

Local Economic and Political Effects of Trade Deals: Evidence from NAFTA[†]

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Why have white, less-educated voters left the Democratic Party? We highlight the role of the 1994 North American Free Trade Agreement (NAFTA). In event-study analysis, we demonstrate that counties whose 1990 employment depended on industries vulnerable to NAFTA suffered large and persistent employment losses after its implementation. Voters in these counties (and protectionist voters regardless of geography) turned away from the party of President Clinton, who promoted the agreement. This shift is larger for whites (especially men and those without a college degree) and social conservatives, suggesting that racial identity and social-issue positions mediate reactions to economic policies. (JEL D72, F15, F16, J15)

In September of 1993, the Clinton administration released a letter signed by 283 economists, including 12 Nobel laureates, urging Congress to ratify the North American Free Trade Agreement (NAFTA). “The letter is part of a concerted White House campaign to rebut the criticisms of the trade agreement made by Texas billionaire Ross Perot, who has begun spending large amounts of his considerable fortune to promote his view that NAFTA will destroy American jobs,” reported the *Los Angeles Times*.¹

The White House indeed succeeded in passing NAFTA in a close and bipartisan vote two months later, and it was implemented on January 1, 1994. A quarter of a century later, it remains controversial. Donald Trump made opposition to NAFTA a key part of his successful 2016 presidential campaign, claiming in the first presidential debate that “NAFTA is the worst trade deal maybe ever signed anywhere, but certainly ever signed in this country.” While his presidential administration ultimately took pro-trade positions, Senator Barack Obama campaigned against NAFTA in the

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¹ See Lauter, David. 1993. “283 Top Economists Back Trade Pact, Letter Shows,” *Los Angeles Times*, September 4, <https://www.latimes.com/archives/la-xpm-1993-09-04-mn-31519-story.html>.

2008 Democratic primary: “[T]rade deals like NAFTA ship jobs overseas and force parents to compete with their teenagers to work for minimum wage at Wal-Mart.”²

This paper studies NAFTA’s local economic effects as well as its political impact. We begin with event-study analysis showing that NAFTA had a significant, negative effect on employment in counties exposed to Mexican import competition. By 2000, counties in the top quartile of our NAFTA exposure measure saw a 5–7 log point decline in total employment, relative to the bottom quartile. These results are robust to including state \times year fixed effects as well as flexible controls for manufacturing share of employment, county-level education, the local “China shock” measure from Autor, Dorn, and Hanson (2013c), and other potential confounds.

The large employment losses do *not* lead to population declines in the counties most vulnerable to NAFTA, and we have the power to reject even small effects. Note that Autor, Dorn, and Hanson (2013c) also find a limited migration response to the China shock, so our result deepens the puzzle of why population does not appear to respond to these large, trade-driven employment shocks. By contrast, transfer programs including Trade Adjustment Assistance (TAA) and Disability Insurance (DI) exhibit significant increases in both applications and receipt. However, relative to the size of our estimated employment declines, the magnitude of these effects is small.

NAFTA was a major issue in the 1992 US presidential campaign, with Ross Perot making opposition to it the major motivation for his surprisingly successful third-party campaign.³ President Bill Clinton eventually won the election and made passage of NAFTA an early goal of his administration, which he accomplished via a close, controversial, and bipartisan vote in November of 1993. Moreover, his support of NAFTA marked a major switch in Democratic Party policy toward trade, as in the 1970s and 1980s, Democrats had been the more protectionist of the two major parties.

The second half of the paper focuses on the political impact of NAFTA. We begin by showing that in the years since its passage, less than half of Americans approve of NAFTA, and disapproval is especially strong in the areas most vulnerable to it. We then show in our usual event-study approach that the most vulnerable counties turn away from the Democratic Party in post-NAFTA presidential and House elections.

The rest of our political analysis is at the individual level and thus avoids concerns about ecological fallacy inherent in county-level regressions. First, in repeated cross-section data from the American National Election Surveys (ANES), we show that, in each year of survey data from 1986 to 1992, Democrats enjoy a significant and steady advantage among those with protectionist views, but between 1992 and 1996, a significant number of protectionist voters move toward the GOP and remain there. Moreover, in an ANES panel dataset from 1992 to 1994, we can look at the *same voters* over time during this key moment. We indeed find that a significant share of those who in 1992 express protectionist views have moved their party

²For the Trump quote, see the transcript to the first presidential debate in 2016: <https://www.washingtonpost.com/news/the-fix/wp/2016/09/26/the-first-trump-clinton-presidential-debate-transcript-annotated/>. For the Obama quote, see the transcript to a February 12, 2008 speech: <https://www.nytimes.com/2008/02/12/us/politics/12text-obama.html>.

³In the second presidential debate of 1992, Perot memorably said, “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, ..., 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 going south.” Perot captured 19 percent of the popular vote in 1992, making him the most successful third-party candidate since Theodore Roosevelt in 1912.

identification toward the GOP by 1994. These effects are robust to flexibly controlling for a variety of demographic variables as well as views on other political and policy questions.

Our paper contributes to the literature on the local employment effects from exposure to import competition from low-income countries. Shortly after NAFTA's passage, Rodrik (1997) warned that academics and policymakers were underestimating the effects of globalization on workers in rich countries. In the US context, the seminal work of Autor, Dorn, and Hanson (2013c) highlighted the large and lasting employment effects of Chinese import competition on exposed US communities. There has been more limited work of this type for NAFTA, an exception being Hakobyan and McLaren (2016a). Like Autor, Dorn, and Hanson (2013c), they use census data, so focus on longer (ten-year) differences than we do. In particular, they use decennial census data and model industry-level effects of NAFTA (proxied as changes in earnings by industry from 1990 to 2000) as a function of both 1990 tariff levels and the *change* in tariff levels between 1990 and 2000.⁴ Relative to both Hakobyan and McLaren (2016a) and Autor, Dorn, and Hanson (2013c), our use of annual data as opposed to census microdata (which are available at lower frequency) allows us to visually test for pre-trends and moreover show that breaks in trend are highly correlated in time with NAFTA's implementation.

While there has been limited work on local employment effects of NAFTA, there is a larger literature estimating its *aggregate* welfare effects.⁵ These papers have generally found small (or null) aggregate net welfare effects for the United States. Small or null average effects are not inconsistent with the large effects we find in NAFTA-vulnerable counties. In fact, these two results viewed together suggest that the employment and other economic declines we find in NAFTA-vulnerable counties are likely *net declines in welfare* (and that workers and residents in nonvulnerable counties enjoyed *net benefits* from NAFTA). Even without evoking the small-on-average results from past papers, our results indicate that NAFTA increased spatial inequality in the United States, as the places most vulnerable were *already* lower income and less educated in the pre-NAFTA period (see, e.g., Moretti 2012 and Diamond 2016 on rising spatial inequality in terms of wages and education levels in the United States).

We also contribute to a recent literature on the political effects of trade shocks. To date, this literature has found mixed results in the US context. Autor et al. (2020) find over 2002–2010 a mix of rightward movement alongside growing polarization in areas facing Chinese import competition. While they conclude that overall the movement is rightward, they also find that exposed areas that begin more Democratic send increasingly *liberal* candidates to Congress. Che et al. (2022) find that over 1990–2000, counties more exposed to competition via the granting of Permanent Normal Trade Relations with China become more likely to vote

⁴ A potentially important issue with including both the *change* in tariff levels from 1990 to 2000 and tariff *levels* in 1990 is that the two are nearly one-for-one (negatively) correlated, as tariffs are mostly stable from 1990 to 1993, and then from 1994 to 2000 almost all tariffs go to zero as a result of NAFTA. Thus, identification is reliant on the relatively small share of industries whose tariffs with Mexico do not go to zero by 2000.

⁵ Romalis (2007) uses detailed trade flow and tariff data to estimate import supply and demand elasticities, finding a positive impact on the trade quantities but a moderate impact on prices and welfare. Caliendo and Parro (2015) develop a structural general equilibrium model that incorporates the sectoral linkages (e.g., intermediate goods and input-output linkages) and show that NAFTA increased United States (Mexican) welfare by 0.08 (1.31) percent.

Democratic. Papers on Germany and France find that greater import competition results in a larger vote share for the Far Right party (Malgouyres 2017 and Dippel, Gold, and Heblisch 2015). In the British case, greater exposure to trade predicts votes for Brexit (Colantone and Stanig 2018).

By contrast with the literature on the US political response to the China shock, we find a clear shift in the Republican direction in places most exposed to NAFTA and among voters opposed to free trade. We suspect that the difference lies in the political saliency of NAFTA. NAFTA triggered a highly successful third-party presidential campaign in 1992 and remains politically controversial to this day. NAFTA also involved a president (Bill Clinton) breaking with the base of his party on a key issue. As we discuss in Section V, NAFTA captured much more attention on network nightly news than did the later easing of trade relations with China.

The paper proceeds as follows. Section I provides background on NAFTA and describes how we measure local vulnerability to NAFTA. Section II outlines the empirical strategy for our event-study analysis. Section III describes the employment results, Section IV the migration and transfer program results, and Sections V and VI the political results. Section VII concludes.

I. Measuring Local Vulnerability to NAFTA

By 1992, diplomats had hammered out details of a historic agreement to reduce trade barriers across the North American continent, though the deal awaited approval by the diplomats' governments. As trade between the United States and Canada had mostly been tariff free due to earlier agreements, the debate over NAFTA in the United States focused on whether to liberalize trade with Mexico (thus, our analysis will focus on import competition with Mexico).

President Clinton signed NAFTA into law in December 1993 after a close vote in both houses of Congress (we defer the political history of NAFTA to Section V). Many of its provisions went into effect in January of 1994. While growing before NAFTA, Mexican imports enjoyed more rapid growth beginning in 1994, especially in industries with pre-NAFTA tariffs (see online Appendix Figures A.1 and A.2).⁶ Note that it was not until 2005 that China permanently supplanted Mexico as the most important low-wage source of imports to the United States. We emphasize this point because much contemporaneous discussion of NAFTA argued trade with Mexico was simply too small in value to have appreciable effects in the United States.⁷

A. Construction of Our Measure of NAFTA Exposure

Our exposure measure draws heavily from Hakobyan and McLaren (2016a), though we create county-level measures, whereas they examine exposure at the

⁶Note that Krueger (1999) and Romalis (2007) documented similar trends using 1990s data.

⁷See, e.g., Krugman (2000). However, we should note that even before Autor, Dorn, and Hanson (2013c), there was pushback against the idea that trade with Mexico and other low-wage countries was too small to matter: see Feenstra and Hanson (2000) on aggregation bias in input-output matrices masking the factor content of trade; Feenstra (2010) on how offshoring of intermediate goods and services means that national statistics will understate the impact of trade; and Rodrik (1997) that the mere threat of offshoring to low-wage countries reduces bargaining power and thus wages of domestic low-wage workers even if the jobs ultimately remain in the United States.

public use microdata area (PUMA) level. In spirit, it is also very similar to that used by Autor, Dorn, and Hanson (2013c): it takes a vector of industry-level measures of exposure to import competition and, for each community, multiplies it by a vector of pre-period industry employment shares.

