Discussion

Education and Unequal Regional Labor Market Outcomes
by Katheryn Russ and Jay Shambaugh

David Autor
Ford Professor of Economics at MIT
Federal Reserve Bank of Boston Conference Session
Rethinking regional responses to economic shocks
October 4, 2019
The Big Question

Interpreting shocks and persistence

• Was something special about the ‘China Shock’?
• Or is something special about the shocked places?
Shocks, Persistence, and Place

1. Context – Persistence of unemployment since mid-1980s
2. The decline of U.S. manufacturing
3. Concentrated, enduring impacts
4. Characterizing ‘China Shocked’ places
5. The China Shock and the changing geography of work
But Look at the Next Three Decades: Persistence (Bigley!)

- 1986 vs. 1996
- 1996 vs. 2006
- 2006 vs. 2016
- 1986 vs. 2016
Shocks, Persistence, and Place

1. Context – Persistence of unemployment since mid-1980s
2. **The decline of U.S. manufacturing**
3. Concentrated, enduring impacts
4. Characterizing ‘China Shocked’ places
5. The China Shock and the changing geography of work
U.S. Manufacturing Employment Fell by 20% between 1999 and 2007, and by 33% between 1999 and 2010
Shocks, Persistence, and Place

1. Context – Persistence of unemployment since mid-1980s
2. The decline of U.S. manufacturing
3. Concentrated, enduring impacts
4. Characterizing ‘China Shocked’ places
5. The China Shock and the changing geography of work
Concentrated Impact of China Trade Shock: South Atlantic, South Central, Northeast, Great Lakes

Most-affected areas of the U.S.

Colors show which areas were most affected by China’s rise, based on the increase in Chinese imports per worker in each area from 1990 to 2007. Hovering over each area on the map will show a demographic breakdown of that area, below, and its most-affected industries, at right.

Most-affected industries

Most-affected industries, based on number of areas* Impact per worker†

<table>
<thead>
<tr>
<th>Industry</th>
<th>Areas</th>
<th>Impact per worker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Furniture and fixtures</td>
<td>196</td>
<td>$44k</td>
</tr>
<tr>
<td>Games, toys, and children’s vehicles</td>
<td>114</td>
<td>$488k</td>
</tr>
<tr>
<td>Sporting and athletic goods</td>
<td>106</td>
<td>$82k</td>
</tr>
<tr>
<td>Electronic components</td>
<td>87</td>
<td>$65k</td>
</tr>
<tr>
<td>Plastics products</td>
<td>84</td>
<td>$71k</td>
</tr>
<tr>
<td>Motor-vehicle parts and accessories</td>
<td>79</td>
<td>$12k</td>
</tr>
<tr>
<td>Electronic computers</td>
<td>68</td>
<td>$207k</td>
</tr>
</tbody>
</table>

Autor, Dorn, Hanson & Wall Street Journal, 2016
Male and female earnings fall in shocked CZs, but falls especially steep among lower-wage men.
Earnings Losses Larger for Men Throughout Distribution Leading to a Compression of the M-F Earnings Gap
Impacts Beyond Labor Market: Effect of One-Unit Trade Shock on Marital Status, HH Structure of Adults Ages 18 to 39

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Household Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>Living w/Spouse</td>
</tr>
<tr>
<td>Widowed/Divorced/Separated</td>
<td>-0.95%</td>
</tr>
<tr>
<td>Never Married</td>
<td>-0.21%</td>
</tr>
</tbody>
</table>

In affected region, fraction of young adults who are ever married, living with spouse, or living with partner falls
Kids’ Outcomes: Trade Shock Raises Fraction of Children Under 18 Living in Poverty and in Non-Married Households

In affected CZs, fraction of children <18 living in poverty rises sharply; fraction living in two-parent households falls
‘Deaths of Despair’: Shock Leads to Rise in Mortality among Adults Ages 20 – 39 (per 100K Adults)

In affected CZs, a significant increase in mortality among young adults – esp. males
Shocks, Persistence, and Place

