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Effects of NAFTA on US Employment and Policy Responses

Christopher J. O'Leary,
Randall W. Eberts, Brian M. Pittelko

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Abstract

EFFECTS OF NAFTA ON US EMPLOYMENT AND POLICY RESPONSES

Christopher J. O'Leary, Randall W. Eberts, and Brian M. Pittelko

W.E. Upjohn Institute for Employment Research,
Consultants to the OECD

The signing of the North American Free Trade Agreement (NAFTA) was a contentious event in United States (US) politics, in particular with respect to public views about the possible labour market effects. This paper is structured as follows. First, we provide background on the political debate in the United States at the time of the signing of NAFTA. We then outline the dynamics of trade and employment among the NAFTA partners over the last 20 years. The third section provides a literature review that summarises estimates of NAFTA's employment impact, both shortly before its implementation and afterwards. Against this background, we provide an overview and assessment of US employment policy responses aimed at facilitating labour-market adjustment and support of trade-displaced workers.

Acknowledgements

The OECD-led **International Collaborative Initiative on Trade and Employment (ICITE)** has brought together ten international organisations in an effort to deepen our understanding of the linkages between trade and jobs and to develop policy-relevant conclusions. ICITE is mobilising resources world-wide in an extensive programme of research, dialogue and communications. Participating organisations include: ADB, AfDB, ECLAC, IADB, ILO, OAS, OECD, UNCTAD, World Bank and WTO. The OECD is publishing this series of Trade Policy Working Papers drawing on the ICITE research programme.

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This paper has been developed as an input to the ICITE project. The views expressed are those of the authors and do not necessarily reflect those of the OECD, OECD member country governments or partners of the ICITE initiative.

Table of contents

Executive Summary 5

1. Introduction 7
2. NAFTA and US public policy debate 7
3. Trade among NAFTA countries and US employment 10
4. Literature review: NAFTA impact estimates 15
   The Effect of NAFTA on trade 16
   The Effect of trade on employment 19
   Projected impacts before NAFTA was enacted 20
   Estimates of impacts after NAFTA was signed 24
5. Employment policy responses to NAFTA 27
   Trade Adjustment Assistance 29
   Self-Employment Assistance 34
   Other dislocated worker policies 35
6. Conclusion 36

Tables

Table 1. US merchandise trade balance with Mexico, Canada, NAFTA and the world, selected years, 1989 to 2009 (billions of current USD) 13
Table 2. Employment and employment change in traded goods industries, United States, 1989-2008 14
Table 3. Estimates before 1993 of NAFTA effects on US production, employment and industries. 22
Table 4. Estimates after 1993 of NAFTA effects on US production, employment and industries 25
Table 5. Certified TAA or NAFTA/TAA cases by year of impact 31
Table 6. Appropriations, reemployment rates, participation duration and tenure on prior job for the Trade Adjustment Assistance (TAA), 2005-2010 33

Figures

Figure 1. US merchandise trade with NAFTA and the world, 1989-2010 12
Figure 2. Mexico's and Canada's share of US imports 15

Boxes

Box 1. Post-NAFTA US free trade agreements with labour chapters 9
Box 2. US policies to assist trade impacted and dislocated workers 25

Executive Summary

The signing of the North American Free Trade Agreement (NAFTA) proved to be a contentious event in United States (US) politics, in particular with respect to public views on the possible labour market implications. This paper provides background on the political debate in the United States at the time of signing of NAFTA. Then, it briefly outlines the dynamics of trade and employment among the NAFTA partners over the last 20 years. Through a literature review, it summarises estimates of NAFTA's employment impact, both shortly before its implementation and afterwards. Against this background this paper provides an overview and assessment of policy responses in the United States, which aim at facilitation of labour-market adjustment and support of trade-displaced workers.

Following the elimination of tariffs under NAFTA, the volumes of exports and imports between North American countries steadily increased. The rates of growth in North American trade have been similar to trade between the US and the rest of the world. Such growth in trade has yielded winners and losers. Both consumers of final goods and producers buying intermediate goods gained from lower prices. However, some Americans lost their jobs and their incomes after NAFTA went into effect. While these losses may be modest compared to the contemporaneous employment effects of US trade with the rest of the world, thousands of workers were displaced and specific public policies emerged to address NAFTA job loss.

The principal aim of this note was to provide an overview of the US policy responses to NAFTA and demonstrate how those fit into a broader policy aiming to support displaced workers. We focused specifically on Trade Adjustment Assistance (TAA), Self-Employment Assistance (SEA) and other supporting policies. As shown, Trade Adjustment Assistance (TAA) provided substantial income replacement to NAFTA displaced workers. However, research evidence suggests that TAA retraining and reemployment assistance did not appreciably increase employment among trade impacted workers. Though Self-Employment Assistance (SEA) is a smaller programme, targeting a narrower population, research points to significant positive effects on employment; there may be potential benefits of increasing the geographic coverage of this measure. In addition, some research suggests that the job losses due to trade may be concentrated in relatively low-skill jobs, whereas a substantial portion of the new opportunities created by trade may arise in relatively high-skill jobs. Not all trade-displaced workers have the capacity and resources to bridge the job-skill reemployment gap. Thus, there is a need for further monitoring of the potential divergent effects for these two groups and continued efforts to improve the effectiveness of programmes designed to address this challenge.

After NAFTA and several other more recent trade accords, the United States now has free trade agreements in force with 17 countries. Under NAFTA, the United States experienced trade liberalisation implemented hand-in-hand with complementary measures to promote labour and environmental standards among the three trading partners. After the example of NAFTA, all subsequent American free trade agreements have included labour and environmental standards as integral chapters in free trade accords. Over the long-run

these requirements in trade agreements are potentially even more important to consumer-workers in America than the short-term savings provided through lower prices.

The effects of NAFTA should not be assessed too narrowly relative to conditions at the time it went into force in 1994. World trade is a rising share of economic activity for all NAFTA partners and for most other countries around the world. US trade was on the increase even before NAFTA was implemented. As the inexorable growth in global trade continues, the US has pursued more free trade agreements building on the precedents of NAFTA, including standards for business and labour practices. Thus, there are likely to be expanding economic benefits not only directly from NAFTA-related trade, but also from the application of NAFTA principles in other trade liberalisation initiatives.

1. Introduction[1,2]

The signing of the North American Free Trade Agreement (NAFTA) proved to be a contentious event in US politics, in particular with respect to public views on the possible labour market implications. This paper is structured as follows. First, we provide background on the political debate in the United States at the time of the signing of NAFTA. We then briefly outline the dynamics of trade and employment among the NAFTA partners over the last 20 years. The following section provides a literature review summarising estimates of NAFTA's employment impact, both shortly before its implementation and afterwards. Against this background, we provide an overview and assessment of policy responses in the United States which aim at facilitation of labour-market adjustment and support of trade-displaced workers.

2. NAFTA and US public policy debate

When President Clinton finished negotiating the North American Free Trade Agreement (NAFTA) on 14 September 1993, he touted the treaty as a boon to the labour market that would create jobs and position the US economy to flourish in an increasingly global economy. In his public remarks, he stated his belief that "NAFTA will create 200 000 American jobs in the first two years of its effect"…and "a million jobs in the first five years of its impact."[3] He based his belief on an export-led expansion of Mexico's economy as a result of lower tariffs. He presented evidence that in the six years prior to NAFTA when Mexico unilaterally started reducing its tariffs on US imports, the US trade deficit with Mexico had changed into a trade surplus. Citing econometric studies of the likely impact of NAFTA on jobs, he said that nearly all the serious economic studies concluded that there would be no job loss. President Clinton also promised that workers displaced from NAFTA could depend on receiving government-provided training and reemployment assistance and that countries party to the agreement would be held accountable for their labour and environmental laws.

Not everyone shared the President's optimism toward NAFTA. During the 1992 US presidential campaign between President George Bush and Governor Bill Clinton, the third party candidate H. Ross Perot attacked his opponents' support for NAFTA and warned voters they would hear "a great sucking sound" of American jobs from south of the border. Several times during his public remarks on 14 September, President Clinton recognised public concern about the possible loss of jobs caused by NAFTA and the hard fight ahead in Congress to ratify the treaty. Strong statements concerning jobs echoed throughout the House and Senate Chambers during the months leading up to a vote. Close scrutiny of the statements made during the pre-vote debate in both the US House of Representatives and the

1. Contact: Chris O'Leary, e-mail: oleary@upjohn.org .

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3. The White House, Office of the Press Secretary, Remarks by President Clinton, President Bush, President Carter, President Ford, and Vice President Gore in signing of NAFTA side agreements.

US Senate reveals that jobs were of utmost concern. Of the 141 statements against NAFTA in the House and Senate, 112 were of the form "NAFTA will destroys jobs. On the other hand, of the 219 pro-NAFTA statements, 199 were of the form "NAFTA will create jobs" (Baldwin and Magee, 2000).

Nonetheless, Congress approved NAFTA relatively quickly. The House of Representatives approved NAFTA in November by a margin of 34 votes, and the Senate passed the bill in December by a vote of 61 to 38. Clinton signed the NAFTA treaty on 8 December 1993, and it went into effect on 1 January 1994, creating the world's largest free trade area. Today, the free trade area created by NAFTA includes 457 million people and a USD 17 trillion combined economy.[4] The agreement reduced tariffs between Canada, Mexico and the United States. Many tariffs were eliminated immediately while others were phased out over an extended period of time. The final duties and quantitative restrictions on trade were removed on 1 January 2008.

A major reason for the swift approval of NAFTA was the negotiation of side agreements at the same time. These agreements addressed issues related to labour practices and regulations, environmental protection, and agricultural trade. The treatment of labour and environmental issues in association with NAFTA established a significant precedent. The labour side agreement was the first instance in which workers' rights provisions were connected in a significant manner to a US international trade agreement. All free trade agreements since NAFTA have included agreements on labour and environmental quality, though as integral chapters rather than side agreements (Box 1).