Following Hakobyan and McLaren (2016a), we begin by creating Mexico's "revealed comparative advantage" (RCA) in a given industry $j \in \mathbf{I}$, using 1990 (pre-NAFTA) data:

$$(1) \quad RCA^j = \frac{(x_{j,1990}^{MEX}/x_{j,1990}^{ROW})}{(\sum_i x_{i,1990}^{MEX}/\sum_i x_{i,1990}^{ROW})}.$$

In the numerator, $x_{j,1990}^{MEX}$ is the 1990 value of Mexican exports to all countries except the United States in industry j ; $x_{j,1990}^{ROW}$ is the 1990 value of the exports from all countries other than Mexico to all countries excluding Mexico and the United States in j . The ratio of the two expressions is roughly equal to Mexico's share of exports in industry j . Of course, the share will be in part driven by Mexico's size. The denominator adjusts for Mexico's *overall* share of all exports, not just those in industry j . Thus, the overall expression in equation (1) captures, in 1990, Mexico's relative advantage in producing exports in industry j relative to other industries $i \in \mathbf{I}$. We use data from the UN Comtrade bilateral export series to calculate the RCA for each industry j .⁸

How much a US county is likely to be affected by NAFTA depends on its pre-period reliance on employment from industries with the following two characteristics: (i) Mexico has a large RCA in that industry, *and* (ii) the industry enjoyed pre-NAFTA tariff protection. These components are reflected in the measure below:

$$(2) \quad \text{UnscaledVulnerability}_{c,1990} = \frac{\sum_{j=1}^J L_{1990}^{cj} RCA^j \tau_{1990}^j}{\sum_{j=1}^J L_{1990}^{cj} RCA^j},$$

where L_{1990}^{cj} is employment of industry j in county c in year 1990 and τ_{1990}^j is the ad valorem equivalent tariff rate of industry j in 1990.⁹ As the units of this variable are not particularly intuitive, in most of the empirical work we divide it by the difference between the average unscaled vulnerability in the most vulnerable quartile and the average unscaled vulnerability in the least vulnerable quartile:

$$(3) \quad \text{Vulnerability}_c$$

$$= \frac{\text{UnscaledVulnerability}_c}{E[\text{UnscVul}_c | c \in \text{top quartile}] - E[\text{UnscVul}_c | c \in \text{bottom quartile}]}.$$

⁸ Note that because we use many different data sources in this paper (and most of them are familiar to labor and trade economists), we do not describe data in detail in the main text. We refer readers to online Appendix B for more detail on each data source.

⁹ County-level employment data come from County Business Patterns (CBP) and tariff data from the US Tariff database from Feenstra, Romalis, and Schott (2002a). See online Appendix B.

Thus, increasing *Vulnerability* by one unit is equal to going from the average county in the least vulnerable quartile to the average county in the most vulnerable quartile.

Note that our *Vulnerability* measure uses only *pre-period* measures of both Mexican RCA and community-level industrial composition and thus does not pick up any endogenous reaction to NAFTA itself.¹⁰ Note also it is a constant within county—as we take the τ_t^j values and employment levels from 1990, it captures how much tariff protection from Mexican RCA a county enjoyed in 1990. As it will serve as the key explanatory variable in our event-study analysis, we essentially ask how this fixed-over-time characteristic covaries with local employment every year of our sample period (so any negative covariance *before* NAFTA's passage in the form of pre-trends would cast doubt on our hypothesis that the agreement itself drove economic downturn in vulnerable areas).

While our τ_{1990}^j measure is taken from the specific year of 1990 and thus is by construction constant across time, the τ_t^j values can change over time. Figure 1, panel A shows, separately by quartile of 1990 vulnerability, how the protection measure in equation (2) changes if we allow the τ_t^j to follow their *actual* course over time (all other variables in the expression are kept at their 1990 levels, so the value of the four series in 1990 is in fact the average county vulnerability measure, as defined in equation (2), for the four groups). Before 1993, there is little change, as tariff rates were largely stable in this pre-NAFTA period. Between 1993 and 1995, there is a large decline in protection, as indeed half of all tariffs on Mexican goods went to zero in the first year after NAFTA's January 1994 implementation.¹¹ By 2000, even the most protected quartile of counties by the 1990 measure have essentially zero tariff protection.

Because (i) tariffs change very little between 1990 and 1993 and (ii) most tariffs go to zero between 1994 and 2000, there is an extremely high correlation between 1990 tariffs and the 1990 to 2000 *change* in tariffs. Thus, “protection” from Mexican import competition in 1990 is essentially the same as “vulnerability” or “exposure” to NAFTA, and we use these expressions interchangeably.

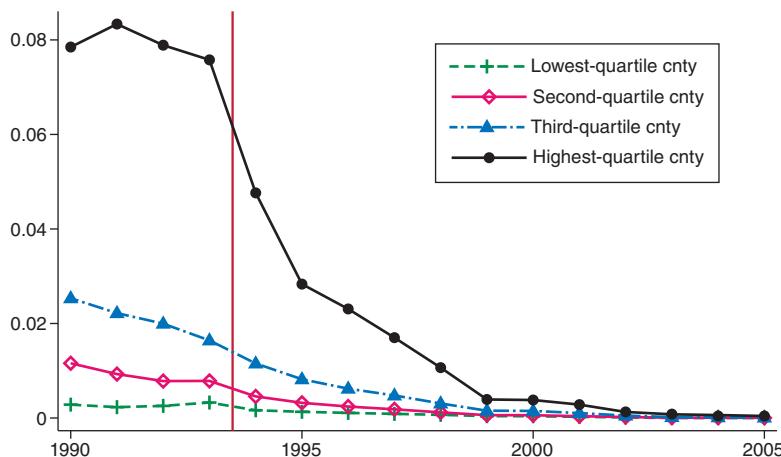
B. Characteristics of Counties by NAFTA Vulnerability

While Figure 1, panel A shows how tariff protection changed over time, panel B shows how protection in 1990 (and thus vulnerability to NAFTA) varies geographically. NAFTA most affected low-wage, labor-intensive manufacturing industries—e.g., textiles, apparel, shoes—which were concentrated in the South. But there are high-vulnerability pockets in most states.

¹⁰Of course, the downside to using pre-NAFTA measures is that the Mexican RCA in a given industry could be endogenous to existing tariffs in 1990 and thus may not fully reflect the true, long-run comparative advantage of Mexico in terms of factor endowments or technology. We find very similar results when we instead calculate Mexican RCA using post-NAFTA data (results available upon request).

¹¹See US Information Agency (1998, p. 25). One claim in the 1993 letter signed by economists and circulated by the Clinton administration was that the tariff reductions would be too gradual to create employment losses, but in fact, those reductions were mostly complete within the first two years.

Panel A. Protection across time



Panel B. Exposure across counties

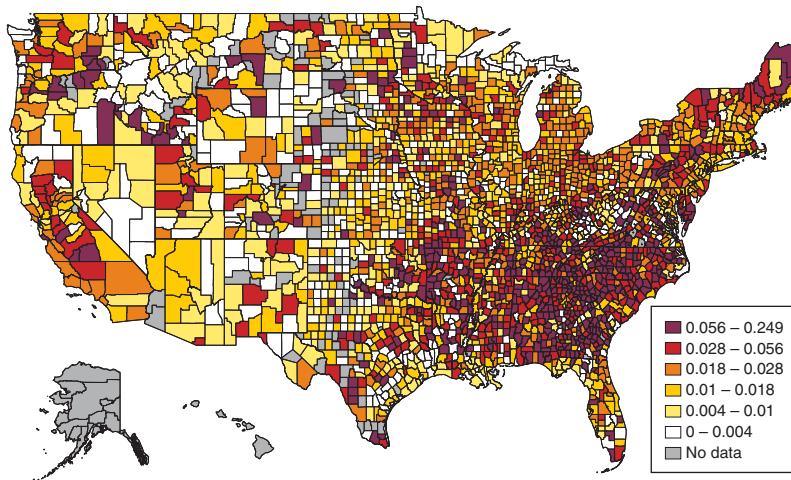


FIGURE 1. VARIATION IN PROTECTION AND NAFTA EXPOSURE, ACROSS TIME AND SPACE

Notes: Panel A shows the weighted average tariff protection across time by each quartile of 1990 county-level vulnerability. That is, for each county-year, we take baseline (1990) county employment by industry and multiply by Mexico's revealed comparative advantage (RCA) for that industry (in 1990) scaled by τ^t , the US tariff on Mexican goods in that industry in year t . Note that the values of the series in 1990 are in fact the 1990-based county-level *Vulnerability* variable we use in much of the paper, as they use 1990-level tariffs τ^{1990} . Panel B plots the *Vulnerability* measure across counties. See Section IA for more detail on variable construction.

Sources: The vulnerability measure is constructed using ad valorem equivalent tariffs from Feenstra, Romalis, and Schott (2002a) and USITC annual tariff data; export series from the UN Comtrade bilateral export series and Hakobyan and McLaren (2016b); and annual county employment by industry from County Business Patterns.

Even before NAFTA, those living in the most vulnerable quartile of counties were the least educated and had the lowest per capita income, as we show in Table 1. They were also the most reliant on manufacturing employment, and thus it is not surprising to see a positive correlation with the China shock measure of Autor, Dorn, and Hanson (2013c). As the most vulnerable quartile is disproportionately

TABLE 1—PRE-NAFTA CHARACTERISTICS OF COUNTIES, BY VULNERABILITY QUARTILE

	Quartile (lower quartile: less vulnerable)			
	1	2	3	4
<i>Panel A. Demographics (1990)</i>				
Population (in thousands)	32,985	132,212	123,092	40,907
Working-age population (in thousands)	21,186	87,443	81,529	26,332
Household income (in thousands)	27,396	33,344	31,037	24,502
Number of jobs (in thousands)	10,140	53,664	47,025	12,264
Emp-to-Pop ratio	0.351	0.429	0.443	0.394
White share of population	0.879	0.843	0.827	0.852
Manufacturing share of employment	0.171	0.187	0.213	0.289
College grad share of population	0.176	0.230	0.200	0.139
<i>Panel B. Political preference (1980–1990)</i>				
Republican House two-party vote share	0.457	0.474	0.434	0.432
Republican presidential vote share	0.548	0.547	0.526	0.568
Democratic presidential vote share	0.407	0.410	0.431	0.406
<i>Panel C. DI and TAA take-up per thousand (1990)</i>				
TAA petition	0.369	0.882	0.891	1.166
TAA certification	0.134	0.444	0.391	0.819
DI application	8.155	5.745	5.735	9.615
DI awards	3.189	2.545	2.516	3.947
<i>Panel D. NAFTA vulnerability</i>				
Vulnerability based on tariff in 1990	0.003	0.012	0.025	0.078
<i>Panel E. Exposure to Chinese imports</i>				
ADH (2013) China shock measure (IV)	0.724	0.895	1.075	1.387
Number of counties	746	746	746	746

Notes: The table contains average county characteristics by quartiles of our NAFTA Vulnerability variable. Observations are weighted by 1990 county population, except for the population and job counts, the employment-to-population ratio, and the vulnerability measure. Note that employment-to-population ratio comes from dividing employment in the county (from the CBP data) by population in the county (from the census) and thus cannot be compared to the usual employment-to-population ratios based on whether *residents* are employed (regardless of where). Note that when we show how the “China shock” in Autor, Dorn, and Hanson (2013c) varies across our four county groups, we use their “IV” version, as it is more highly correlated with our NAFTA vulnerability measure.

Sources: County-level demographics are from the Census Population Estimates Program, House election results are from ICPSR general election data for the United States (1980–1988), pre-NAFTA DI and TAA take-up are computed using the Social Security Administration data and the US Department of Labor TAA petition data, and the “China Shock” variable is from Autor, Dorn, and Hanson (2013c).

Southern, it is also less white, as African Americans have always disproportionately lived in the South. The differences in pre-NAFTA characteristics by exposure quartile highlight the importance of flexibly controlling for these attributes in order to isolate the effects of NAFTA from secular changes, such as skill-biased technological change (Goldin and Katz 2008) or the China shock.

Politically, the most NAFTA-vulnerable counties were the most Democratic in terms of House elections in the 1980s, but somewhat more Republican for presidential elections.

C. Relationship between Industry-Level NAFTA Vulnerability and Mexican Imports to the United States

While our *Vulnerability* variable is similar in spirit to the Autor, Dorn, and Hanson (2013c) measure, one departure is that we focus on statutory changes in tariff protection instead of changes in actual import penetration. We view this modification as preferable, as actual imports are potentially endogenous to US demand (Autor, Dorn, and Hanson 2013c themselves note this concern and thus use Chinese imports to *other* rich countries as an instrument in many specifications).

