

WTO Trade Dialogues Lectures Series: Re-Assessing the Labor Market Impacts of Trade

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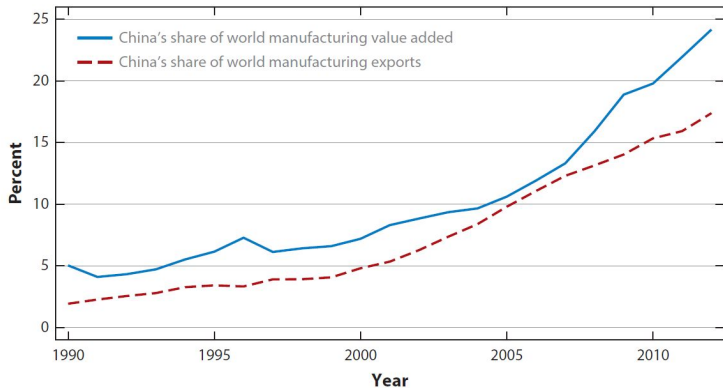
Does Trade Make Everyone Better Off?

- Trade *can* make everyone better off!
 - Standard trade theory suggests that gains to winners are large enough to more than compensate the losers
- Why can there be losers?
 - Krugman and Obstfeld (2008): *Owners of a country's abundant factors gain from trade, but owners of a country's scarce factors lose... [C]ompared with the rest of the world the United States is abundantly endowed with highly skilled labor and (...) low-skilled labor is correspondingly scarce. This means that international trade tends to make low-skilled workers in the United States worse off—not just temporarily, but on a sustained basis.*

The Consensus of the Early 2000s

- During the 1990s, many researchers studied whether trade is responsible for rising wage inequality in the U.S.
- Eventually, a consensus emerged on the following observations:
 - ① Trade had not been a major contributor to manufacturing decline or rising wage inequality in developed countries (and took place mostly between such countries)
 - ② Workers in import-competing sectors and regions could readily relocate to other sectors or regions if displaced by trade
 - ③ Due to the law of one price for skill, any labor market impact of trade would be felt by low-skill workers generally, not by trade-exposed workers specifically

Since 90s: Emergence of China as World-Leading Exporter



The China Shock

- The China shock—an epochal shift in patterns of world trade
 - Economic distortions during the Maoist era limited growth; its GDP p.c. rank fell from 59th to 134th from 1952 to 1978
 - Economic reforms in the 1980s and early 1990s ignited a phase of transitional growth, GDP p.c. rank improved to 126th by 1991, and to 77th by 2011
 - The rapid rise of China as an exporting power was not necessarily expected—in 1989, the *Wall Street Journal* predicted stagnation for the next 25 years

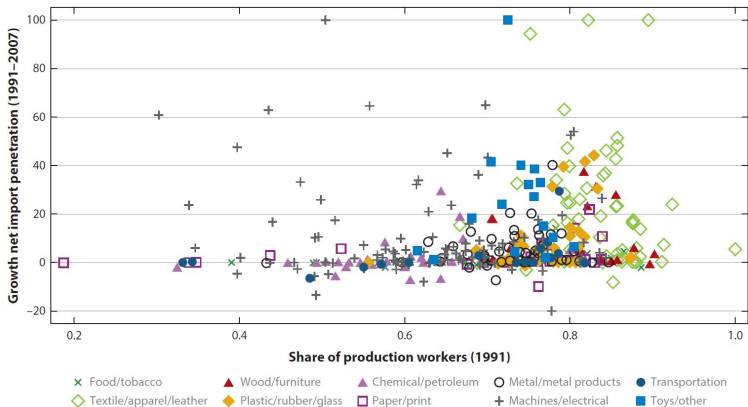
What Was Special about the China Shock?

- 1 China is the most populous country in the world; its opening to international trade can thus have particularly large impacts
- 2 Largely due to China, trade with low-wage countries accounts for an increasing fraction of high-wage countries' trade
- 3 In the U.S., growing trade with China was associated with a rapidly growing trade deficit (by contrast, Chinese trade with Germany was quite balanced)

