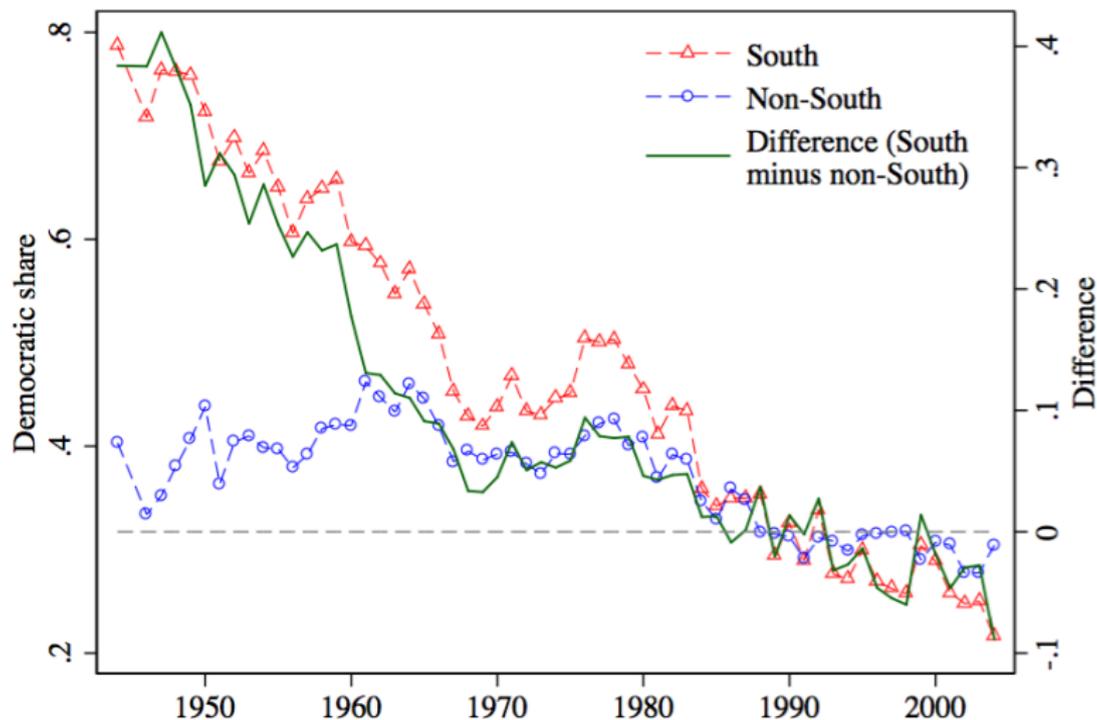


The effect of free-trade agreements on local employment and politics: Evidence from NAFTA

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September 11, 2020

Share of whites identifying as Democrats, by region



*We have got to stop sending jobs overseas. It's pretty simple: If you're paying \$12, \$13, \$14 an hour for factory workers and you can move your factory South of the border, pay a dollar an hour for labor, ... have no health care ... have no environmental controls, no pollution controls and no retirement, and you don't care about anything but making money, there will be a **giant sucking sound**.*

Ross Perot
1992 Second Presidential Debate

*NAFTA is the **worst trade deal maybe ever** signed
anywhere, but certainly ever signed in this country,*

Donald Trump
2016 Second Presidential Debate

Review of the literature

Local effects of China shock

Local Economic Effects of China Shock

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- Autor et al. (2013, 2016) employ 1990 and 2007 CZ data and model employment impacts as a function of Chinese imports and find the shock can account for one-quarter of decline in manufacturing.

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- Bloom et al. (2019) find that employment shifted from manufacturing to services and from heartland to coasts through 2007.

Review of the literature

Local effects of China shock

Local Political Effects of China Shock

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Local effects of China shock

Local Political Effects of China Shock

- Autor et al. (2017, 2020): Using a variety of outcomes (Fox news, donations, House winners and Presidential elections) finds that China shock leads to a rightward shift as well as increased polarization.

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Local Political Effects of China Shock

- Autor et al. (2017, 2020): Using a variety of outcomes (Fox news, donations, House winners and Presidential elections) finds that China shock leads to a rightward shift as well as increased polarization.
- Che et al. (2017) uses a longer time frame, counties, permanent normal trade relations as identification, finds House vote share shifts to the left

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Less work than on China shock.

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- Hakobyan and McLaren (2016) use 1990 and 2000 consumption data and model employment impacts by geography and by industry
- Presidential incumbents more vulnerable in areas with more low-skilled manufacturing employees, 1992-2012 (Jensen et al. 2017) and with trade-related layoffs, 2000-4 (Margalit 2011)

Our approach

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- Annual data and an event-study style design allow us to then plot how *vulnerability* predicts local outcomes from the 1980s onward and assess if any break occurs in 1994.
- For political outcomes we are able to move beyond county-level outcomes with the use of individual-level cross-sectional and panel data.

Economics

Preview of results

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Economics

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- Disability applications increase by about 10 log points.

Politics

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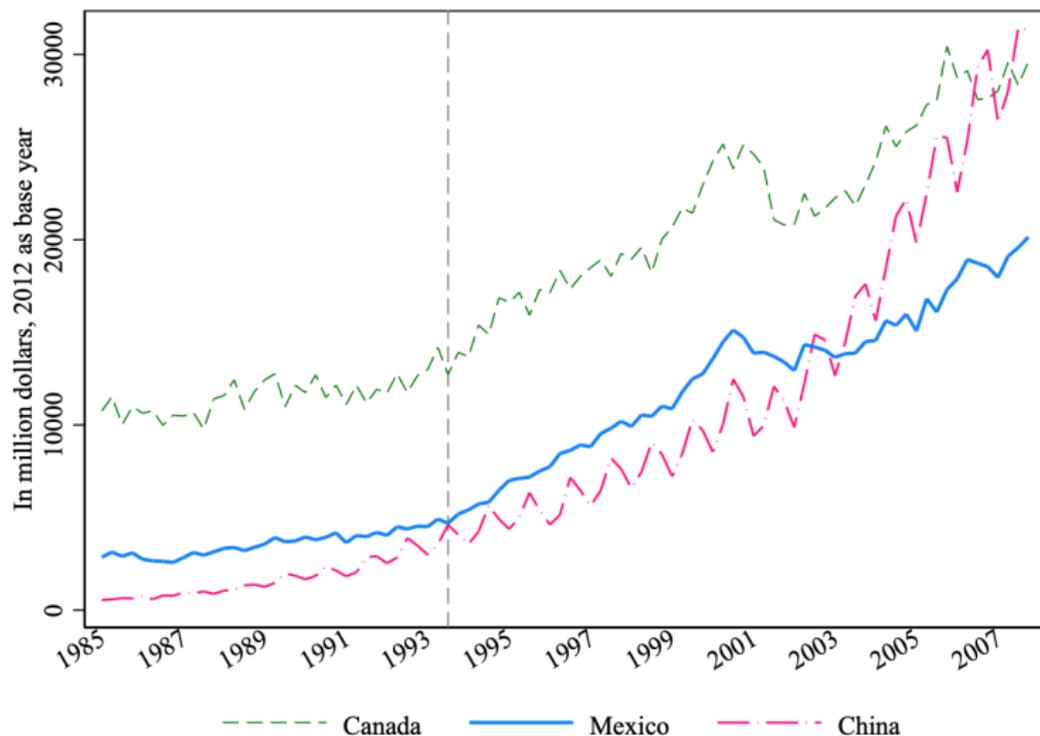
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- Survey data indicate that protectionist sentiment predicts *Democratic* party ID from 1986-1992, but the relationship disappears between 1992-1996, consistent with NAFTA as a key event shifting protectionist voters rightward.
- Zeroing in on the 1992-94 period, protectionists sentiment in 1992 predicts party ID shifts in the Republic direction between 1992 and 1994.

US imports from Canada, China, and Mexico

Background



Lead up to Nafta

Background

- A North-American Free-Trade Zone was a bipartisan goal of U.S. policymakers since the 1970s.
- By 1990, Bush administration diplomats as well as those from Canada and Mexico were drawing close to a deal, making NAFTA an important issue in the 1992 presidential election and Ross Perot's presidential campaign.

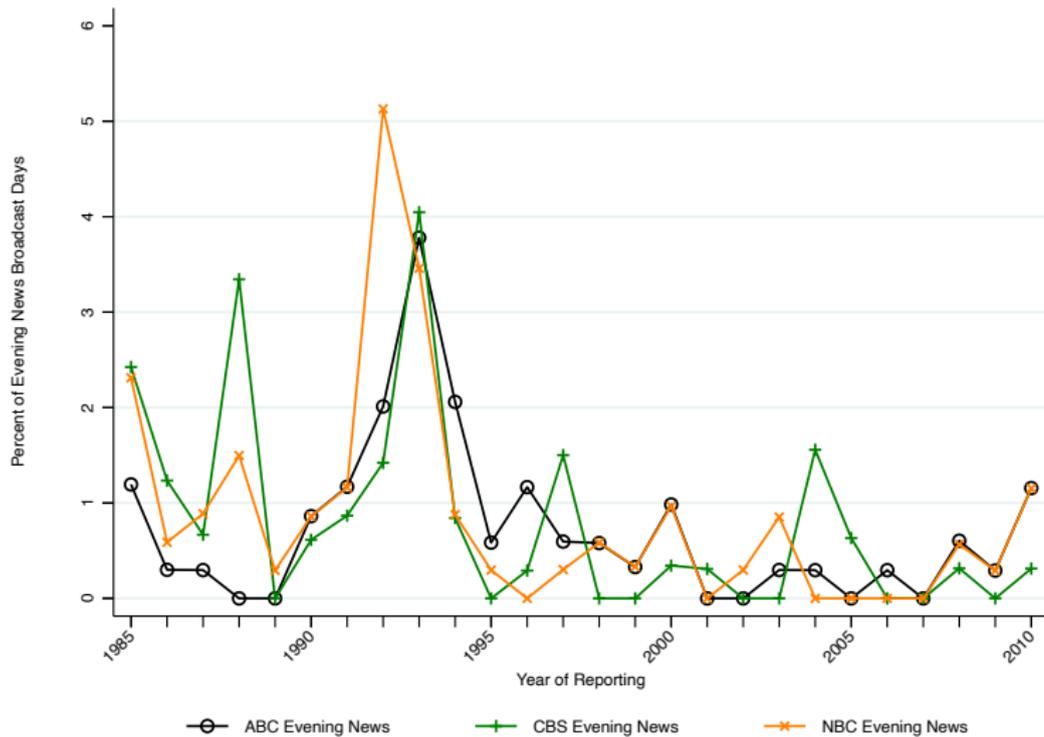
Lead up to Nafta

Background

- Independent Ross Perot, makes opposition to NAFTA a cornerstone of his presidential campaign and wins 19 percent of the popular vote.
- Bill Clinton wins the election and makes pushing NAFTA through Congress an early goal.
- NAFTA passes in November 1993 by bipartisan vote with more Democrats against than for and the opposite for the Republicans.