While we prefer to relate employment changes to statutory changes in tariffs instead of actual import penetration, here, we use industry \times year data to show that pre-NAFTA tariff levels (the large majority of which go to zero in the years immediately following NAFTA) do indeed predict Mexican import growth after NAFTA's implementation. To demonstrate this "first-stage" relationship, we estimate

$$(4) \quad \text{MexImports}_{jt}^{US} = \sum_{\tilde{t} \neq 1993} \beta_t (\text{Avg.Tariff}_{j,1990}) \times \mathbf{1}\{t = \tilde{t}\} + \gamma_1 \text{MexImports}_{jt}^{ROW} \\ + \gamma_2 \text{ROWImports}_{jt}^{US} + \eta_j + \mu_t + e_{jt},$$

where *Avg.Tariff*_{j,1990} is the average tariff level on Mexican imports in industry *j* in 1990 (pre NAFTA); *MexImports*_{jt}^{US} is Mexican imports to the United States in industry *j* in year *t*; *MexImports*_{jt}^{ROW} are Mexican imports in industry *j* in year *t* to the rest of the world (ROW); *ROWImports*_{jt}^{US} are the rest of the world's imports to the United States in industry *j* in year *t*; η_j and μ_t are, respectively, industry and year fixed effects; and e_{jt} is the error term. We interact *Avg.Tariff*_{j,1990} with a vector of year fixed effects (with 1993 as the omitted group). Including *MexImports*_{jt}^{ROW} and *ROWImports*_{jt}^{US} separates the NAFTA-triggered decline in industry *j* tariffs from, respectively, world demand for Mexican imports in *j* (not necessarily from the United States) and US demand for imports in *j* (not necessarily from Mexico).

Online Appendix Figures A.3 and A.4 document that the estimated β_t coefficients show a clear break in trend in the expected direction after NAFTA's passage (and that this pattern is robust to various data sources and functional forms).

II. Empirical Strategy for Event-Study Analysis

The next two sections examine local economic outcomes of those counties most exposed to NAFTA relative to other counties. For each outcome (employment, population, DI claims, etc.), we begin by showing trends for four groups of counties: four quartiles based on the NAFTA vulnerability measure that we defined in the previous section. These trends are based on raw data, unadjusted except for normalization of each quartile to zero at 1993. While this approach is the most transparent, it is difficult to summarize and to adjust for covariates. We thus turn to a standard event-study approach for the bulk of our analysis, where instead of dividing NAFTA exposure into quartiles, we simply use (linearly) the

measure in equation (3), interacting it with year fixed effects. In particular, we estimate

$$(5) \quad Y_{ct} = \alpha_c + \gamma_t + \sum_{\tilde{t} \neq 1993} \beta_{\tilde{t}} (\text{Vulnerability}_{c,1990}) \times \mathbf{1}\{t = \tilde{t}\} + \lambda \mathbf{X}_{ct} + \epsilon_{ct},$$

where Y_{ct} is a given outcome in county c in year t (e.g., log employment), α_c are county fixed effects, γ_t are year fixed effects, $\text{Vulnerability}_{c,1990}$ is c 's NAFTA vulnerability, \mathbf{X}_{ct} include additional controls (which we vary to probe robustness), and ϵ_{ct} is the error term. The exact sample period depends on the outcome variable due to data availability, but in general, we begin in the mid-1980s and end in the mid-2000s. We cluster standard errors by state.

Note that this equation does not directly use the schedule of tariff reductions implied by NAFTA (and plotted earlier in Figure 1, panel A). Instead, we allow the 1990 level of tariff protection to have an unrestricted effect in each year, captured by the β_t coefficients. We prefer to take an agnostic approach as to how the effects of tariffs evolve over time. Moreover, allowing unrestricted effects of tariffs before 1994 allows us to test for pre-trends.

III. Employment Results

In this section we document large employment declines in the counties most exposed to NAFTA, relative to less exposed areas, beginning in the mid-1990s. In the next section, we examine common margins of adjustment to local economic downturn (e.g., out-migration and transfer program application).

A. Main County-Level Event-Study Results

We begin by showing raw county data broken up into quartiles based on NAFTA vulnerability, though for the sake of space relegate these results to the online Appendix. Online Appendix Figure A.5 shows these results for county-year log employment (all employment data in this section are taken from the census's County Business Patterns (CBP) data).¹² The raw data suggest that county groups trended together before 1994, after which time the most exposed counties fell behind the other groups in terms of employment growth.

While the plots of raw data that we show as online Appendix figures have the virtue of transparency, more parametric event-study figures can more succinctly show robustness to flexible controls and other specification choices. In general, to avoid clutter, in the main text we show results from estimating only two versions of equation (5): including state \times year fixed effects (first series) and adding to that specification the county's 1990s manufacturing employment share interacted with year fixed effects (second series). However, in the online Appendix, we always show at least three additional versions (often more): a version without any additional controls beyond county and year fixed effects (equivalent to setting the \mathbf{X}_{ct} vector to

¹² Some of the smallest industry-county cells in the CBP data are imputed to protect confidentiality. Online Appendix Figure A.6 shows our main results are robust to using an alternative small-cell imputation proposed recently by Eckert et al. (2021b).

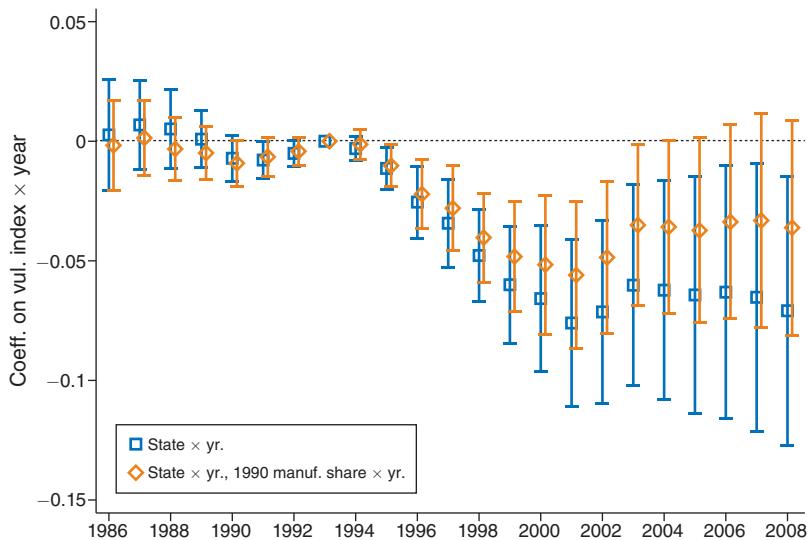


FIGURE 2. LOG EMPLOYMENT AS A FUNCTION OF COUNTY NAFTA VULNERABILITY

Notes: The analysis sample is fixed across specifications and strictly balanced, with 2,912 counties in each year of the sample. The figure shows the point estimates (and 95 percent confidence intervals, based on standard errors clustered by state) for the coefficients on *Vulnerability* interacted with year (with 1993 the omitted year) from different specifications of equation (5). Observations are weighted by 1990 county population. The first series controls for county and year fixed effects, as well as *state × year* fixed effects. The second series adds to the first controls for 1990 county-level manufacturing share of employment interacted with year fixed effects.

Source: The dependent variable is computed from County Business Patterns. See online Appendixes B.1 and B.2 for more detail.

empty in equation (5)), a version that adds to the *state × year* fixed effects controls for CZ-level China shock interacted with year fixed effects, and a version that adds controls for 1990 county college share interacted with year fixed effects.

The first series (controlling for *state × year* fixed effects) of Figure 2 shows that pre-1994, changes in employment have little relationship to county-level NAFTA vulnerability. But a clear negative trend takes hold in the years that follow NAFTA's implementation. While there is some modest recovery after the early 2000s, by 2008, there is still a statistically significant and negative relationship between 1990 NAFTA vulnerability and county-level changes in employment relative to the 1993 baseline. Adding flexible controls for 1990 manufacturing share somewhat reduces the magnitude of the decline, but it remains statistically significant until the early 2000s. As shown in Table 1, counties that would be more exposed to NAFTA were already different on important dimensions in 1990: for example, they had lower rates of college completion and were more vulnerable to the China shock as well. In online Appendix Figure A.7, we show that while flexibly controlling for these differences often decreases precision, the pattern of coefficients is largely unchanged relative to the second series in Figure 2.¹³

¹³ In online Appendix Figure A.8, we also split the outcome variable into manufacturing versus nonmanufacturing employment, showing that the response for manufacturing employment was larger. However, comparing the results before and after 1997 is complicated because in 1998 the CBP data change from Standard Industrial Classification (SIC) codes to the North American Industry Classification System (NAICS) codes.

How large are these effects? In the year 2000, the estimates of the coefficient on *Vulnerability* in Figure 2 and online Appendix Figure A.7 range from -0.032 to -0.066 . That is, relative to 1993, the average county in the top *Vulnerability* quartile lost roughly 3 to 7 log points of employment compared to the average county in the bottom quartile. Online Appendix Figure A.9 shows similarly a relative loss of approximately 2–4.7 jobs per 100 county residents by 2000.¹⁴ These magnitudes will be useful to keep in mind when we examine the response of migration and transfer programs in the next section.

Readers might find it surprising that there is not a negative pre-trend in our employment event-study graphs, given that NAFTA-exposed counties depended on manufacturing and the sector has been in long-run decline in the United States. Indeed, textile and other NAFTA-vulnerable industry lobbyists often complained—even before NAFTA—that policymakers acted as though these jobs were in “sunset industries” and were thus “not worth saving.”¹⁵ But at the time of NAFTA’s passage, the apparel and textile industries alone still employed nearly 2 million people. Whether via a successful “Made-in-America” campaign pitched toward consumers in the 1980s or other factors, employment decline had also plateaued in these industries in the years leading up to NAFTA. We show in online Appendix Figure A.10 that employment in textile mills was in fact quite stable in the early 1990s (at half a million workers) before beginning a rapid decline in the middle of the decade, coincident with NAFTA’s passage.

B. Robustness to Other Trade and Currency Events

As noted, an important alternative explanation is that the effects in Figure 2 are merely picking up early stages of the China shock. As we show directly in online Appendix Figure A.7, allowing CZ-level China shock vulnerability to have arbitrary effects across time has little effect on our coefficients of interest relative to controlling flexibly over time for 1990 manufacturing, suggesting that our year interactions with 1990 manufacturing controls are doing a good job of controlling for the covariances between *Vulnerability*, the China shock, and county employment.¹⁶ In fact, controlling flexibly for either the China shock or 1990 manufacturing share makes little difference to our results until the early 2000s. We speculate that in the years immediately following China’s accession to the WTO in December 2001, the China shock begins to dominate our NAFTA effect, and thus, our estimates from this later period are more sensitive to these controls. While longer-run effects may be more sensitive, NAFTA’s estimated effect on employment in the first eight to ten years after its implementation appears quite robust to various controls.

¹⁴Recall that these employment-to-population ratios are based on employment in the county (regardless of the residence of the worker) from the CBP data divided by working-age population in the county (regardless of workplace, if any, of the resident) and so are *not* directly comparable to the typical, survey-based measure of the share of a locality whose residents are employed.

¹⁵Much of the information provided in this paragraph is taken from Minchin (2012, pp. 3, 36, 199), a history of the decline of the US textile industry.

¹⁶To make the China shock robustness test more demanding, we use the IV version of their measure, as it happens to be more highly correlated with our NAFTA exposure measure. We use their IV defined for a period between 1990 and 2000, instead of between 2000 and 2007, as this period coincides more with the timing of NAFTA.