To help protect workers, the Presidents of Mexico and the United States, and the Prime Minister of Canada, signed the North American Agreement on Labor Cooperation (NAALC) on 14 September 1993.[5] The NAALC was the first international agreement on labour to be linked to an international trade agreement. It provides a mechanism for member countries to ensure the effective enforcement of existing and future domestic labour standards and laws without interfering in the sovereign functioning of the different national labour systems, an approach that made it novel and unique. Under NAALC, secretariat offices were established in Washington, DC, called the Commission for Labor Cooperation.[6] Article two of the NAALC states:

> *"Affirming full respect for each Party's constitution, and recognizing the right of each Party to establish its own domestic labor standards, and to adopt or modify accordingly its labor laws and regulations, each Party shall ensure that its labor laws and regulations provide for high labor standards, consistent with high quality and productivity workplaces, and shall continue to strive to improve those standards in that light."*

4 U.S. Trade Representative*: www.ustr.gov/trade-agreements/free-trade-agreements*.

5 Under NAFTA, the three NAFTA countries also agreed to improve occupational health and safety standards to the highest level existing among the three countries.

6 The NAFTA environmental side agreement is called North American Agreement on Environmental Cooperation with secretariat offices in Ottawa called the Commission for Environmental Cooperation. For an overview of international environmental standards for industry, see Angel, Hamilton and Huber (2007).

There is no policing of labour principles under NAFTA, rather the system for enforcing NAALC is "complaint driven." Consequently, there have been a relatively modest number of disputes arising from interpretation of NAFTA by adversely impacted parties. As of March 2004, a total of 28 cases had been accepted for review by the NAALC Commission for Labor Cooperation.[7]

Box 1. Post-NAFTA US free trade agreements with labour chapters

Since 1994, the United States has secured the inclusion of labour provisions in all bilateral and regional FTAs it has negotiated, starting with the North American Agreement on Labor Cooperation (NAALC), which complemented the North American Free Trade Agreement (NAFTA) of 1992. FTAs were given new impetus following the signing by the United States Congress of the Trade Act of 2002, which included "the authorisation to promote trade". More recently, the New Trade Policy with America (agreed in May 2007) states that specific labour provisions are to be included in FTAs, covering an obligation to adopt and maintain in the domestic legislation the ILO core labour standards as well as an obligation to effectively enforce domestic labour laws containing those standards.

The full list of US Free Trade Agreements with labour provisions includes:

- North American Agreement on Labor Cooperation
- US-Jordan FTA – Article 6
- US-Singapore FTA – Chapter Seventeen
- US-Chile FTA – Chapter Eighteen
- US-Australia FTA – Chapter Eighteen
- US-Morocco FTA – Chapter Sixteen
- US-Central America-Dominican Republic FTA – Chapter Sixteen
- US-Bahrain FTA – Chapter Fifteen
- US-Oman FTA – Chapter Sixteen
- US-Peru Trade Promotion Agreement (TPA) – Chapter Seventeen
- US-Colombia TPA – Chapter Seventeen
- US-Panama TPA – Chapter Sixteen
- US-Korea TPA – Chapter Nineteen

On August 5, 2004, the United States signed the Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR) with five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua) and the Dominican Republic. This was the first free trade agreement between the United States and a group of smaller developing economies. This agreement eliminated tariffs, opened markets, reduced barriers to services, and promoted transparency. The agreement was in force for the United States and the 6 trading partners by 1 January 2009.

The second article in the labour chapter of CAFTA-DR enumerates the fundamental labour rights assured by signatories, "Each Party shall adopt and maintain in its statutes and regulations, and practices there under, the following rights, as stated in the ILO Declaration on Fundamental Principles and Rights at Work and its Follow-Up (1998) (ILO Declaration):

(a) freedom of association;

(b) the effective recognition of the right to collective bargaining;

(c) the elimination of all forms of compulsory or forced labour;

(d) the effective abolition of child labour and, for purposes of this Agreement, a prohibition on the worst forms of child labour; and

(e) the elimination of discrimination in respect of employment and occupation.

7. *new.naalc.org/UserFiles/File/pcommtable_en.pdf*.

The integral nature of these principles in the free trade agreements signals a stronger ex ante commitment for enforcement of labour and environmental principles at a recognised international standard. However, the nine free trade agreements with labour rights requirements concluded prior to the May 2007 change in the Trade Policy Template suffer from some shortcomings, mostly related to the high level of discretion on the part of the trading partners and lack of effective enforcement provisions. These were, however, addressed by the 2007 template change. The FTA's signed after this date were characterised by a number of improvements. Namely, the post-2007 accords:

- Require parties to effectively enforce laws governing all fundamental workers' rights, including bans on employment discrimination, as well as laws establishing acceptable conditions of work with respect to minimum wages, hours of work, and occupational safety and health
- Establish enforcement parity for labour and commercial provisions, making the same dispute settlement mechanisms available to enforce all terms of the accords;
- Eliminate the language in prior accords that permits parties to cite "a reasonable exercise of ... discretion" or "a bona fide decision regarding the allocation of resources" as acceptable justification for poor labour law enforcement,10 providing instead that "[a] decision a Party makes on the distribution of enforcement resources shall not be a reason for not complying with the provisions of this [labor] Chapter";
- Require parties to "adopt and maintain" in domestic law and practice the core workers' rights "as stated" in the ILO Declaration on Fundamental Principles and Rights at Work.[8]

To help protect the environment, the three parties to NAFTA created the North American Agreement on Environmental Cooperation (NAAEC) to support the environmental provisions of the NAFTA by establishing a level playing field with a view to avoiding trade distortions and promoting environmental cooperation. The key objectives of the NAAEC are to promote sustainable development, encourage pollution prevention policies and practices and enhance compliance with environmental laws and regulations. The NAAEC also promotes transparency and public participation in the development and improvement of environmental laws and policies. The NAAEC requires that each party ensure its laws provide for high levels of environmental protection without lowering standards to attract investment. To provide "teeth" to the agreement, each party agrees to enforce its environmental laws effectively through the use of inspectors, monitoring compliance and by pursuing the necessary legal means to seek appropriate remedies for violations.

In agricultural trade, NAFTA included two separate bilateral agreements. One was an agreement between Canada and the United States that was ratified in 1989. The other was an agreement between Mexico and the United States that reduced tariffs from 100% to as low as 10%. The agreement also included procedures for resolving disputes related to exports of fruits and vegetables.

8. A thorough analysis of differences in labour rights requirements in US free trade agreements can be found in: Human Rights Watch Report 2008: *A Way Forward for Workers' Rights in US Free Trade Accords*; further information also available on the ILO website: *www.ilo.org/global/standards/information-resources-and-publications/free-trade-agreements-and-labour-rights/WCMS_115531/lang--en/index.htm#P61_3885*

3. Trade among NAFTA countries and US employment

Prior to 1994 the levels of US exports and imports of merchandise with Mexico were both below USD 50 billion per year, while US-Canada merchandise trade was roughly three times that of Mexico. The annual totals for North American trade from 1989 onwards are summarised in Figure 1. The figure also shows that import and export levels between the United States and the world were both below USD 800 billion in 1994 (vertical axis on the right-hand side). The US merchandise trade balance with Mexico was a positive USD 1.3 billion in 1994, but a negative USD 14.0 billion with Canada (Table 1). The negative NAFTA-area merchandise trade balance of USD 12.6 billion constituted about 7.6 % of the US global merchandise trade deficit in 1994.

Employment figures for 28 industries identified as producing traded goods are listed in Table 2.[9] The largest traded goods industries with respect to employment at the time NAFTA was enacted were food manufacturers, chemicals, fabricated metals, non-electrical machinery, computer and electronics and transportation equipment. Each industry employed more than a million workers. During the four years leading up to NAFTA, the total trade in goods grew by 1.8%. Most of this growth was attributed to the boom in computers and electronics, which grew by 175%. Employment by food manufacturers also grew, but only slightly. The other traded goods industries lost employment, with transportation equipment registering the largest losses (-14.8%) followed by fabricated metals (-9.6%) and non-electrical machinery (-7.8%).

During the time NAFTA was being negotiated, the US economy was coming out of the relatively mild 1991 recession. During the recession, real GDP had declined for three consecutive quarters and the unemployment rate increased from below 5% to nearly 8%. Even though the recovery was underway by 1993, employment was slow to rebound. For the remainder of the decade, GDP grew at an average annual rate of 4% and the unemployment rate gradually fell to 4%. Over that period real trade grew more quickly with NAFTA partners than with non-NAFTA partners. At the same time real US exports increased by 93% to Mexico and 35% to Canada, compared to a 20% increase to non-NAFTA countries. In the same period, real US imports increased by 190% from Mexico and 69% from Canada, compared to a 59% increase from non-NAFTA countries (Agama and McDaniel 2002, Table 2).