Coverage of Trade and Employment

Background



What did NAFTA do?

Background

- US Canada trade largely tariff free, so largest impacts for US were with Mexican trade
- With implementation in January 1994, one-half of the tariffs on Mexican imports were eliminated immediately, with the rest put on a phase-out schedule.
- Key U.S. industries that lost protection from Mexican imports: Apparel, Footwear, Textile mills, Structural clay.

Defining local labor market vulnerability to NAFTA

Data and Methodology

RCA^j , the revealed comparative advantage of the industry j , measures how much Mexico exports good j compared to the Mexico's share among total exports in 1990 :

$$RCA^j = \frac{\left(x_{j,1990}^{MEX} / x_{j,1990}^{ROW} \right)}{\left(\sum_i x_{i,1990}^{MEX} / \sum_i x_{i,1990}^{ROW} \right)}$$

Defining local labor market vulnerability to NAFTA

Data and Methodology

Local labor market r 's vulnerability to NAFTA in 1990 is

$$\text{Vulnerability}_{r,1990} = \frac{\sum_{j=1}^J L_{1990}^{rj} \text{RCA}^j \tau_{1990}^j}{\sum_{j=1}^J L_{1990}^{rj} \text{RCA}^j}$$

- L_{1990}^{rj} is employment of industry j in location r in year 1990
- τ_{1990}^j is the ad-valorem equivalent tariff rate of industry j in 1990

County vulnerability index

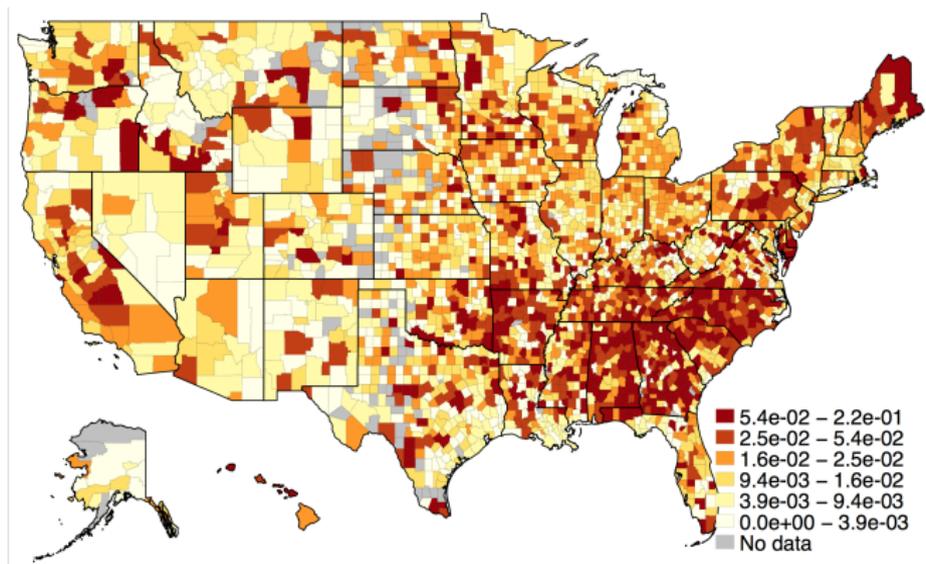
Data and Methodology

Key Characteristics of County Vulnerability Measure

- Constant across time
- Highly correlated with the change in vulnerability
- Approach exploits sharp statutory change

County vulnerability index in 1990

Data and Methodology



	mean	sd	min	max	p5	p10	p25	p50	p75	p90	p95
County vulnerability	.0284503	.0346686	0	.224455	.0005718	.0020738	.0065065	.0162715	.0338317	.0748978	.1050239
N	3025										

Pre-period county characteristics by vulnerability quartile

Data and Methodology

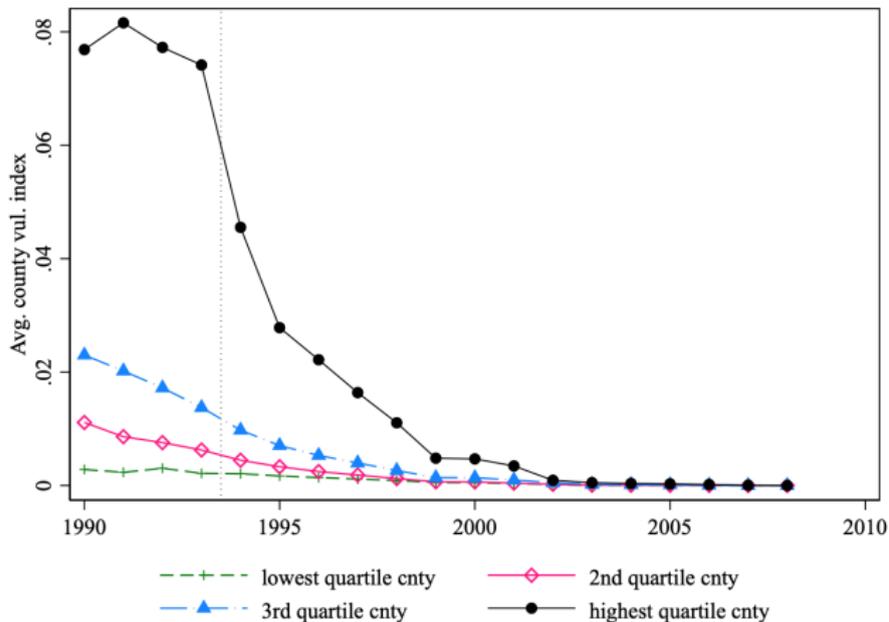
Table: Pre-NAFTA characteristics of counties, by vulnerability

Quartile (lower quartile : less vulnerable)	1	2	3	4
<i>Demographics</i>				
Population (in thousands)	35.388	139.239	103.993	48.041
Household income (in thousands)	23.439	26.261	24.591	22.121
Emp-to-Pop ratio	0.353	0.434	0.428	0.403
Share of white	0.907	0.905	0.904	0.845
Share of manufac. employment	0.085	0.132	0.135	0.175
Share of college grad.	0.132	0.158	0.139	0.113
<i>pre-NAFTA political preference</i>				
Republican house vote share (1980-1988)	0.464	0.478	0.481	0.383
<i>Exposure to Chinese imports</i>				
ADH (2013) China shock measure (IV)	0.756	0.912	1.064	1.596
Number of counties	757	756	755	755

Notes: The table contains average county characteristics by county vulnerability quartiles. The first quartile contains counties with 1990 vulnerability in the bottom 25th percentile, the second quartile between the 25th and the 50th percentile, the third quartile between the 50th and the 75th percentile, and the fourth in the top 25th percentile.

How did tariff-based protection change over time?

