



The Impact of NAFTA on U.S. Labor Markets

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June 5, 2014

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Introduction

- Competing Claims in the Debates
 1. NAFTA will have significant effects on U.S. labor markets, including a “giant sucking sound” as millions of U.S. jobs were lost to competition from Mexican workers.

versus

2. NAFTA will result in efficiency gains from the expansion of bilateral trade in goods and services but would have little effect on aggregate labor market outcomes in the United States.



Introduction

- CGE Model Predictions

- Brown, Deardorff and Stern (1992) used a CGE model with monopolistic competition to predict the economic effects of NAFTA reductions in tariff and non-tariff barriers on the economies of the three countries.
- They predicted a 0.2 percent increase in real wages in the United States.
- They predicted changes in sector-level employment that ranged from a 11.6 percent reduction in the U.S. glass products sector to a 0.7 percent increase in the U.S. textiles sectors.
- The reason for these small magnitudes is straightforward: U.S. imports from Mexico were (and still are) small relative to the entire U.S. market, and the tariffs on these imports were not large even before NAFTA.



Introduction

- We now have a twenty-year record of trade and labor market outcomes to test these very diverse predictions about the economic effects of NAFTA.
 - There is a sizeable econometric literature that tries to quantify, in retrospect, the impact that NAFTA has had on U.S. employment and wages.
 - The general consensus in the literature is that NAFTA has not had significant effects on aggregate outcomes in U.S. labor markets.
 - Recent studies do find significant effects on U.S. labor market outcomes, but they are limited to certain industries and locations within the United States.



Introduction

- Then we turn to a different question, aimed at the present rather than the past.
 - We document the decline in the share of NAFTA imports in total imports from Mexico over the years and the recent decline in NAFTA preference margins.
 - We estimate the effect of current NAFTA tariff preferences on U.S. labor market outcomes.
 - We are not aware of other economic analyses that address this question, and we hope to make an original contribution.



Earlier Contributions to the Literature

- Burfisher, Robinson, and Thierfelder (2001)
 - In their review of the literature, they find little evidence that NAFTA affected aggregate employment in the three countries.
 - They conclude that the effects in U.S. labor markets are overwhelmed by other macroeconomic trends in the data.
- Thorbecke and Eigen-Zucchi (2002)
 - They point out that foreign direct investment flows have actually favored U.S. workers over Mexican workers.
 - They conclude that NAFTA has caused a dramatic expansion of bilateral trade and has brought some stability to the Mexican economy but that the employment effects have been small.



Dissenting Views

- There are, of course, dissenting views.
- Scott, Salas, and Campbell (2006)
 - They estimate the labor content of U.S. trade deficits with Mexico and Canada between 1993 and 2004, which they attribute to NAFTA.
 - They estimate that U.S. trade deficits with Mexico and Canada displaced production that supported approximately one million U.S. jobs.
 - Their calculations are not specifically tied to the magnitude of the NAFTA tariff reductions.



More Recent Contributions to the Literature

- Recent contributions to the literature have not overturned the consensus of little or no effects of NAFTA on aggregate labor market outcomes in the United States.
- However, they have emphasized exceptions to this general rule: they find significant effects on labor outcomes that are concentrated in certain parts of the country and in certain industries.
 - They emphasize local effects, inter-sectoral linkages



Models of Local Effects

- McLaren and Hakobyan (2010)
 - They present an econometric analysis of the effects of NAFTA reductions in U.S. tariffs on imports from Mexico, and ultimately on the wages of U.S. workers within the United States.
 - They use worker-level data from the U.S. Census in 1990 and 2000 to estimate each industry's vulnerability to Mexican imports and the share of each location's employment in vulnerable industries.
 - They estimate that the most NAFTA-vulnerable locations were in Georgia, North Carolina, South Carolina, and Indiana, and that a high-school dropout in one of the most NAFTA-vulnerable locations experienced an eight percentage point reduction in wage growth between 1990 and 2000 as a result of the NAFTA tariff reductions.
 - They estimate that the most protected industries – including footwear, textiles, and plastics – experienced a sixteen percentage point reduction in wage growth as a result of the tariff reductions.



