The Enduring Consequences of the China Shock

David Autor, MIT and NBER

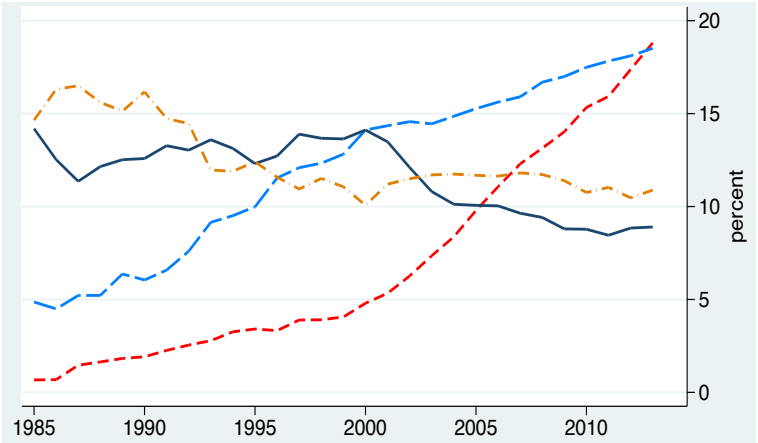
China Econ Lab — Master Lecture

December 1, 2021

CHINA ECON LAB
中国经济实验室

China's historic rise as a world manufacturing power

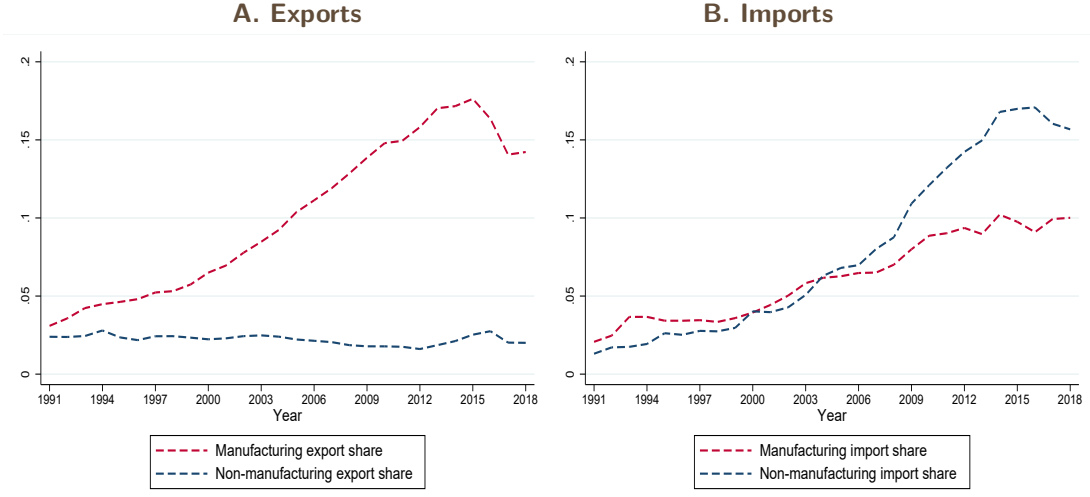
China's manufacturing exports eclipsed the U.S. and Germany by the early 2000s



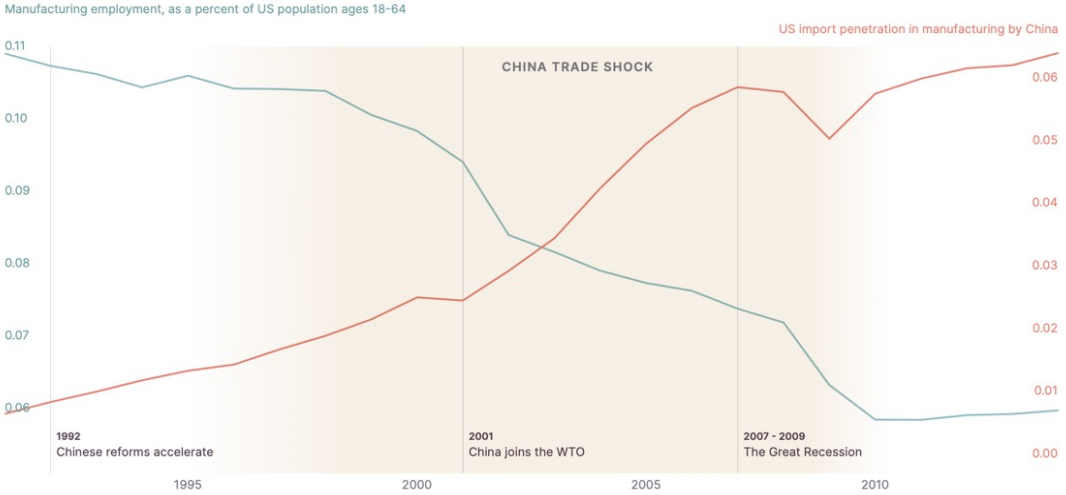
Autor, Dorn, Hanson 2016

From $< 2\%$ of world manufacturing exports in 1985 to $\approx$18% in 2015

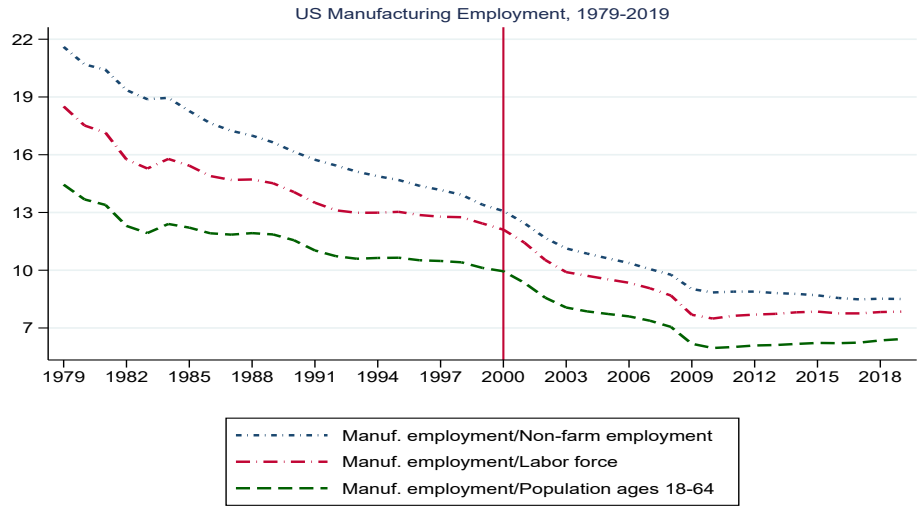
China's share of world exports and imports 1991–2018



U.S. manufacturing employment fell after China joined the World Trade Organization in 2001

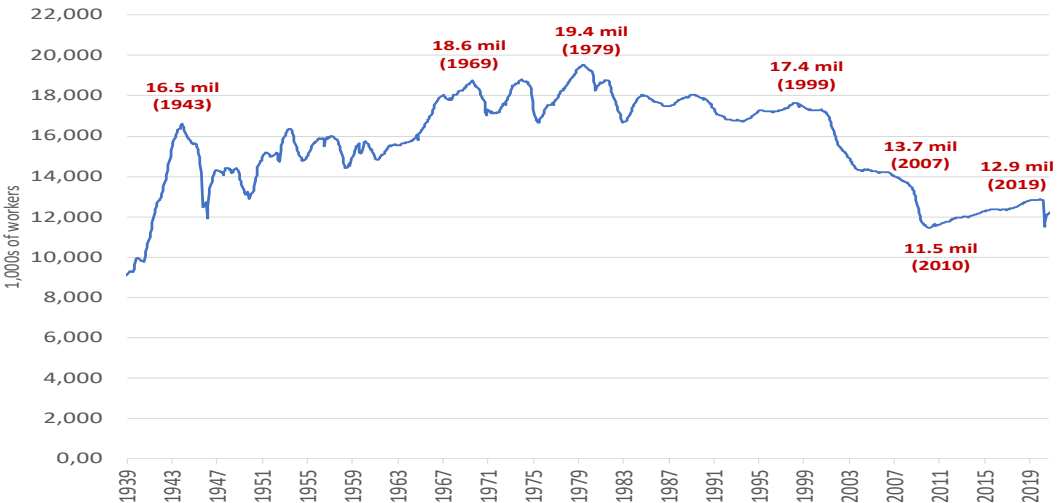


A clear inflection point in U.S. manufacturing employment after the year 2000



Employment is from CES; labor force is from CPS; population is from NVSS

Historic U.S. manufacturing emp fall: –20% in 1999–07, –33% in 1999–10



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1. How did we get here?
2. Ricardo's big idea—and some caveats
3. Learning from labor-market adjustment to the China trade shock
4. Beyond job loss: Social consequences of the shock
5. Why were the impacts so long lasting?
6. Assessing welfare impacts
7. Political and cultural repercussions
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China's historic rise as a world manufacturing power

Deng Xiaoping, 1904–1997

China's historic rise as a world manufacturing power

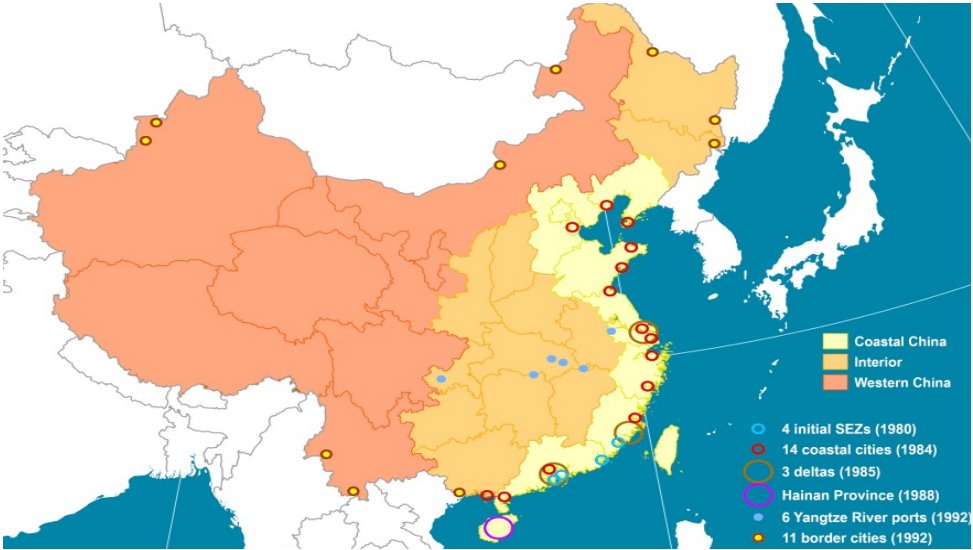
Deng Xiaoping, 1904–1997

- Chairman of the Central Advisory Commission of the Communist Party of China
- Chairman of the Central Military Commission
- Chairman of the National Committee of the Chinese People's Political Consultative Conference

Reform-driven forces behind the China trade shock

- **Deng's southern tour (1992), China's WTO accession (2001)**
  - *Reduced input tariffs, export restrictions, policy uncertainty*
  - *Eased limits on FDI and MNEs, consolidation of SOEs*
  - *Rural to urban migration and reduced spatial misallocation*
  - *Temporary suppression of RMB*
  - *Residual productivity growth*

China's Special Economic Zones (SEZs)



The view of Shenzen from Hong Kong, 1970 and 2019

Shenzhen from Hong Kong, 1970
In the 1970s, Shenzhen, China was a small fishing settlement.