Data and Methodology



Methodology

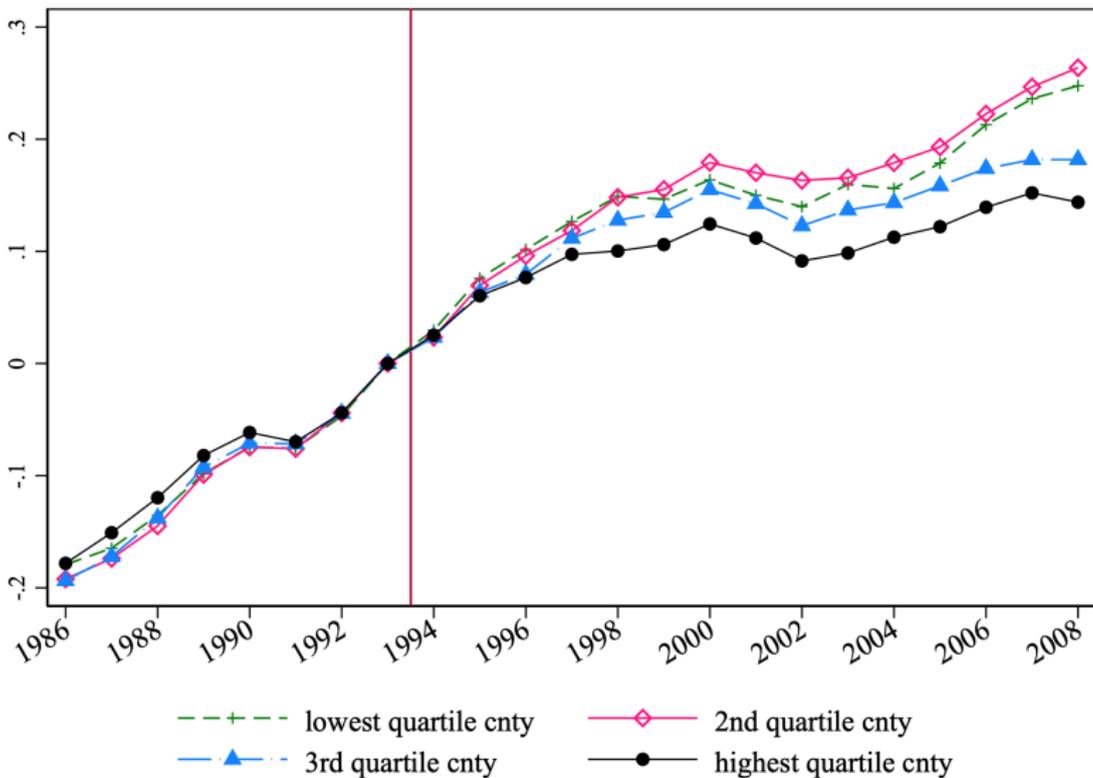
Data and Methodology

$$Y_{ct} = \alpha_c + \gamma_t + \sum_{\tilde{t} \neq 1993} \beta_{\tilde{t}} \left(\text{Vulnerability}_{c,1990} \right) \times * \mathbb{1}(t = \tilde{t}) + \lambda X_{ct} + \epsilon_{ct},$$

- $\text{Vulnerability}_{c,1990}$ is the continuous vulnerability index at c in 1990.
- α_c are county fixed effects
- γ_t are year fixed effects
- X_{rt} include county-year level controls

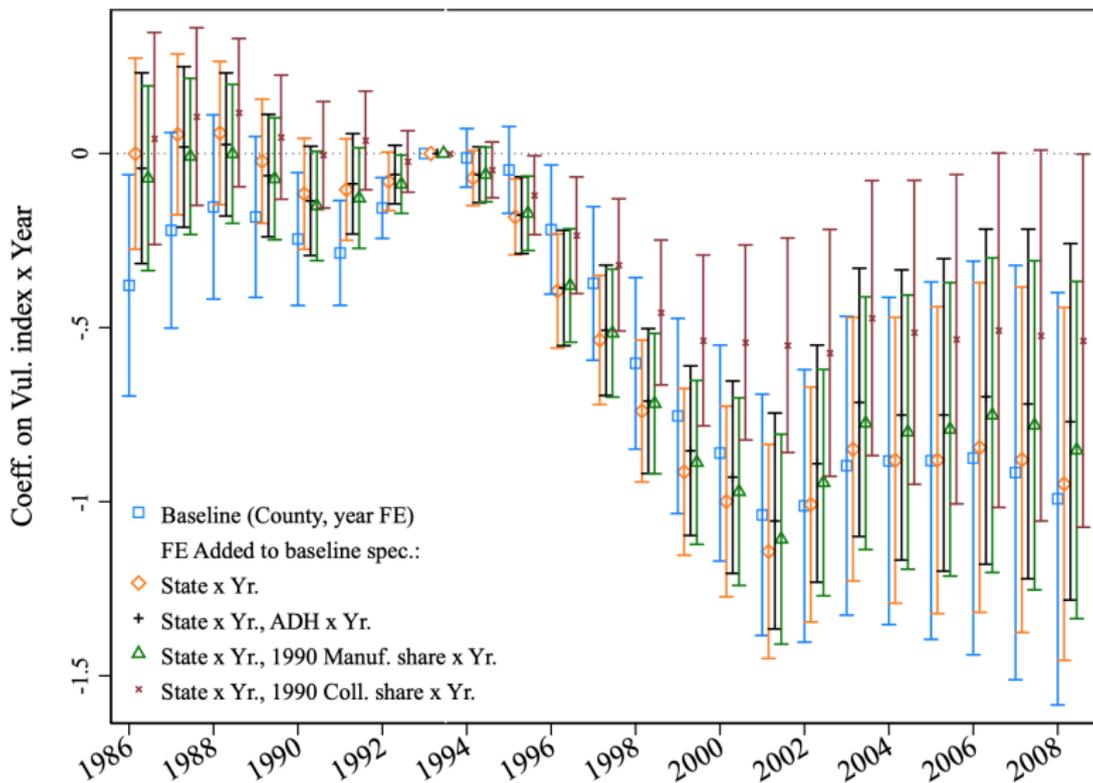
Total log employment (raw-data normalized)

Employment Results



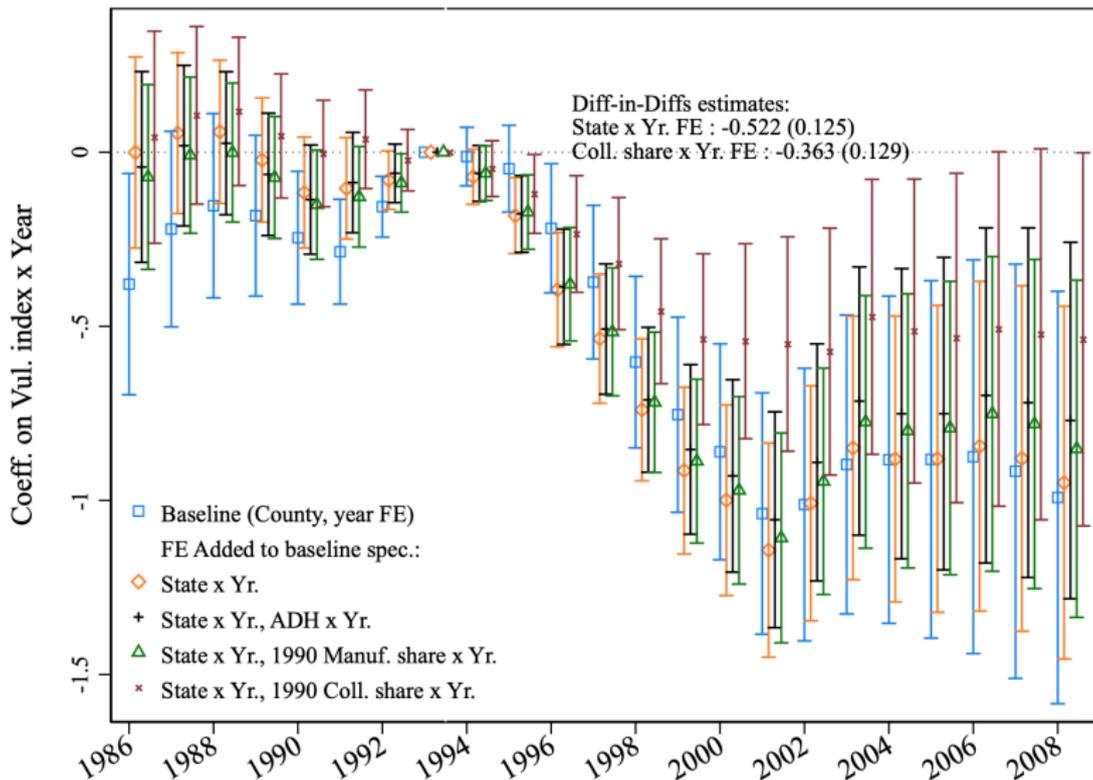
Total log employment (event-study)

Employment Results



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Employment Results



Discussion of magnitudes

Employment Results

- By 2000, the range of coefficients on the vulnerability measure is -1 to -0.6.

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- Recall that places in the top quartile have a vulnerability measure around 0.08 and at the bottom about zero.

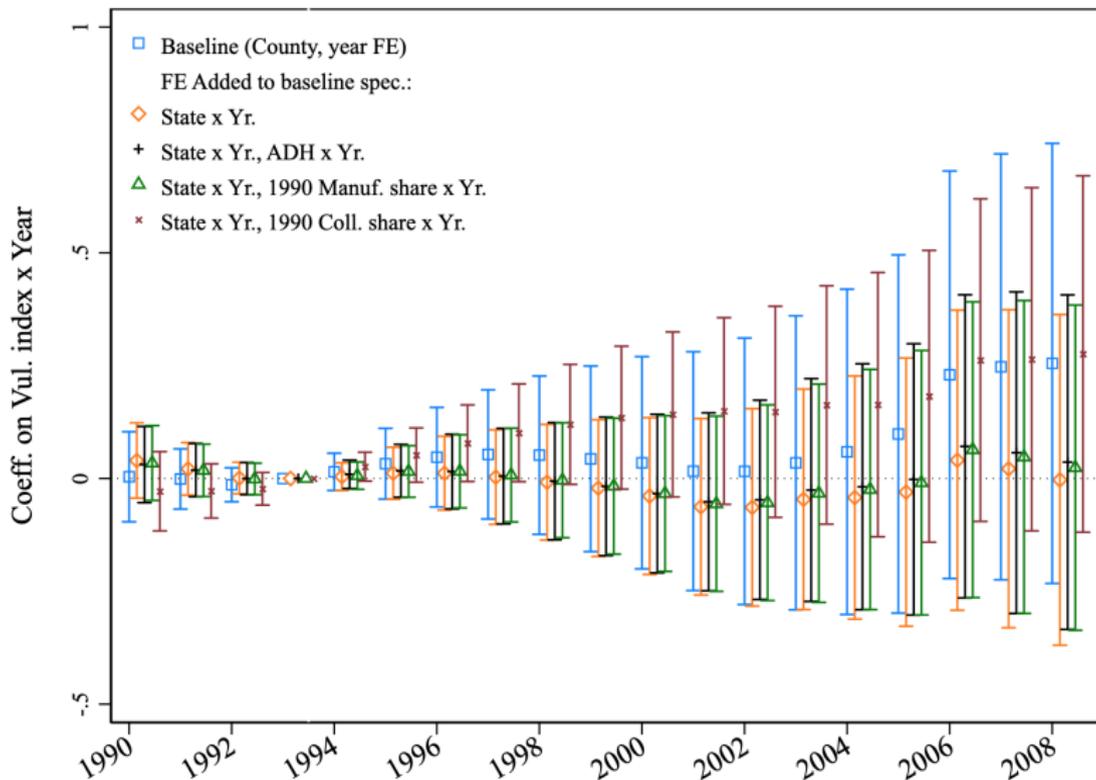
Discussion of magnitudes

Employment Results

- By 2000, the range of coefficients on the vulnerability measure is -1 to -0.6.
- Recall that places in the top quartile have a vulnerability measure around 0.08 and at the bottom about zero.
- So, relative to 1993, counties in the top vulnerability quartile have by 2000 lost between 4.8 and 8 log points of total employment, relative to those in the bottom quartile.