Models of Local Effects

- Francis and Zheng (2011)
 - They estimate an econometric model of supply and demand in the U.S. labor market and examine the effects of NAFTA on unemployment in each state for the period 1977-2007.
 - They estimate that NAFTA reduced annual unemployment growth by 4.4 percentage points.
 - They conclude that there was an immediate effect of NAFTA in 1994 but that the impact on U.S. labor markets continued for at least seven years.
- Autor, Dorn, and Hanson (2013)
 - They find some evidence of a labor market impact of imports from Mexico, but they cannot separate Mexico trade effects from the China trade effects.



Models with Intermediate Goods

- Caliendo and Parro (2012)
 - They use a Ricardian model of trade with intersectoral linkages to estimate the economic effects of the tariff rate reductions among the NAFTA countries between 1993 and 2005.
 - They conclude that tariff reductions on imports from the NAFTA countries between 1993 and 2005 increased real wages in the United States by 0.17 percent.



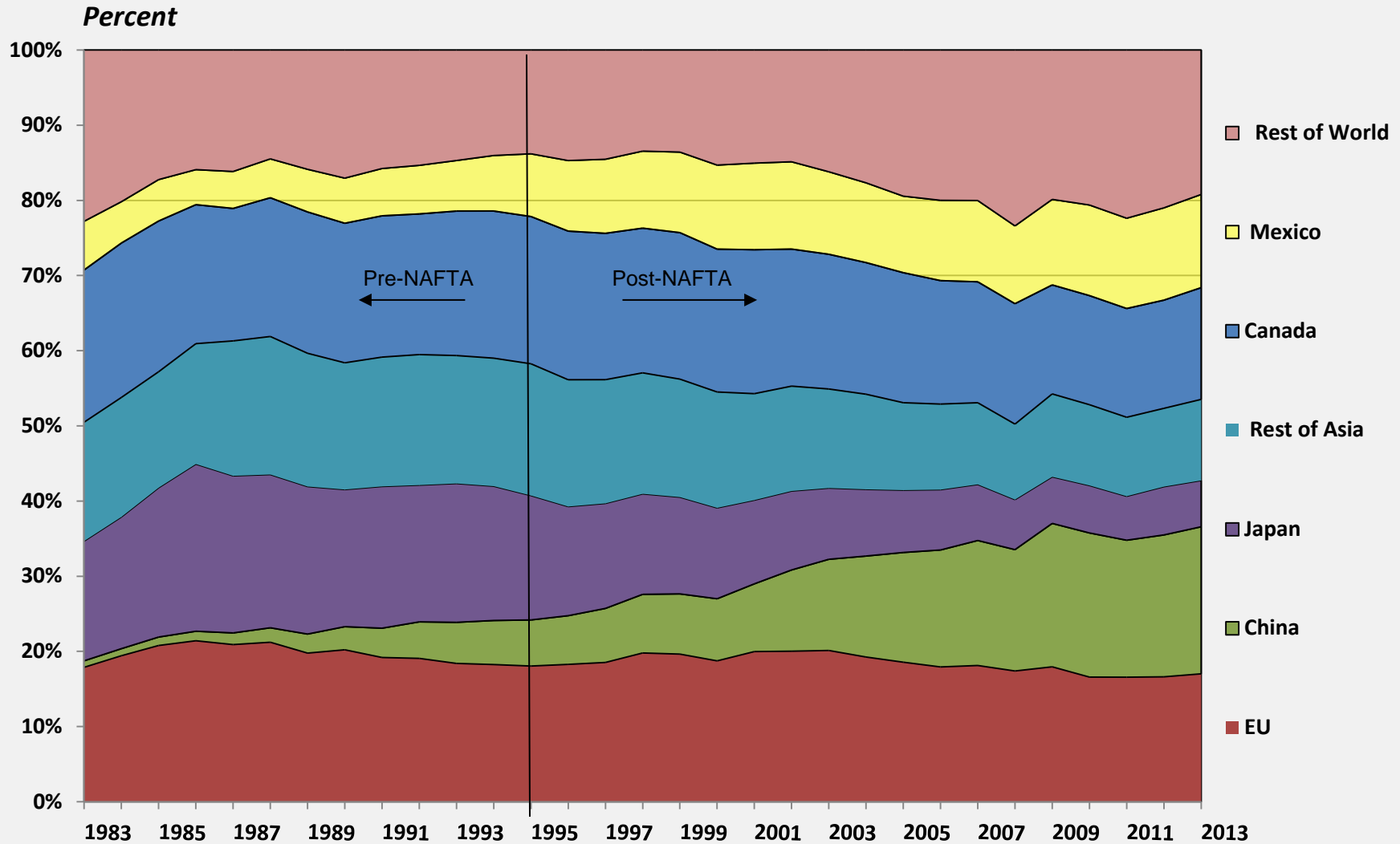
Where We Stand Today?