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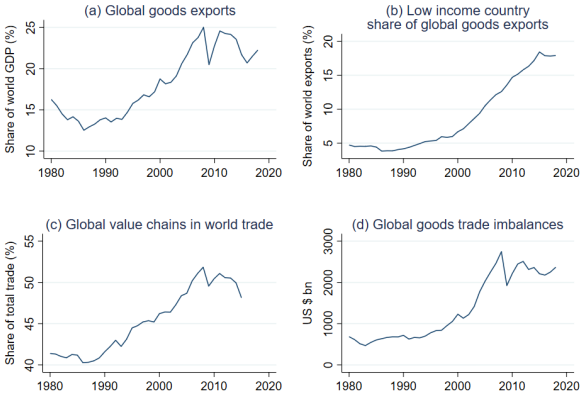
Shenzhen from Hong Kong, 1970
In the 1970s, Shenzhen, China was a small fishing settlement.

Shenzhen from Hong Kong, 2019
In the past fifty years, the population of Shenzhen has exploded, largely due to the growth of manufacturing jobs - most consumer appliances are assembled in Shenzhen.
SPARKTOUR | WIKIMEDIA COMMONS, CROPPED

1970 2019

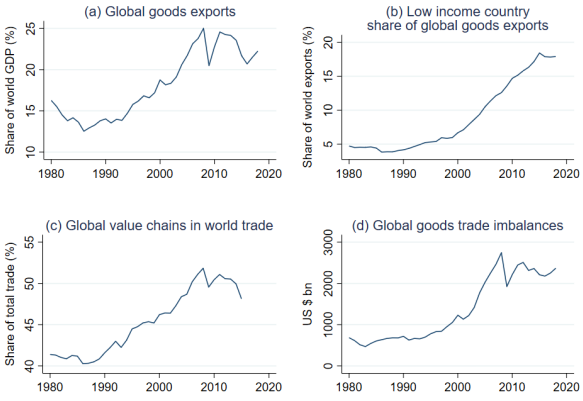
Fundamental changes in patterns of international trade starting in the 1990s



Dorn & Levell 2021

Four crucial changes in world trade

Fundamental changes in patterns of international trade starting in the 1990s



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- Rising world trade in goods

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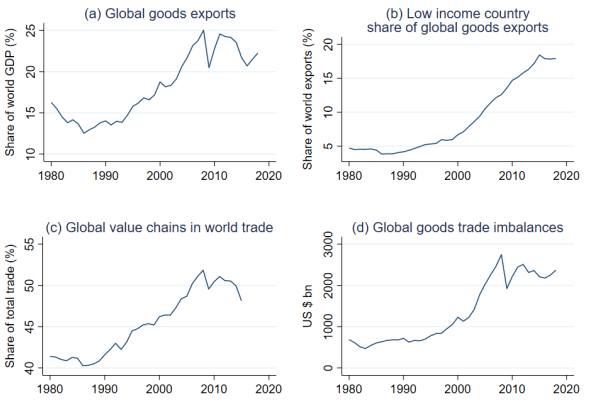

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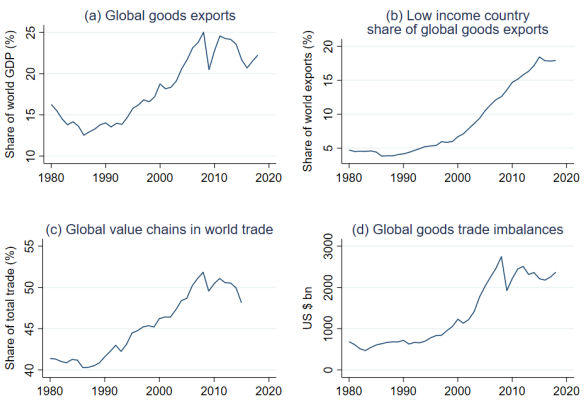

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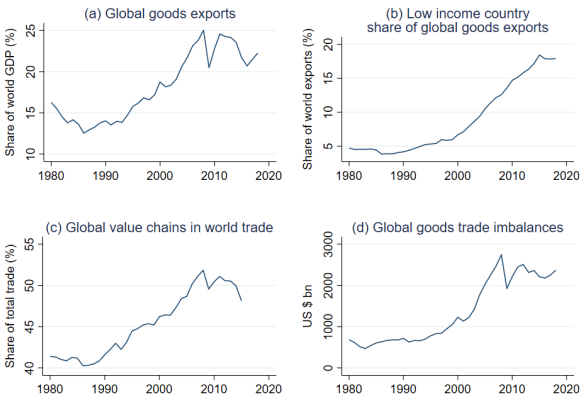

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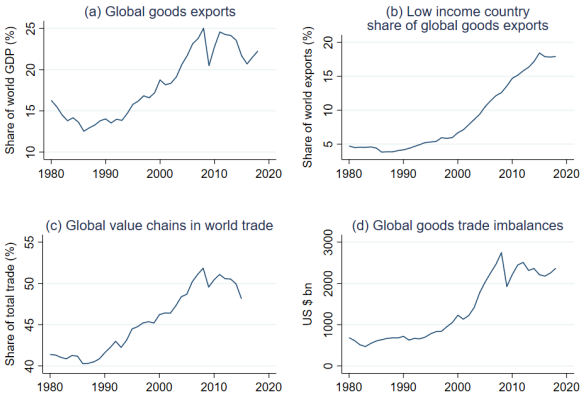

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China central to all of these shifts

Reform-driven forces behind the China trade shock — Now in retreat

- Deng's southern tour (1992), China's WTO accession (2001)
  - *Reduced input tariffs, export restrictions, policy uncertainty*
  - *Eased limits on FDI and MNEs, consolidation of SOEs*
  - *Rural to urban migration and reduced spatial misallocation*
  - *Temporary suppression of RMB*
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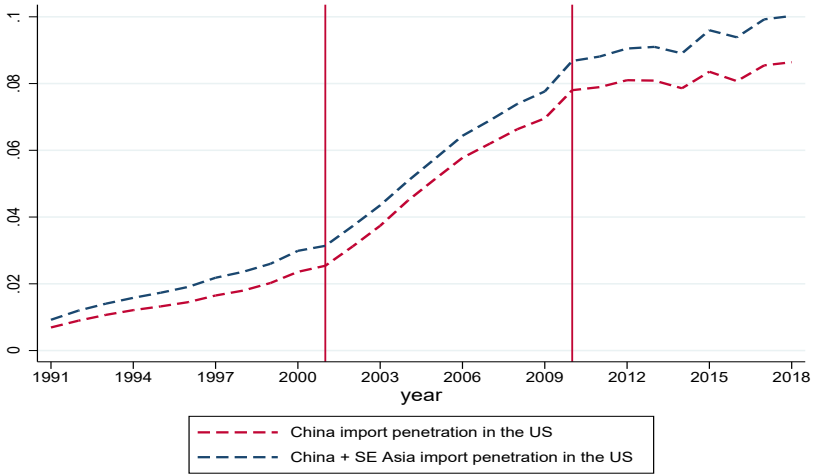
- **The Chinese state strikes back, 2008—present (and perhaps the future)**
  - *End of transition-era productivity growth*
  - *Hu and Xi progressive rollback of reforms (Lardy '19)*

China trade shock in three acts: Initiation (1991-2000), intensification (2001-2010), stabilization (2010-2019)

Import penetration in US market: China alone and China + SE Asia



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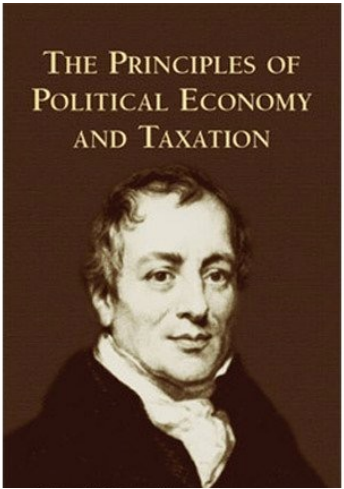
The case for free trade



David Ricardo, 1772 – 1823

Ricardo's big idea: Comparative advantage

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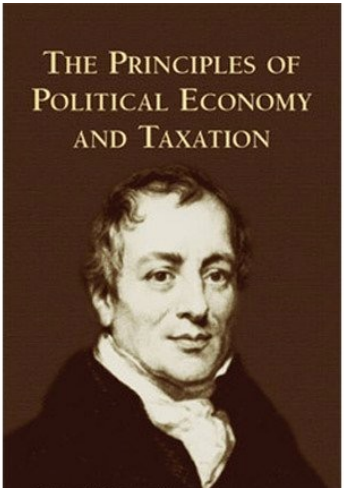

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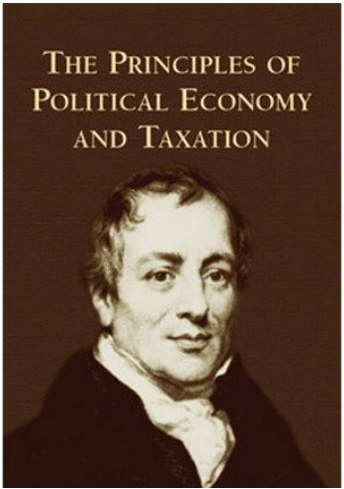

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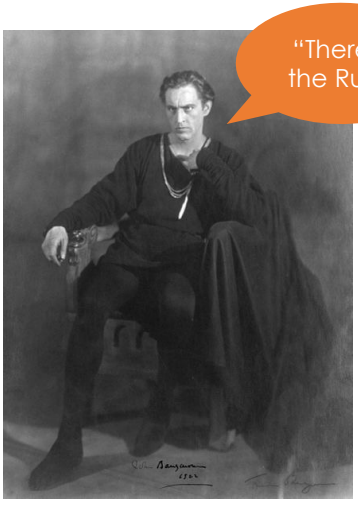
Ricardo's big idea: Comparative advantage

- Trade allows countries to specialize in the goods in which they are most productive
- Free trade among consenting nations raises GDP in all of them

But here's "the rub"



John Barrymore as Hamlet in 1922

Winners and losers

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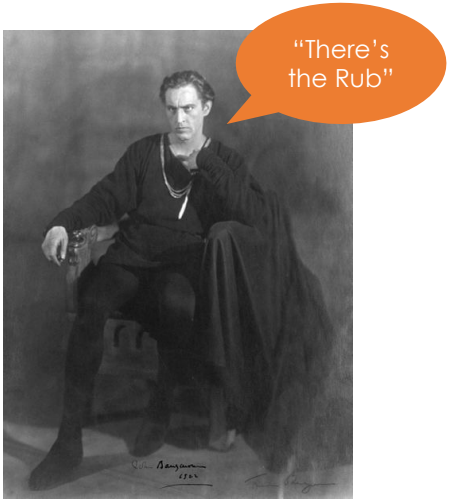

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Winners and losers

- What is true for the welfare of a country in aggregate does not necessarily apply for all citizens in a country
- Trade normally creates winners and losers
- Yields diffuse benefits, concentrated costs

Why is free trade not a “free lunch”?