Another potentially confounding trade policy during the 1990s was the phase-out of the Multi-Fibre Arrangement (MFA) quotas (which was approved by Congress and signed into law in December 1994 but did not become binding until the early 2000s; see Khandelwal, Schott, and Wei 2013 and Chiron 2004 for further detail and analysis). Online Appendix Figure A.11 shows our results are highly robust to controlling for the MFA phase-out schedule. When we allow producers to react immediately to the future schedule of phase-outs, our results are noisier, but point estimates are still economically meaningful and significant at the 10 percent level in the late 1990s.

A sudden devaluation of the Mexican peso took place in December 1994. The devaluation made Mexican goods relatively cheaper in the United States, and a natural concern is that it could have caused some of the employment effects that we attribute to NAFTA.¹⁷ If the devaluation (and not NAFTA) caused the local employment effects, then we should observe them in counties whose employment is reliant on *any* industry for which Mexico is a strong exporter, *regardless of the industry's 1990 tariff levels*. Many Standard Industrial Classification (SIC) four-digit industries either had no or low tariffs on Mexican imports to the United States and thus were unaffected by NAFTA, so we should be able to separate the two hypotheses. In online Appendix Figure A.12, we replicate our employment results from Figure 2 but include as additional controls a *non-tariff-weighted* measure of vulnerability—that is, the expression in equation (2) but *excluding* the 1990 tariff industry tariff levels τ_{1990}^j —interacted with each year. Our results barely change, suggesting that the patterns we find in our main Figure 2 are driven by the decline in *tariffs*, not a more universal change in relative price levels between the two countries. Nonetheless, that the peso crisis followed so closely after NAFTA passage may have accelerated the effects of NAFTA relative to a counterfactual scenario with a stable peso. This possibility suggests caution generalizing the economic (and, in later sections, political) effects we find to other trade agreements, where local adaptation may have been more feasible.¹⁸

While not directly related to trade policy, in online Appendix Figure A.13, we also show robustness to how dependent the county is on jobs from “off-shore-able” industries or industries vulnerable to robots or automation.

C. Addressing Inference Concerns

Recent work has suggested that designs such as ours may overreject the null hypothesis of no effect. While our clustering by state addresses correlation of errors *within* states, Adao, Kolesár, and Morales (2019b) show that there is an

¹⁷ Our read of the literature is that the devaluation (and the economic turmoil that followed) was triggered by a number of factors: a large capital account deficit funded via short-term loans, a large share of debt held by foreigners, and “euphoria” related to the future prospects of a liberalizing Mexican economy. NAFTA may have played a role in the final factor (“the ‘euphoria’ was linked to the country being a ‘model reformer,’ as well as its access to NAFTA and OECD” Griffith-Jones 1998, p. 131), and if so, then the peso crisis is not a confounder but a mechanism.

¹⁸ Another piece of evidence suggesting that our results are being driven by actual pre-period tariff levels and not a more general relative price decline is the randomization inference exercise described in Section IIIC and presented in online Appendix C. We show in that exercise that a blunt “any positive tariff” measure does not pick up the same effects on county employment as using the actual 1990 tariff levels.

additional correlation of errors *across* geographic entities with similar baseline industry composition. In online Appendix C we show all the main results of the paper are robust to using their proposed correction.

We also develop a related but more demanding randomization-inference test, again detailed further in online Appendix C. The distribution of pre-NAFTA industry-level tariffs τ has a mass at zero and then a very long right tail. We retain $\tau = 0$ for all industries that have no tariff against Mexican imports in 1990. We then model the positive tariffs with a fifth-degree polynomial (the actual distribution of positive tariffs and our approximation is in online Appendix C). One implication of this procedure is that the mean β of the distribution formed by permuting across the τ distribution need not be zero because by retaining the actual tariff value when $\tau = 0$, the simulations contain some real information. As we show in the online Appendix, our estimated $\hat{\beta}$ is in the extreme tails (often not even in the support) of the distributions of simulated $\hat{\beta}$ values after 1,000 draws.

D. Related Results and Additional Robustness Checks

We address a few more potential concerns regarding our main county-year employment analysis. First, while we have so far focused only on the heightened competition some US industries faced due to NAFTA, industries can benefit from NAFTA. They may rely on *inputs* that are now cheaper, or they can export goods to Mexico more competitively due to reciprocal declines in Mexican tariffs on US goods.

In online Appendix D, we show that accounting for these potential benefits makes little difference to our employment results. While we go into detail in online Appendix D, the key point is that NAFTA mostly helped and hurt the same industries (so that our *Vulnerability* measure largely picks up the *net* effect of NAFTA on local labor markets, accounting for both the local gains and losses). Input-output matrices demonstrate that most industries rely heavily on inputs from other industries in their same two-digit classification. Similarly, the sectors whose tariffs were reduced due to NAFTA were very similar in the United States and Mexico, a point highlighted by policymakers at the time (US International Trade Commission 1993).

Second, our main results so far use county-year instead of CZ-year data. We prefer the county over the CZ as our unit of analysis because CZs can cross states (21 percent of CZs, comprising 28 percent of the population, cross state lines), and in the political analysis especially we would like to control flexibly for any effect of statewide campaigns. While CZs have the advantage of better capturing labor markets, counties are in fact decent proxies for labor markets as well: in the average county (CZ), 71 (92) percent of residents also work in the county, and 78 (93) percent of workers also reside in the county (see Table 1 of Monte, Redding, and Rossi-Hansberg 2018). The employment results for CZs are very similar to those we find at the county level, as shown in online Appendix Figure A.14, though the impact of NAFTA manifests more as a negative break in a positive pre-trend.

Finally, we show that our county-level results are largely unchanged when instead of using (log) employment as the outcome variable, we use the (log) wage bill (online Appendix Figure A.15).

E. Results at the Individual Level

Most of the analysis of trade-induced employment effects in the literature is, like our results so far, at the geographic level. Of course, county- or CZ-level results are of interest in their own right, as they pick up potential spillover effects to other local industries. But interpreting these results as informative of the individual-level effect of working in a NAFTA-vulnerable industry is subject to the ecological fallacy.

To more credibly estimate individual-level effects, we turn to the Panel Study of Income Dynamics (PSID). We define an *individual worker i's vulnerability* to NAFTA based on the industry j of their main job in 1990. That is, $Vulnerability_{j(i)} = RCA^j \tau_{1990}^j$. We show results in online Appendix Figure A.16. Reassuringly, there is a clear decline in employment probability after 1993 for workers in more NAFTA-vulnerable industries.

IV. Migration and Transfer Program Response

In this section we ask how individuals in NAFTA-vulnerable counties reacted to the large job losses we documented in the previous section. The two margins we focus on are migration and (applications to and receipt of) transfer programs.

A. Migration

Economists have long studied how migration responds to local economic shocks. Blanchard and Katz (1992) found significant migration responses using data from the 1970s and 1980s. While *employment levels* often never recovered from economic shocks during this period, via the migration channel, *unemployment rates* generally did. But researchers studying more recent local employment shocks have found much smaller migration responses. The large employment effects of the China shock produced no (Autor, Dorn, and Hanson 2013c) or small and delayed (Greenland, Lopresti, and McHenry 2019) population effects. Similarly, Yagan (2019) finds no statistically significant effect of the local severity of the Great Recession and out-migration from one's CZ.

We estimate a variety of event-study specifications and find no evidence of out-migration as a response to NAFTA. Figure 3 (online Appendix Figure A.17) is the analog to Figure 2 (online Appendix Figure A.7) except that log county population is the variable of interest. In contrast to the log-employment results, which showed a downward trend break in 1994 for all of our specifications, we find a series of null results and if anything, the patterns hint at population *stabilization* after several years of decline in the pre-period. We can rule out even small declines. For example, under both specifications, the 95 percent confidence interval for the coefficient on the year 2000 allows us to rule out declines greater than 2 log points. In the previous section, the parallel specification (using the point estimate, not the edge of the confidence interval) suggested a 6.6 log-point employment decline.

We perform a number of robustness checks to probe this null result. In online Appendix Figure A.18, we add controls for past population growth (as suggested by Greenland, Lopresti, and McHenry 2019). In online Appendix Figure A.19, we account for the fact that for many hard-hit counties, the counties to which residents

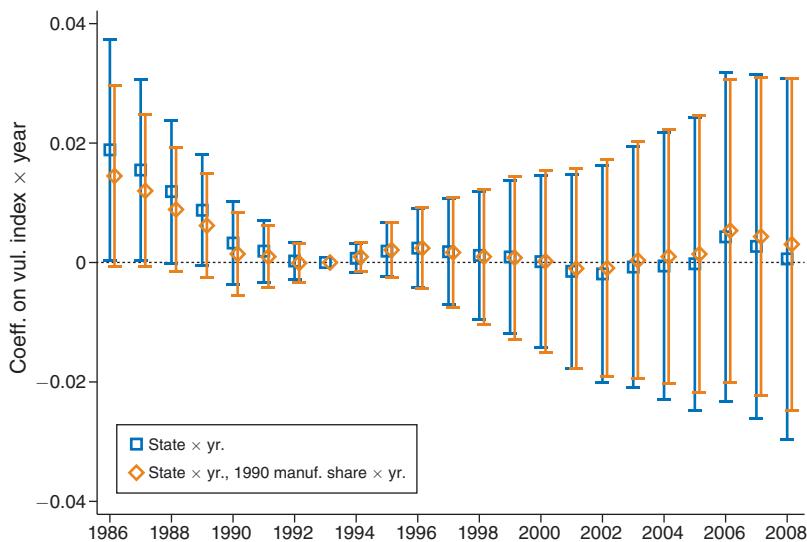


FIGURE 3. LOG POPULATION AS A FUNCTION OF COUNTY NAFTA VULNERABILITY

Notes: The analysis sample is fixed across specifications and strictly balanced, with 2,978 counties in each year of the sample. The figure shows the point estimates (and 95 percent confidence intervals, based on standard errors clustered by state) for the coefficients on *Vulnerability* interacted with year (with 1993 the omitted year) from different specifications of equation (5). Observations are weighted by 1990 county population. The first series controls for county and year fixed effects, as well as *state × year* fixed effects. The second series adds to the first controls for 1990 county-level manufacturing share of employment interacted with year fixed effects.

Source: The dependent variable is taken from the Census Bureau's Population Estimates Program. See online Appendix B.3 for more detail.

most often migrated in the pre-period were *also* highly NAFTA vulnerable (as suggested by Borusyak, Dix-Carneiro, and Kovak 2022). None of these specifications produce the expected, negative population result. While we do not include them in the interest of space, we find similar null results when we replicate Figure 3 for various population subgroups (e.g., working-age population, male and female population, the white and Black population).

We conclude that despite the large employment effects in NAFTA-vulnerable counties after 1993, their population growth tracks the rest of the country. This result echoes historians' description of 1990s Southern mill towns after a major textile employer closed. "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 2012, p. 224).

