Chapter 9:
The Impact of NAFTA on U.S. Labor Markets

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In this presentation, Justino De La Cruz discussed the findings of collaborative research with David Riker; both are international economists at the U.S. International Trade Commission. De La Cruz started by pointing out two competing claims about the impact of NAFTA on U.S. labor markets—claims that were debated 20 years ago. One side claimed that NAFTA would have a significant negative effect on U.S. labor markets, as millions of U.S. jobs would be lost to competition from Mexican workers. The other side claimed that while NAFTA would lead to efficiency gains from the expansion of bilateral trade in goods and services, it would have little effect on aggregate labor market outcomes in the United States.

Twenty years later, De La Cruz and Riker reframe this question. They ask: How do the fully phased-in NAFTA preferences affect wages and employment in the United States today? What would happen to real wages and employment in the United States if U.S. imports from Mexico were imported not at NAFTA rates but rather at most-favored-nation (MFN) rates? To answer these questions, they estimated the economic effects of NAFTA preferences using a simulation analysis that increases current tariff rates on U.S. NAFTA imports from Mexico to MFN rates.[18] Their results are consistent with the consensus in the literature that NAFTA has not had significant effects on aggregate outcomes in U.S. labor markets. However, they are also consistent with those of some recent studies that do find significant effects on the U.S. labor market in certain industries.

De La Cruz and Riker first document the decline in the share of NAFTA imports in total U.S. imports from Mexico, as well as the decline in NAFTA preference margins. Next, they incorporate those data into a computable general equilibrium (CGE) model from the Global Trade Analysis Project (GTAP). They then use the CGE model to simulate how real wages and manufacturing employment in the United States would be different absent the recent NAFTA preference margins on U.S. manufacturing imports from Mexico.

[17] The views in this article are solely the opinions of the authors and should not be interpreted as reflecting the views of the U.S. International Trade Commission or any of its Commissioners.
[18] De la Cruz explained that although revoking NAFTA is not a serious policy option, this counterfactual analysis is still useful as a way of quantifying the ongoing impact of NAFTA on U.S. labor markets.

Declining NAFTA Share of Imports in U.S. Total and NAFTA Preference Margin Erosion

The analysis focuses on U.S. imports of nonfood manufactures that are imported from Mexico. De La Cruz and Riker calculated the tariff preference margins, shown in table 1, of products at the 8-digit level in the Harmonized Tariff Schedule of the United States. The tariff preference margin is the percentage difference between the rate that would apply if the goods entered the United States without any preferences (that is, the MFN rate) and the NAFTA rate (usually zero).[19]

The average tariff preference margin first rose, from 1996 to 2004, and then fell for several reasons. First, NAFTA tariff reductions were phased in over the first 15 years of the agreement, and this increased the average preference margin over time. Second, in recent years there has been a rise in the share of imports from Mexico that entered the United States outside of the NAFTA program. This has reduced the average preference margin, since non-NAFTA imports from Mexico do not have NAFTA preference margins. Third, there has been an additional erosion in the average preference margin due to the reductions in U.S. tariff rates on non-NAFTA imports. Finally, there have been shifts in the product mix of U.S. imports from Mexico. The products have different preference margins, and this, too, accounts for some of the changes in the average margin.

Table 1. NAFTA Share of Imports and Preference Margin, 1996, 2004, and 2013 (Percent)

Concept	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

Source: De La Cruz and Riker (2014).

Model Simulation, Results, and Further Research

The simulations use a 2011 baseline from version 9 of the GTAP database.[20] They focus on the preference margins on U.S. imports from Mexico in the 21 manufacturing sectors in GTAP. They do not

[19] De La Cruz and Riker take account of incomplete preference utilization by using the tariff rates on NAFTA imports of each 8-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.
[20] Additional details about the modeling analysis are provided in De La Cruz and Riker (2014).

model the effect of NAFTA reductions in the tariffs on U.S. exports to Mexico.[21] In this regard, they follow recent econometric work by McLaren and Hakobyan.[22]

Table 2 reports the contributions of the NAFTA preference margins to the real and relative wages of skilled and unskilled workers in the United States. The preferences increase the real wages, and therefore purchasing power, of skilled workers in the United States by 0.008 percent. This is the difference between the percentage decrease in the price of skilled labor and the percentage decrease in the consumer price index. Consumer prices fall by more than the price of skilled labor, so real wages increase. The preferences also increase the real wages of unskilled workers in the United States, but only by 0.003 percent. They thus increase the skill premium in U.S. wages by 0.005 percent.