1. **Trade necessitates reallocation of workers and jobs**
   - Workers displaced from career jobs
   - May require new location, new occupation
   - Often leaves economic–and psychological–scars

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   - Often leaves economic–and psychological–scars
2. **Trade permanently alters skills demands**
   - Raises demand for high-skill workers in industrialized countries
   - Reduces demand for low-skill workers
   - Even as trade grows pie modestly, can shrink some slices substantially

Why is free trade not a free lunch?

1. **Textbook scenario**

Why is free trade not a free lunch?

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   - New businesses open, taking advantage of slack
   - Displaced workers move quickly to new opportunities
   - Concentrated local impacts diffuse nationally
   - A small decline in aggregate demand for production workers
   - *Localized effects diffuse nationally*

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   - *Then economic costs will fall heavily on a few*

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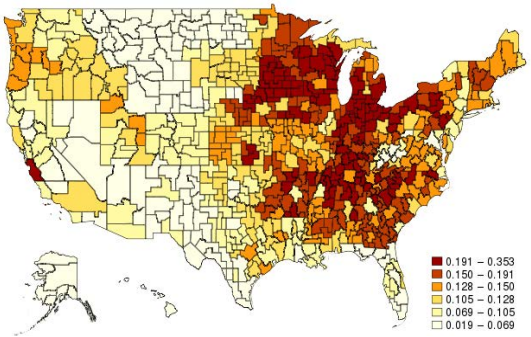
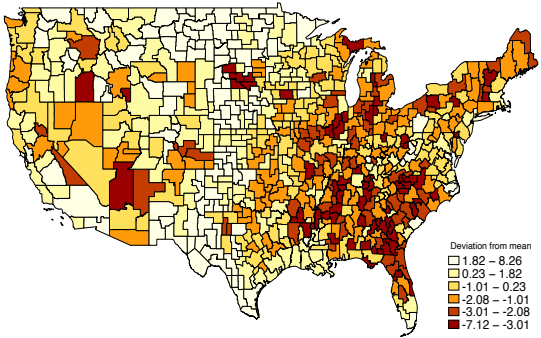
Big picture: Rising, persistent joblessness in former manufacturing regions

A. Manufacturing Emp Share, 2000



B. Fall in Emp/Pop Ratio, 2000–19

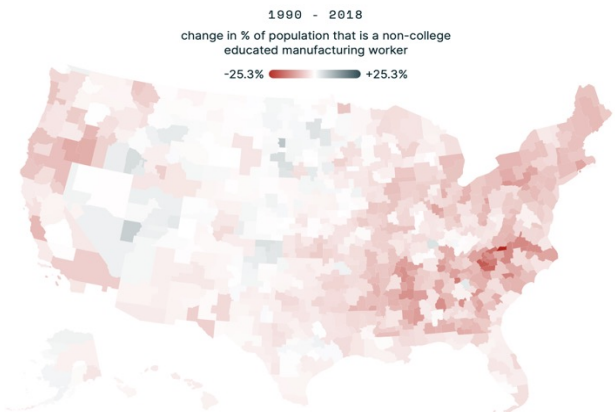


Left panel: Charles, Hurst, Schwartz, 2018
Right panel: Autor, Dorn, Hanson, 2021

Concentrated impact of China trade shock: South Atlantic, South Central, Northeast, Great Lakes

Manufacturing jobs were lost across the Midwest and Southeast

In some regions, more than one quarter of workers have been displaced from manufacturing jobs since 1990



WORST HIT REGIONS

Search for a region

1.	**Martinsville, VA** Furniture and fixtures	34.7	9.4%	(-25.3)
2.	**West Hickory** Furniture and fixtures	34.4	15.7%	(-18.7)
3.	**Gastonia/West Charlotte** Yarn spinning mills	32.0	14.7%	(-17.3)
4.	**Carroll County, VA** Furniture and fixtures	25.0	8.3%	(-16.6)
5.	**Gilmer County, GA** Poultry slaughtering and processing	33.6	18.6%	(-15.0)
6.	**North Hickory** Furniture and fixtures	34.8	19.8%	(-15.0)

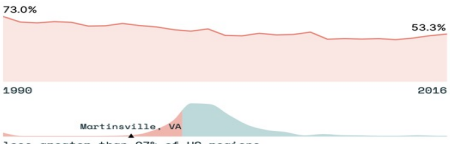
Localized impacts: The case of Martinsville, Virginia

Martinsville, Virginia

Percent of working-age adults that are working in manufacturing -70.3%

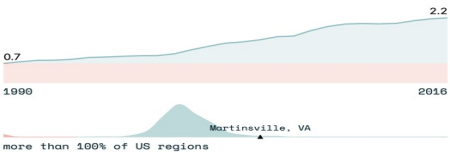
loss greater than 91% of US regions

Percent of working-age adults working that are employed -27.0%



loss greater than 97% of US regions

Government transfers per capita +231.4%



more than 100% of US regions

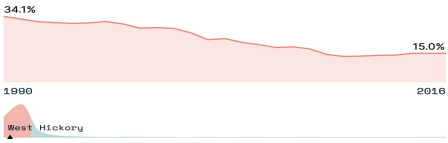
Change in average import exposure (1992 - 2012)

more than 98% of US regions

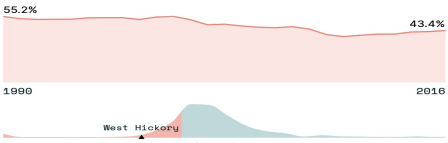
Localized impacts: The case of West Hickory, North Carolina

West Hickory, North Carolina

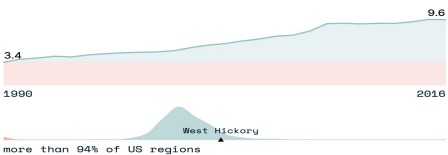
Percent of working-age adults that are working in manufacturing -55.9%



Percent of working-age adults working that are employed -21.3%



Government transfers per capita +183.1%



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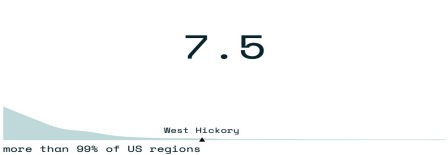

Research design: In three steps

1. **Unit of analysis: Commuting Zones (CZs)**
   - Compare changes in labor market outcomes in regions with larger versus smaller increases in import competition from China over 1991 to 2019

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Note: This approach captures relative not absolute effects across CZs

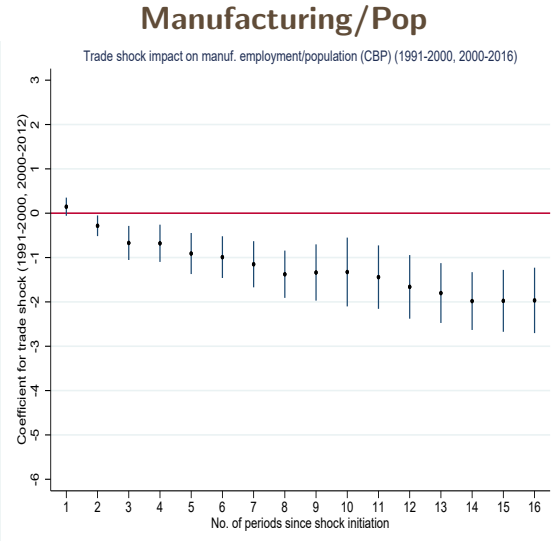
Commuting zone level regression analysis

Commuting Zone i, initial period $t = 2000$, $h = 1,\ldots,19$ (time-differenced regressions of 1 to 19 years in length)

$$\Delta Y_{it+h} = \alpha_t + \beta_{1h}\Delta IP_{i\tau}^{cu} + \mathbf{X}_{it}'\beta_2 + \varepsilon_{it+h}$$

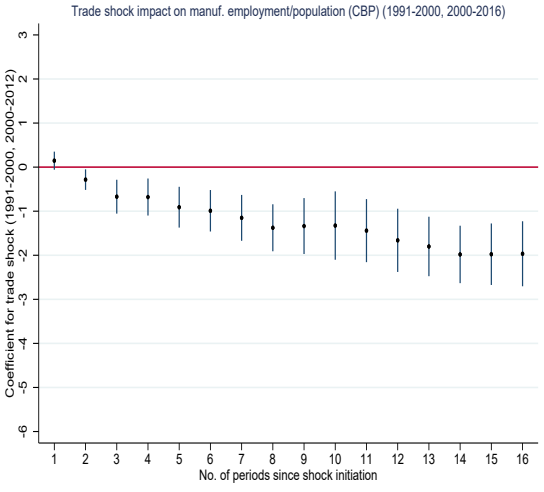
- ΔY_{it+h} = change in outcome
  - Employment-population ratio, log population headcount, log personal income per capita, log gov't transfers per capita
- $\Delta IP_{i\tau}^{cu}$ = change in Chinese import penetration over 2000-2012
  - Instrument following approach in ADH '13, AADHP '16
- $\mathbf{X}_{it}$ = Census region time trends, initial-period controls
  - CZ emp. shares for manuf., women, routine, offshorable jobs; pop. shares for college-educated, foreign-born, non-white, age cohorts