Identifying the Impacts of the China Shock

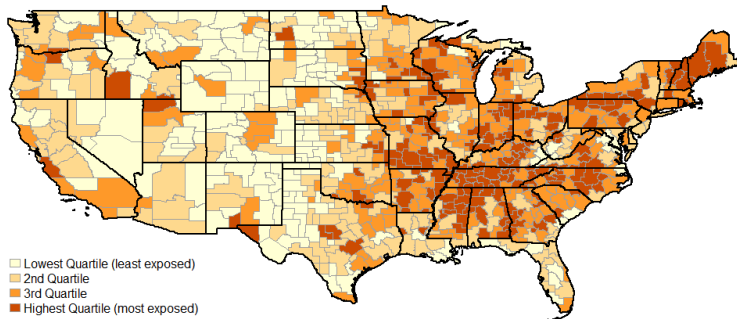
- Chinese import competition in the U.S. and other high-wage countries varies by industry, and across geographic regions that are specialized in different industries
- In the presence of any labor market frictions, the impacts of trade will be concentrated in exposed industries and regions instead of immediately dispersing across the nation
- I analyzed the impacts of Chinese import competition on U.S. industries and regions in a series of research papers with David Autor, Gordon Hanson and other colleagues

Variation of Import Competition across Industries



Variation of Import Competition across Regions

Trade Exposure by Commuting Zone, 1990-2007



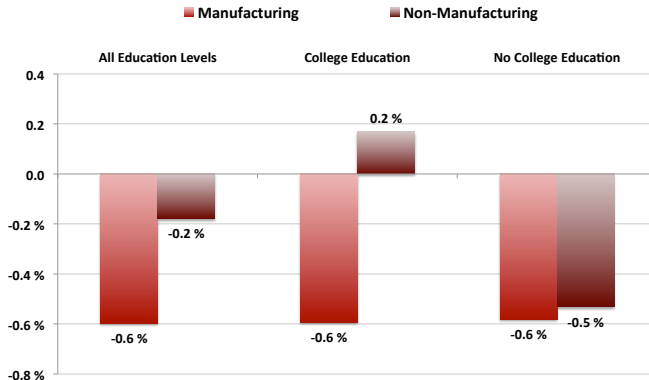
Analysis at the Local Labor Market Level (ADH, AER 2013)

- Estimate trade impacts in 722 Commuting Zones (clusters of counties that approximate local labor markets)
 - exposure to Chinese imports varies due to differential initial specialization across 397 manufacturing industries
- Analyze impact of growing import competition for the periods 1990-2000 and 2000-2007
- Isolate the supply shock component of U.S. imports from China using growth of Chinese imports in other high-wage countries as an instrumental variable

Employment in Manufacturing and Non-Manufacturing

Imports from China and Employment Status of Working Age Population within Commuting Zones (1990-2007)

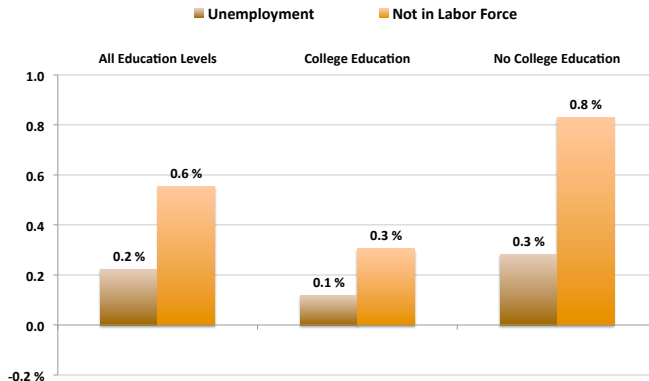
Effect of an \$1000 Per Worker Increase in Imports from China during 1990-2007 on Share of Population in Employment Categories



Unemployment and Non-Employment

Imports from China and Employment Status of Working Age Population within Commuting Zones (1990-2007)

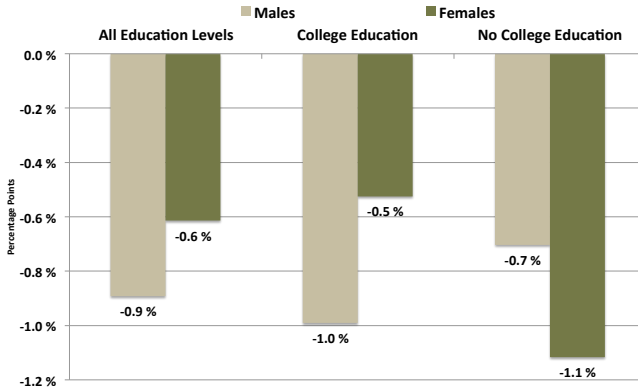
Effect of an \$1000 Per Worker Increase in Imports from China during 1990-2007 on Share of Population in Employment Categories