1. Context – Persistence of unemployment since mid-1980s
2. The decline of U.S. manufacturing
3. Concentrated, enduring impacts
4. Characterizing ‘China Shocked’ places
5. The China Shock and the changing geography of work
Percentiles of the ‘China Shock’ – CZ Level Increase in Imports per Working-Age Adult between 1990 and 2007

CZ Level China Shock 1990 - 2007 in $1,000s/Adult
by CZ Exposure Percentile in 1990
Manufacturing Intensity in China-Shocked CZs, 1950 – 2015

Manufacturing Emp/Pop

[Graph showing manufacturing intensity over time with data points and trend lines for 1950, 1970, 1980, and 1990.]
Change in Manufacturing Intensity in China-Shocked CZs, 1950–2015

Decadal Change in Manufacturing Emp/Pop vs. China Shock Exposure 1990-2007
Non-College Share of Adults in China—Shocked CZs, 1950–2015
Change in Log Real Hourly Wages in China Shocked CZs, 1950 – 2015

Decadal Change in Mean Log Hourly Wage vs. China Shock Exposure 1990-2007
Change in Emp/Pop in China—Shocked CZs, 1950 – 2015


[Graph showing decadal change in employment to population.]
Shocks, Persistence, and Place

1. Context – Persistence of unemployment since mid-1980s
2. The decline of U.S. manufacturing
3. Concentrated, enduring impacts
4. Characterizing ‘China Shocked’ places
5. The China Shock and the changing geography of work
Polarization of Work

High skill jobs
- Rising employment in professional, technical and managerial work

Low skill jobs
- Rising employment in personal services — Cleaning, security, recreation, health aides

Mid skill jobs
- Falling employment in production work, office/clerical, and sales
Among College Workers
Most Occupational Relocation is *Upward*

But Among Non-College Workers, Occupational Mobility is Almost Exclusively *Downward*
Urban Areas Have Become Much More Educated Since 1980

Urban-Rural College Degree Gap

1950: 5 pct points
1970: 5 pct points
1980: 8 pct points
1990: 13 pct points
2000: 17 pct points
2015: 20 pct points
Non-College Workers 1970

Mid-Skill Work Steeply Rising in Population Density, Low-Skill Work Steeply Declining
Non-College Workers 1970 + 1980

Flattening Gradients

- Becomes less positive in mid-skill work
- Becomes less negative in low-skill work
Flattening Gradients
- Becomes less positive in mid-skill work
- Becomes less negative in low-skill work
Non-College Workers

Flattening Gradients
- Becomes less positive in mid-skill work
- Becomes less negative in low-skill work

Occupation Shares among Non-College Adults: High School or Below
(Level Relative to 1970 Mean)
Occupation Shares among Non-College Adults: High School or Below
(Level Relative to 1970 Mean)

Non-College Workers
No Occupational Skill Gradient Remaining!

- Mid-skill work as scarce in cities as rural areas
- Low-skill work as prevalent
Little change in occupational distribution of college-educated workers
Where Did the Middle Skill Urban Jobs Go?

Decline of Production Jobs (majority male) and Administrative / Clerical Jobs (majority female)


CZ population density, 1970
Urban Areas Have Become Much More Educated Since 1980

Urban-Rural College Degree Gap

1950: 5 pct points
1970: 5 pct points
1980: 8 pct points
1990: 13 pct points
2000: 17 pct points
2015: 20 pct points
College Share of Adults in China—Shocked CZs, 1970–2015

College Share of Adults
Four-Year College Share of Adults in China-Shocked CZs, 1970–2015

Four-Year College Share of Adults vs. China Shock Exposure 1990-2007

Share

China Shock Percentile
1. **The puzzle**
   - Regional convergence slowing or halted after 1970s
   - Unemployment rates became persistent across local labor markets

2. **China Shock had durable adverse effects on exposed CZs**
   - Sharp falls in earnings, especially among men
   - Decline in marriage rates, rise in poverty, rise in single-headed HH’s
   - Rise in young adult mortality

3. **Was something special about the ‘China Shock’—or is something special about the shocked places?**
   - Shocked places experienced positive pre-China shock 70s & 80s
   - But this *had to be* ephemeral: education tides running against them

4. **Where is the land of opportunity for non-college adults?**
Thank you