Employment impacts in trade-exposed local labor markets (CZs), 1991-2016



Large, enduring falls in manufacturing, wage & salary employment, 1991-2016

Manufacturing/Pop



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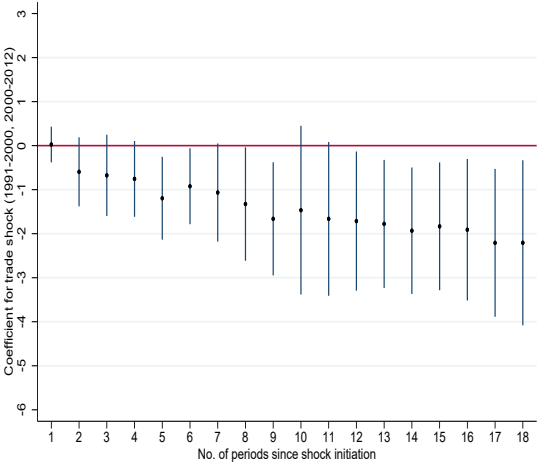

Large, enduring falls in manufacturing, wage & salary employment, 2001-2018

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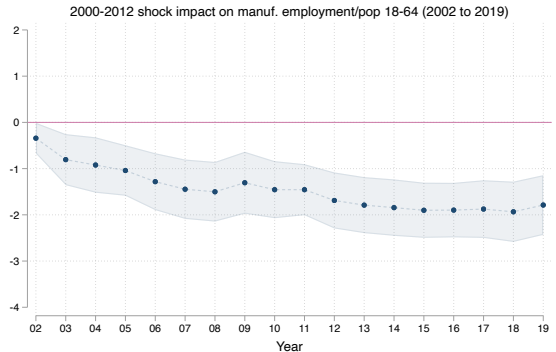

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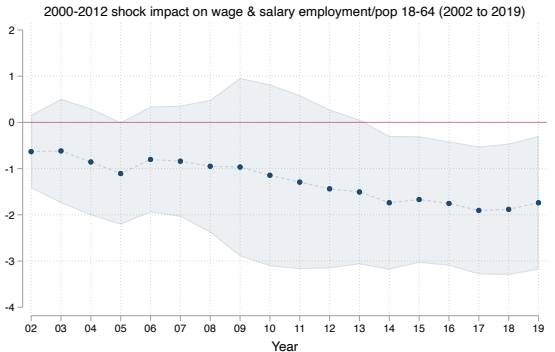
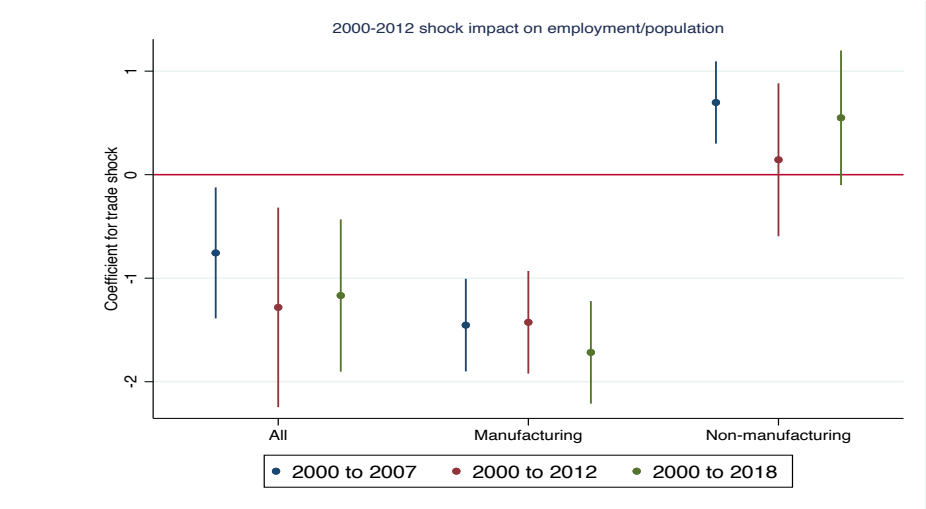


Note: Each point indicates the estimated trade-shock coefficient from a separate regression in which the time difference for the outcome variable is 2001 to the year indicated on the horizontal axis.

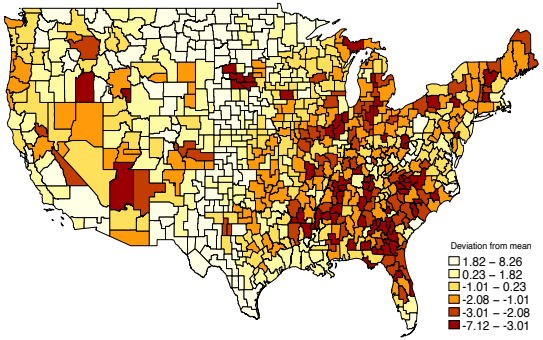
Employment losses concentrated in 2000–07 — But no rebound thereafter



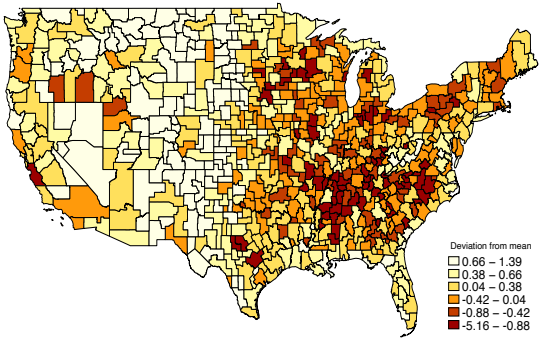
Note: Each point indicates the estimated trade-shock coefficient from a separate regression in which the time difference for the outcome variable is for the indicated time period.

China shock visible: Actual v. projected change in employment rate, 2000-2019

A. Actual change

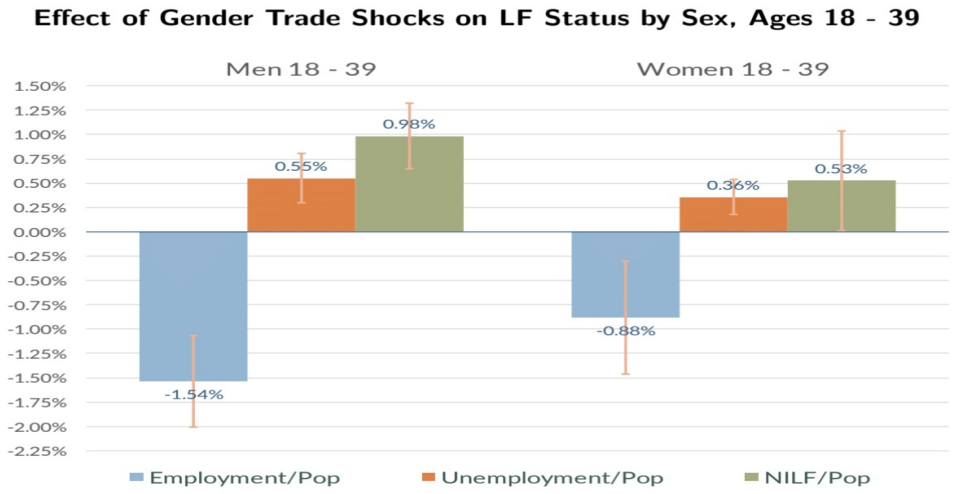


B. Change due to trade shock



Autor, Dorn, Hanson, 2021

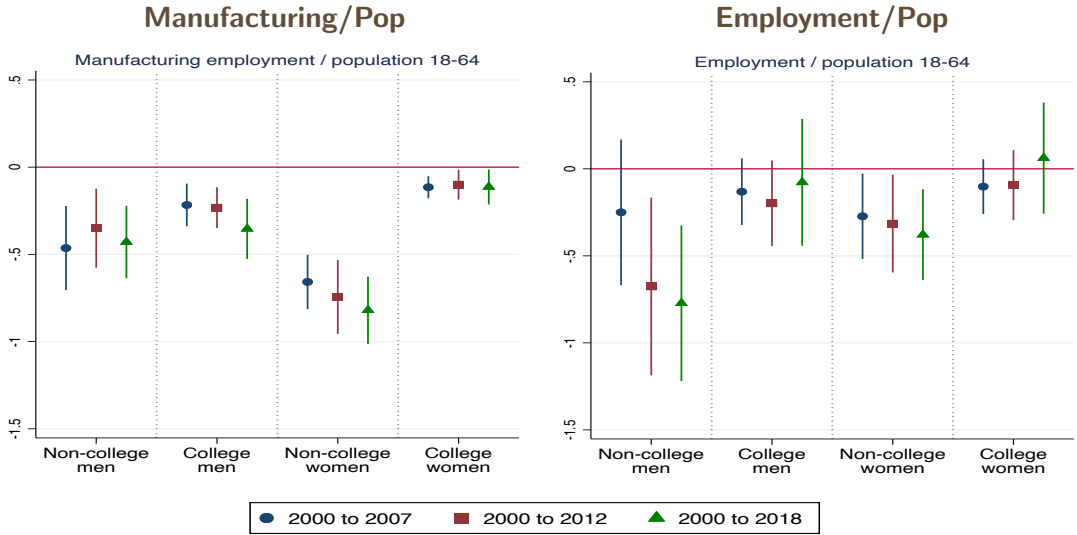
Trade shock caused falling employment, concentrated among prime-age men



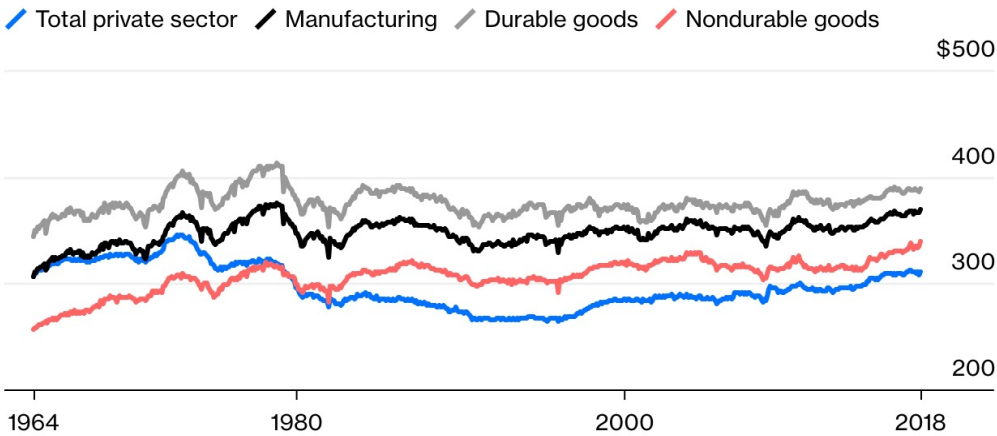
Employment losses larger among prime-age men