Wages

Imports from China and Wage Changes within Commuting Zones (1990-2007)

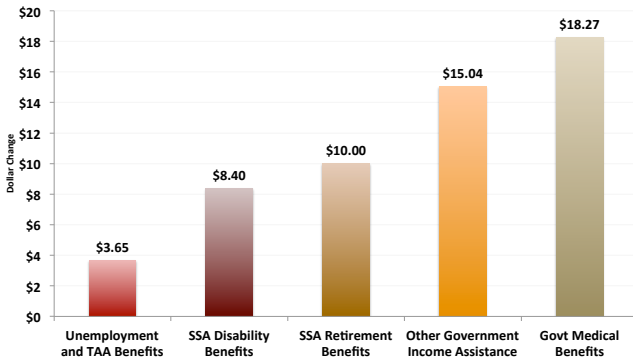
*Effect of an \$1000 Per Worker Increase in Imports from China during 1990-2007 on
Percent Change in Weekly Wages*



Government Transfers

Imports from China and Change of Government Transfer Receipts in Commuting Zones (1990-2007)

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



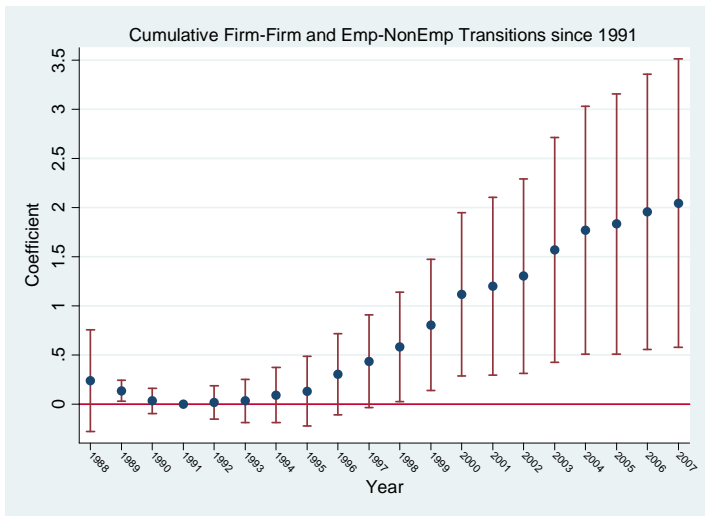
Interpreting Magnitudes

- Comparing regions at the 75th and 25th percentile of exposure, the former experiences
 - 1 loss of about 5% of its manufacturing jobs
 - 2 no offsetting employment gains outside of manufacturing
 - 3 decline in avg. household wage income per adult of \$550 p.a.
 - 4 increase in gov't transfers by about 10-15% of wage loss
- For the whole U.S., estimated 2m-2.4m net job loss due to Chinese import competition in 1999-2011 (AADHP, JOLE 2016)

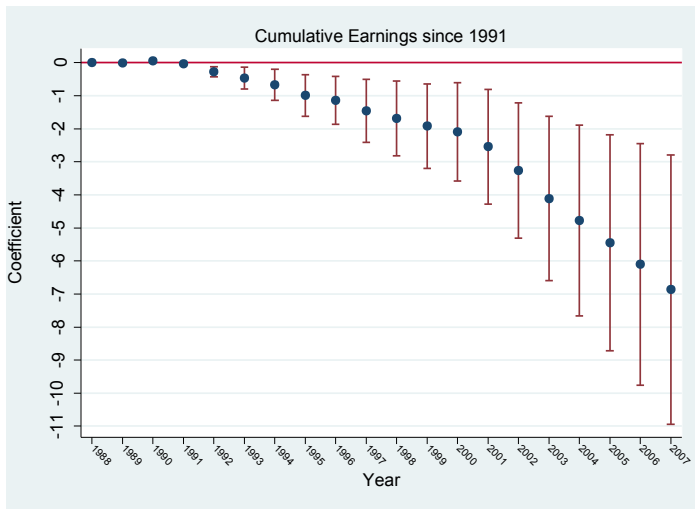
Analysis at the Individual Worker Level (ADHS, QJE 2014)

- Analyze over 500k person records from the U.S. Social Security Agency to follow the careers of individuals over time
 - compare workers whose industries of employment in 1991 subsequently became differentially exposed to import competition
- The longitudinal perspective allows to study how workers adjust their careers to the China shock