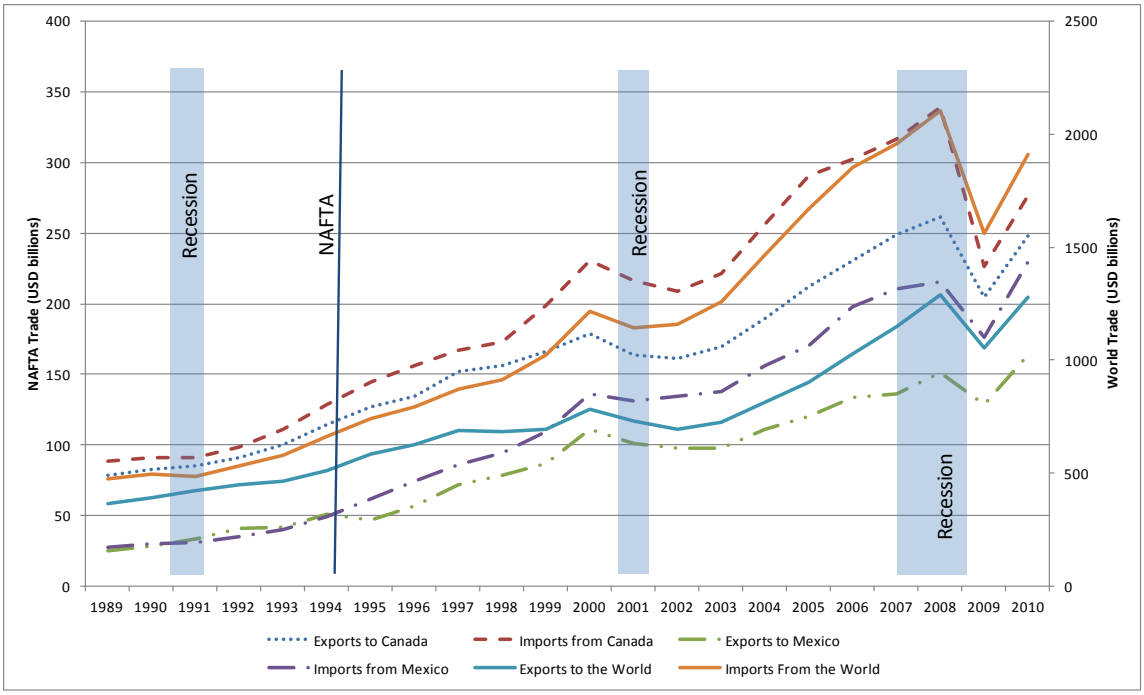
The intent of NAFTA was to increase trade among the three partners by reducing the tariffs that remained between the three countries.[10] Reducing tariffs and thus reducing prices of imports and conversely exports appears to be a straightforward policy move to increase trade. Indeed, following the signing of NAFTA, the simple average of US tariffs applied to imports from Mexico declined from 3.15% in 1993 to 0.52% in 2001. Tariffs on Canadian goods shipped into the United States were about the same magnitude as those imposed on Mexican imports and fell by a similar amount during that period. On the other hand, simple tariffs on imports into the United States from non-NAFTA countries were

9. Based on the North American Industrial Classification System (NAICS) three-digit coding system, we examined US employment in twenty-eight industries producing traded goods.

10. It should be noted that prior to signing of NAFTA, Mexico was a signatory to the Generalised System of Preferences (GSP) and, thus, already benefitted from unilateral tariff preferences. In fact, 53.8% of all Mexican products were already duty-free under GSP and remained duty-free when NAFTA took effect on 1 January 1994.

much higher and did not decline nearly as much over this time period (Agama and McDaniel 2002, Table 1).

Figure 1. US merchandise trade with NAFTA and the world, 1989-2010



Source: *Product Profiles of US Merchandise Trade with a Selected Market*, US Department of Commerce, International Trade Administration.
tse.export.gov/TSE/TSEOptions.aspx?ReportID=2&Referrer=TSEReports.aspx&DataSource=NTD
Accessed 15 April 2011.

Aggregate trade between the United States and Mexico appeared to respond to the reduction in tariffs. Mexico's share of US imports increased from 6.9% in 1993 to 11.5% in 2001 (Figure 2.). It has hovered around that level without much change from 2002 through 2010. Similarly, the share of US exports going to Mexico increased from 8.9 % to 13.9 % from 1993 to 2001 and fell slightly to 12.8 % by 2010. In both cases, the sharpest increase came right after the passage of NAFTA, when Mexico's share of US imports increased by 2.4 percentage points in three years and its share continued to increase steadily until 2002.

In Canada, simple average tariff rates declined from 2.35% in 1993 to 0.45% in 2001 (Agama and McDaniel, 2002, Table 1). Over that period Canada's share of US imports remained essentially flat (Figure 2). Furthermore, the share of US exports going to Canada increased only slightly, from 20.9% in 1993 to 21.7% in 2001 (Agama and McDaniel 2002, Table 2).

Why the different responses to similar tariff reductions? Several factors may be in play. First, trade between Canada and the United States has already been liberalised through the FTA, which was concluded between the two countries in 1989. Second, tariff reductions may lead to changes in imports only if these tariffs are lowered relative to imports from other countries. Third, prices of imported goods may not be completely

responsive to changes in tariffs.[11] Fourth, exports and imports are influenced by factors other than prices. Differences in GDP growth, technological change, preferences for goods from specific countries may confound the responses. Moreover, macroeconomic forces at work other than NAFTA also affected trade, employment and growth in both countries in that time period. Most significantly, as a consequence of the balance of payments crisis in Mexico in the same year that NAFTA was enacted, the Mexican peso lost more than 60% of its value in terms of US dollars. The huge devaluation had significant implications on Mexican trade flows, unrelated to the effects of NAFTA (De Hoyos and Iacovone, 2011).

Table 1. US merchandise trade balance with Mexico, Canada, NAFTA and the world, selected years, 1989 to 2009 (billions of current USD)

Industry	1989	1994	1999	2004	2009
Mexico					
Agriculture	-0.5	0.0	-0.5	-0.5	-0.4
Oil, gas and minerals	-4.0	-4.6	-6.6	-17.6	-21.1
Manufacturing	2.1	5.6	-15.1	-24.9	-24.0
All merchandise	-2.2	1.3	-22.8	-45.2	-47.8
Canada					
Agriculture	-0.9	-0.1	-0.4	0.4	0.4
Oil, gas and minerals	-4.7	-9.3	-12.7	-37.8	-47.1
Manufacturing	-20.6	-1.7	-10.6	-20.0	31.1
All merchandise	-9.9	-14.0	-32.1	-66.5	-21.6
NAFTA					
Agriculture	-1.3	-0.1	-0.9	-0.1	-0.1
Oil, gas and minerals	-8.7	-14.0	-19.3	-55.4	-68.2
Manufacturing	-18.5	3.9	-25.7	-44.8	7.1
All merchandise	-12.2	-12.6	-54.9	-111.7	-69.4
World					
Total merchandise trade balance	-117.7	-165.8	-336.3	-665.6	-506.9
NAFTA as a percentage of US trade with the world					
Total merchandise trade balance	10.4%	7.6%	16.3%	16.8%	13.7%

Source:
(1) Merchandise trade balance figures for US with Mexico, Canada, and NAFTA are from Product Profiles of US Merchandise Trade with a Selected Market, US Department of Commerce, International Trade Administration. *tse.export.gov/TSE/TSEReports.aspx?DATA=NTD* Accessed 15 April 2010.

(2) Merchandise trade balance figures for US with the world are from International Economic Accounts, US International Transactions 1960-present, Row 72. US Department of Commerce, Bureau of Economic Analysis *www.bea.gov/international/index.htm* Accessed 15 April 2010.

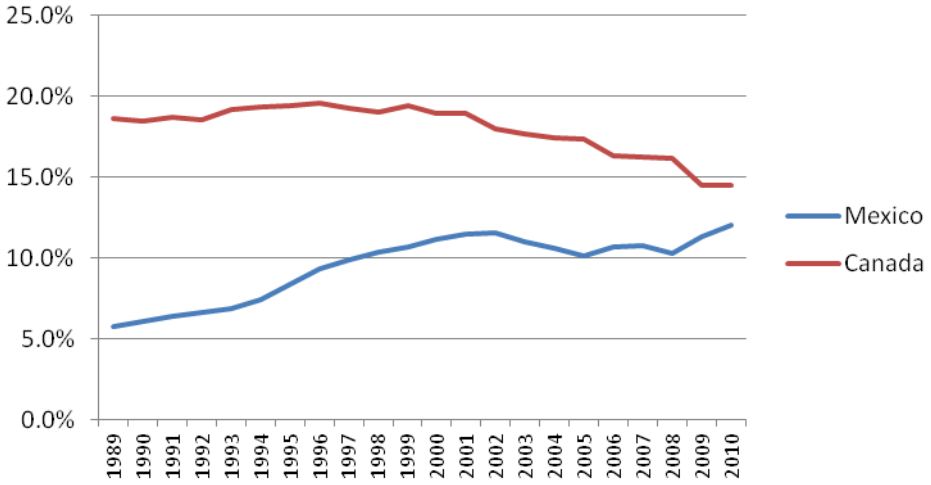
11. Zhu (2010) estimates the firm-level tariff absorption elasticity to be 0.87, suggesting incomplete pass-through of tariffs at the firm level.

Table 2. Employment and employment change in traded goods industries, United States, 1989-2008.

NAICS Code	Industry	Employment (thousands)			1989 – 1993 % change	1993 – 2008 %change
		1989	1993	2008		
	Total Traded Goods Industries	**20 506**	**20 865**	**17 001**	**1.8%**	**-18.5%**
111	Agricultural products	1 137	1 061	951	-6.7%	-10.4%
112	Other animals	1 235	1 127	861	-8.7%	-23.7%
113	Forestry products	147.7	146.6	98.8	-0.7%	-32.6%
114	Fish and other marine products	72.3	77.8	47	7.6%	-39.6%
211	Oil and gas	194.6	173.1	161.7	-11.0%	-6.6%
212	Minerals and ores	276.7	254.5	231.8	-8.0%	-8.9%
311	Food manufactures	1 528	1 553	1 513	1.6%	-2.6%
312	Beverages and tobacco	222.6	207.7	200.7	-6.7%	-3.4%
313	Textiles and fabrics	496	481.3	157.6	-3.0%	-67.3%
314	Textile mills products	241.2	240.5	161.5	-0.3%	-32.8%
315	Apparel manufacturing	936.2	884.8	221.4	-5.5%	-75.0%
316	Leather and allied	131.4	120.9	36.1	-8.0%	-70.1%
321	Wood products	581.3	549.9	488.9	-5.4%	-11.1%
322	Paper	641.5	640.7	446.4	-0.1%	-30.3%
323	Printed matter and related	870.2	838.4	621.5	-3.7%	-25.9%
324	Petroleum and coal	147.1	146.5	117.7	-0.4%	-19.7%
325	Chemicals	1,030	1,026	857	-0.4%	-16.5%
326	Plastics and rubber	850.4	853.1	738.9	0.3%	-13.4%
327	Nonmetallic mineral	548.8	500.3	481.3	-8.8%	-3.8%
331	Primary metal manufacturing	683.1	621.1	444.6	-9.1%	-28.4%
332	Fabricated metal	1 696	1 534	1 548	-9.6%	0.9%
333	Machinery; except electrical	1 457	1 343	1 198	-7.8%	-10.8%
334	Computer and electronic	604	1 661	1 257	175.0%	-24.3%
335	Electrical equipment; appliances	586.6	577.4	429.5	-1.6%	-25.6%
336	Transportation equipment	2 259	1 925	1 618	-14.8%	-16.0%
337	Furniture and fixtures	679.2	640.3	513.1	-5.7%	-19.9%
339	Miscellaneous manufacturing	762.1	758.6	694.8	-0.5%	-8.4%
511	Newspapers; books	491.1	920.6	906.3	87.5%	-1.6%

Source: Quarterly Census of Employment and Wages (QCEW), US Department of Labor, Bureau of Labor Statistics. <ftp://ftp.bls.gov/pub/special.requests/ep/ind.employment/> Accessed 15 April 2011.