B. Trade Adjustment Assistance

Of course, policymakers are not completely naïve to the possibility of local job losses due to import competition, from NAFTA or other sources. Legislation originating in the 1960s and further expanded in the 1970s created a series of measures

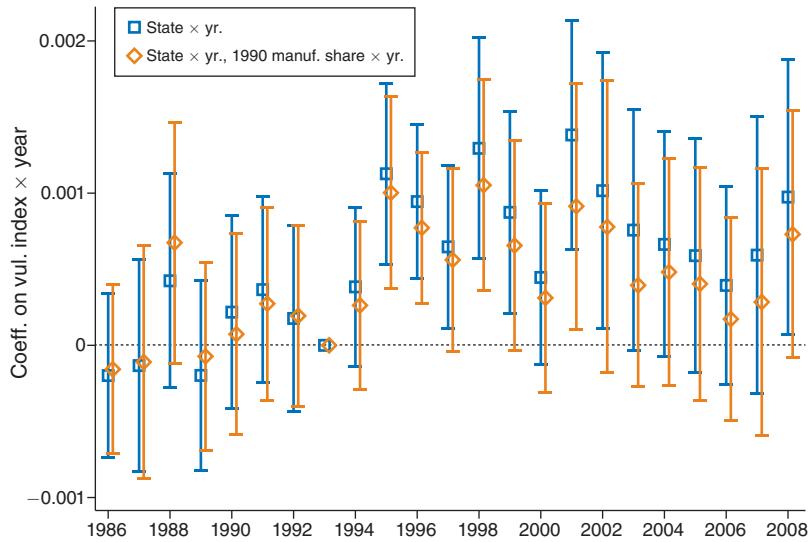


FIGURE 4. TRADE ADJUSTMENT ASSISTANCE PETITIONS PER CAPITA AS A FUNCTION OF COUNTY NAFTA VULNERABILITY

Notes: The analysis sample is fixed across specifications and strictly balanced, with 2,978 counties in each year of the sample. The figure shows the point estimates (and 95 percent confidence intervals, based on standard errors clustered by state) for the coefficients on *Vulnerability* interacted with year (with 1993 as the omitted year) from different specifications of equation (5). Observations are weighted by 1990 county population. The first series controls for county and year fixed effects, as well as *state × year* fixed effects. The second series adds to the first controls for 1990 county-level manufacturing share of employment interacted with year fixed effects.

Sources: The dependent variable is taken from the US Department of Labor TAA petition data, divided by 1990 working-age county population. See online Appendix B.5 for more detail.

collectively known as Trade Adjustment Assistance. Beyond income support, TAA provides opportunities for training, job search, and relocation payments.¹⁹

TAA application and certification data by county-year are extremely skewed: the majority of observations are zero, and a few outliers pull up the mean substantially. Log measures are thus not feasible, and we instead begin by estimating per capita applications (dividing by 1990 county population) as the outcome in our usual event-study setup. Figure 4 (and online Appendix Figures A.20 and A.21) provides the results for TAA applications. We find no pre-trends in per capita applications. In the years immediately after NAFTA's implementation, the coefficient on vulnerability is always positive and usually statistically significant, bouncing around 0.0008. While the coefficients remain positive in the 2000s, they are for the large part no longer significant. The analogous results for TAA *certifications*—approved applications—are in online Appendix Figure A.22 and show a similar but more muted pattern.

¹⁹To receive TAA benefits, a group of three or more workers must first file a petition with the US Department of Labor's TAA Program within a year of separation from the firm. If the group of workers meets the eligibility criteria, they will be issued a group eligibility certification. Each worker in the group then must make an individual application for TAA benefits through their local American Job Center. Hyman (2018) is one of the few economics papers that studies its efficacy. He uses assignment to investigators with varying leniency and finds that certification leads to short-run benefits that appear to fade within ten years.

While the coefficients in Figure 4 are statistically significant in much of the mid- and late 1990s, the economic magnitudes are modest. Given how the coefficients bounce around quite a bit in the years after NAFTA, we assess magnitudes using averages over 1994 to 2000 instead of using the year 2000 itself, as we often do. Over these years, we find on average a relative loss of 0.027 jobs per capita due to NAFTA (see online Appendix Figure A.9), meaning that the ratio of TAA petitions to jobs lost would be roughly $0.0008 \div 0.027 = 3.0$ percent (note that Autor, Dorn, and Hanson 2013c also find a very small increase in TAA petitions in areas hit by the China shock). These small effects motivate us to ask whether individuals in NAFTA-affected counties turned to other transfer programs.

C. Disability Insurance

At least since Autor and Duggan (2003), economists have studied whether individuals exposed to negative local economic shocks turn to the federal Disability Insurance program. Several mechanisms might operate (and we do not seek here to adjudicate among them). On the one hand, those with marginal health issues but still capable of gainful employment might turn to DI for income support if work opportunities dry up. So, holding health status constant, lack of jobs could push marginal candidates to apply to DI (what public finance economists would view as moral hazard). On the other hand, job loss could impact both mental health, given the link between jobs search and depression (Krueger et al. 2011), and physical health, given the loss of employer health insurance. Minchin (2012) describes loss of employer insurance as one of the biggest concerns of those who lost textile jobs in the 1990s.

To test whether NAFTA led residents of exposed areas to apply to DI, we obtain office-year DI application and award counts, from 1989 to 2008, from the Social Security Administration.²⁰ We use contemporary district office locations to assign zip codes to district offices.²¹ We then match those zip codes to counties based on 1990 geography to create a balanced panel of 759 counties, home to around three-quarters of the US population in 1990.²²

The event-study analysis shows a clear response to NAFTA along both the applications (Figure 5 and online Appendix Figures A.24 and A.25) and the awards (online Appendix Figure A.26) margins. There are no pre-trends suggesting a pre-NAFTA increase in DI applications in vulnerable counties (if anything, some evidence to the contrary). Applications begin to tick upward in NAFTA-vulnerable counties in 1996 and remain elevated for the remainder of our sample period.

²⁰ We are deeply indebted to Manasi Deshpande for facilitating our access to these data and answering our many questions and to Melissa Kearney for sharing her extract.

²¹ While the data do include zip code information for many district offices in *later* years (and thus in principle, we do not need to match by office location for these years), to have a consistent matching methodology in all years, we match only by the zip code information we find using the contemporary district office locations. Using this methodology, we are unable to match to counties those district offices that closed before 2009, the earliest year to our knowledge that district office locations are available publicly.

²² Online Appendix Figure A.23 shows that our log employment effects look similar to those in Figure 2, though somewhat smaller in magnitude, when restricted to these counties. So any effects on DI applications in this subsample might serve as a lower bound for that on the full sample.

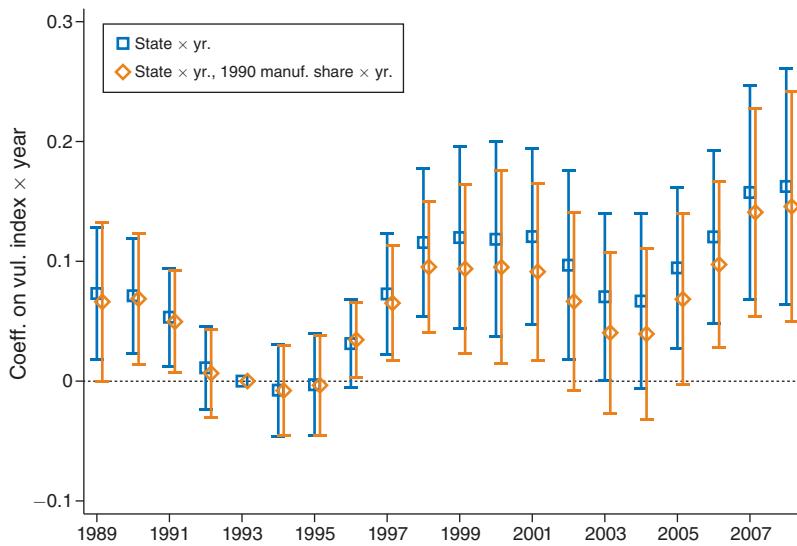


FIGURE 5. LOG OF DI APPLICATIONS AS A FUNCTION OF COUNTY NAFTA VULNERABILITY

Notes: The analysis sample is fixed across specifications and strictly balanced, with 759 counties in each year of the sample. As discussed in Section IVC, we do not have all counties in this analysis, but the 759 counties we have in this balanced panel analysis account for around three-fourths of the US population. The figure shows the point estimates (and 95 percent confidence intervals, based on standard errors clustered by state) for the coefficients on *Vulnerability* interacted with year (with 1993 the omitted year) from different specifications of equation (5). Observations are weighted by 1990 county population. The first series controls for county and year fixed effects, as well as *state × year* fixed effects. The second series adds to the first controls for 1990 county-level manufacturing share of employment interacted with year fixed effects. Online Appendix Figure A.26 shows the same analysis for *final awards* of DI.

Source: The dependent variable is taken from the Social Security Administration. See online Appendix B.8 for more detail.

Again, however, the magnitude of applications and awards relative to estimated job losses is modest. Taking the coefficients of the state-year-fixed-effects specification for the year 2000, we estimate that applications (awards) increased by 0.114 (0.073) per 100 residents in the most affected counties relative to the least affected.²³ Assuming 3 jobs lost per 100 by the year 2000 (on the modest side of the range of estimates in the previous section), we estimate a 3.8 (2.4) increase in DI applications (awards) for every 100 jobs lost.

D. Other Outcomes

A natural implication of job loss is greater unemployment insurance (UI) payments. As UI eligibility typically lasts only 26 weeks, we would expect that UI payments would rise in the period of active job loss but not remain elevated in the longer run. Online Appendix Figures A.27 and A.28 show exactly this pattern.

²³The point estimate for applications (awards) is 0.118 (0.184) in 2000. As we saw earlier that population does not change as a result of NAFTA and taking 0.962 DI applications per 100 in the top quartile of counties (see Table 1), we estimate a $0.118 \times 0.962 = 0.114$ increase in applications per 100 residents (note that using the top quartile slightly overstates this effect). The analogous calculation for awards is $0.184 \times 0.395 = 0.073$.

The decline in employment also suggests more families may gain SNAP eligibility. We find suggestive evidence of an increase in SNAP receipt in online Appendix Figures A.29 and A.30. We do not emphasize these results more because NAFTA occurs just as states and eventually the federal government embark on major welfare reform, which among other changes ended automatic SNAP enrollment upon enrollment in AFDC.²⁴

The evidence in this and the previous section suggests deterioration with respect to a number of important socioeconomic indicators in NAFTA-vulnerable counties after 1994. The next section examines whether these developments had any political impact.

V. The Political Response in Areas Vulnerable to NAFTA

The major US political parties have switched positions on trade policy several times since the nineteenth century. From the post-Civil War Gilded Age through the 1920s, the Democratic Party (concentrated in the south and west) favored lowering tariffs and championed a progressive federal income tax to make up for lost revenue. Republicans (concentrated in the richer, industrial northeast) preferred tariffs to protect domestic manufacturing and opposed progressive income taxation. This debate lost its salience during World War II and the early decades of the Cold War, when a bipartisan consensus maintained that offering favorable trade terms to other countries would reduce the appeal of communism. The United States had no industrial rivals at this time, which further diminished the importance of the issue. This consensus broke down in the 1970s as US economic growth slowed and import competition grew, at which point the Democrats emerged as the more protectionist of the two major parties (not a surprise, given their base of union members and blue-collar workers threatened by liberalized trade regimes).²⁵

The debate over NAFTA was a major topic in the 1992 and 1994 national elections. While Bill Clinton avoided taking a clear stand on NAFTA during the 1992 presidential campaign, he made passing NAFTA in Congress a major goal of the first year of his administration, against the wishes of his party's base.

By no means are we the first to argue (as we do in this and the next section) that NAFTA led to lasting, negative effects on Democratic identification among regions and demographic groups once loyal to the party. Many historians and political scientists have made this argument, though more in narrative than quantitative terms. In general, a theme of *betrayal* emerges. The traditional base of the party—e.g., union members and other working-class voters—bitterly opposed NAFTA and the Democratic president pushing for it, in what became a highly emotional fight (e.g., anti-NAFTA groups organized candlelit vigils on the White House lawn as the vote in Congress approached). Minchin writes, “In a hotly contested and emotional vote, the critics of globalization, led by organized labor and environmental groups, were overcome by NAFTA’s supporters, principally

²⁴This report articulates how many families eligible for food stamps did not receive them in the years following welfare reform: <https://www.brookings.edu/research/welfare-reform-reauthorization-an-overview-of-problems-and-issues/>.

²⁵The brief historical summary in this section is drawn mostly from Weisman (2004) and Stein (2010).

corporate lobbyists and the Clinton administration [emphasis added]" (Minchin 2012, p. 185). Similarly, Stein writes, "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 2010, p. 283).