Cumulative Churning



Cumulative Earnings



Interpreting Magnitudes

- Comparing manufacturing workers at the 75th and 25th percentile of exposure, the former
 - ① cumulatively earns about half an annual salary less in 1991-2007
 - ② works about half a year less at the initial firm, but more at other firms outside the initial industry
 - ③ is *not* more likely to move to another region for work

Beyond Labor Market Effects

- Disruptions to employment and income in local labor markets can have broad impacts on the social fabric of these locations
- Greater local exposure to import shocks is associated with
 - 1 higher crime rates (Feler and Senses, 2016)
 - 2 higher mortality rates (Pierce and Schott, 2016; Autor, Dorn and Hanson, 2016)
 - 3 higher rates of single motherhood and child poverty (Autor, Dorn and Hanson, 2016)

Political Repercussions

- U.S. locations that were exposed to larger import shocks have
 - representatives in Congress that became more likely to vote in a protectionist way on trade bills (Feigenbaum and Hall, 2015)
 - become more likely to elect representatives from the extreme right and extreme left (Autor, Dorn, Hanson and Majlesi, 2016)
 - contributed to the election of Donald Trump in 2016 (Autor, Dorn, Hanson and Majlesi, 2016)

Similar Effects in Europe?

- Negative impact of Chinese import competition on local employment and wages
 - Germany (Dauth, Findeisen, Südekum, 2014), Norway (Balsvik, Jensen, Salvanes, 2015), Spain (Donoso, Martin, Minondo, 2014)
- Lower career earnings for workers in exposed industries
 - U.K. (Pessoa, 2016), Denmark (Ashournia, Munch, Ngyuen, 2014; Utar 2015)
- Shift in voting patterns favoring
 - Front National in France (Malgouyres, 2014), extreme-right parties in Germany (Dippel, Gold and Helblich, 2015)
 - Brexit in the United Kingdom (Colantone and Stanig, 2016)

Similar Effects in Europe?

- A major difference between Germany and the U.S. (Dauth, Findeisen and Südekum, 2014)
 - dramatic increase in German *exports* to China (and to Eastern Europe) roughly matches growth in imports
 - local labor markets with specialization in exporting industries gain employment
 - export effect appears large enough to more than offset import-related employment losses

Similar Effects for Technology Adoption?

- Technological change is widely seen as a cause of
 - rising wage inequality (e.g., Katz and Autor, 1999)
 - labor market polarization (e.g., Autor and Dorn, 2013)
- U.S. local labor markets with greater exposure to computer adoption experience (Autor, Dorn and Hanson, 2015)
 - greater declines in routine occupation employment
 - greater declines in manufacturing employment
 - but offsetting employment gains in non-routine occupations

Where Does Evidence Deviate from Standard Theory?

- Bilateral trade between countries can be unbalanced
 - the U.S. experienced rapidly rising import competition from China but did not expand its exports equally strongly
- Labor markets are not frictionless
 - trade shocks can generate unemployment, not just changes in equilibrium wages
 - workers relocate only slowly across industries and geographic locations
 - income losses are thus concentrated among workers in exposed industries and regions

Where Does Evidence Deviate from Standard Theory?

- Depression of trade-exposed local labor markets spills over into non-work outcomes
 - increases in crime, mortality, single motherhood
- Government transfers provide incomplete compensation for financial losses (at least in the U.S.)
 - compensation comes mostly from Medicaid/Medicare and disability insurance, not from Trade Adjustment Assistance

Benefits and Costs of Import Competition: Timing

- Gains
 - lower consumer prices (short-term and long-term)
 - greater variety of goods (short-term and long-term)
 - dynamic gains? (long-run)
- Costs
 - *adjustment costs due to labor market disruptions (short-term)*
 - lower wage levels for groups of workers (long-term)
- Adjustment costs can weigh heavily against gains from trade during a transition period following a trade shock

Benefits and Costs of Import Competition: Distribution

- The consumer benefits from trade accrue to many/all consumers
- The costs of labor market adjustment are concentrated on workers in trade-exposed industries and localities
- *Losses from trade may be more salient than gains*

What Can Policy Do?

- A reversal of past trade integration through imposition of high tariffs is not the solution
 - creates another labor market disruption with adjustment costs
- Strategies to reduce burden for the losers
 - phasing in trade liberalization more gradually (lower adjustment costs)
 - extending/improving transfer programs that compensate the losers and ease their labor market adjustment (TAA, EGF)
- Extend analysis and discussion of costs and gains from trade