Figure 2. Mexico's and Canada's share of US imports, 1989-2010



Source: *Product Profiles of US Merchandise Trade with a Selected Market*, US Department of Commerce, International Trade Administration. *tse.export.gov/TSE/TSEReports.aspx?DATA=NTD*, Accessed 15 April 2011.

4. Literature review: NAFTA impact estimates

By far the most hotly contested aspect of NAFTA was the possible effect of liberalising trade on US employment. The concern was intensified when one of the potential trading partners within the agreement was a less developed economy where wages and standards of living were much lower than the other partners. The fear was that workers in the more developed country with relatively high-paid jobs that require average skills would lose their jobs to workers with the same skills but who were paid much less in the less developed country. Such concerns were expressed in the political debates and public polls leading up to the passage of NAFTA.

Public discourse and government negotiations relied on econometric studies to better understand the potential effects of NAFTA on key industries and jobs. Many of these studies were based on economic theory about the effects of trade on employment. Most of the studies were guided by one of two theories. One theory is that trade affects the relative prices of goods and in turn this affects the prices of factors of production, of which the wages of workers is the price of labour. Therefore, according to the theory, a decrease in the relative price of a good (say an unskilled labour intensive good) because of an increase in cheap imports would decrease the real wage of the (unskilled) labour used intensively in producing such goods and would increase the real wage of the scarce factor (here skilled labour).

The second theory relates to the labour embodied in the traded good, referred to as the factor content of trade. Trade impacts the effective supply and demand of domestic factors of production resulting from changes in imports and exports. Demand for workers who intensively produce the goods that are exported increases when exports of these

goods increase, and vice versa. The greater demand for workers will then lead to higher wages.[12]

Both theories simplify the relationships between trade and employment. For instance, both are based on a model of full employment, so that everyone has a job and trade will not affect a country's total employment, only the distribution of labour across sectors. In addition, both theories treat trade as exogenous, although the fact is that the allocation of employment across sectors depends upon a host of factors including consumer preferences, technological advances, rates of investment in other factors, exchange rates, and shifts in comparative advantage. The sectoral allocation of labour also depends upon the "friction" in the economy of reallocating factors across sectors in response to changes in these factors. For example, if dislocated workers are not suited for jobs in other sectors, and the economy is at full employment, then economic efficiency will be reduced and the economy will not be able to produce at its full capacity. The challenge of empirical research, therefore, is to take into account these other factors while trying to isolate the effects of changes in trade, in particular, NAFTA-induced changes in trade, on employment.[13]

Recent theories have added more complexity to these traditional theories, which has helped to bring theory in line with empirical findings. Specifically, Krugman has attempted to explain trade between countries with similar factor endowments and production processes by including product differentiation and country-specific economies of scale. Differentiated products allow countries to be exporters and importers of the same product; economies of scale, specifically increasing returns to scale, can explain trade between countries in goods that are produced by the same factor proportions. These two characteristics show how there can be gains from trade beyond the gains from comparative advantage and how developed countries can have a large volume of trade.[14]

Addressing the question of the effect of NAFTA on employment requires two sequential inquiries. The first is whether NAFTA has affected trade among the three trading partners. The second question is whether the change in trade has impacted the allocation of employment across sectors. For both questions, we focus primarily on the US economy.

The effect of NAFTA on trade

The first issue to explore is how one measures a reduction in tariffs. It is essential to have an accurate estimation of relative and absolute changes in tariffs in order to be able to assess expected and actual effects of tariff changes on trade flows. For example, the NAFTA regional trade agreement raised some fears of trade diversion; that is, switching of imports from a more efficient exporter towards a less efficient one due to a change in tariffs. We cite research in this section that relies on tariff change data in computable

12. The first model is derived from the Stolper-Samuelson extension of the Hecksher-Ohlin Theorem. The second model is derived from the Ricardo-Viner model. Kletzer (2002) categorises research based on the first theorem as "product-price" studies and studies based on the second as "factor content of trade" studies.

13. Davidson and Matusz (2004) generalise a traditional micro simulation model of trade models to include the possibility of unemployment.

14. See Krugman (1995) for a presentation of his "new" theory of trade.

general equilibrium (CGE) models and econometric studies to estimate trade diversion due to NAFTA.

Simple average tariff rates do not necessarily reveal changes in effective tariffs. Exporting countries compete with one another for a home country's share of imports. Therefore, the appropriate measure is the difference between the US tariff on a commodity sourced from Mexico, say, and the United States' Most Favoured Nation (MFN) tariff rate for the same commodity. This measure of tariffs is typically referred to as "tariff preference." Each traded commodity may have a different tariff preference.

Romalis (2005) conducted a partial equilibrium econometric analysis of demand for traded goods.[15] He provides evidence that the reduction of tariffs under NAFTA increased Mexico's share of US imports. First, he finds that only a small percentage of NAICS 6-digit commodity groups had an increase in US tariff preference for Mexican goods from 1993: 389 had an increase in tariff preference (relatively lower tariffs) whereas 2 663 had no change. A closer look at the tariff situation in Mexico at the time NAFTA was instituted reveals that prior to NAFTA Mexico significantly liberalised its trade regime by reducing tariffs on an MFN basis and eliminated quantitative restrictions on imports. In 1965, Canada and the United States negotiated the Auto-Pact, allowing duty-free trade in many automotive goods.[16] Therefore, the enactment of NAFTA did not reduce tariffs significantly for many commodities.[17]

Romalis (2005) also finds that imports are sensitive to tariff reductions, as measured by tariff preference. He finds that for the 389 commodities for which the US tariff preference for Mexican goods had increased by at least 10 percentage points, the simple average of Mexico's share of US imports rose by 224% between 1989 and 2000. On the other hand, for the 2 663 commodities for which Mexico's tariff preference remained unchanged, their share rose by only 23%.[18] A similar response was found for Canada. Those commodities with at least a 10 percentage point increase in tariff preference increased their UI import share by 99%; those with no change in tariff preference showed a slight decrease in share. The net US import increases from NAFTA partners were at the expense of imports from the EU, even though Canada and the United States appeared to be high-cost producers of many of these commodities.

Agama and McDaniel (2002) examined whether other factors could confound the response of trade to tariff reductions. They use an econometric model to estimate the separate effects of various other factors, including GDP and tariff changes prior to

15. Romalis (2005) measured trade in goods at the 6-digit industry level relying on North American Industrial Classification System (NAICS) data.

16. Furthermore, it should be noted (as already mentioned earlier) that Mexico was a GSP beneficiary prior to the conclusion of NAFTA, while trade between Canada and the United States was liberalised as a result of the FTA agreement signed between the two countries in 1989; this is another reason why NAFTA did not lead to significant tariff reductions for many commodities.

17. However, NAFTA may have offered more certainty that the trade preferences adopted before NAFTA would be more permanent. The Agreement removed tariffs on goods over a 15-year period, established disciplines that covered a broad range of nontariff barriers, committed the signatories to high security levels and openness for foreign direct investors and intellectual property rights owners, liberalised services trade, and created dispute settlement mechanisms (Agama and McDaniel, 2002).

18. Romalis (2005, p. 5).

NAFTA. They still find that an increase in tariff preferences increases trade. On average, a one percentage point increase in the tariff preference corresponds to somewhere between an 11.2% and 16.5% increase in US import demand for Mexican goods. On the export side, a one percentage point increase in the NAFTA tariff preference corresponds to an increase in Mexico's demand for US goods of between 5.1% and 6.7% (Agama and McDaniel; 2002, p. 3).

An important issue addressed by the Agama and McDaniel (2002) study is the effect of more permanent tariff reductions offered by NAFTA versus the more temporary ones put in place before NAFTA was enacted. Their results suggest that the responsiveness of tariff preferences were larger during the period in which NAFTA was in effect than beforehand, which suggests that the permanency of NAFTA trade liberalisation measures had a positive effect on trade.

These studies suggest that NAFTA affected the level and pattern of trade between the United States and its NAFTA trading partners. Significant increases in tariff preferences (relative reductions in tariffs) were associated with increased shares of US imports. Furthermore, since changes in tariff preferences differed across commodities, the expectation was that NAFTA would affect the import shares of different commodities differently, leading to a reallocation across industry sectors.

These studies also shed some light on the different response between Mexico and Canada to these tariff changes. First, Mexico appeared to be more sensitive to an increase in tariff preference than Canada—a 224% increase for Mexico versus a 99% increase for Canada. Second, there appear to be factors other than tariff preferences that affect import penetration, and Mexico's exports to the United States appear to be more sensitive to these factors than do Canada's exports. This difference is evident in that even for those commodities for which no change in tariff preference occurred, Mexico's share of US imports increased by 24% whereas Canada's share did not increase.