Autor, Dorn, Hanson, 2019

Manufacturing job losses displace workers of both sexes – but overall employment drop concentrated among non-college men



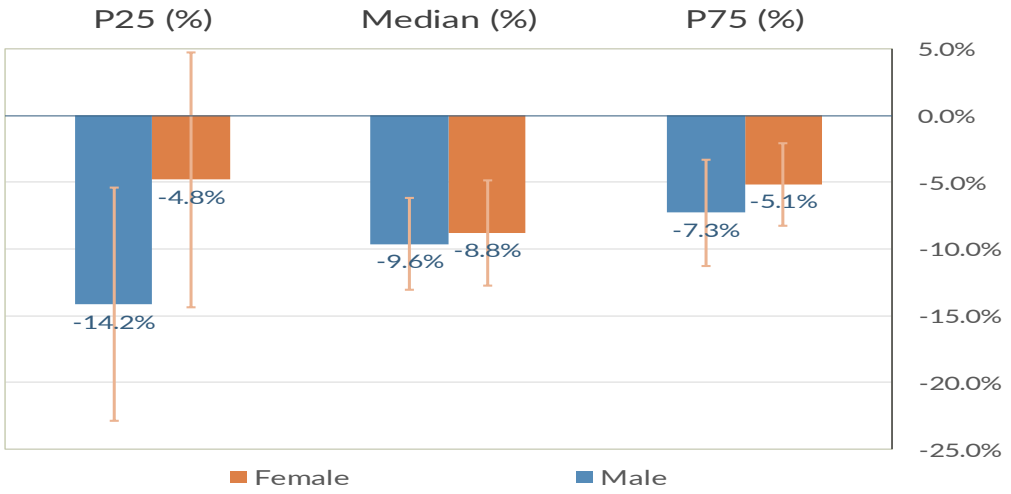
Manufacturing workers in the U.S. have relatively high weekly earnings



Source: U.S. Bureau of Labor Statistics
Seasonally adjusted. Note that the y-axis does not go to zero.

Average hourly earnings of production and nonsupervisory employees

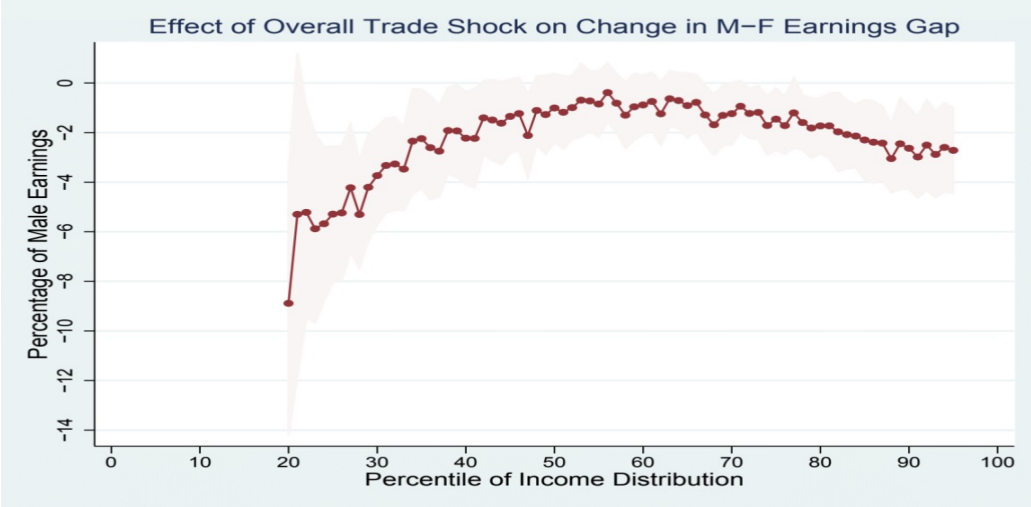
A drop in relative wages of men below the median of the distribution



Relative earnings decline among lower-wage men

Autor, Dorn, Hanson, 2019

Trade shock caused large drop in earnings, especially among lower-wage men



Earnings declines concentrated among lower-wage men

Autor, Dorn, Hanson, 2019

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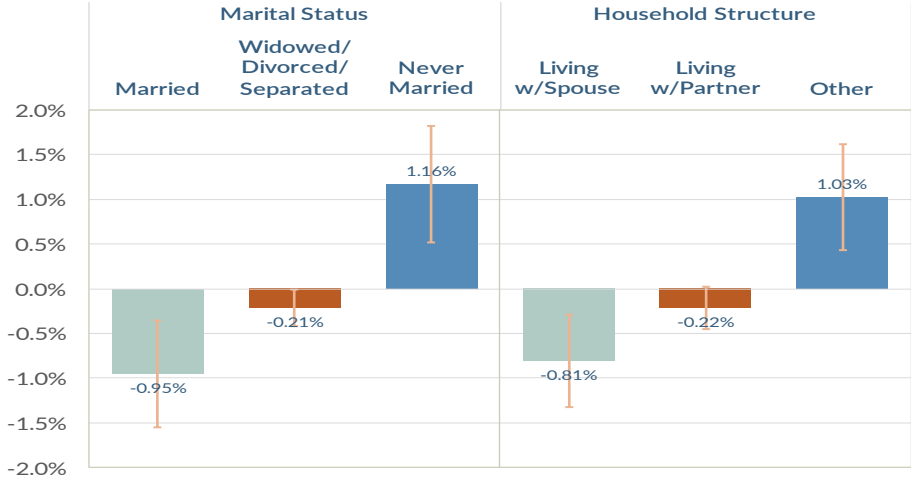
William Julius Wilson, writing about U.S. inner cities 25 years ago

A neighborhood in which people are poor but employed is different from a neighborhood in which people are poor and jobless. Many of today's problems in the inner-city ghettos—crime, family dissolution, welfare, low levels of social organization, and so on—are fundamentally a consequence of the disappearance of work

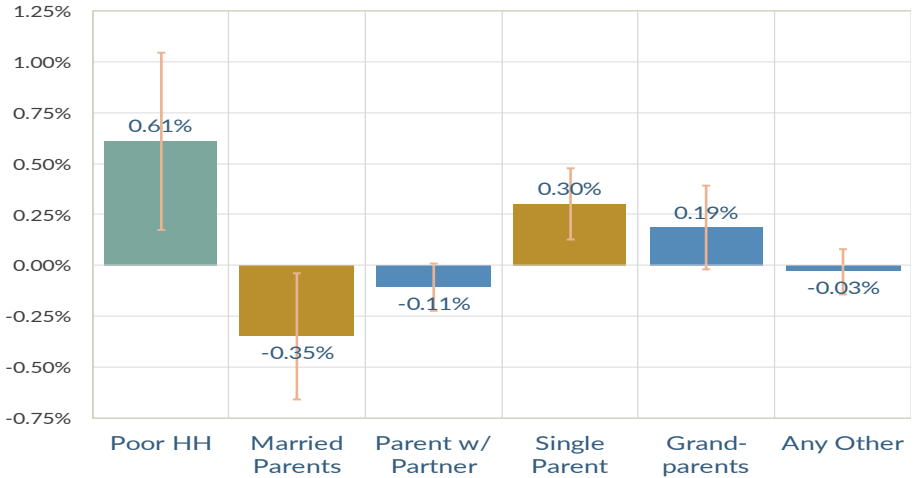
William Julius Wilson, *When Work Disappears*, 1996

The trade shock spurred a fall in marriages in trade-exposed CZs



Causal effect on fraction married or living with spouse, women ages 18-39

Spurred rise in % of children <18 living in poverty, non-married households



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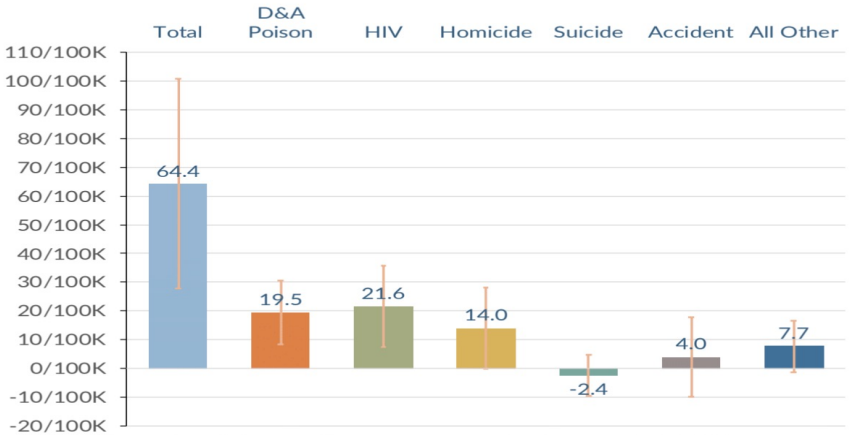
Autor, Dorn, Hanson, 2019

Spurred an increase in what Case & Deaton call 'deaths of despair'



Mean decadal mortality among ages 20-39 over 1990-2015:
Men 1,645/100K, Women 709/100K, M-F gap 936/100K

Causal effect on mortality per 100K among adults Ages 20 – 39

Autor, Dorn, Hanson, 2019

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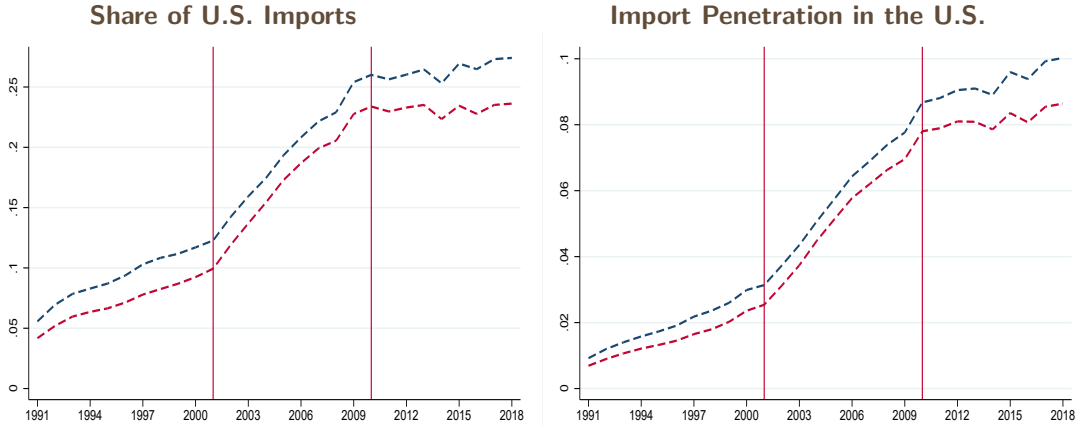
Why were the shock's impacts so long lasting?