Log population

Employment Results



Migration responses

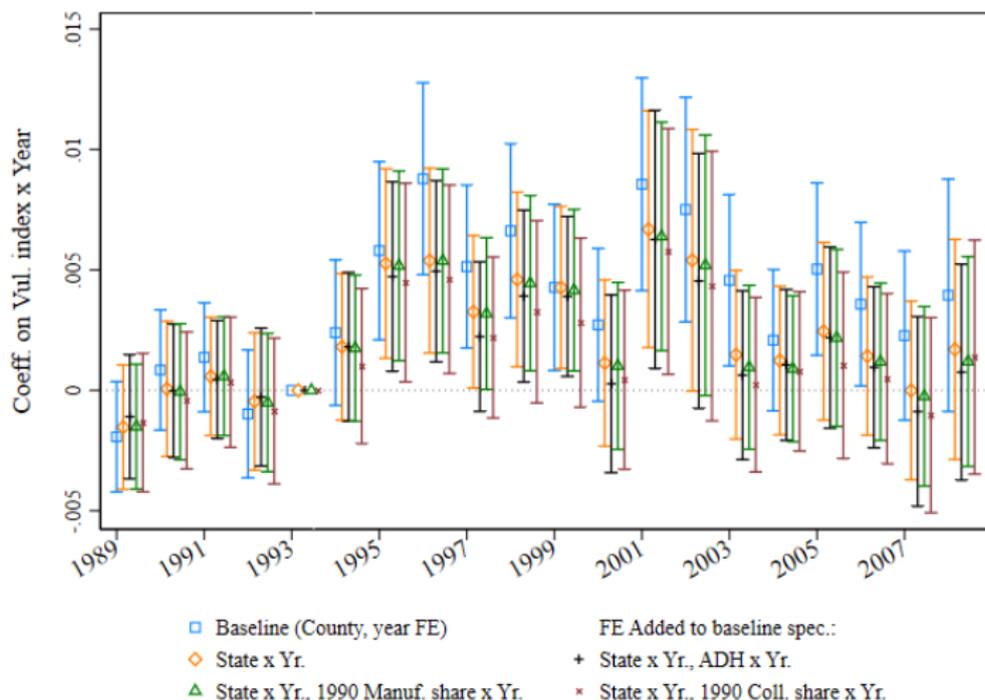
Employment Results

“Workers’ attachments to their jobs and communities—which had been so important as they endured the hardships of mill life—now made it harder for them to find opportunities. These workers failed to fulfill economists’ predictions of a new, mobile workforce who would rationally relocate to find new jobs.”

(Minchin, *Empty Mills*, 2012)

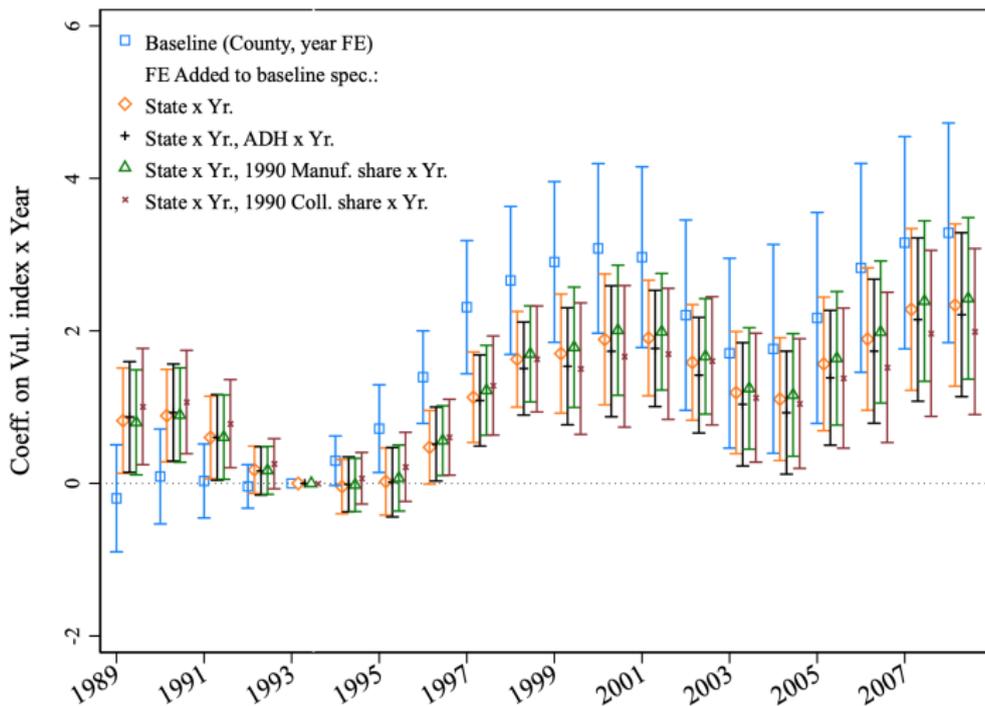
Trade Adjustment Assistance Per Capita

Employment Results



Log Disability Insurance Applications

Employment Results



Summary

Employment Results

We find evidence that NAFTA impacted the economy of those counties most vulnerable to Mexican import competition (as compared to those least vulnerable)

- Decrease in employment of 5 to 8 percent
- No change in population
- Small increase in TAA receipt
- Large increase in Disability Insurance applications

Background

Political Results

Evolution of party positions on trade

Background

Political Results

Evolution of party positions on trade

- In early 20th C, Democrats (concentrated in South and West) wanted to replace tariffs with income taxes as the key source of federal revenue, and Republicans (concentrated in Northeast) wanted to retain tariffs, avoid income taxes

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Political Results

Evolution of party positions on trade

- In early 20th C, Democrats (concentrated in South and West) wanted to replace tariffs with income taxes as the key source of federal revenue, and Republicans (concentrated in Northeast) wanted to retain tariffs, avoid income taxes
- During the Cold War, a rough bipartisan consensus held that offering countries favorable trade terms could deter spread of Communism

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- During the Cold War, a rough bipartisan consensus held that offering countries favorable trade terms could deter spread of Communism
- By 1980s, greater foreign competition led unions and other key Democratic constituents push for import limits.

Background

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- Clinton's role more visible as he pushes it through Congress and claims it as a victory, despite opposition from Democratic base
- Democrats suffer huge defeat in 1994 midterm elections. They lose both chambers, the house for first time since 1954.
- Strong anti-trade elements of the GOP emerge around this time (eg Pat Buchanan in 1992, 1996 primaries)

Qualitative evidence

Political Results

Qualitative evidence

Political Results

- “The Clinton administration also erred in its staunch support for NAFTA. Not only does the agreement put further downward pressure on U.S. wages, thereby increasing the income inequality at the heart of the country’s anger at government, but in aggressively pursuing passage of the agreement, the Clinton administration put itself in conflict with organized labor. By attacking one of the Democratic party’s most important constituencies, the administration succeeded in further weakening the Democratic coalition and exacerbating the party’s organizational decline.”, *Klinkner, Elections of 1994 in Context, 1995*

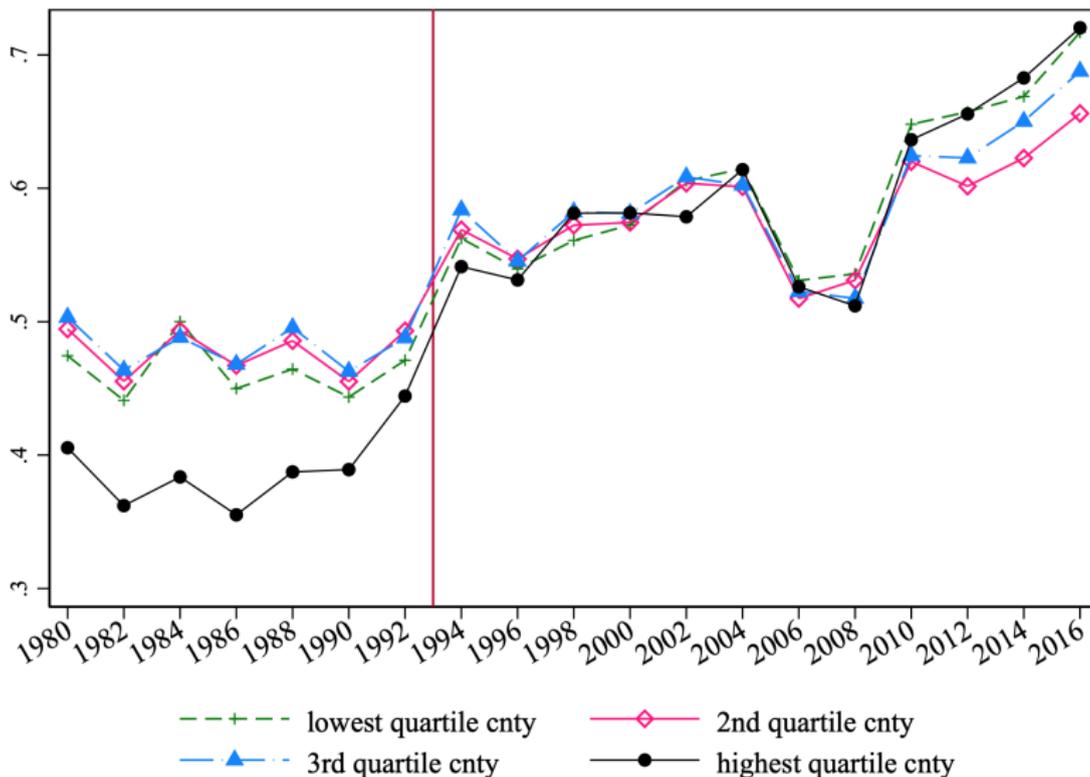
Qualitative evidence

Political Results

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- “When it came to measures that the base of his party wanted, Clinton faltered... Clinton had made the NAFTA a priority....and this allowed the Republican opposition to mushroom” , *Stein, Pivotal Decade, 2010*