Finally, it is worth noting that there is a broad existing literature on the expected effects of trade openness that is of relevance to the case of NAFTA. Namely, international trade is found to be associated with increases in the demand for goods intensive in high-skilled labour (Bernard and Jensen, 1997).[19] Therefore, apart from the independent effects of skill-biased technical change, trade may also favour high-skilled labour, with implications for employment and wages of the low-skilled segments of the labour market. For instance, Feenstra and Hanson (1997) find that in Mexico labour demand by incoming foreign firms is indeed skewed towards skilled workers.[20] Another study found that the level of protection is in fact correlated with the labour-intensity of a sector (Hanson and Harrison, 1999).[21] This implies that trade liberalisation would disproportionally affect less skilled workers, who were previously enjoying the benefits of tariff protection.

19. Bernard and Jensen (1997, p. 7) do a partial equilibrium econometric analysis examining the effect of changes in domestic demand and exports on the rise in employment and wages for skilled workers.

20. Feentra and Hanson (1997) study the impact of foreign direct investment on the skilled labour share of wages in Mexico over 1975–1988 using regional data on foreign assembly plants.

21. Hanson and Harrison (1999) estimated partial equilibrium econometric models of relative wages and relative employment between Mexico's skilled and unskilled workers. They found that Mexico's 1985 trade reforms widened the wage gap between skilled and unskilled workers.

In addition, models permitting heterogeneous firms, such as Melitz (2003) and Bustos (2005) enrich our understanding of the impact of trade on employment, in particular by skill-level, through their analysis of the change in firms' behaviour due to trade. Namely, Melitz suggests that more productive firms self-select into exporting and become larger in size compared with less productive non-exporters. Therefore, the Melitz (2003) model implies an increase in employment due to trade.[22] Bustos (2005) examined the effects on decisions by Argentine business of MERCOSUR which is a free trade agreement between Argentina, Brazil, Paraguay and Uruguay.[23] She econometrically estimated employer response parameters in simple bilateral trade models allowing for interaction between exporting and skill mix choice. Bustos shows that 1) less productive firms produce for domestic markets and choose less skill-intensive technology; 2) more productive firms choose to export using the same technology, and 3) the most productive firms choose to export and use more skill-intensive technology. Therefore, this model suggests that trade is associated with an increase in a firm's employment and in particular skilled employment, while the impact of unskilled employment is somewhat ambiguous.

The effect of trade on employment

With evidence that tariff reductions lead to greater trade and that changes in tariffs vary across commodities, the next step is to consider the evidence on the effect of changes in trade on employment. According to the two traditional theories described earlier, the impact of trade on employment can come about either due to a change in the relative price of the factors that produce the trade-impacted commodities, or due to the factors embodied in the production of these commodities. Both views lead to the same result. For the "product-price" studies, a decrease in the relative price of a low-skill intensive good from an increase in imports of that good will decrease the wages of low skill workers and increase the wage of skilled labour. For the "factor content" studies, an increase in imports of low-skill intensive goods raises the effective supply of low-skill workers and reduces their wages. The "product-price" studies have shown that increased trade can account for the rise in US wage inequality, even though other factors such as technological change may be more important. The "factor content" studies show that an increase in net imports of a low-intensive good leads to a shift in employment from low-skill workers to high skill workers.[24] These studies have estimated varying degrees of responsiveness of wages and employment to net imports, depending upon the elasticity of supply and demand relative to changes in trade.[25]

22. Melitz (2003) developed a dynamic theoretical model of industries with heterogenous firms, and analysed the intra-industry effects of international trade. More productive firms participate in the export market and increases in trade increase sorting of firms by productivity. He finds the reallocations generate social welfare gains.

23. Between 1991 and 1994 MERCOSUR eliminated trade tariffs between the four countries and set common tariffs for these four with other countries (Bustos 2011, p. 316).

24. Kletzer (2004) provides a synopsis of several of these studies.

25. Bauer and Eberts (1990) show that exports can be a significant factor in the regional restructuring within the United States. The conclusions are based on tracking the relationship between exports of 31 of the largest exporting states and the structure of regional output between 1980 and 1986.

More recent studies have followed the "new theory" and have examined the impact of trade within industries. For instance, Yu (2010), using firm-level data instead of industry-wide data, finds that the exposure to trade leads to more productive firms, by inducing more productive firms to enter the export market and the least productive firms to exit the market. In addition, studies have shown that outsourcing production processes, and not simply the trade of goods, also affects wages and employment.

This empirical evidence based on the theories of trade provided much of the empirical basis for the studies that were conducted to better understand the effect of NAFTA on labour. This section provides an overview of studies that examined and quantified the impact of NAFTA on employment. The first section summarises the findings of studies that forecasted the impact of NAFTA shortly before signing of the agreement and the second section complements it with an analysis of the studies estimating NAFTA's impact after it came into place.[26] All the estimates are summarised in Tables 3 and 4.

Projected impacts before NAFTA was enacted

In the lead up to the NAFTA accord, public debate and government negotiations relied heavily on econometric studies of the potential effects of NAFTA, particularly impact estimates on key industries and jobs. Prior to NAFTA, a number of multi-country models were developed to analyse the Uruguay Round of GATT and researchers quickly adapted these models to look at the potential effects of NAFTA on various sectors of the economy. Estimates from these models were cited as instrumental in moving the negotiations along quickly (Devarajan and Robinson, 2002). The primary type of model used to analyse NAFTA was the Computable General Equilibrium Model (CGE). This type of model establishes the structural and behavioural relationships within and between markets and then uses realistic economic data to simulate the effects of various policy changes on the levels of supply, demand and prices that support equilibrium across a specified set of markets. The fundamental conceptual starting point for a CGE model is the circular flow of commodities in a closed economy. In tracing the circular flow, one can start with the supply of factor inputs (e.g. labour and capital services) to the firms and continue with the supply of goods and services from the firms to the households, who in turn control the supply of factor services (Sue-Wing, 2004). The use of an explicit systematic model, such as a CGE model, provides a structure for exploring the effects of various policy options, such as reduction in tariffs, and for showing how various policy options affect factor and product flows throughout the economy.

A number of CGE models were developed by government agencies and academics to explore the possible effects of NAFTA. Some CGE models incorporate input-output structures along with the time-series forecasting elements. Other NAFTA studies used macro-econometric forecasting models relying on a system of structural equations in which the relationships have been estimated using regression analysis on historical time-series data. The Congressional Budget Office reviewed many of these studies and concluded that "the net effect on the US economy would be positive and very small" (US CBO, 1993, xi). The US Department of Labor drew a similar conclusion. Working at the

26. The W.E. Upjohn Institute for Employment Research is currently working on a study (forthcoming) that extends the period of analysis of the impact of NAFTA to recent years. This allows a more holistic evaluation of the impact of the regional agreement, as some changes initiated by the accord required time to take effect.

Bureau of International Labor Affairs in the US Department of Labor, Gregory Schoepfle and Jorge Perez-Lopez (1992) summarised a dozen pre-NAFTA impact studies. The evidence they reviewed suggested that sectoral employment changes would be small, in most cases less than 2% of current sectoral employment, which is much less than normal job turnover rates. The main employment estimates from these studies are reported in Table 3 and summarised in the following paragraphs.[27]

Almon (1990) used a macro-econometric forecasting model and projected that the employment gains would outweigh the losses. Whereas employment gains were forecast for the following industries: electrical appliances, metalwork machinery and computers; employment losses were projected to affect other industries: apparel, TVs, radios, electronics, construction, lumber and knitting.

Brown, Deardorff and Stern (1991) used a 29-sector CGE model and estimated that employment effects would be small and diffused. Gains would be concentrated in the industries: miscellaneous manufactures, textiles, rubber products, non-electrical machinery and chemicals; and losses would arise in the industries: glass and glass products, nonferrous metals, electrical machinery, mining and quarrying, and transportation equipment.

DRI/McGraw-Hill (1992) used a macro-econometric forecasting model and projected that the employment gains would outweigh the losses leading to a slight reduction in unemployment. They estimated that the employment gains would occur in the industries: services, wholesale and retail trade, nonelectrical machinery, transportation equipment, electrical machinery, transport and utilities; and that the losses would occur in: lumber and wood products, leather and leather products, petroleum and coal products, stone, clay and glass, and miscellaneous manufactures.

Faux and Spriggs (1991) used a modified version of a CGE model and estimated there would be a loss of 1 264 000 jobs over the subsequent decade. Hinojosa-Ojeda and Robinson (1991) used a seven-sector CGE model and estimated little or no effect on domestic US employment. Huffbauer and Schott (1992) used macro-econometric modelling to project that NAFTA would induce growth in US exports to North American trading partners resulting in about 130 000 net additional US jobs.

KPMG Peat Marwick (1991) used a 44-sector CGE model and estimated an increase of 40 800 to 61 000 jobs. The employment gains were projected to be in the industries: optical instruments and miscellaneous manufactures, motor vehicles and bodies, machinery and equipment, chemicals, rubber and miscellaneous plastics products. Job losses were projected to be in: sugar refining, fruits and vegetables, electronic components, computing equipment, and household appliances.

27. Some NAFTA studies used macro-econometric forecasting models relying on a system of structural equations in which the relationships have been estimated using regression analysis on historical time-series data. Some models incorporate input-output structures along with time-series forecasting elements.

Table 3. Estimates before 1993 of NAFTA effects on US production, employment and industries.