1. **The shock never really ended, it just relocated to Vietnam**
   - Unsupported: Evidence indicates shock plateaued after 2010
2. Labor regulations impeded moving workers into new lines of activity
   - Unlikely: Most impacted CZs were in right-to-work states (Chan 2019)
3. A dearth of human capital kept CZs from attracting new industries
   - Split CZs according to supply of college workers (Bloom et al. 2019)
4. Specialization in footloose industries left CZs exposed to shocks
   - Split CZs according to industry specialization (Eriksson et al. 2019)
5. The U.S. labor market is uniquely dysfunctional
   - Compare cross-country impacts using comparable metrics (Dorn & Levell 2021)

Including Cambodia, Indonesia, Laos, Myanmar, Philippines, Vietnam does not change the picture: The China shock has plateaued



Autor, Dorn, Hanson 2021

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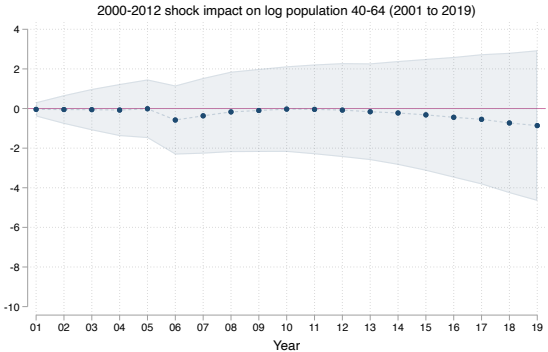
Out-migration response small, concentrated among young adults

Precise negative impacts only for those ages 25 to 39

Log population ages 40–64



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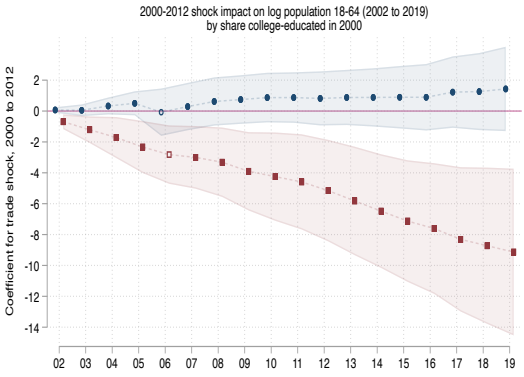
Top 20 most trade-impacted CZs, 2000-2019, were primarily less-educated

	Values in 2000			Trade Shock	
Commuting Zone	Population (000s)	Manuf. share of employment (%)	BA degree share of pop. 18-64 (%)	Change in import penetration (ppt), 2000-2012	Impact on log personal income per capita, 2000-2019
Sioux City, IA-NE-SD	187.6	27.0	18.8	6.10	-7.89
Union County, MS	54.4	50.1	15.2	5.41	-6.84
Meridian, MS	156.9	26.5	13.3	5.09	-6.37
Hutchinson, MN	73.0	41.5	16.2	4.43	-5.36
North Hickory, NC	377.5	43.0	15.6	4.40	-5.32
Tupelo, MS	198.1	43.7	14.4	4.18	-4.99
Martinsville, VA	19.4	47.4	11.6	3.94	-4.62
Carroll County, VA	27.5	45.1	10.4	3.80	-4.40
Lynchburg, VA	112.4	26.9	18.5	3.74	-4.32
West Hickory, NC	165.1	49.9	12.9	3.70	-4.25
Henderson County, TN	44.9	45.9	9.7	3.58	-4.07
Crossville, TN	104.5	35.6	11.5	3.45	-3.88
Raleigh-Cary, NC	1420.0	17.0	34.2	3.42	-3.84
Cleveland, TN	203.7	39.9	12.4	3.20	-3.50
McMinnville, TN	84.5	48.9	10.4	3.19	-3.48
Faribault-Northfield, MN	110.1	32.9	20.2	3.16	-3.43
St. Marys, PA	41.0	54.7	13.2	3.13	-3.40
Danville, KY	86.7	38.3	16.6	3.01	-3.21
Quincy, IL-MO	152.3	23.8	16.1	2.97	-3.15
Greene County, GA	35.5	41.1	13.4	2.84	-2.96
Fort Wayne, IN	558.4	29.2	18.4	2.83	-2.94
Huntsville, AL	521.4	25.5	24.6	2.75	-2.82

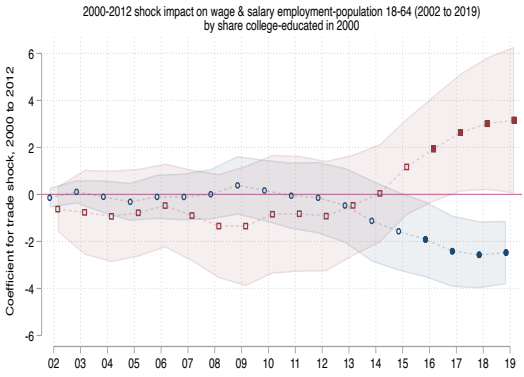
Autor, Dorn, Hanson, 2021

Population loss, employment rebound were both faster in more-educated CZs

Log working-age population



Working-Age Employment/Population



Below median college graduate share

Above median college graduate share

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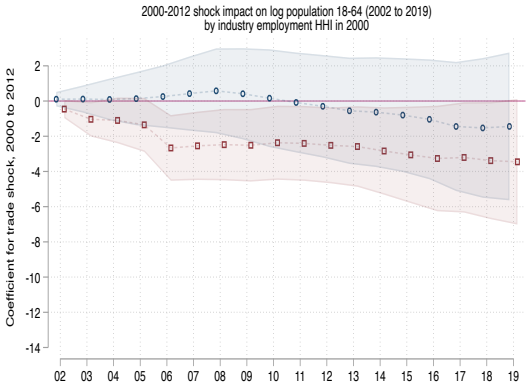
Negative employment impacts (a bit) larger in CZs that were highly specialized

Log working-age population



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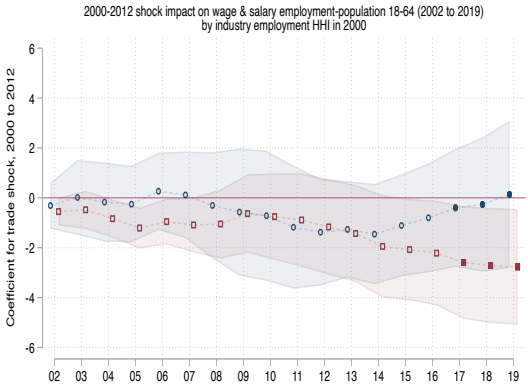

Below median industry specialization

Above median industry specialization

Autor, Dorn, Hanson 2021

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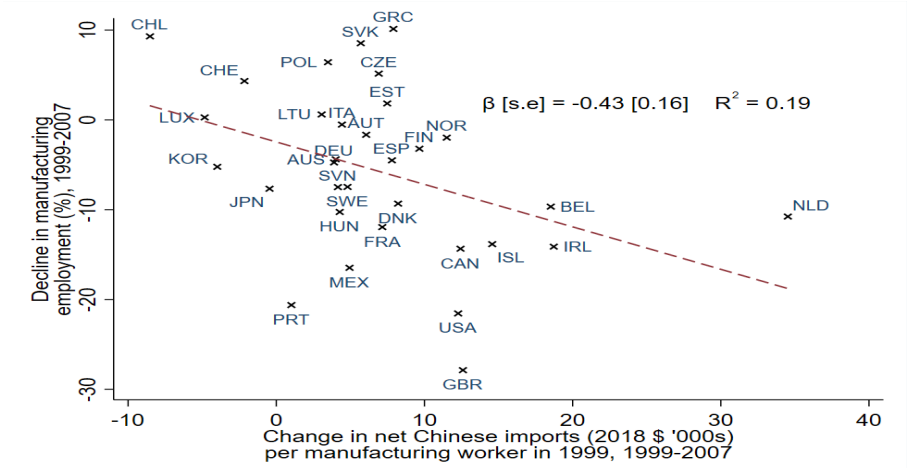
Is the U.S. labor market uniquely dysfunctional? Actually, no

Change in manufacturing employment/population vs. change in Chinese import competition in OECD countries, 1999–2007



Dorn & Levell, 2021

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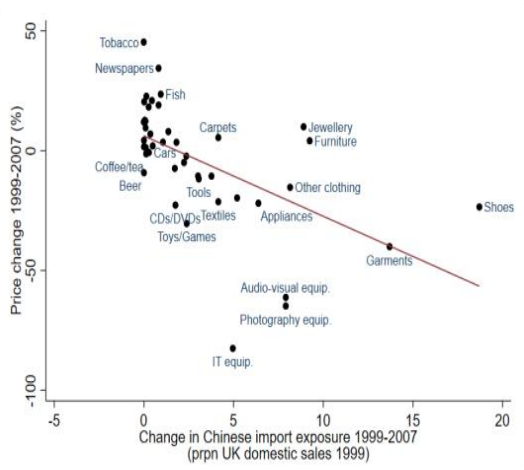
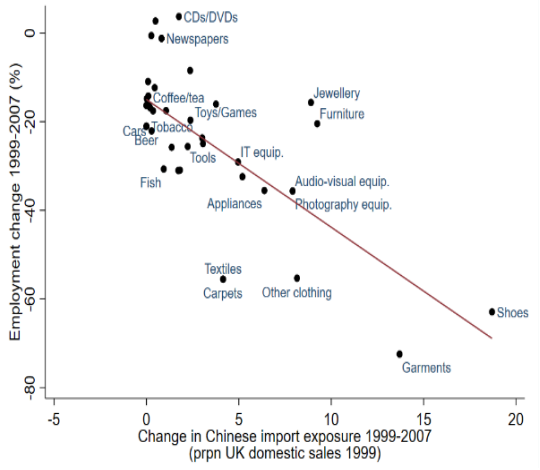
The price and employment impacts of the China trade shock are closely related