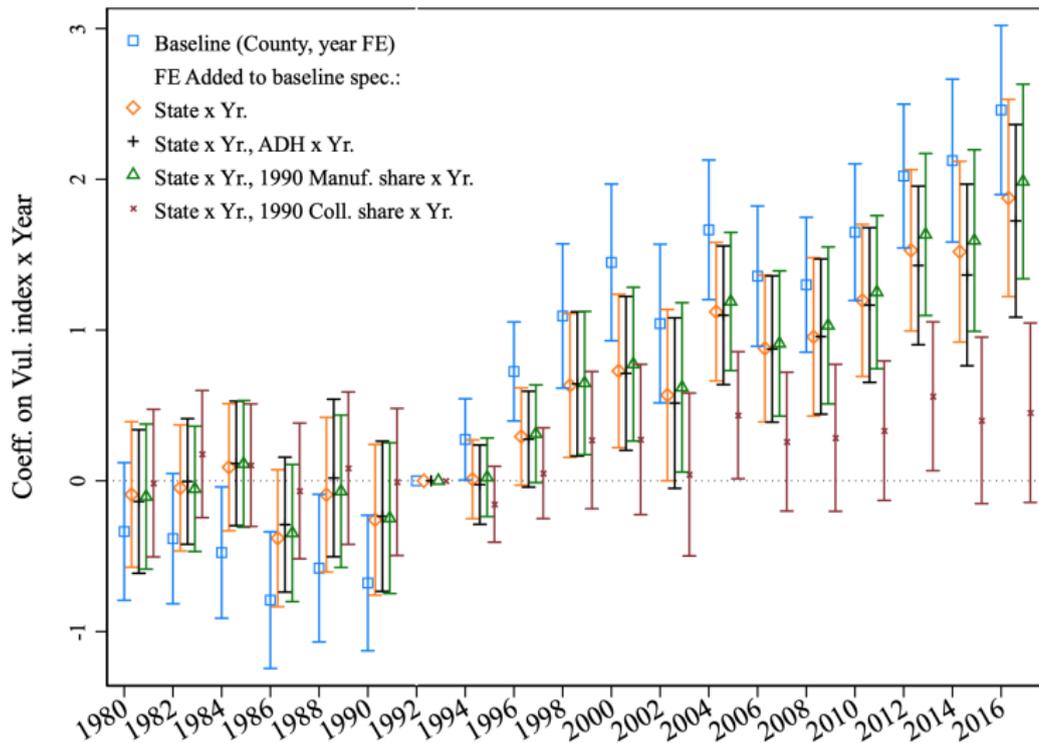
House Elections, Republican Vote Share (raw data)

Political Results



House Elections, Republican Vote Share (event-study)

Political Results



Microdata on support for NAFTA

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 - “Would you say NAFTA has been a success or a failure?”
“Overall, do you think NAFTA has been good or bad for most Americans?” “Has NAFTA been good or bad for the United States?”

Microdata on support for NAFTA

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- Collection of surveys from Gallup and other sources that ask opinion about NAFTA and state, 1993-2015
 - “Would you say NAFTA has been a success or a failure?”
“Overall, do you think NAFTA has been good or bad for most Americans?” “Has NAFTA been good or bad for the United States?”
 - *Goal: Show the relationship between vulnerability and views on NAFTA.*

Dept. var: Supports NAFTA

	(1)	(2)	(3)	(4)	(5)
State-level vulnerability	-1.368** [0.583]	-1.532** [0.620]	-1.510*** [0.499]	-1.703*** [0.490]	-2.910*** [0.619]
White			-0.0290** [0.0111]	-0.0206* [0.0111]	-0.0201 [0.0157]
Black			-0.0130 [0.0144]	-0.00507 [0.0140]	0.0121 [0.0165]
Male			0.0138* [0.00785]	0.0138* [0.00799]	-0.0587*** [0.00857]
College grad.			0.0696*** [0.00831]	0.0682*** [0.00811]	0.0619*** [0.0114]
Log family income			0.0322*** [0.00727]	0.0307*** [0.00706]	0.0149* [0.00753]
Union household			-0.0817*** [0.0126]	-0.0758*** [0.0120]	-0.104*** [0.0129]
Age			-0.00374*** [0.000255]	-0.00375*** [0.000250]	-0.00429*** [0.000292]
Dept. var. mean	0.381	0.415	0.415	0.415	0.538
Drop if missing covars	No	Yes	Yes	Yes	Yes
Division FE	No	No	No	Yes	Yes
Drop DK / no opinion	No	No	No	No	Yes
Observations	23207	16143	16143	16143	12431

ANES

Political Results

American National Election Studies (ANES) survey

ANES

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- Repeated cross-section, 1986-2016, *favor import limits*

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ANES

Political Results

American National Election Studies (ANES) survey

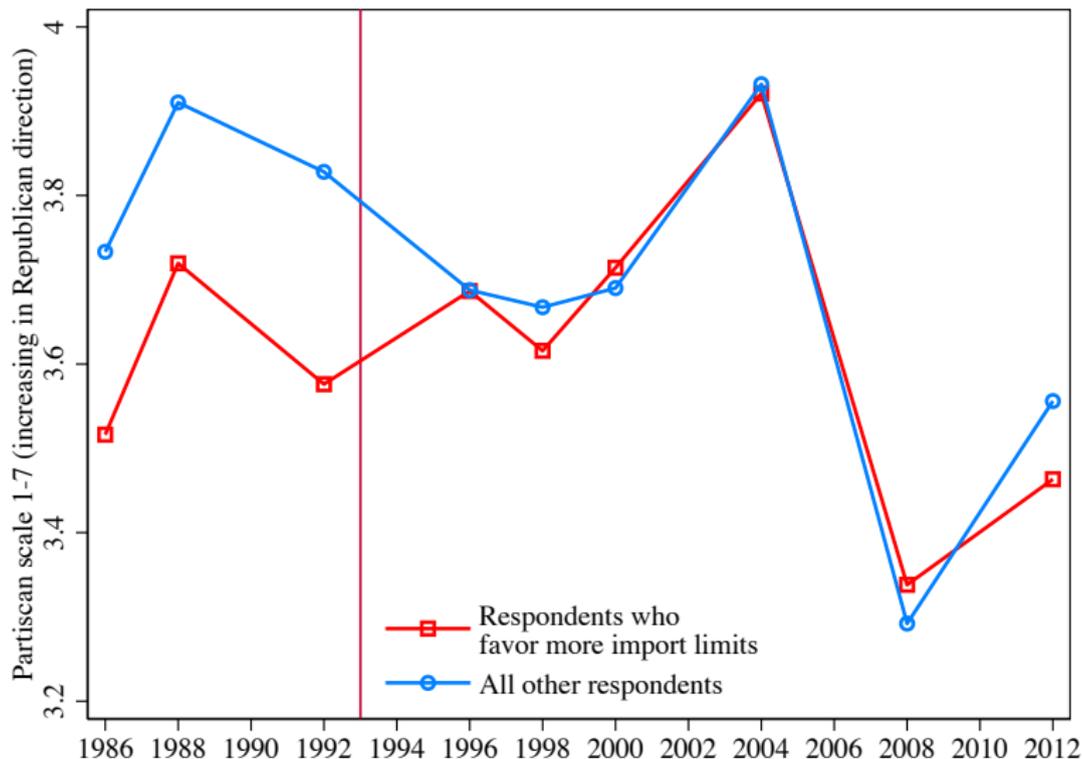
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- Short panel 1992-94

American National Election Studies (ANES) survey

- Repeated cross-section, 1986-2016, *favor import limits*
 - *Goal: document the changing relationship between views on trade and party.*
- Short panel 1992-94
 - *Goal: examine whether pre-NAFTA views on trade predict post-NAFTA change in party.*