Author (year)	Methodology	Impacts on GDP	Impacts on employment	Industry gains	Industry losses
Almon (1990)	Macro forecasting models	GNP rises 0.09% after five years, and 0.17% after ten years	Gains outweigh losses	Electrical appliances, metalwork machinery, computers	Apparel, TVs, radios, electronics, construction, lumber, knitting
Brown, Deardorff, and Stern (1991)	29-sector CGE	Real wages in the United States will increase	Small and diffused	Miscellaneous manufactures, textiles, rubber products. Nonelectrical machinery, chemical	Glass products, nonferrous metals, electrical machinery, mining and quarrying, transportation equipment
DRI/McGraw-Hill (1992)	US Model used with its Regional Information Service Model	Increase in GDP as a result of increase in trade volume - Ceteris paribus	Gains outweigh losses - slight reduction in unemployment	Services, wholesale and retail trade, nonelectrical machinery, transportation equipment, elec. machinery, transport and utilities	Lumber and wood products, leather and leather products, petroleum and coal products, stone, clay and glass, miscellaneous manufactures
Faux and Spriggs (1991)	Modified CGE model	-0.62%	Loss of 1 264 000 jobs over the decade	—	—
Hinojosa-Ojeda and Robinson (1991)	7-sector CGE	Negligible change	Little or no effect on employment	—	—

Table 3. Estimates before 1993 of NAFTA effects on US production, employment and industries (*continued*)

Author (year)	Methodology	Impacts on GDP	Impacts on employment	Industry gains	Industry losses
Huffbauer and Schott (1992)	CGE, Macroeconometric	—	Increase of 175 000 jobs	—	—
KPMG Peat Marwick (1991)	44-sector CGE model	Real income, wages, and real rate of return on capital will rise modestly.	Increase of 40 800 to 61 000 jobs	Misc manu, motor vehicles and bodies, machinery and equipment, chemicals, rubber and misc plastic products	Sugar, fruits and vegetables, electronic components, computing equipment, household appliances
Prestowitz and Cohen (1991)	LR study of increased FDI in Mexico's export industry due to FTA	—	If imports from Mexico due to new FDI fall from 70% to 50%: Add 225 000 to 264 000 jobs If imports of Mexican goods due to FDI stay at 70%: Lose 400 000 to 900 000 jobs	—	—
Trela and Whalley (1991)	CGE	Negligible change	Negligible	—	—
US International Trade Commission (1991)	CGE, PE, Interviews, qualitative	Real income and wages will rise modestly	Little or no effect on employment, but will shift job requirements from lower to higher skills	Grains, Electronic machinery, equipment	Horticulture, Fisheries (tuna), Household glassware

Note: CGE--computed general equilibrium, PE--partial equilibrium, FDI--foreign direct investment, — --did not address this question.

Prestowitz and Cohen (1991) studied increased foreign direct investment (FDI) in Mexico's export industries resulting from NAFTA. They estimated that if imports of Mexican goods due to new FDI fell from 70% to 50%, then new jobs would rise by between 225 000 and 264 000 jobs. If imports of Mexican goods due to FDI stayed at 70% then job losses would be in the range of 400 000 to 900 000 jobs. Trela and Whalley (1991) used a CGE model and estimated that NAFTA effects on US employment would be negligible.

The US International Trade Commission (1991) used a combination of CGE, partial equilibrium, interviews and qualitative analysis to estimate that NAFTA would have little or no effect on employment, but would shift job requirements from lower to higher skills. They estimated that US employment gains would occur in the grains, electronic machinery and equipment industries and that US job losses would occur in horticulture, fisheries (tuna) and household glassware.

The Congressional Budget Office (1993) estimated that the total number of US workers who might be displaced due to NAFTA was likely to be substantially less than half a million, spread over at least a decade. The CBO placed this in perspective by pointing out that nearly 20 million workers lost their jobs in the 1980s without being recalled by their former employers.

In addition to concluding that the net effect on the US economy would be small, the CBO also concluded that the biggest effects would be related to Mexico (US CBO, 1993, xi). Indeed, much of the debate and public apprehension about NAFTA was the loss of jobs to Mexico. Krugman (1993), for example, countered that perception by arguing that "clinging to the four percent average tariff the United States currently levies on imports of manufactures from Mexico might save a few low-wage industrial jobs for a little while, but it would do almost nothing to stop or even slow the long-run trends that are the real concern of NAFTA's opponents." He minimised the importance of likely real domestic employment effects and asserted that underlying economic forces would swamp NAFTA policy changes, which were primarily driven by political considerations and aimed at providing Mexican citizens with opportunities at home and reducing the incentives for illegal entry into the US He argued that NAFTA would be a model for Mexico to liberalise its domestic economic policies to generate internal growth. Krugman contended that even if half a million jobs were lost to trade, growth in other areas would offset those losses.

Estimates of impacts after NAFTA was signed

During the time NAFTA was being negotiated, the US economy was coming out of the relatively mild 1991 recession. During the recession, real GDP had declined for three consecutive quarters and the unemployment rate increased from below 5% to nearly 8%. Even though the recovery was underway by 1993, employment was slow to rebound. For the remainder of the decade, GDP grew at an average annual rate of 4% and the unemployment rate gradually fell to 4%. Real trade between 1993 and 2001 grew more quickly with NAFTA partners than with non-NAFTA partners. Over that period, real US exports to Mexico increased by 93%, compared to 35% to Canada, and 20% to non-NAFTA countries. In the same period, real US imports increased by 190% from Mexico and 69% from Canada compared to 59% from non-NAFTA countries (Agama and McDaniel, 2002). The early estimates of NAFTA are reported in Table 4 and summarised in the following paragraphs.

Table 4. Estimates after 1993 of NAFTA effects on US production, employment and industries

Author (year)	Methodology	Impacts on GDP	Impacts on employment	Industry gains	Industry losses
Matusz (1998)	One-sector general equilibrium	—	Very small positive impact	—	—
Hinojosa-Ojeda et al (2000)	Partial equilibrium	—	37 000 jobs per year for Mexican trade and 57,000 per year for Canadian trade	—	—
International Trade Commission (1997)	Econometric model	Very modest benefit	Very modest benefit	Appliances, cotton, motor vehicles and parts	Grains, textile products, apparel, leather, women's footwear
Krueger (1999)	Gravity model	—	Very small	—	Textile and apparel
Gould (1998)	Gravity model	—	No effect compared to normal business cycle	—	—
Burfisher, Robinson, and Thierfelder (2001)	Survey of recent studies	Relatively small	Relatively small	Raw textiles	Automobiles

Notes: — did not address this question.

Several studies attempted to isolate the effects of NAFTA from other economic factors, such as the relative growth of the three economies, cost of labour and capital, and government spending, among others. In a one-sector general equilibrium simulation model of monopolistic competition with efficiency wages, Matusz (1998) shows that introducing trade increases employment in both trading countries. Calibrating his model with US data, Matusz simulates the employment effects of NAFTA. He concludes that the introduction of NAFTA would "increase US employment by an imperceptibly small amount." Like other authors he identifies the elasticity of substitution between goods as the key parameter influencing the degree to which trade is linked to employment.

Based on a partial equilibrium analysis of NAFTA-region traded-industry sectors, Hinojosa-Ojeda *et al.* (2000) estimated modest employment impacts for the first years of NAFTA. They established that a potential job creation effect in the US due to imports between 1990 and 1997 would average 37 000 jobs per year for Mexican trade and 57 000 per year for Canadian trade. Bearing in mind that around that time new job creation in the US economy averaged more than 200 000 jobs per month, the NAFTA-related employment effects estimated by the authors were relatively small. Hinojosa-Ojeda *et al.* (2000) assert that increased trade with Mexico in the period was mostly driven by an expansion of Mexican manufactured exports based on the processing of imported intermediate inputs. That is, a large part of Mexican imports were directly linked to the demand for Mexican exports, rather than Mexican domestic demand.[28]

The US International Trade Commission (1997) analysed the effect of NAFTA on 120 detailed manufacturing sectors and found seven sectors in which imports from NAFTA countries had an adverse effect and four sectors where effects were positive. The remaining 109 industrial sectors exhibited no effect from NAFTA. The Department of Agriculture (1997) examined the effect of NAFTA on rural employment using a dynamic general equilibrium model. Their analysis found that US rural employment in 1996 was 0.07% higher with NAFTA than it would have been in the absence of the NAFTA agreement.

Krueger (1999) estimated the effect of NAFTA on exports with observations from 61 countries, using a "gravity model," which controls for a trading country's GDP, population, exchange rates, languages and distances. The large number of countries permitted Krueger to compare the experience of NAFTA countries with those of other countries during the same time period. Using data through 1998, the study found a positive effect of NAFTA on exports (11%) but the coefficient was not statistically significant. The inference from these results is that NAFTA would have a small but statistically insignificant effect on employment. Gould (1998), using a similar model but with time-series data for the NAFTA countries only, found similar results.

In evaluating these studies and others, Burfisher, Robinson, and Thierfelder (2001) concluded that the pre-NAFTA studies were by and large correct. NAFTA has created an increase in net trade. Moreover, the actual trade diversion, i.e. switching from a more efficient supplier to a less efficient one due to a tariff reduction associated with a free trade agreement, was much smaller than had been feared during the NAFTA debate.

28. Much of this activity involved production in Mexican production facilities called "*maquiladoras*." Such plants import US inputs, process them and ship them back to the United States for use in producing finished goods.

Moreover, the net employment effects were relatively small, although there were adjustments across sectors displacing workers. However, Kehoe (2005) was less complimentary of the ability of CGE models to predict the potential effects of NAFTA. While Burfisher, Robinson, and Thierfelder focused more on predictions of macroeconomic variables like unemployment and trade deficits, Kehoe examined the ability of the model to predict gross trade flows. From Kehoe's perspective, the models drastically underestimated the impact of NAFTA on North American trade, which exploded over the decade after NAFTA. Furthermore, the models failed to capture much of the relative impacts on different sectors. Still, Kehoe concedes that CGE models do a good job predicting increases in net trade across countries. One challenge of his evaluation of the NAFTA CGE models and that of others is the short period of time after NAFTA came into force during which they can compare actual data and model-simulated results. Furthermore, many of the provisions of NAFTA were not fully implemented until several years later, with the last provisions phased-in in 2008. Thus, there is room for further research extending the period of analysis to include recent years, taking into account the full extent of changes brought about by NAFTA, as well as providing further scrutiny to the methodologies used so far.