Changes in Chinese import exposure, prices, & employment in U.K. 1999–2007

△ Prices



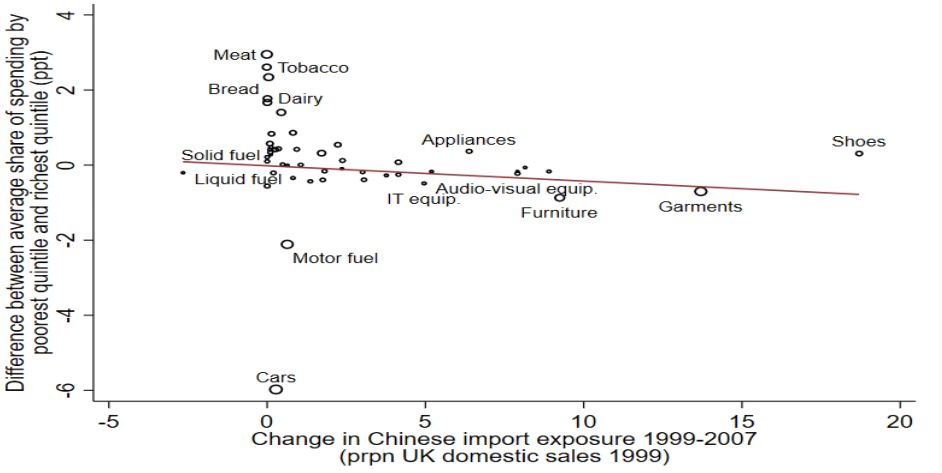
△ Employment



Dorn & Levell, 2021

The price effects of Chinese import competition did not favor the poor

Difference in spending by poor and rich UK households in 2001 vs. change in Chinese import exposure, 1999-2007



Dorn & Levell, 2021

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- To interpret cross-region differences in welfare impacts, theoretical models require *frictions* that produce the concentrated geographic impacts
- Most models assume *labor market frictions*

Counterfactual Analysis of China Shock, 2000–2007: Modest regional impacts

- **Caliendo et al '19: costly labor mobility**
  - Estimate mobility elasticity υ from E $\left[\ln \mu_t^{j,k}/\mu_t^{j,j} | \ln w_{t+1}^k/w_{t+1}^j\right]$
  - $\%\boldsymbol{\Delta}\bar{\mathbf{W}}\,(\mathbf{std.\,dev.}) = \mathbf{0.20}\,(\mathbf{0.09})$ **in long run (12 years)**
- **Galle et al '20: specific factors**
  - Estimate labor specificity κ from E $[\ln \hat{y}_j | \ln \hat{\pi}_{jNM}]$
  - $\%\boldsymbol{\Delta}\bar{\mathbf{W}}\,(\mathbf{std.\,dev.}) = \mathbf{0.22}\,(\mathbf{0.25})$, **similar w/ home prod., unemploy.**
- **Adão et al '20: agglomeration effects**
  - Estimate agglom, employ elasticities ψ, ϕ from E $\left[\ln \hat{w}_j, \ln \hat{L}_j | \hat{\eta}_j^P, \hat{\eta}_j^C\right]$
  - $\%\boldsymbol{\Delta}\bar{\mathbf{W}}\,(\mathbf{std.\,dev.}) = \mathbf{0.16}\,(\mathbf{1.75})$
- **Related work:**
  - Rodriguez-Clare et al '20: Downward nominal wage rigidities
  - Kim & Vogel '20: Non-pecuniary losses from unemployment

An illustrative calculation: Galle, Rodríguez-Clare, Yi '20

Change in welfare for region i of US is product of standard ACR component and new Roy-Fréchet component (where $\hat{x} \equiv x_1/x_0$)

$$\hat{W}_i = \frac{\hat{Y}_i}{\hat{L}_i} \prod_j \hat{P}_j^{-\beta_j} = \prod_j \hat{\lambda}_j^{-\beta_j/\theta} \prod_j \hat{\pi}_{ij}^{-\beta_j/\kappa}$$

- $\hat{W}_i =$ change in real income in region i
- $\hat{P}_j =$ change in product price for industry j
- $\beta_j =$ Cobb-Douglas expenditure share for industry j
- $\hat{\lambda}_j =$ change in US expenditure share on its own j goods
- $\hat{\pi}_{ij} =$ change in employment share of industry j in region i

Relative Changes in CZ Welfare

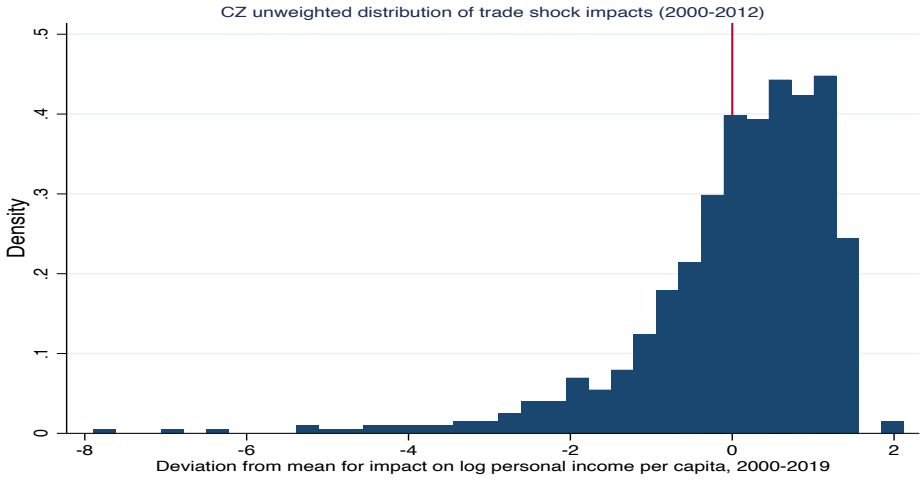
Trade-shock induced change in welfare for CZ i (conditional on controls) relative to the population-weighted US mean:

$$\ln \hat{W}_i - \sum_h s_h \ln \hat{W}_h = \ln \hat{y}_i - \sum_h s_h \ln \hat{y}_h$$
$$= \tilde{\beta}_{y\tau} \Delta \widetilde{IP}^{cu}_{i\tau} - \sum_h s_h \tilde{\beta}_{y\tau} \Delta \widetilde{IP}^{cu}_{h\tau}$$

- $s_i =$ initial share of CZ i in US population
- $\hat{y}_i =$ trade-shock induced change in income per capita in CZ i
- $\tilde{\beta}_{y\tau} =$ estimated impact coefficient for $\ln y$ over time interval τ
- $\Delta \widetilde{IP}^{cu}_{i\tau} =$ exogenous component of trade shock for CZ i (observed trade shock $\times$ $\hat{\beta} \times$ adj. R^2 in 1^{st} stage regression)

Trade-shock-induced variance in △ income per capita

Unweighted distribution of CZ changes (deviation from pop.-weighted mean)



Note: Wted (unwted) std. dev. of shock impact: 1.35 (0.89); $N = 722$, 36 bins.

What these calculations imply

Cross-CZ variance of gross losses 2000–2019 is enormous

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3. If we double gains to 0.44%, 173 commuting zones lost (15.9% of U.S. pop)
4. Alternatively: Jaravel and Sager 2019 imply induced price falls of 1.25%. If so, 82 CZs suffered welfare losses (7% of U.S. pop)

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Cross-CZ variance of gross losses 2000–2019 is enormous

- SD of trade shock impacts on personal income per capita is 1.22%
- Far exceeds the cross-CZ income dispersion generated by quantitative models

What fraction of CZs/residents experienced net welfare losses?

1. In Caliendo et al 2019, Galle et al 2020, aggregate gains from trade are $\leq 0.22\%$
2. Adding in gross losses above, 223 CZs suffered net losses (32.8% of U.S. pop)
3. If we double gains to 0.44%, 173 commuting zones lost (15.9% of U.S. pop)
4. Alternatively: Jaravel and Sager 2019 imply induced price falls of 1.25%. If so, 82 CZs suffered welfare losses (7% of U.S. pop)

Clearly, the trade shock created both winners & losers

- Contemporary trade models don't (yet) capture this slow regional adjustment

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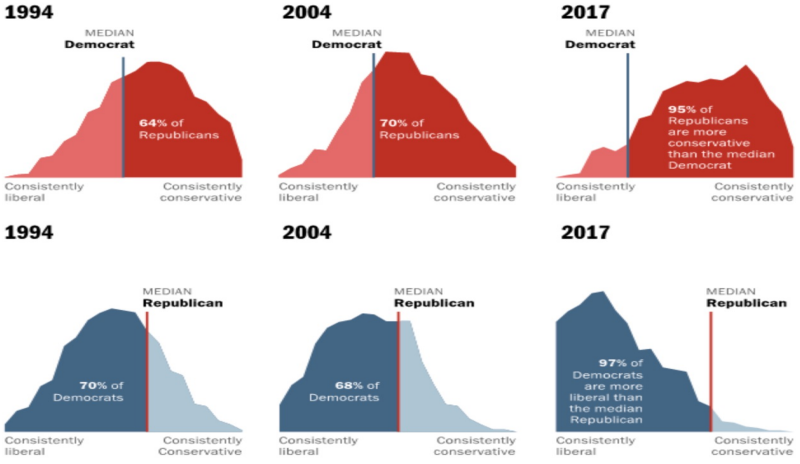
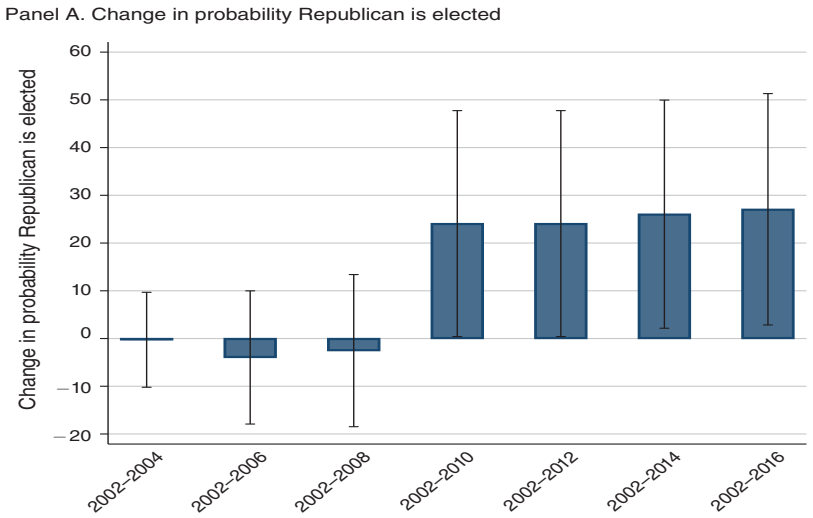
U.S. electorate has become historically politically polarized

Political Polarization: Distribution of Republicans and Democrats on a 10-item scale of political values



Pew Resaerch, 2017

Did the China trade shock contribute to polarization?
Trade shock exposure raises odds that Republican candidates win House seats