- Next, we address a different question:
How do the fully phased-in NAFTA preferences affect wages and employment in the United States today?
- We estimate these effects using a simulation analysis that “removes” the NAFTA preferences by increasing the tariff rates on U.S. NAFTA imports from Mexico to MFN rates.
- NAFTA revocation is not a serious policy option, but this counterfactual analysis is still useful as a way of quantifying the ongoing impact of NAFTA on U.S. labor markets.



Some Data Trends

U.S. Merchandise Imports by Country and Region, 1983-2013



Source: U.S. Department of Commerce



Data Issues

- The simulation analysis focuses on U.S. imports of non-food manufactures.
- We calculate the tariff preference margins at the level of HTS eight-digit products, as the percentage difference between the rate that would apply if the goods entered the United States without any preferences and the NAFTA rate (usually zero).



Data Issues

- We take account of incomplete preference utilization by using the tariff rates on NAFTA imports of each eight-digit product rather than an average tariff rate on all imports of the product from Mexico, which would combine the rates on NAFTA and non-NAFTA imports from Mexico.



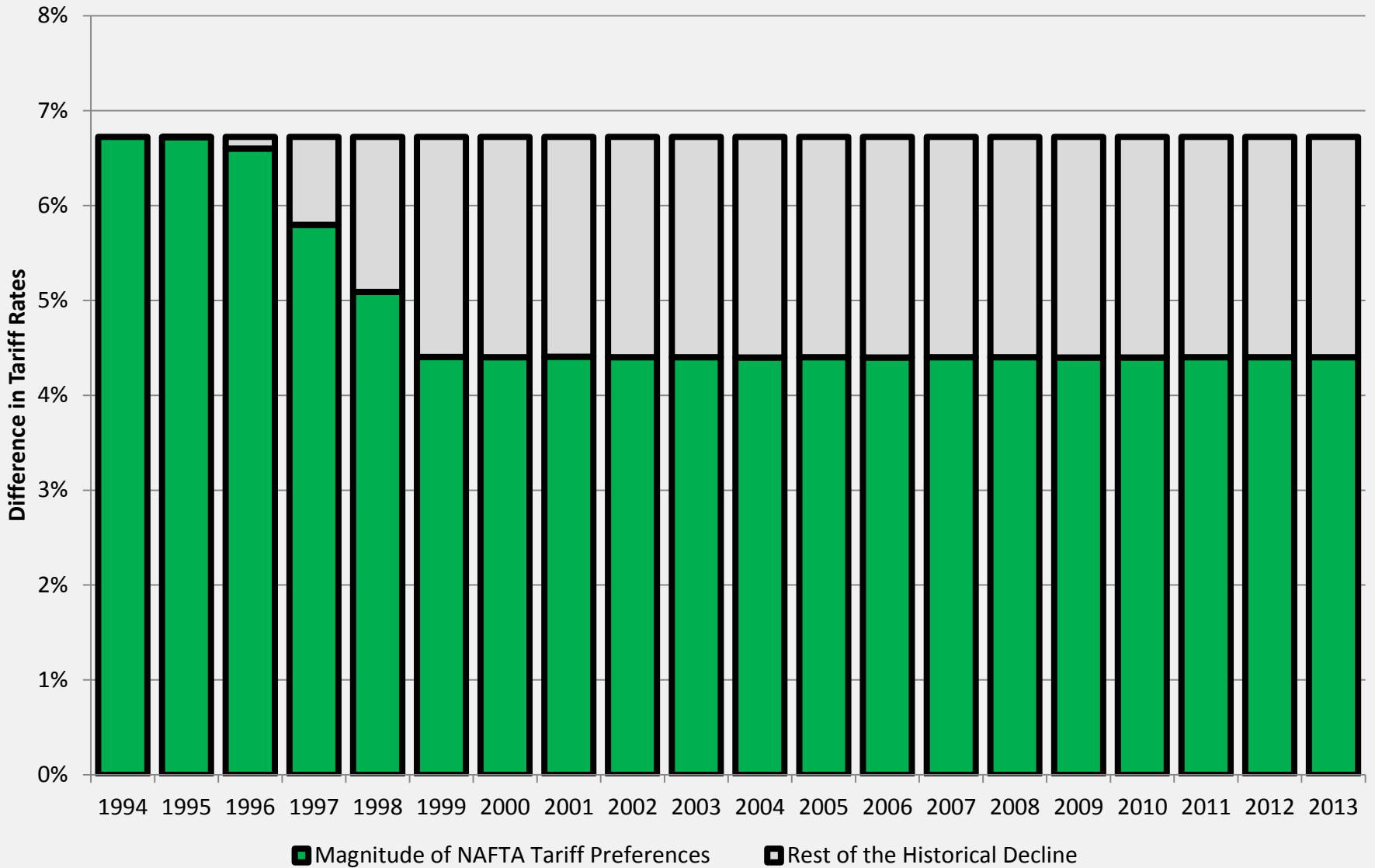
Shares and Average Preference Margins

- The average preference margin first rose and then fell.

NAFTA Share of Imports and Preference Margins Over Time

	1996	2004	2013
Average Preference Margin on All Imports from Mexico	3.44%	3.63%	1.74%
Non-NAFTA Share of Imports from Mexico	23.92%	40.51%	42.42%
Average Preference Margin on NAFTA Imports from Mexico	4.52%	6.09%	3.03%

**Illustrative Example:
 Tariff Rate on US Imports of Certain Radios for Motor Vehicles
 (HTS 85272980)**





GTAP Model Simulation

- Our simulation uses a 2011 baseline from pre-release version 9 of the GTAP database.
- We focus on the preference margins on U.S. imports from Mexico in the 21 GTAP manufacturing sectors.
- We do not model the effect of the preference margins on U.S. exports to Mexico.



GTAP Model Simulation

- The real wage effects are smaller than estimates than estimates in Brown, Deardorff and Stern (1992) and Caliendo and Parro (2012).