5. Employment policy responses to NAFTA

One of the major concerns associated with NAFTA – and a major point of contention in the public debates during NAFTA's negotiations – was its perceived risk of sending jobs to Mexico and leaving millions of US workers without work. In response to these fears, the Clinton Administration and the Congress agreed to legislation creating a NAFTA Trade Adjustment Assistance Program (NAFTA-TAA). Given the widespread agreement among analysts, including those working with CGE models, that the aggregate employment effects of NAFTA would be small, the NAFTA-TAA programme was designed as an open-ended commitment to provide assistance to all workers who could show that they had lost their jobs due to NAFTA. Congress quickly enacted this legislation, and at least at the outset, applications for NAFTA-TAA were relatively few. Congress also authorised unemployment insurance (UI) funds to be spent on self-employment assistance.

The NAFTA-TAA programme was not the first to assist workers displaced due to trade. The Congress passed the Trade Adjustment Assistance (TAA) Act in 1962 to provide income support and job training for workers displaced by foreign competition. There were major changes in TAA in 1982, again in 2002, and again in 2009 as part of the American Recovery and Reinvestment Act (ARRA), commonly known as the stimulus bill. The 2009 amendments expanded the Act in several substantial ways through 31 December 2010 and the Omnibus Trade Act of 2010 extended the provisions of the 2009 Amendments through 12 February 2011. However, many of the 2009 TAA changes were temporary. On 13 February 2011, the TAA programme was shifted to operate under the Trade Act of 1974, as amended by the Omnibus Trade Act of 2010. Most recently, on 21 October 2011 additional TAA changes were implemented.[29]

29. On 21 October 2011, President Obama signed the Trade Adjustment Assistance (TAA) Extension Act of 2011, which changes the group eligibility requirements and, for some workers, the individual benefits and services available under the TAA program.

The impact of permanent job loss on earnings, duration of unemployment, and future career paths has been well-documented, extending from the early work of Ashenfelter to recent studies, such as featured at a recent IMF workshop on jobs during the recent financial crisis.[30] Ashenfelter (1978) examined the impact of permanent job loss on the earnings profile of participants prior to and after receiving job training under the Manpower Development Training Act (MDTA). He noticed a marked decline in earnings in the months preceding the displacement that led to new job skill training. This decline has come to be known as the "Ashenfelter dip" in earnings. The negative impact on local communities of massive job and income loss can persist for decades. Moreover, Adam Looney from the Brookings Institution, building on the research by Blanchard and Katz (1992), analysed the income and growth effects of 1980-82 recessions on the hardest-hit US counties and found that the counties' level of income not only lagged behind the rest of the country, but also, more worryingly, grew at a lower rate.[31]

Research based on UI earnings records of Pennsylvania workers from 1974 to 1986, many of whom were affected by restructuring in the American steel industry, estimated large earnings effects from permanent job loss. Jacobson, LaLonde and Sullivan (1993, p. 685) find that "high-tenure workers separating from distressed firms suffer long-term losses." They say, "displaced workers future earnings losses average 25% per year and persist, losses begin before job separation, [and] are large even for those who find new jobs in similar firms." In addition, they find that displaced workers' losses: (i) begin mounting before their separations, (ii) depend only slightly on their age and sex, (iii) depend more on local labour-market conditions and their former industries, (iv) are not, however, limited to those in a few sectors, and (v) are large even for those who find new jobs in similar firms."

Kletzer (2004) found that trade-displaced workers were generally similar to other displaced manufacturing workers in terms of age, education, and job tenure. However, her research suggested that women made up a larger share of import-competing workers since women constituted a large proportion of employment in textile industries affected by trade in the 1990s. Consequently, women accounted for 45% of import-displaced manufacturing workers and 37% of all displaced manufacturing workers. Kletzer (2004) divided trade-displaced manufacturing workers into groups of high, medium, and low degrees of import competition. She found that those permanently losing jobs at companies in highly import competitive groups had significantly lower weekly reemployment wages than those leaving industries with a low degree of import competition. No difference in reemployment wages was observed between those losing jobs at companies in the high and medium categories of import competition. Kletzer's research suggests that women working in highly import competitive industries experience the greatest job loss and earnings reductions due to international trade.

Kletzer (2004) also reported that among displaced workers, income losses were greatest for those not able to return to work in their prior industry. Among the re-employed, displaced workers in highly import-competing industries have large average earnings losses, about 13% (Kletzer 2004, p. 729). Following job loss by trade-displaced

30. *www.imf.org/external/np/seminars/eng/2010/res/index.htm*

31. A presentation delivered during the IMF workshop on jobs during the recent financial crisis, mentioned earlier. Available here: *www.imf.org/external/np/seminars/eng/2010/res/pdf/al.pdf*

manufacturing workers in the period 1979 to 1999, about one-third of the dislocated workers returned to manufacturing by the survey date, another one-third were reemployed in the nonmanufacturing sectors, and the remaining one-third were not re-employed (Kletzer, 2004, p. 738).

In the following sections we will review various mechanisms in place in the United States aiming to assist the displaced workers in the adjustment process. We will look specifically at Trade Adjustment Assistance (TAA) programme, Trade Readjustment Allowance (TRA) benefits, Self-Employment Assistance (SEA), and other dislocated worker policies.

Trade Adjustment Assistance

The current TAA programme was created by the Trade Expansion Act of 1962 (P.L. 87-794) and substantially modified by the Trade Act of 1974 (P.L. 93-618). The North American Free Trade Agreement Transitional Adjustment Assistance programme (NAFTA-TAA) was created by the North American Free Trade Agreement Implementation Act (P.L. 103-182). Both are entitlement programmes. Since it began, TAA has shifted from being a programme that had limited coverage in the 1960s to a programme covering manufacturing, particularly the steel and automobile industries, in the late 1970s to early 1980s, and light-industry and apparel workers in the mid- to late 1990s. The estimated number of workers covered by programme certifications peaked at almost 705 000 in fiscal year 1980, which was largely a reflection of layoffs experienced in the auto and steel industries.

In its current form, TAA provides extended income replacement payments to trade-impacted unemployed workers who have exhausted their 26 weeks of regular UI benefits. These payments, called Trade Readjustment Allowances (TRAs), are paid at weekly rates equivalent to UI and are available during job search and participation in job skill retraining. As of 2011, durations of TRAs effectively extended UI by up to 130 weeks for eligible displaced workers in full-time training, the last 13 of which are only available if needed for completion of a training programme and the training benchmarks are met.[32]

The TAA programme also currently provides an allowance for direct job-search expenses of up to USD 1 500 and an allowance for relocation for reemployment or job search of up to USD 1 500, the federal employee limit for relocation expenses. Expenses are also paid for participation in job skill training, which may be full-time or part time, but full-time training is required for TRA eligibility. In 2009, an 80% tax credit was also provided under the Health Coverage Tax Credit (HCTC) for expenses associated with extending health insurance coverage during joblessness, as covered by the TAA programme. In comparison, the 2002 HCTC tax refund was 65%.

Displaced workers age 50 or over may be eligible for Reemployment Trade Adjustment Assistance (RTAA). Participants are eligible for job skill training support, TRA, and the HCTC. Combined benefits under RTAA are capped at USD 12 000 over a period of up to two years.

32. For more information on TAA changes and the new program established by this law, consult the US Department of Labour website: *www.doleta.gov/tradeact/pdf/Side-by-side.pdf* .

Dolfin and Berk (2010) report that TAA beneficiaries tend to be full-time workers with an average of 13 years tenure with their prior employer. They had relatively high-paying positions with generous employment benefits that typically included health insurance, paid vacations, paid holidays, and a retirement pension benefit. Most lost their position when their plant closed or moved, and few expected to be recalled. Unlike many layoffs in the manufacturing sector, most TAA eligible workers were faced with a permanent job loss.

Dolfin and Berk (2010) found that interest in training greatly exceeded interest in receiving TRA benefits, particularly among younger workers. TRA benefits include up to 52 weeks of basic TRA; that is, once workers have exhausted unemployment insurance (UI) benefits (which generally last 26 weeks, or more if extended benefits are in effect), they receive TRA cash benefits paid as the same weekly rate as UI until week 52. However, participants can receive 52 weeks of additional TRA so long as they are in training. Moreover, TRA benefits can be further extended for up to 26 weeks for participants enrolled in remedial education. Thus regular training can be supported for up to 104 weeks and up to 130 weeks if remedial training is needed.

More than 80% of participants and 65% of nonparticipants in the TAA evaluation reported receiving Rapid Response services. Nearly all TAA participants (94%) received at least one reemployment service from a one-stop centre. While many TAA participants took advantage of Workforce Investment Act (WIA)-related reemployment services, the take-up rates of health care tax credit (HCTC) and alternative trade adjustment assistance (ATAA) were very low. In 2002 the HCTC would pay for 65% of health insurance costs (and 80% in 2009), while unemployed and ATAA offered a reemployment wage supplement. ATAA is available to TAA eligible workers who are at least 50 years old and who find a full-time job within 26 weeks of job separation from a new employer at earnings that do not exceed USD 50 000 a year. The wage supplement is 50% of the difference between the worker's pre-dislocation wage and post-dislocation wage, up to a maximum of USD 10 000 over a two-year period.