The debate over NAFTA was not limited to academics and policy wonks. As we show in online Appendix Figure A.31, coverage of stories including the words "trade" and "imports" and "jobs" peaks for all three nightly network news shows in 1992–1993.²⁶ Vice President Al Gore participated in a nationally televised November 1993 debate against NAFTA foe Ross Perot, who argued throughout the debate that NAFTA would push blue-collar US jobs to Mexico. The debate set a viewership record for CNN that would stand for two decades (Kornacki 2018).²⁷ NAFTA was also the subject of at least two *Saturday Night Live* sketches in 1993.²⁸

A final point we emphasize before moving to the empirical work is that NAFTA did not turn out to be a one-time deviation from Democrats' previous protectionist platform. It was instead the start of a lasting pro-globalization shift. At the time of its 1993 passage, "Clinton told the national press that NAFTA... is 'the symbol of where we want to go in the world'" (Minchin 2017, p. 202). In addition to NAFTA, Clinton signed other important free trade measures (most notably the Uruguay Round Agreements Act in 1994 and Permanent Normalized Trade Relations with China in 2000). He made his pro-free trade position a major talking point of his 1996 reelection campaign.²⁹

A. Opinions of Respondents in NAFTA-Vulnerable States

We begin by showing the enduring unpopularity of NAFTA in the places most vulnerable to it. We gather all surveys we were aware of on the *Roper Center for Public Opinion Research* at the time of our search that (i) ask a generic sentiment question regarding NAFTA and (ii) include state identifiers. Very few surveys include county identifiers, and none that we know claim to be *representative* at the county level, so in this subsection we examine how *state*-level vulnerability to NAFTA predicts residents' views toward the trade agreement. Online Appendix B provides details on the surveys we include.

²⁶ Interestingly, even though the easing of trade relations with China had a greater impact in terms of total import value, the topic did not garner much coverage on network news. We speculate that the events of September 11, 2001, and the resulting US military campaigns in Afghanistan and Iraq crowded out media coverage of trade with China.

²⁷ Over 38 percent of registered voters reported having watched all or part of the debate, with an additional 30 percent saying they watched at least a "little" or had since heard or read about it. These numbers are from the authors' calculations using November 1993 WSJ/NBC survey data.

²⁸ See <https://www.nbc.com/saturday-night-live/video/mexican-stereotype/n10486> and <https://www.nbc.com/saturday-night-live/video/united-we-stand-america/n10497> for the videos.

²⁹ In the first 1996 presidential debate, he noted, "I've done a lot of things that were controversial. My economic plan, my trade position ... Sometimes you just have to do that because you know it's right for the country over the long run." In the second debate, he emphasized that he had opened up the country to trade more than any of his predecessors: "[W]e've had over 200 separate trade agreements in the last four years. By far, the largest number in American history—not just the big ones you read about, but a lot of smaller ones." See <https://www.debates.org/voter-education/debate-transcripts/october-6-1996-debate-transcript/> and <https://www.debates.org/voter-education/debate-transcripts/october-16-1996-debate-transcript/> for transcripts from these debates.

TABLE 2—APPROVAL OF NAFTA AS A FUNCTION OF STATE-LEVEL NAFTA VULNERABILITY

	Dep. var.: Supports NAFTA				
	(1)	(2)	(3)	(4)	(5)
State-level vulnerability	-0.0377 [0.016]	-0.0377 [0.017]	-0.0387 [0.014]	-0.0407 [0.014]	-0.0759 [0.017]
White			-0.0413 [0.012]	-0.0317 [0.012]	-0.0294 [0.016]
Black			-0.0269 [0.015]	-0.0174 [0.014]	0.00297 [0.017]
Male			0.0126 [0.008]	0.0127 [0.008]	-0.0599 [0.008]
No college degree			-0.0707 [0.009]	-0.0692 [0.008]	-0.0629 [0.012]
Log family income			0.0322 [0.007]	0.0308 [0.007]	0.0149 [0.007]
Union household			-0.0805 [0.013]	-0.0747 [0.012]	-0.105 [0.013]
Age/100			-0.372 [0.026]	-0.373 [0.025]	-0.422 [0.029]
Dep. var. mean	0.385	0.416	0.416	0.416	0.539
Drop if missing covars	No	Yes	Yes	Yes	Yes
Division fixed effects	No	No	No	Yes	Yes
Ex. DK	No	No	No	No	Yes
Observations	24,744	15,954	15,954	15,954	12,295

Notes: Survey (which subsume year) fixed effects in all regressions. Column 1 includes no other controls. Column 2 replicates the column 1 specification but on the subsample that has no missing values for the covariates used in subsequent columns. Column 3 adds the covariates reported in the table. Column 4 adds census-division fixed effects. Column 5 drops respondents who say they do not know enough about NAFTA or do not have an opinion. Standard errors clustered by state.

Sources: Opinion polls from 1993 to 2015, many of which are from Pew Research Center. See online Appendix B.11 for survey dates, exact question wording, and other details.

Table 2 documents a robust, negative relationship between the NAFTA vulnerability of the respondent's state of residence and her approval of NAFTA. Column 1 shows the coefficient on state-level vulnerability is negative and highly significant when only survey (which subsume time) fixed effects are included as controls. Relative to states in the least vulnerable quartile, support for NAFTA is 3.8 percentage points (roughly 10 percent) lower in the most vulnerable states. This magnitude remains unchanged when we restrict the sample in column 2 to include only observations with information on covariates. Column 3 adds controls for race, sex, education, income, age, and union status. These controls themselves have highly significant effects, but in fact, the coefficient on *Vulnerability* only becomes more negative and precise. In column 4 we add nine census division fixed effects, which again increases the magnitude of our coefficient of interest. The final column shows robustness to dropping those without a stated opinion on NAFTA.

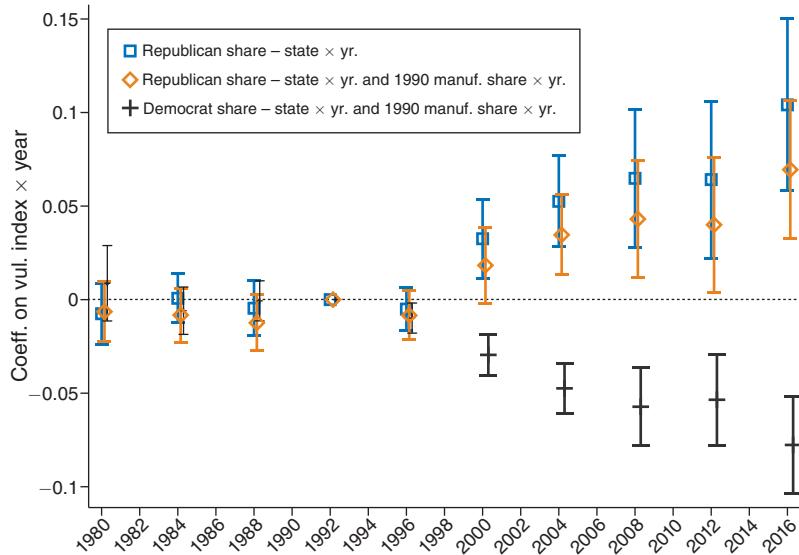


FIGURE 6. PRESIDENTIAL ELECTION VOTE SHARES AS A FUNCTION OF COUNTY VULNERABILITY

Notes: Each series includes *Observations* = 2,949 counties in a strictly balanced panel. The figure shows the event-study coefficient estimates (and 95 percent confidence intervals, based on standard errors clustered by state) from different specifications of equation (5), where the Republican (first two series) or Democratic (last series) vote share in presidential elections is the dependent variable. Observations are weighted by 1990 county population. The first series controls for county and year fixed effects, as well as *state × year* fixed effects. The second series adds to the first controls for 1990 county-level manufacturing share of employment interacted with year fixed effects. The third series is identical to the second except that Democratic presidential share is the outcome.

Sources: The dependent variable is taken from ICPSR general voting data and Dave Leip's Atlas of US Election data.

B. County-Level Event-Study Results

While the previous subsection showed the enduring unpopularity of NAFTA in vulnerable states, we now turn to our standard event-study analysis (obviously, we could not perform an event-study using NAFTA popularity as the outcome, as no questions on NAFTA per se existed in the pre-NAFTA period).

Using our usual county-year-level event-study specification, Figure 6 shows that NAFTA Vulnerability is associated with an increase (decrease) in Republican (Democratic) county-level presidential election vote share in the early 2000s, after a generally flat pre-NAFTA trend. We show results for both parties because in the key NAFTA years of 1992 and 1996, Perot's third-party anti-NAFTA campaign means that the Democratic and Republican shares do not sum to a value close to one, as they typically do. Relative to the 1992 omitted baseline election and using our preferred state-year-fixed-effects specification, by the early 2000s, counties in the top quartile of vulnerability have moved in the Republican direction by roughly 3 to 5 percentage points compared to the least exposed quartile. This result is robust to our usual manufacturing controls (series 2) or using the Democratic share as the

outcome (series 3).³⁰ As usual, we show the raw relationships as well as robustness to varying controls in the online Appendix (see online Appendix Figures A.33 to A.35, which show results separately for GOP and Democrat share).

Note that less educated voters are significantly more protectionist (we already saw this result for NAFTA *per se* in Table 2, and online Appendix Table A.1 shows it holds on questions of free trade more generally) and have been moving toward the Right over the past several decades (Gethin, Martinez-Toledano, and Piketty 2022), so controlling flexibly for 1990 county college share as we do in our usual battery of online Appendix results is a demanding test. Given the recent results in Gethin, Martinez-Toledano, and Piketty 2022 along with the racial character of US political coalitions, online Appendix Figure A.36 further tests robustness of the Figure 6 result to controls for 1990 county-level college share, 1990 white population share, and their interaction (all interacted with year fixed effects). The decline in Democratic vote share in vulnerable areas remains quite robust.

How large are the effects captured in Figure 6? Online Appendix Table A.2 benchmarks the political importance of the results in Figure 6 by simulating the 2000–2012 presidential elections after “removing” our estimated NAFTA effects (using the state \times year specification). We calculate that NAFTA would have shifted a substantial number of electoral votes in the 2000–2012 elections (a high of 64 net votes in 2004 and a low of 18 in 2000). And in all four elections, it would have put more states “in play” for Democrats (which we define as reducing a loss in a state popular vote from above to below 2.5 percentage points). Given the closeness of the 2000 and 2004 elections, the “NAFTA effect” we calculate was pivotal to the final result (as Democrats won in 2008 and 2012, erasing NAFTA can only make these victories larger).

VI. The Political Response among Individuals against Free Trade

Much of the existing literature on the political reaction to trade policy estimates, as we do in Section VB, ecological regressions, with the implicit assumption that the *areas* most affected by trade deals would exhibit the greatest shifts in political outcomes. In this section, we instead focus on *individuals'* self-reported views toward trade and test whether those with protectionist views shift away from the Democrats around the time of NAFTA's passage.

A. Evidence from Repeated Cross-Sectional Data

In this section, we make heavy use of the ANES. Since 1986, it has asked in most of its surveys a question capturing general protectionist sentiment. In almost all years, the question reads as follows: “Some people have suggested placing new limits on foreign imports in order to protect American jobs. Others say that such limits would raise consumer prices and hurt American exports. Do you favor or oppose

³⁰In online Appendix Figure A.32, we show that House elections yield similar patterns. Third-party voting is less common in Congressional elections; we only show results for the Republican vote share in House elections. One complication with House elections is that uncontested elections are not uncommon (whereas no presidential election since the early 1800s has gone uncontested). We drop such elections in our House analysis, meaning we have fewer counties in our strictly balanced sample and thus prefer the presidential election results.

placing new limits on imports, or haven't you thought much about this?" We create a *Favor import limits* dummy variable, coded as one if you agree with placing new limits on imports and zero for all others. We will sometimes describe individuals coded as "one" for this dummy variable as having "protectionist views" or being "protectionist."³¹ In all years, the ANES asks partisan ID, a scale variable from 1 to 7, increasing in support for the GOP, which we use to measure partisan identity.