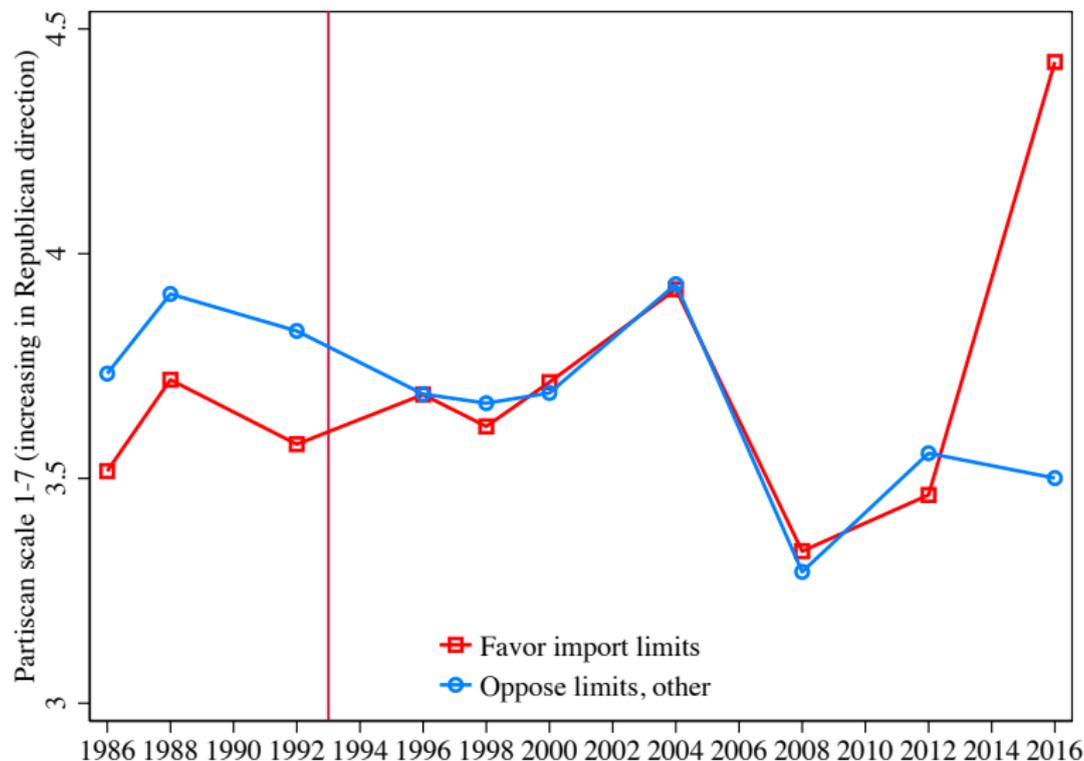
Trade views and partisanship over time

Political Results



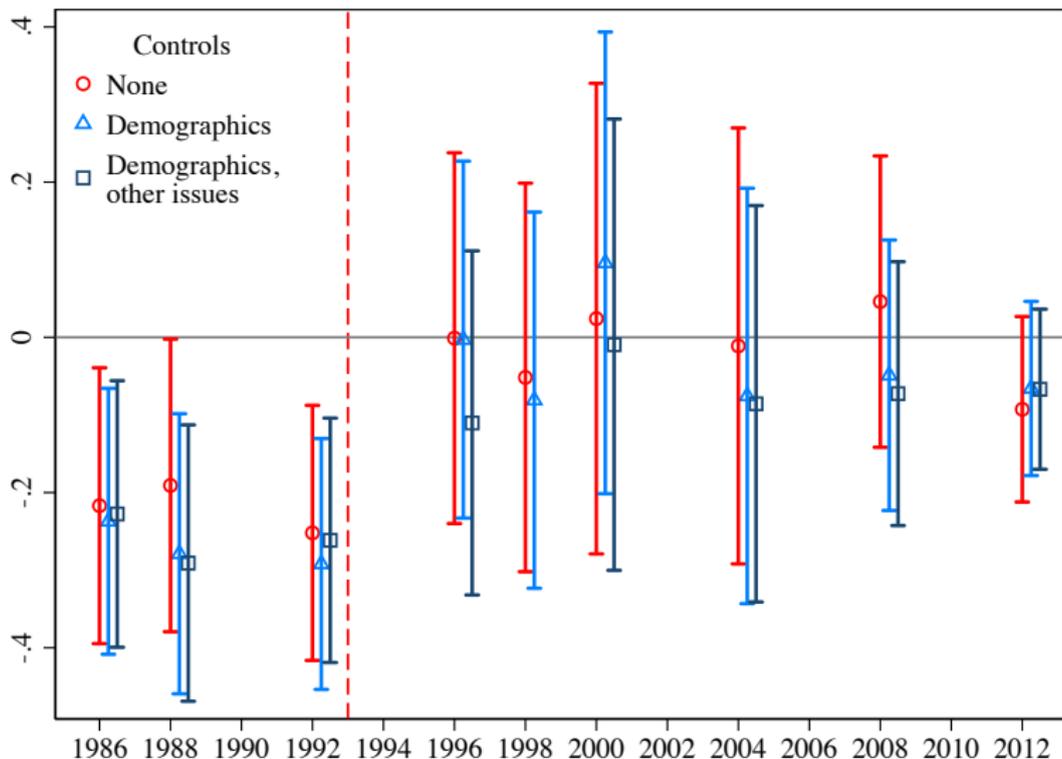
Trade views and partisanship over time

Political Results



Trade views predict partisanship, in pre-period

Political Results



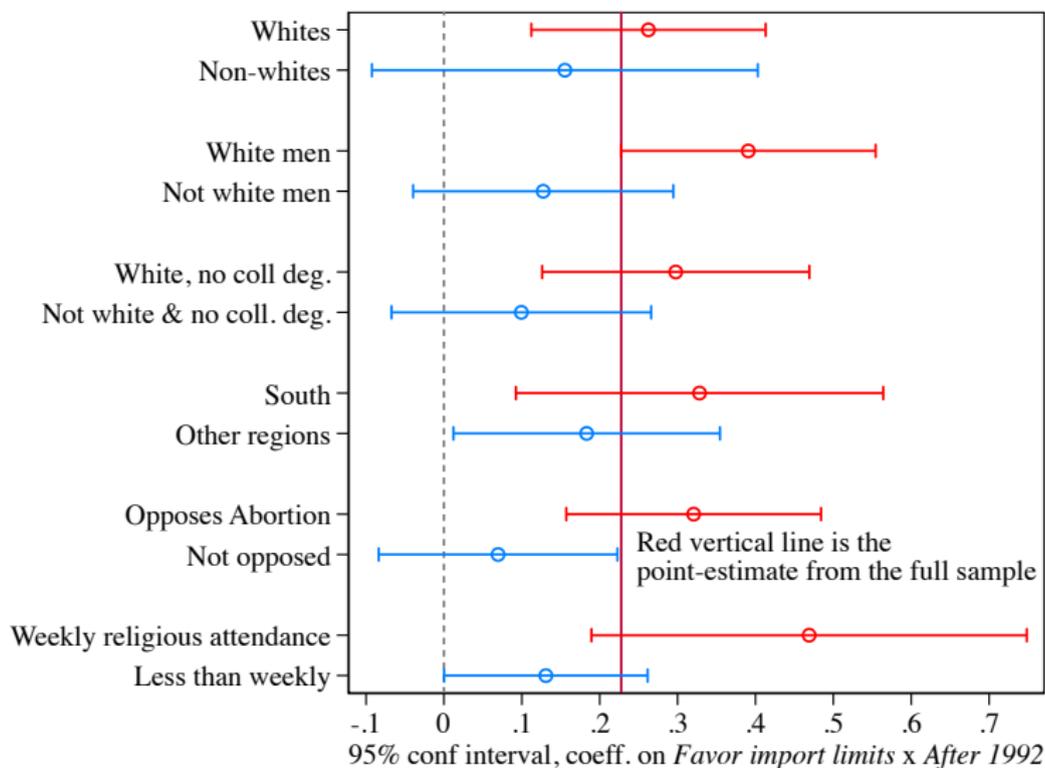
Trade views predict partisanship, in pre-period

Political Results

	Dep't var.: Party ID (1-7, increasing in Republican dir)					
	(1)	(2)	(3)	(4)	(5)	(6)
Favor import limits x After 1992	0.182** [0.0719]	0.190** [0.0718]	0.216*** [0.0699]	0.228*** [0.0648]	0.155** [0.0771]	0.209*** [0.0653]
Favor import limits	-0.222*** [0.0706]	-0.227*** [0.0709]	-0.265*** [0.0713]	-0.278*** [0.0708]	-0.385*** [0.0837]	-0.269*** [0.0695]
Dep't var. mean	3.619	3.619	3.620	3.620	3.737	3.620
Controls						
-Demographic	No	No	Yes	Yes	Yes	Yes
-State FE	No	Yes	No	No	No	No
-Issues	No	No	No	Yes	Yes	Yes
-Demogr. x Aft	No	No	No	No	No	Yes
-Issues x Aft	No	No	No	No	No	Yes
Excl. DK	No	No	No	No	Yes	No
R-sq. x 100	0.680	2.787	11.99	16.27	15.46	17.18
Observations	18770	18770	18497	18497	11031	18497