Autor, Dorn, Hanson, Majlesi 2020

‘Undoing’ the China trade shock: Counterfactual effect on Trump 2016 vote

	Actual Republican Margin	
	Votes	*% Margin*
Georgia	215,380	(5.28%)
Arizona	84,904	(4.12%)
North Carolina	177,009	(3.78%)
Florida	119,489	(1.27%)
Pennsylvania	73,224	(1.24%)
Wisconsin	24,081	(0.81%)
Michigan	13,107	(0.27%)
New Hampshire	-2,687	(-0.37%)
Minnesota	-43,783	(-1.49%)
Electoral Votes Trump	306	
Electoral Votes Clinton	232	

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‘Undoing’ the China trade shock: Counterfactual effect on Trump 2016 vote

	Actual Republican Margin		*If Chinese Import Growth were 10% Smaller*	
	Votes	*% Margin*	*Votes*	*% Margin*
Georgia	215,380	(5.28%)	202,810	(4.97%)
Arizona	84,904	(4.12%)	77,860	(3.78%)
North Carolina	177,009	(3.78%)	141,689	(3.03%)
Florida	119,489	(1.27%)	100,727	(1.07%)
Pennsylvania	73,224	(1.24%)	52,630	(0.89%)
Wisconsin	24,081	(0.81%)	11,067	(0.37%)
Michigan	13,107	(0.27%)	-3,979	(-0.08%)
New Hampshire	-2,687	(-0.37%)	-6,830	(-0.94%)
Minnesota	-43,783	(-1.49%)	-54,009	(-1.84%)
Electoral Votes Trump	306		290	
Electoral Votes Clinton	232		248	

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	Actual Republican Margin		*If Chinese Import Growth were 10% Smaller*		*If Chinese Import Growth were 25% Smaller*	
	Votes	*% Margin*	*Votes*	*% Margin*	*Votes*	*% Margin*
Georgia	215,380	(5.28%)	202,810	(4.97%)	183,956	(4.51%)
Arizona	84,904	(4.12%)	77,860	(3.78%)	67,295	(3.27%)
North Carolina	177,009	(3.78%)	141,689	(3.03%)	88,708	(1.89%)
Florida	119,489	(1.27%)	100,727	(1.07%)	72,584	(0.77%)
Pennsylvania	73,224	(1.24%)	52,630	(0.89%)	21,739	(0.37%)
Wisconsin	24,081	(0.81%)	11,067	(0.37%)	-8,455	(-0.28%)
Michigan	13,107	(0.27%)	-3,979	(-0.08%)	-29,608	(-0.61%)
New Hampshire	-2,687	(-0.37%)	-6,830	(-0.94%)	-13,045	(-1.80%)
Minnesota	-43,783	(-1.49%)	-54,009	(-1.84%)	-69,347	(-2.36%)
Electoral Votes Trump	306		290		280	
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	Actual Republican Margin		*If Chinese Import Growth were 10% Smaller*		*If Chinese Import Growth were 25% Smaller*		*If Chinese Import Growth were 50% Smaller*	
	Votes	*% Margin*	*Votes*	*% Margin*	*Votes*	*% Margin*	*Votes*	*% Margin*
Georgia	215,380	(5.28%)	202,810	(4.97%)	183,956	(4.51%)	152,531	(3.74%)
Arizona	84,904	(4.12%)	77,860	(3.78%)	67,295	(3.27%)	49,685	(2.41%)
North Carolina	177,009	(3.78%)	141,689	(3.03%)	88,708	(1.89%)	407	(0.01%)
Florida	119,489	(1.27%)	100,727	(1.07%)	72,584	(0.77%)	25,679	(0.27%)
Pennsylvania	73,224	(1.24%)	52,630	(0.89%)	21,739	(0.37%)	-29,746	(-0.50%)
Wisconsin	24,081	(0.81%)	11,067	(0.37%)	-8,455	(-0.28%)	-40,991	(-1.38%)
Michigan	13,107	(0.27%)	-3,979	(-0.08%)	-29,608	(-0.61%)	-72,324	(-1.49%)
New Hampshire	-2,687	(-0.37%)	-6,830	(-0.94%)	-13,045	(-1.80%)	-23,404	(-3.22%)
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Autor, Dorn, Hanson, Majlesi 2020

China shock is only one catalyst for polarization

Evidence that multiple economic shocks catalyze political polarization

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- *A paradox*

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Identity and economic vs. cultural cleavages: Bonomi, Gennaioli, Tabellini '21

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- (See also Gross and Helpman '21: Identity politics and trade policy)

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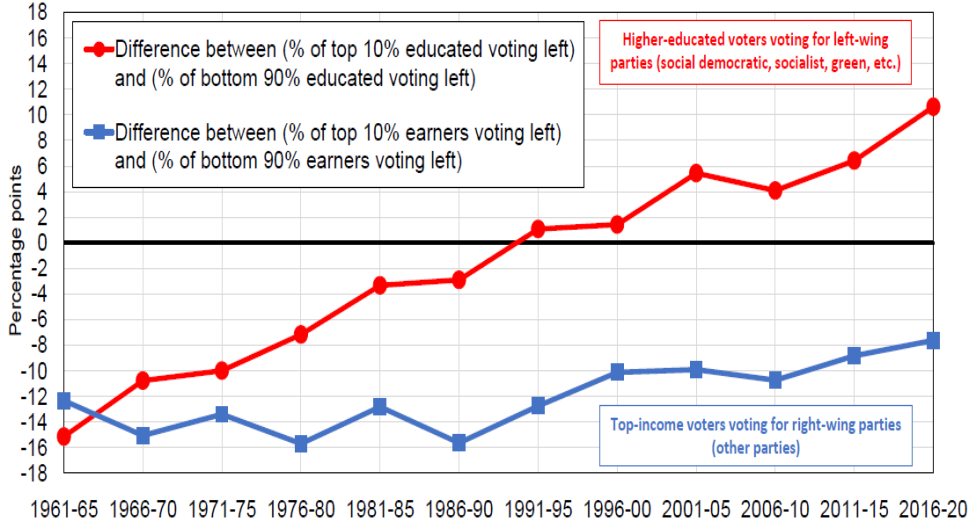
Taking a further step back

- This political realignment has been percolating for decades (Gethin, Martínez-Toledano, Piketty '21)
- Historically, low-income voters leaned left, high-income voters leaned right
- Increasingly, a multi-elite world
  1. High-education elites lean left, even though they are also high-income elites
  2. Low-income voters increasingly drawn to right-leaning, anti-immigrant parties
  3. High income non-educational elites continue to lean right, as always

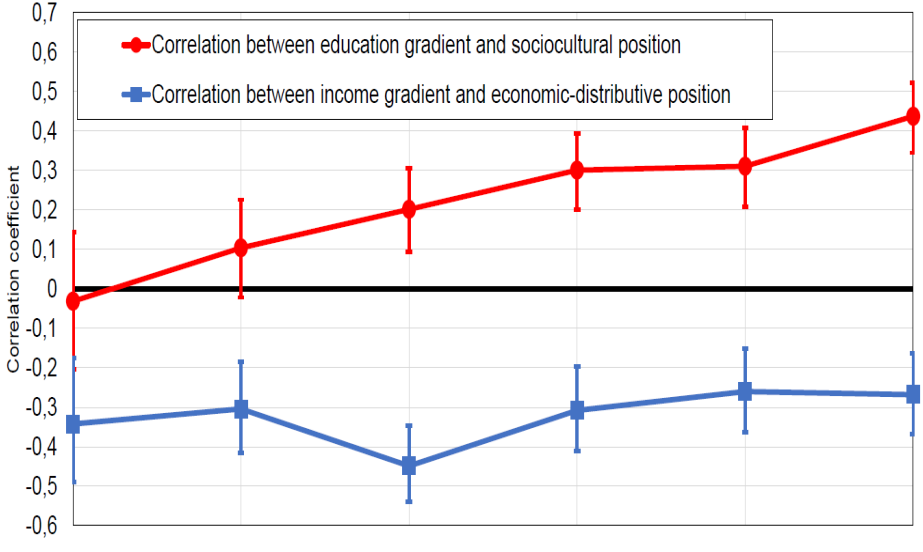
This political realignment has been slowly percolating for decades

High-educated voters realigning left, High-income voters remain on the right



Gethin, Martínez-Toledano, Piketty 2021

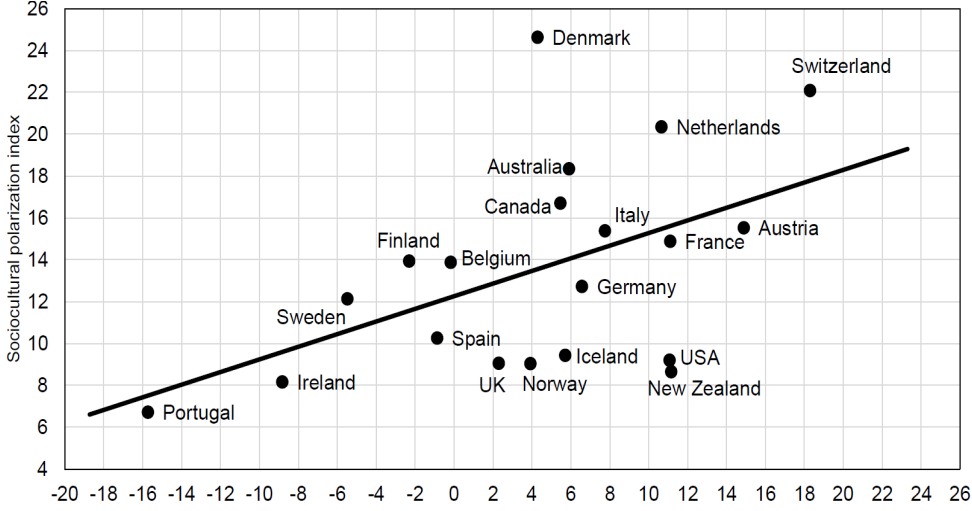
Increasing leftward-lean of educated elites



Gethin, Martínez-Toledano, Piketty 2021

Where educated voters are more left-leaning, polarization appears greater

More polarization in countries where educated voters are more left-aligned



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   - *Scale of the shock, concentration of the shock in space and time* (eg, relative to more spatially diffuse impacts of automation)
   - *Concentration of shock on specialized regions without skilled labor* (which may portend impacts of ongoing energy transformation)
   - *Underappreciated barriers to labor mobility: housing, family, age/skill* (which may be compounded by barriers to capital mobility)

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3. **Can economic remedies relieve these social and cultural pressures?**
   - *Not at all clear that the effects are reversible*
   - *A hope: Could better economic & social protections limit future damage?*

Thank you