source: World Bank Development Indicators
Factory China

- China’s revealed comparative advantage (RCA) in manufacturing only emerged in 1990s (Figure 3)
- Strength in manufacturing reflects its abundant supply of labor, given massive increase in its industrial labor force, due to:
  - De-collectivization of agriculture
  - Closing of inefficient state-owned enterprises
  - Migration of 250 million from farms to cities
- Export surge accelerated after 2001 when China joined WTO, along with productivity growth rate of 8%/annum
China’s Comparative Advantage

Figure 3: China’s Revealed Comparative Advantage

Source: World Bank Development Indicators

* RCA definition: country’s share of global exports in sector divided by its share of aggregate global exports
Macroeconomic Context

- China’s trade surplus (US trade deficit) as percent of GDP have both increased (Figure 4)
- In multilateral world, no reason why US trade deficit should be systematically related to any specific country
- However, with net outflows of Chinese financial capital mostly invested in dollar-denominated assets, China has underwritten US trade deficit
- China’s continued trade surplus considered to be a function of: (a) Chinese savings being kept at artificially high level, (b) currency undervaluation
China/US Trade Balances

Figure 4: China/US Trade Balance as Share of GDP

Source: World Bank Development Indicators
The China Syndrome

- By 2007, share grew to 15 percent, China accounting for 89 percent of growth.
- Share of US spending on Chinese goods rose from 0.6 percent in 1991 to 4.6 percent in 2007, with an inflection point in 2001 when China joined WTO.
- At same time fraction of US working-age population in manufacturing fell from 12.6 to 8.4 percent.
- Significant increase in US imports from China (1991-2007) not matched by US exports to China (Table 1).
# The China Syndrome

<table>
<thead>
<tr>
<th>Year</th>
<th>Trade with China (billions 2007 US$)</th>
<th>Imports from other countries (billions 2007 US$)</th>
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<tr>
<td></td>
<td>Imports from China</td>
<td>Exports to China</td>
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<td>1991/92</td>
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<td>10</td>
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<td>2000</td>
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<td>23</td>
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<tr>
<td>2007</td>
<td>330</td>
<td>57</td>
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<tr>
<td>1991-2007 (%)</td>
<td>1,156%</td>
<td>456%</td>
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Source: Autor *et al.* (2013)
Impact of Chinese Imports

- US employment “sag” of 2000s coincided with increased Chinese import competition
- Growth rate of employment was 0.9 percent for 2000-07 compared to 2.6 percent for 1991-2000
- US manufacturing employment fell by 5.8 million over period 1999-2011
- How much of the “sag” was due to Chinese imports?
- Acemoglu et al. (2016) break down effect on US national employment over period into two effects:
  - Direct impact on exposed industries
  - Indirect impact on linked industries
Job Impact of Chinese Imports

- **Direct impact:** 560,000 jobs lost, accounting for 9.7 percent of total US manufacturing jobs lost
- **Indirect impact:** 425,000 extra US manufacturing jobs lost, and 995,000 jobs lost to rest of economy
- **Total impact:** 1.98 million jobs in US economy, with 985,000 in total lost manufacturing, i.e., 16.9 percent of total manufacturing jobs lost
- Hicks and Deveraj (2015) also calculated 750,000 US manufacturing jobs lost over 2000-10 (13.4 percent of total), with total job loss of 1.7 million
- Bulk of job losses due to growth in labor productivity
Other Effects of Chinese Imports


- For 2000-07, more exposed CZs had:
  - 4.5 percent larger fall in employment
  - 0.8 percent larger decline in mean weekly wages
  - 2-3.5 percent larger increase in unemployment, and other benefits totaling extra $63/capita

- Displaced workers also unlikely to move to seek new jobs, and those that do, move to similar and equally vulnerable employment.
TAA program

- Labor getting more insurance against job loss from federal transfers as opposed to the Trade Adjustment Assistance (TAA) (see Figure 5)
- TAA dates from 1962, workers getting extension to unemployment benefits, and beneficiaries can enroll in training programs
- Workers over 50 get wage insurance up to $12,000 over two years for taking jobs on lower pay
- Benefits probably inadequate: $1,700/worker in 2007; insurance insufficient to make up for wage loss, and young workers not eligible for insurance
Figure 5: Effect of $1,000 Increase in Chinese Imports on U.S. Government Transfers/Capita in Commuting Zones (1990-2007)