Heterogeneity in trade views changing relationship with partisanship

Political Results



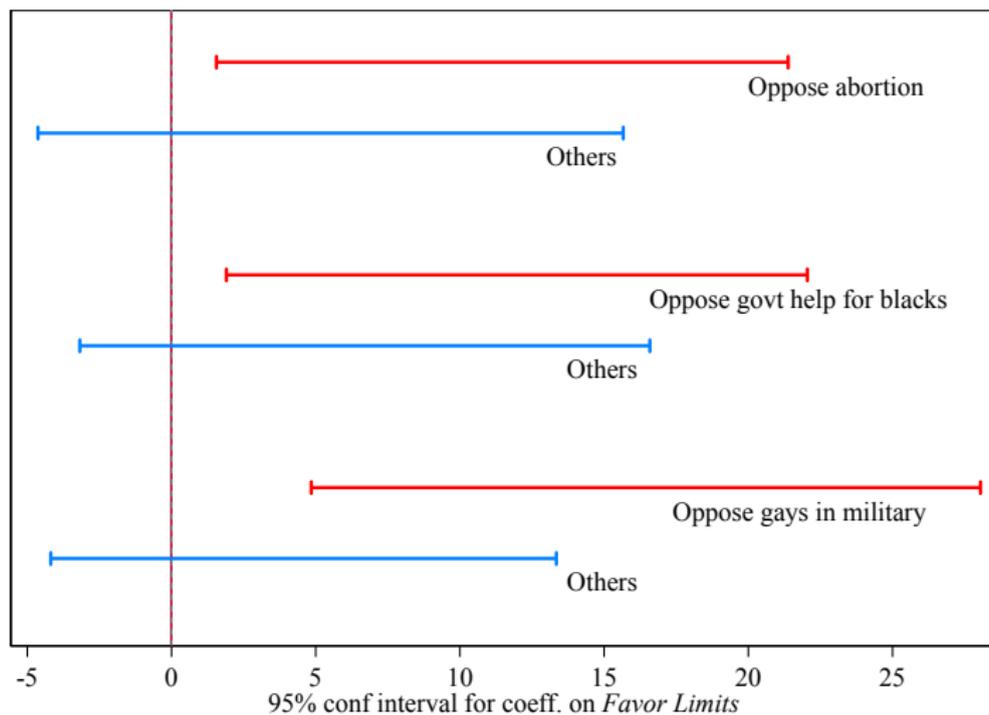
Trade views predicts partisanship shift

Political Results

	Move in Repub direction dummy x 100								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Favor import limits	8.304** [3.325]		9.530** [4.108]		8.422** [3.719]	8.304** [3.325]	8.301** [3.443]	8.066** [3.576]	8.805** [3.727]
Oppose NAFTA (asked in 1993)		7.777 [5.095]		11.09* [5.853]					
Minorities sd help self								1.387 [1.058]	1.484 [1.035]
Wants active gov't								-0.922 [1.127]	-0.914 [1.272]
Support abortion								-1.771 [1.878]	-1.098 [2.152]
Attend church weekly								7.757** [3.719]	8.376** [3.897]
Oppose gays in military									3.356 [7.250]
Oppose gov't health care									-0.515 [0.772]
Favor term limits									-5.913 [3.607]
Dept. var. mean	26.52	25.93	26.76	25.69	26.52	26.52	26.49	26.49	26.54
Excl. DK	No	No	Yes	Yes	No	No	No	No	No
State FE?	No	No	No	No	Yes	No	No	No	No
Demog. covars	No	No	No	No	No	No	Yes	Yes	Yes
R-sq. x 100	0.887	0.489	1.038	1.555	4.335	0.887	3.884	6.066	6.567
Observations	739	621	553	288	739	739	736	736	731

Heterogeneity in trade views predicting partisanship shift

Political Results



Conclusion

Conclusion

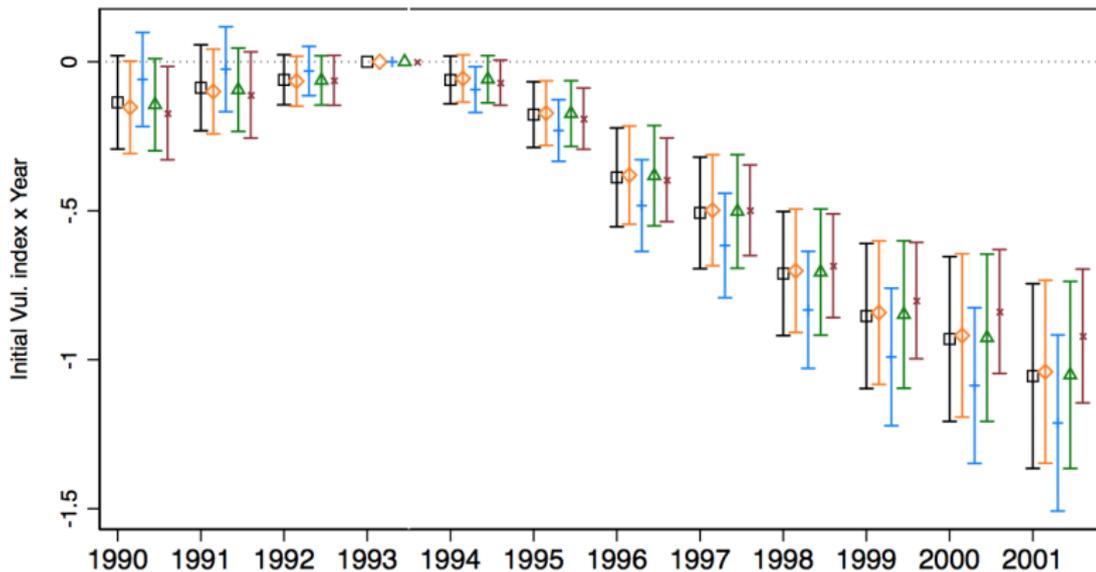
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Conclusion

- NAFTA significantly impacted the economy of those counties most vulnerable to Mexican import competition (as compared to those least vulnerable)
- NAFTA facilitated a major political realignment. It ended anti-trade voters' allegiance with the Democratic Party, contributing to a white working-class constituency's move toward the GOP.

Employment robustness

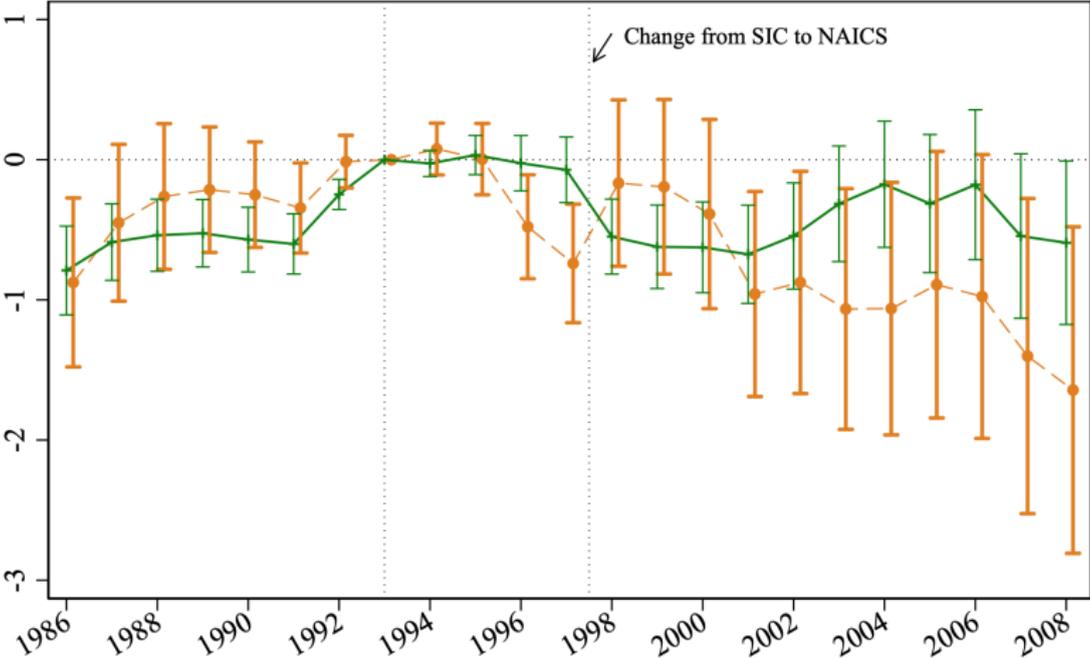
Employment Results



- State-year FE, and ADH (IV) x year FE
- ◇ State-year FE, ADH (IV) x year FE, and share of manufacturing (1990) x year FE
- + State-year FE, ADH (IV) x year FE, and share of black (1990) x year FE
- △ State-year FE, ADH (IV) x year FE, and share of foreign-born (1990) x year FE
- * State-year FE, ADH (IV) x year FE, and county-year-level demographic controls

Manufacturing

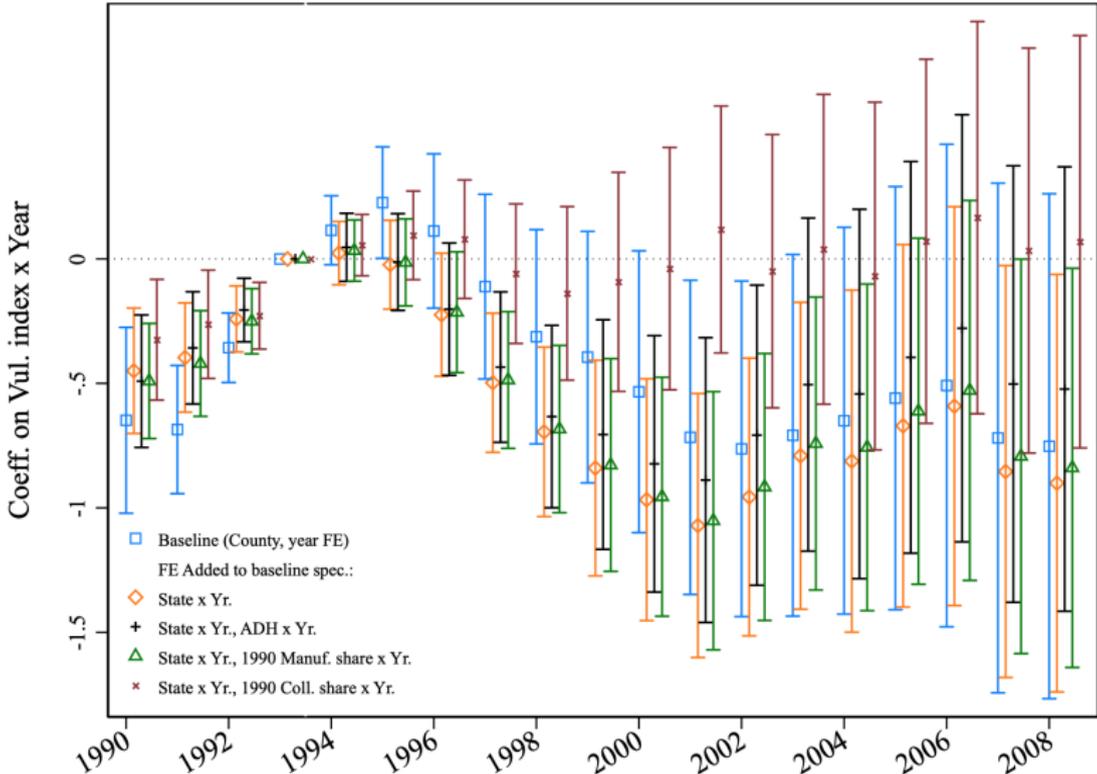
Employment Results



—●— Dep. var. : Log manufac. employment, with county & year FEs
—+— Dep. var. : Log non-manufac. employment, with county & year FEs