Table 2. Simulated Effects of NAFTA Preference on U.S. Real and Relative Wages, Percentage Point

Impact on real wage of U.S. Workers	Percentage point increase
Skilled workers in the U.S.	0.008
Unskilled workers in the U.S.	0.003
Impact on skill premium	0.005

Source: De La Cruz and Riker (2014).

The real wage effects are smaller than estimates in the literature, including the 0.20 percent increase in U.S. real wages estimated in Brown, Deardorff, and Stern (1992) and the 0.17 percent increase in U.S. real wages estimated in Caliendo and Parro (2015). This is not surprising, since De La Cruz and Riker simulated the effects of recent NAFTA preference margins, which can be much smaller than the historical tariff reductions that are used as inputs in the models in Brown, Deardorff, and Stern (1992) and Caliendo and Parro (2015). In addition, while the estimates from De La Cruz and Riker include the potentially negative shocks to U.S. labor demand from NAFTA (the reductions in tariffs on U.S. imports from relatively labor-abundant Mexico) , they do not include many of the likely positive shocks to U.S. labor demand from NAFTA (the reductions in tariffs on U.S. exports to Mexico and Canada). In this sense, these estimates could be viewed as a lower bound on the positive effects of NAFTA on aggregate real wages in the United States.

[21] We discuss the possibility of adding these preference margins in the next section.
[22] McLaren and Hakobyan (2010) also focus on the tariff reductions on U.S. imports from Mexico. However, unlike McLaren and Hakobyan, De La Cruz and Riker estimate the effects on average wages in the United States, while McLaren and Hakobyan estimate the effects on wages in especially vulnerable locations within the country. Also, McLaren and Hakobyan model monetary wages, rather than real wages, so their model does not quantify the benefits of reduced consumer prices.

Table 3 reports the impact of the preferences on employment in selected manufacturing sectors. The model assumes that the total labor force is fixed, so there are no net employment changes in the U.S. economy. However, there is a reallocation of employment among the different sectors of the economy.

Table 3. Simulated effect of the NAFTA preferences on U.S. manufacturing employment

GTAP sector	Percentage point increase in sector employment	
	Skilled workers	Unskilled workers
Textiles	0.104	0.112
Apparel	-0.308	-0.305
Leather	0.048	0.054
Chemicals, rubber, and plastic	0.073	0.079
Nonmetallic mineral products	-0.044	-0.038
Iron and steel	0.183	0.192
Nonferrous metal products	0.359	0.370
Electronic products	-0.013	-0.007
Other machinery	0.187	0.195
Motor vehicles	0.006	0.012
Sugar products	-0.735	-0.736

Source: De La Cruz and Riker (2014).

Employment declines in several GTAP sectors as the preference margins increase import competition; employment in other sectors grows even though these sectors experience an increase in import competition, as labor is reallocated away from the contracting sectors. The model estimates that the greatest positive employment effects are in the nonferrous metal, iron and steel, and machinery sectors (0.4, 0.2, and 0.2 percent increases, respectively), while the largest negative employment effects are in the sugar and apparel sectors (0.7 and 0.3 percent declines, respectively).

In his discussion of future research, De La Cruz suggested that it would be interesting to try to estimate NAFTA's effects on local labor markets within the United States, following the recent emphasis in the econometric literature. However, this would require a different modeling framework. He also suggested incorporating the preference margins on imports into Mexico into the analysis. Doing so will increase the simulated positive effects on wages in the United States. Finally, De La Cruz noted that he and Riker would like to extend the analysis to model the labor market effects of the nontariff provisions of the agreement.

References

Brown, D.K., A.V. Deardorff, and R.M. Stern. 1992. "A North American Free Trade Agreement: Analytical Issues and a Computational Assessment." *World Economy* 15(1): 11–30.

Caliendo, Lorenzo, and Fernando Parro. 2015. "Estimates of the Trade and Welfare Effects of NAFTA." *The Review of Economic Studies* 82(1): 1-44.

De La Cruz, J., and D. Riker. 2014. "The Impact of NAFTA on U.S. Labor Markets." U.S. International Trade Commission Office of Economics Working Paper No. 2014-06A.

McLaren, J., and S. Hakobyan. 2010. "Looking for Local Labor Market Effects of NAFTA." NBER working paper 16535.