In the analysis that follows, we document the reaction of protectionist voters to a Democratic president supporting and signing NAFTA.

Main Results.—We begin by estimating the following equation, separately by each year t in our sample:

$$(6) \quad PartisanScale_i = \beta_t FavorImportLimits_i + \gamma \mathbf{X}_i + e_i.$$

Note that estimating this equation separately by year t allows the coefficients on the control variables in \mathbf{X}_i to be unrestricted across years.

We plot the resulting β_t coefficients over time in Figure 7. The first series shows the coefficient estimates with no controls (an empty vector \mathbf{X}_i), so the plotted points are just raw differences between protectionist versus other voters. We see that pre-NAFTA, those with protectionist views were *less* supportive of the GOP (and the difference could be distinguished from zero in each year of the pre-period). Sometime between 1992 and 1996 (the "favor import limits" question is not asked in 1994), a significant number of protectionist voters moved toward the GOP, so that the raw difference goes to zero.

While the partisan shift among protectionist voters is consistent with a causal effect of NAFTA, it might instead be the case that protectionist sentiment is merely correlated with other factors that predict movement away from the Democrats in the early to mid-1990s. While we cannot ever fully dismiss this concern, we show that the shift observed in the raw data is robust to flexibly controlling for a variety of potential confounders. In the second series, we add standard demographic and socio-economic controls: race, sex, age, education, and income. The same 1992–1996 shift toward the GOP among protectionist voters remains, even after allowing these characteristics to have their own effect each year. As noted in the previous section, the robustness to flexible education controls is especially important given recent work by Gethin, Martinez-Toledano, and Piketty (2022), showing a longer-run trend of less educated voters away from the Democrats and other center-left parties in Western democracies. The pattern in the second series shows that the NAFTA-era shift among protectionist voters (who are themselves less educated) can be distinguished from the more general trends of educational sorting across parties.

In the third series, we add controls for trust in the federal government, views (a "thermometer" going from cold to warm) toward African Americans (given the importance of race in US politics), views on abortion, and weekly religious attendance. We choose these controls in particular because they are asked in all or most years of our sample period. The pattern of protectionist voters shifting in the GOP

³¹ Note that the ANES cumulative file codes are missing anyone who says they do not know enough about NAFTA or otherwise do not have an opinion. We thus use the individual survey files, which preserve this detail.

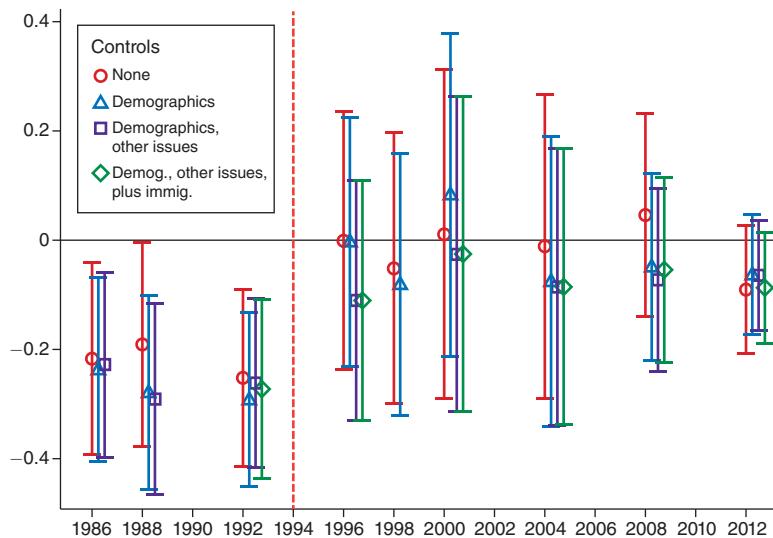


FIGURE 7. PARTY IDENTIFICATION (INCREASING IN REPUBLICAN DIRECTION) AS A FUNCTION OF VIEWS TOWARD TRADE

Notes: Separately for each year in our sample period, we regress the party ID scale (a 1–7 categorical variable, increasing in allegiance to the GOP) on the *FavorImportLimits_i* dummy variable (coded as one if the respondent says that they support additional limits on imports and zero otherwise). The first series includes no other controls (equivalent to raw differences). The second series controls for gender, age, race, education, and family income. The third series adds controls for abortion, trust in government, views toward Black people, and views toward welfare recipients (note that not all of these variables are available in 1998, so the third series is missing that year). The fourth series adds to the third series a control for wanting immigration to increase (this question is not asked in 1986 and 1988). Note that we estimate these regressions separately by year, so the coefficients on the controls are unrestricted across years. We plot 95 percent confidence intervals based on standard errors adjusted for clustering by state of residence.

Source: ANES repeated cross-sectional data. See online Appendix B.12 for more detail.

direction after 1992 holds. In the final series, we add a control for views toward immigration levels, which is not asked in the ANES in 1986 or 1988. For the years it is available, controlling for this variable separately by survey year yields coefficients almost identical to those in the third series.

While Figure 7 is important in showing that the shift happens between 1992 and 1996, we now turn to differences-in-difference estimation to facilitate more succinct robustness and subsample analysis. That is, we pool all years and model an individual's partisan identity as a function of *FavorLimits*, its interaction with *After 1992*, and year fixed effects (again varying controls to test robustness), where the interaction term is the variable of interest.

Table 3 shows the results from estimating variants of this equation. Column 1 has no additional controls beyond year fixed effects. Consistent with Figure 7, the coefficient on the main effect of *FavorImportLimits* suggests that from 1986 to 1992, protectionist views pushed against identifying as a Republican. The coefficient on the interaction term is positive and statistically significant, essentially erasing the pre-period effect. To give a sense of its practical significance, the shift is over one-half the size of the partisan gender gap (as estimated in our sample), a key divide in US politics.

TABLE 3—PARTISAN IDENTITY AND VIEWS TOWARD FREE TRADE, 1986–2012 REPEATED CROSS SECTIONS

	Dep. var.: Party ID (1–7, increasing in Republican direction)					
	(1)	(2)	(3)	(4)	(5)	(6)
Favor import limits × After 1992	0.180 [0.0730]	0.186 [0.0727]	0.216 [0.0700]	0.228 [0.0649]	0.154 [0.0771]	0.209 [0.0653]
Favor import limits	−0.223 [0.0723]	−0.228 [0.0723]	−0.265 [0.0714]	−0.278 [0.0709]	−0.385 [0.0837]	−0.269 [0.0695]
Dep. var. mean	3.620	3.620	3.620	3.620	3.737	3.620
Controls						
Demographic	No	No	Yes	Yes	Yes	Yes
State fixed effects	No	Yes	No	No	No	No
Issues	No	No	No	Yes	Yes	Yes
Demogr. × Aft	No	No	No	No	No	Yes
Issues × Aft	No	No	No	No	No	Yes
Ex. DK	No	No	No	No	Yes	No
R ²	0.007	0.027	0.120	0.163	0.155	0.172
Observations	18,486	18,486	18,486	18,486	11,029	18,486

Notes: Year fixed effects are in all regressions. Column 1 includes no other controls. Column 2 replicates the column 1 specification but adds state fixed effects. Column 3 adds to the column 1 specification controls for race, gender, education, age, and log of family income. Column 4 adds to the column 3 specification views toward abortion, trust in government, and feelings toward African Americans. Column 5 replicates column 4 but drops any respondent who says “don’t know” in response to the *FavorImportLimits* question (they are otherwise coded as zero unless ANES notes that the respondent was not asked). Column 6 adds to column 4 interactions between *After 1992* and each of the controls in column 3 and column 4. Standard errors clustered by state.

Sources: ANES time series files (repeated cross sections), 1986–2012. We include all surveys in this interval that ask the *Favor Import Limits* question (see Section VIA).

Column 2 adds state fixed effects, which we add with the caveat that the ANES warns users it is not representative at the state level. Column 3 drops state fixed effects and adds instead the same demographic controls in the second series of Figure 7. We do not report the coefficients to save space, but they are all of the expected signs. Note that they indeed add significant explanatory power to the estimation (the R² value jumps up by 10 percentage points), but if anything they only increase the magnitude on the coefficient of interest. A similar dynamic occurs in column 4, when we add to the column 3 specification the controls for other political and social issues included in the third series of Figure 7.³² Column 5 replicates column 4 after dropping all observations that respond “don’t know” to the *FavorImportLimits* question. In column 6, we add *After 1992* interactions with all the controls in columns 3 and 4 so that these variables, like our protectionist dummy, can have different effects before and after NAFTA. The coefficient of interest remains unchanged.³³

³²Note that we do not add views toward immigration, the extra control in the fourth series of the figure, as it is missing for most of the pre-NAFTA period.

³³Readers may wonder why we have not yet examined support for Ross Perot, given his importance in the anti-NAFTA movement. As he only ran in the 1992 and 1996 presidential races, focusing on him would limit the sample period relative to using party identification. But online Appendix Table A.3 indeed shows that, in both years, approval of Perot is significantly higher among protectionist voters.

Heterogeneity.—Which protectionist voters might have the largest political response to NAFTA? Minchin (2012) and others have argued that for many Democrats (especially white Democrats) in the 1980s, economic issues such as trade policy were key to their party loyalty because on social issues such as guns, affirmative action, and abortion, they sided with the GOP. We thus hypothesize that for these voters, the response to NAFTA will be stronger.³⁴ By contrast, for, say, a Black voter opposed to NAFTA but who is also pro-choice and wary of Republicans on civil rights, the Democrats' position on free trade would be just one of many issues that binds them to the party.

To test this idea, we examine our results in a series of sample splits that create mutually exclusive and exhaustive groups. For each subsample, we estimate the specification in column 4 of Table 3. While we cannot examine each of the issues highlighted by past work, we try to proxy many of them with questions in the ANES.

First, we examine our results by race, estimating the column 4 specification separately for whites versus all others and plotting the resulting coefficients and 95 percent confidence intervals in Figure 8. The white coefficient is larger in magnitude, though given the small size of the nonwhite group, there is large overlap in the confidence intervals. The large gender gap in modern US politics suggests that white men might feel especially at home with the GOP on cultural issues. Indeed, when we split the sample into white men versus all others, the former group exhibits a substantially larger shift toward the GOP among protectionist voters. A similar result holds among whites without a college degree versus all other respondents. The coefficients for nonwhite men and nonwhite respondents without a college degree are smaller than their counterparts and insignificant.

We next show that the protectionist response is somewhat larger in the South than elsewhere, perhaps because the South has more conservative social views or because the South was more vulnerable to NAFTA. The final cuts we examine are along two key cultural markers: opposition to abortion and weekly church attendance. Both of these splits of the data reveal large differences in the responsiveness of protectionist voters after 1992. Among respondents who do not oppose abortion or do not attend church weekly, the “protectionist response” that we propose still exists and pushes in the hypothesized direction but is much smaller and not always distinguishable from zero.

We conclude from the analysis of repeated cross-sectional data that between 1992 and 1996, voters with protectionist views exhibited a significant and enduring shift rightward. As hypothesized by historians, this shift was especially pronounced among individuals who already shared cultural positions with the GOP.

B. Corroborating Evidence from Panel Data

A possible concern about the repeated cross-sectional analysis is that views on trade could be endogenous to party identification, whereas our analysis in Figure 7 and Table 3 implicitly assumes that views on trade cause changes in party identification. NAFTA signaled that key Democratic leaders were taking a new position

³⁴Frank (2004) makes a similar point about NAFTA, writing, “With Democrats and Republicans having merged on free trade, the issues that remained were abortion and guns” (p. 177).