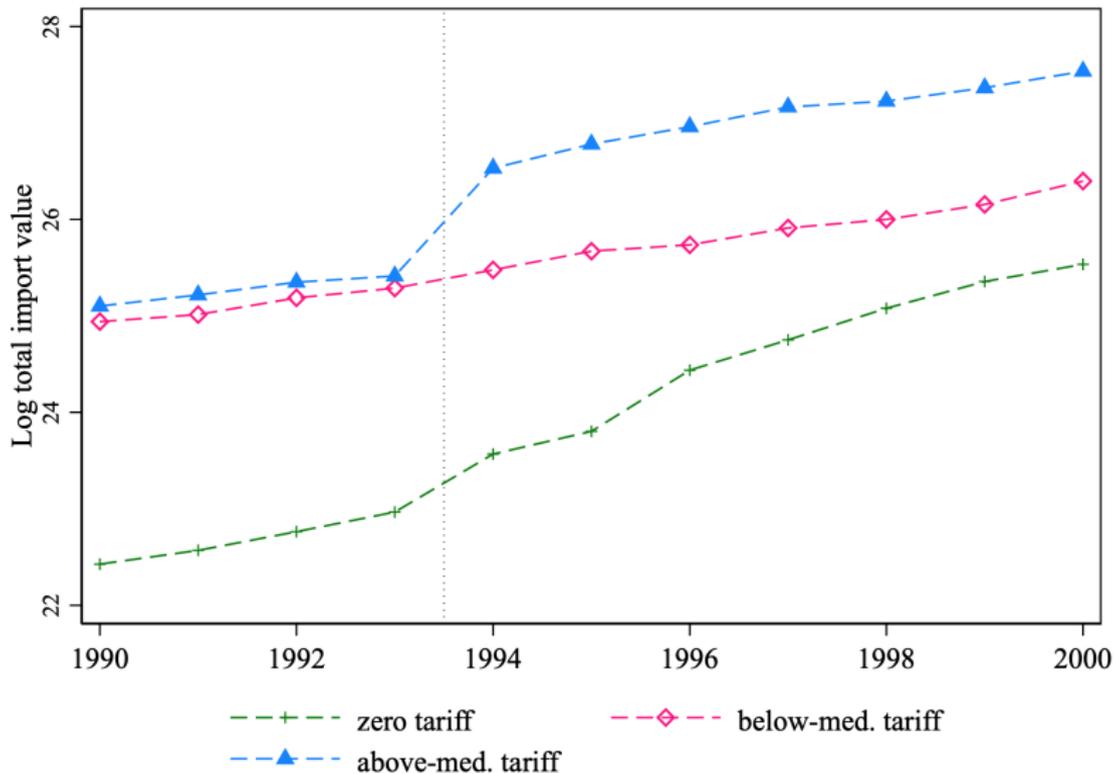
CZ level

Employment Results



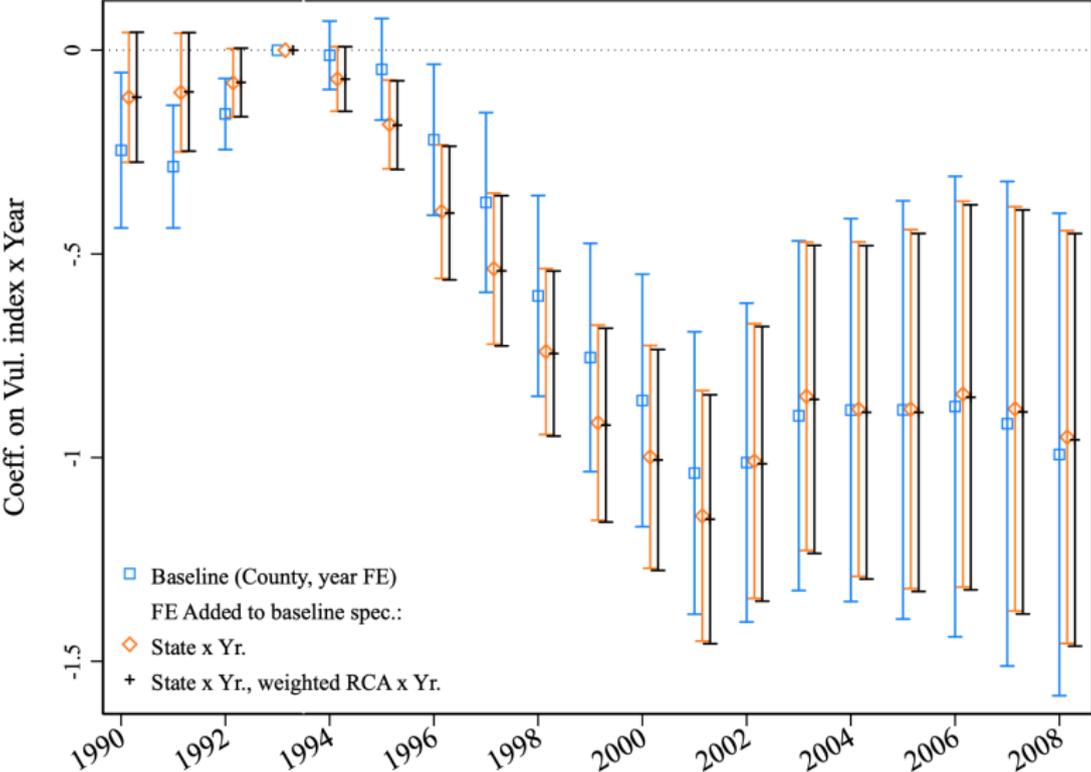
Rise in Mexican imports by pre-NAFTA tariff status

Employment Results: Importance of Tariffs Part I



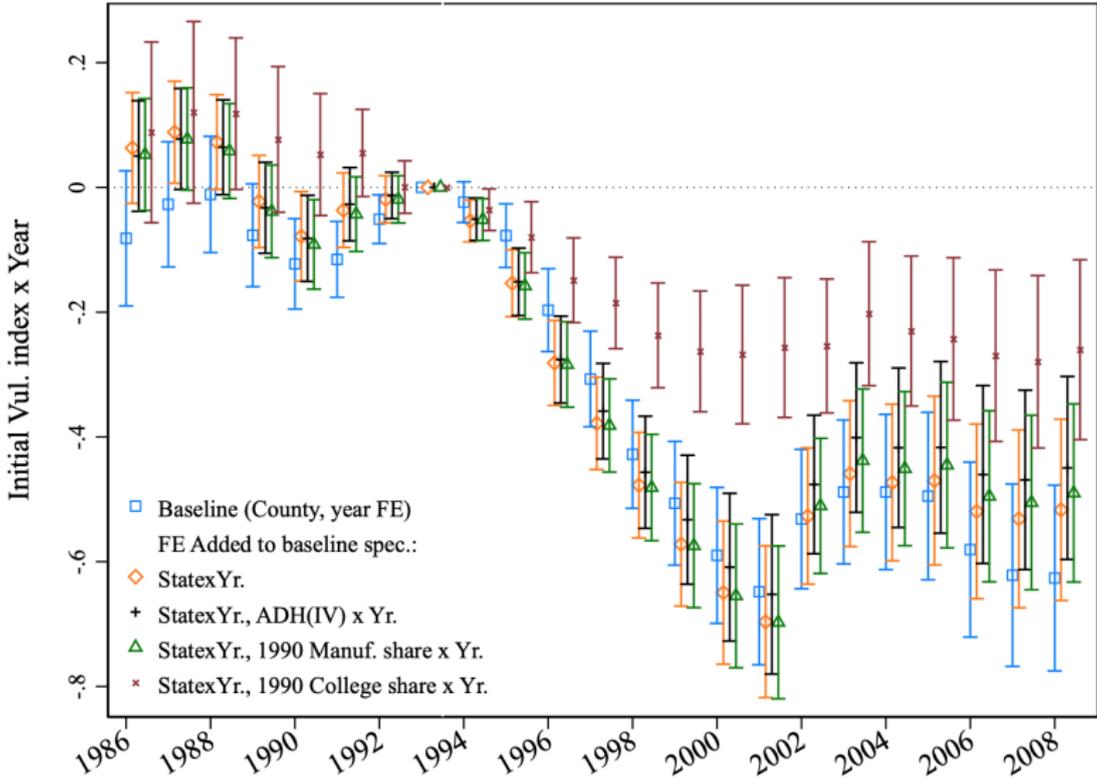
RCAxYear

Employment Results: Importance of Tariffs Part II



Employment/Population

Employment Results



Log annual DI applications

Employment Results