- This is not surprising, since our estimates include the potentially negative shocks to U.S. labor demand (the reductions in tariffs on U.S. imports) but do not include many of the likely positive shocks to U.S. labor demand (the reductions in tariffs on U.S. exports).
 - In this sense, our estimates could be viewed as a lower bound on the positive effects of NAFTA on aggregate real wages in the United States.
- Also, we are simulating the effects of recent NAFTA preference margins, which can be significantly smaller than the historical tariff reductions that are used in the literature.



Effects on U.S. Real and Relative Wages

Simulated Effects on NAFTA Preferences on U.S. Workers	Percentage Point Increase Relative to the Counterfactual
Impact on the Real Wages on Skilled Workers in the U.S.	+0.008%
Impact on the Real Wages on Unskilled Workers in the U.S.	+0.003%
Impact on the Skill Premium in the U.S.	+0.005%



Effects on U.S. Employment by Sector

GTAP Sector	% Point Change in Sector's Employment of Skilled Workers	% Point Change in Sector's Employment of Unskilled Workers
Textiles	+0.104%	+0.112%
Apparel	-0.308%	-0.305%
Leather	+0.048%	+0.054%
Chemicals, Rubber, and Plastics	+0.073%	+0.079%
Non-Metallic Mineral Products	-0.044%	-0.038%
Iron and Steel	+0.183%	+0.192%
Non-Ferrous Metal Products	+0.359%	+0.370%
Electronic Products	-0.013%	-0.007%
Other Machinery	+0.187%	+0.195%
Motor Vehicles	+0.006%	+0.012%
Other Transportation Equipment	+0.106%	+0.114%



Ideas for Further Research

1. It would be interesting to try to estimate the effects on local, segmented labor markets within the United States, following the recent emphasis in the econometric literature. However, this would require a different modeling framework.
2. We would like to add the NAFTA preference margins on Mexican imports from the United States. We expect that adding Mexican preference margins into the model will increase the simulated positive effects on wages in the United States.
3. We would like to go beyond our analysis of tariff preferences and try to model the labor market effects of the non-tariff provisions of the agreement.