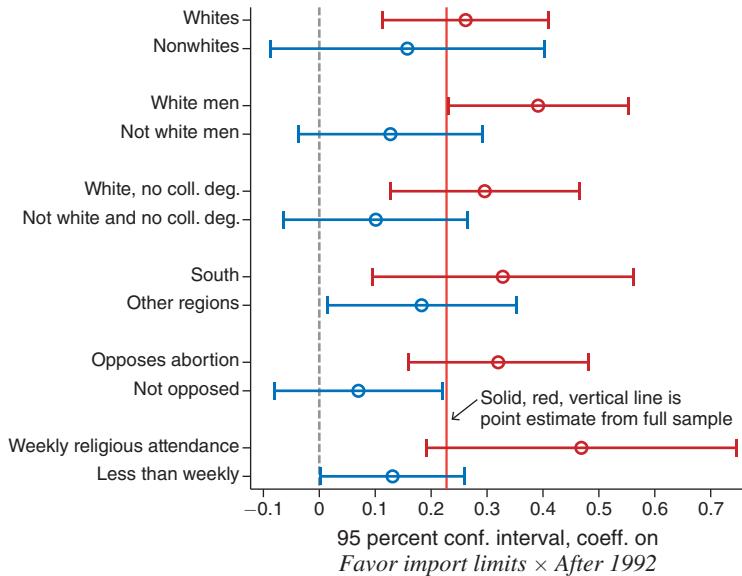


FIGURE 8. HETEROGENEITY IN THE SHIFT TOWARD GOP AFTER 1992 AMONG PROTECTIONIST RESPONDENTS

Notes: We estimate, for mutually exhaustive and distinct subgroups of the sample, the following equation: $\text{PartyID}_{it} = \beta^{DD} \text{FavorLimits}_i \times \text{After1992}_t + \beta^{\text{main}} \text{FavorLimits}_i + \gamma \mathbf{X}_{it} + \mu_t + e_{it}$. PartyID is a 1–7 scale variable increasing in Republican Party identification. We use the same control vector \mathbf{X}_{it} as in column 4 of Table 3, namely demographic and political issue controls. We report the coefficient and 95 percent confidence interval from the estimate of β^{DD} .

Source: ANES repeated cross-sectional data, 1986–2012

on trade, and thus, some loyal Democratic voters may *change their views on trade* to limit cognitive dissonance. For this reason, we turn to a 1992–1994 panel dataset that follows the *same voters* across time (so we can model any partisan shift as a function of pre-NAFTA trade views).

In 1992, the ANES fielded a panel survey as part of their usual election year surveys. That year, they designate roughly 1,000 respondents for a follow-up survey 2 years later; about 750 in fact take the survey in 1994. As our key explanatory variable, we use the same “do you favor imports” question in 1992 that we use in the repeated cross section analysis earlier in this section.³⁵ However, in this analysis, we ask whether protectionist views in 1992 predict *changes* in party identification away from the Democrats over the next two years as NAFTA is debated, passed, and implemented.

Table 4 shows results from estimating variants of the following equation:

$$(7) \quad \text{MovedRight}_{i,94-92} = \beta \text{FavorImportLimits}_{i,92} + \gamma \mathbf{X}_{i,92} + e_i,$$

where $\text{MovedRight}_{i,94-92}$ is a dummy for having moved toward the GOP on the seven-point scale, and all other variables are defined as before.

³⁵The question is not asked in 1994 (neither in the 1994 follow-up survey nor in the standard ANES 1994 cross section survey).

TABLE 4—PARTISAN IDENTITY AND VIEWS TOWARD FREE TRADE, 1992–1994 PANEL DATA

	Move in Repub. direction dummy × 100					
	(1)	(2)	(3)	(4)	(5)	(6)
Favor import limits	8.304 [3.325]	9.530 [4.108]	8.301 [3.443]	8.531 [3.401]	9.404 [3.568]	9.246 [3.889]
Minorities sd help self				7.238 [2.914]	7.799 [2.832]	8.762 [2.962]
Wants active govt.				-6.227 [3.073]	-5.509 [3.279]	-7.765 [3.503]
Support abortion				-2.702 [3.231]	-1.363 [3.605]	-1.505 [3.774]
Attend church weekly				8.091 [3.741]	8.447 [3.955]	7.263 [4.097]
Favors increased immigr.				0.455 [6.125]	-2.686 [6.759]	-4.198 [7.190]
Oppose gays in military					3.109 [6.728]	2.463 [7.141]
Oppose govt. health care					-0.921 [3.208]	-1.769 [3.257]
Favor term limits					-6.591 [3.463]	-6.042 [3.983]
Dep. var. mean	26.52	26.76	26.49	26.49	26.54	26.54
Ex. DK	No	Yes	No	No	No	No
Demog. covars	No	No	Yes	Yes	Yes	Yes
State fixed effects	No	No	No	No	No	Yes
R ²	0.00887	0.0104	0.0388	0.0619	0.0670	0.104
Observations	739	553	736	736	731	731

Notes: The dependent variable is a dummy (multiplied by 100) for whether the respondent moved in the GOP direction in the 1–7 partisan identity scale. All explanatory variables were asked in 1992. “Ex. DK” means that respondents who did not have an opinion are dropped (they are otherwise coded as zero). Demographic controls include race, gender, education, age, log family income, and urbanicity. Each observation is weighted by 1992 full sample weights. Standard errors clustered by state.

Source: ANES panel data, 1992–1994

Column 1 shows the results with no additional controls and suggests that those with protectionist views had an 8 percentage point higher likelihood of shifting rightward. This effect increases in magnitude when we drop those without an opinion (column 2). Column 3 adds to the column 1 specification standard demographic controls, which have a negligible effect on the coefficient of interest. In column 4 we add controls for political views. While some of these controls (e.g., views toward government programs that help African Americans and church attendance) help explain shifts toward the Right between 1992 and 1994, they do so in a manner independent of NAFTA, as the coefficient of interest is unchanged. These results are, however, an important reminder that NAFTA is not the only issue along which voters were politically realigning in the early to mid-1990s and suggest fertile ground for future work.

A nice feature of the panel analysis is that we can control for key issues of the day in 1992, which may not have stood the test of time in order to be asked repeatedly in the ANES but which could correlate with views on trade. In the fifth column, we control for views about gay people in the military and health reform (two

controversial issues during Clinton's first term) and congressional term limits (a key item on the "Contract with America" developed in 1993 by Newt Gingrich, the soon-to-be Speaker of the House). Interestingly, most of these issues do not have a significant effect despite their attention in the media, with the exception being the marginally significant effect of congressional term limits. In the final column, we add state fixed effects (although, again, the ANES warns that its samples are not representative at the state level). Results are unchanged.

We can replicate this analysis using a 1993 question on support for NAFTA *per se*, instead of our 1992 question on protectionist sentiment. Two issues arise. First, the sample becomes smaller. Second, as the question is asked in the fall of 1993 (the peak of the debate over NAFTA as the vote in Congress neared), it is also much more likely to be endogenous to party identity than our 1992 measure. Nonetheless, in online Appendix Table A.4, we find very similar results in terms of magnitude, though less precisely estimated.

As we did with the repeated cross-sectional data, online Appendix Figure A.37 examines heterogeneity in the 1992–1994 response of protectionist respondents. Given the much smaller sample size, we cannot always reject equality of subsample coefficients. But in almost all cases, the coefficient patterns mirror those in Figure 8, whereby more socially conservative groups also have the largest protectionist response to NAFTA.

C. Connecting the Economic and Political Impacts of NAFTA

A natural question is whether the economic impacts documented in Sections III and IV *caused* the political effects we document in this and the previous section. We believe there are (at least) two channels by which NAFTA affected political outcomes, which we call an "economic downturn" pathway and an "issue-based" pathway.

NAFTA was signed by a Democratic president and ever since has been unpopular in the states most vulnerable to its provisions (see Table 2), so it is not surprising that NAFTA-related local job loss would shift voters away from the Democrats in vulnerable areas. The presidential (Figure 6) and House (online Appendix Figure A.32) county-level results generally mirror the employment effects (Figure 2) in that the shifts are concentrated in NAFTA-vulnerable areas and occur *gradually* after NAFTA's passage. As cited in the introduction, past work has shown that, at least in Western democracies, economic downturns—regardless of their triggers—lead voters to support antiestablishment and right-wing parties, so even voters *unaware* of NAFTA might move toward the GOP in these counties merely as a response to local economic decline.

But the results in this section show an *immediate* political shift among protectionist voters and thus cannot be explained by economic downturn *per se* but rather by what we call an "issue-based" pathway. For example, in 1992 NAFTA had not yet been passed, but we see (online Appendix Table A.3) highly significant support for anti-NAFTA Perot among protectionist voters that year. Similarly, we see an anti-Democrat shift in political identification between 1992 and 1994 among these voters (Table 4), even though NAFTA had barely taken effect and the medium-run losses in vulnerable areas documented in Section III had not yet

materialized. For protectionist voters (who until NAFTA's passage were more likely to be Democrats; see Figure 7), punishing the president who signed NAFTA in 1993 was reason enough to move away from the Democrats, regardless of whether any economic consequences had yet materialized. Indeed, for protectionist voters motivated by the issue-based pathway, in a counterfactual world where Clinton pushed NAFTA but Congress voted it down, they might have still left the Democrats.

Of course, neatly breaking the mechanisms into these two categories is an oversimplification. In fact, voters reacting to NAFTA in 1992 may be *forecasting* the economic consequences, and in that sense are voting in line with our "economic downturn" pathway. Moreover, institutions can mediate voters' reactions, a topic we have not taken up in this paper. A limitation of the by-county analysis in this and other papers is that, by design, it will obscure any political shifts that have national spillovers. Given the importance of unions to Democratic get-out-the-vote efforts (Feigenbaum, Hertel-Fernandez, and Williamson 2018), scholars argue that the NAFTA fight may have caused lasting damage to the Democrats' ability to organize nationwide.³⁶ At least in the 1980s and 1990s, unions overrepresented less educated men (see Farber et al. 2021), so unions' sense of betrayal over NAFTA is potentially another indirect reason that the trade agreement led this demographic to leave the Democrats even in situations where the workers themselves did not lose their jobs. We flag the role of unions and other working-class institutions as potential mediators between policy and voting as a topic for future work.

VII. Conclusion

In this paper, we provide evidence that NAFTA substantially reduced employment in counties most exposed to Mexican import competition and that voters in these areas (as well as voters opposed to free trade, regardless of geographic residence) turned away from the Democratic Party as a result.

Why working-class whites are moving away from the Democratic Party is one of the most debated topics in US politics. As Piketty (2020) documents, it is part of a larger trend in rich democracies, as less educated voters have abandoned the traditional center-left parties in Europe. The 2016 election of Donald Trump in the United States, the successful Brexit campaign in the UK, and the rise of right-wing populist parties in Europe have prompted a recent debate about whether these events are best explained by "economic dislocation" or "ethnocentrism."

Our results point to an interactive effect between economic dislocation and ethnocentrism or other aspects of social conservatism, at least during the NAFTA era. The trigger for this movement toward the Right was an economic one—a trade deal that increased import competition for many low-wage domestic industries, which

³⁶"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 2019, p. 70). As Minchin (2017) writes, NAFTA left a huge and lasting rift between the Democratic Party and the labor movement: "For many in the labor movement, the resentment left by the administration's support of NAFTA was long-lasting. Even many years later, some staffers felt that Clinton had betrayed them ... 'We had just managed to elect a Democratic president, Bill Clinton,' recalled [AFL-CIO economist] Mark Anderson. 'The lousy son of a bitch.' Anderson felt 'terrible' after the NAFTA vote, which he viewed as 'hugely personal' (pp. 203–04)."

had been opposed by unions and less educated voters. But the movement appeared to manifest most significantly among those voters who already had conservative views on many social issues.

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