TAA participants received significantly more training than nonparticipants. The most common type of training among TAA participants and nonparticipants was for a skill or occupation, although workers also enrolled in two-year community college programmes and other general education classes (GED, ESL, and adult basic education). Females were more likely than males to participate in TAA and among participants they were more likely to receive HCTC and training. Older workers were more likely to participate in TAA than younger workers but were less likely to enrol in training. High school dropouts were more likely to enrol in GED or ESL programmes, while those with a high school diploma or some college were more likely to enrol in two-year community college programmes. In addition, workers who were notified about TAA through Rapid Response services, a state letter, or an orientation were more likely to know about available TAA services and receive WIA-related employment services.

Data on all certified TAA cases, trade displaced workers included in those cases, and federal appropriations for TAA from 1994 to 2006 are listed in Table 5. The table also separates out certified cases involving job displacement from trade with Canada and Mexico. Data for the years 2002 and 2003 were problematic during the phased merging of NAFTA-TAA and regular TAA. As a share of all TAA cases, NAFTA cases constituted 25% to 30% of all TAA certifications during that period. Since 1995 the NAFTA share of all certified TAA cases was more than 20% and reached 30% in some

years. Note also that appropriations were modest, about one to two thousand dollars per worker until 2003. In 2004, programme appropriations reached USD 1 billion for the first time and funding per covered worker was more than USD 5 000. Table 5 also shows an interesting spike in NAFTA employment loss in 2000. There is a jump in certifications in 1999 before reaching a peak in 2000, followed by decline in 2001. Although the data for 2002 and 2003 are incomplete, by 2004 NAFTA cases had returned to previous levels. Table 2 suggests that total job losses in traded goods industries were about 3.9 million between 1993 and 2008. A total of about 2.5 million workers benefitted from TAA between 1994 and 2006, suggesting that TAA assisted a great majority of displaced workers with readjustment in the workplace.

Table 5. Certified TAA or NAFTA/TAA cases by year of impact

Impact year	All workers	All cases	Appropriations (millions USD)	Appropriations per worker USD	NAFTA workers	NAFTA cases
1994	98 270	722	220.4	2 243	7 112	69
1995	136 247	603	274.4	2 014	26 140	266
1996	160 589	615	346.1	2 155	41 356	363
1997	176 134	793	324.5	1 842	44 047	340
1998	190 340	979	349.0	1 834	44 925	375
1999	231 492	743	383.5	1 656	72 597	607
2000	386 165	1244	415.2	1 075	112 559	781
2001	246 884	1115	406.6	1 647	62 001	472
2002	226 421	1702	415.7	1 836	3 794*	24*
2003	119 911	1262	625.2	5 214	5 953*	60*
2004	142 960	1236	1 338.2	9 361	21 123	214
2005	177 411	1273	1 057.3	5 960	38 749	370
2006	180 002	1194	966.4	5 369	45 302	388

*Data incomplete.

Source: Freedom of Information Act (FOIA) request from US Department of Labor, Public Citizen, 2010. Department of Labor Trade Adjustment Assistance Consolidated Petitions Database. Washington, DC. *www.citizen.org/taadatabase* Accessed 15 April 2011. State Unemployment Insurance and Employment Services Account, Federal Unemployment Benefits Account, and Advances to Unemployment Trust Fund Account, US Department Of Labor, Education and Training Administration. *www.doleta.gov/budget/bahist.cfm* Accessed 15 April 2011. All figures in nominal dollars.

Throughout the second half of the decade starting from 2000, TAA certification and participation continued to increase. The number of workers covered under the certifications increased from 177 000 in 2005 to 282 000 in 2010. TAA certification criteria were extended under the American Recovery and Reinvestment Act to include workers in service sectors and those who lost jobs at firms that shifted production to non-free trade agreement countries. The Administration also granted eligibility to workers who were impacted severely by the restructuring in the auto industry, some of which was due to foreign competition but also a direct result of the global recession. States with the greatest number of eligible workers were Illinois, Michigan, Ohio, North Carolina and California.

Box 2. US policies to assist trade impacted and dislocated workers

Several government programmes provide assistance to workers displaced by trade or other factors. Two programmes—NAFTA-TAA and Self-Employment Assistance (SEA)—were created as a direct result of NAFTA. Others were in place before NAFTA—WARN, EDWAA—or at about the same time as NAFTA—WPRS. Some of these programmes have evolved over the years and have been subsumed in more recent bills. For example EDWAA was subsumed by the Workforce Investment Act of 1998. Following are short descriptions of a sampling of five programmes.

Trade Adjustment Assistance (TAA) was created by the Trade Expansion Act of 1962 (P.L. 87-794) and has been substantially modified and expanded since then. A special provision of TAA was enacted as a result of NAFTA. After the 2009 amendments TAA provided extended income replacement payments to trade-impacted unemployed workers who have exhausted their 26 weeks of regular UI benefits. Extensions lasted up to 130 weeks for eligible displaced workers in full-time training and by up to 156 weeks if remedial training is also necessary. TAA also provided an allowance for direct job-search expenses, relocation for reemployment, and an 80% subsidy for health care expenses. On 21 October 2011, President Obama signed the TAA Extension Act of 2011, which changes the group eligibility requirements, and individual benefits and services available under the Trade Adjustment Assistance programme, for some workers.[1]

Self-Employment Assistance (SEA) was established by the NAFTA Implementation Act (PL 103-182) and authorised states to pay SEA from UI trust funds on a temporary basis. Unlike most services for the unemployed, SEA is designed to boost labour demand through direct job creation for unemployed workers. The SEA programme grants a work search waiver to qualified UI beneficiaries who start their own business. As they start a business, they can collect SEA benefits in lieu of UI benefits in the same amount and for the same duration as their regular UI weekly benefit. The average weekly benefit is about USD 300 and entitled duration is usually 26 weeks. They receive entrepreneurial counselling and training to help them establish successful microenterprises.

The Worker Adjustment and Retraining Notification (WARN) Act, which came into effect on 4 February 1989, requires management to give advance notice if they intend to close the plant and layoff large numbers of employees. WARN requires a 60-day advance notice of mass layoffs and plant closing by employers of 100 or more workers. By WARN definition, mass layoffs involve either at least 500 layoffs of full-time employees or at least 50 layoffs of full-time employees, if they constitute one-third or more of an enterprise's workforce. Plant closings subject to WARN involve the loss of at least 50 jobs over a 30-day period. Under either circumstance, notification must be given to workers, local government officials, and the state's dislocated worker adjustment unit.

Economic Dislocation and Worker Adjustment Assistance Act (EDWAA) was signed into law in 1988 and provides funds to states and local sub-state areas to help dislocated workers find and qualify for new jobs. Workers who have lost their jobs and are unlikely to return to their previous industries or occupations are eligible for the programme. When national training policy changed in 1998, services to the EDWAA population of dislocated workers were rolled into Title I of the Workforce Investment Act (WIA). Dislocated workers who are eligible for WIA services can receive core, intensive, training, and additional supportive services at one-stop career centres.

Worker Profiling and Reemployment Services (WPRS) became law in 1993 (Public Law 103-152). It required state employment security agencies to establish and use a system of profiling all new claimants for regular UI benefits. The WPRS system requires states to identify UI claimants who are most likely to exhaust their regular benefits, and refer them to early reemployment services to make a faster transition to new employment. While WPRS was not directly related to NAFTA, it was designed to encourage displaced workers to start seriously looking for a job early in their employment spell instead of waiting until their benefits are almost exhausted.

1. For more information, please consult the US Department of Labor website *www.doleta.gov/tradeact/*.

Table 6 shows the increase in appropriations for TAA over the past 6 years. Appropriations nearly doubled from FY2009 to FY2010 in response to the recession. The number of participants exiting the programme significantly increased as well, reflecting the surge in the number of eligible workers and participants in recent years. Even with the number of exiters increasing, the amount of spending for training and stipends per exiter increased. Nearly 70% of the exiters received some type of training. The duration of training averaged over 60 weeks, up by a few weeks from the mid-2000s. Nearly 60% of the participants were high school graduates or equivalent, but only 8% were college graduates. More than half of the participants were 45 years of age or older and had been employed for more than ten years with their previous employer.

Table 6. Appropriations, reemployment rates, participation duration and tenure on prior job for the Trade Adjustment Assistance (TAA), 2005-2010

Impact year	Exiters	Appro-priations (millions USD)	Training expenses (millions USD)	Stipends per exiter USD	Training costs per exiter USD	Employment rate (% of exiters)	Average weeks of training	Work experi-ence on prior job (months)
2005	47 668	1 057.3	259.3	22 180	5 440	70	58	122
2006	43 285	966.4	259.4	22 326	5 993	71	59	128
2007	47 908	837.6	259.6	17 484	5 419	70	62	127
2008	45 652	929.7	259.7	18 863	5 269	71	63	155
2009	51 375	958.8	686.2	18 663	13 357	68	66	149
2010	67 098	1 818.4	686.4	27 101	10 230	53	61	147

Source: US Department of Labor, Employment and Training Administration, *Quarterly Workforce System Results* and Trade Act Participant Report (TAPR) file.

Success in finding employment after exiting the programme has declined in recent years, reflecting to a large degree the difficult labour market facing workers during and after the recession. The employment rate of exiters remained steady at around 70% from FY2005 through FY2008 and fell to 53% as the recession deepened. The recent decline in the ability to find employment is quite similar to the experience of participants of the WIA Dislocated Worker programme, which is a federal programme that also provides training, but no stipend, and is targeted at dislocated workers. For exiters from the WIA Dislocated Worker programme, employment fell from 83% in 2005 to 50% in 2010. As with TAA, most of the decline occurred in the past year.

Decker and Corson (1995) evaluated the marginal effects of significant TAA expansions instituted in 1988, during a period of major displaced-worker policy innovation. They used samples from before and after the 1988 changes in a quasi-experimental evaluation design. They estimated that displaced workers suffered large income losses, but that the expanded TAA job training had no significant impact on earnings within three years after TAA participation.

Noting that the US Trade Adjustment Assistance programme had introduced wage supplements to promote reemployment by trade-displaced workers, Kletzer (2004, pp. 743-744) reviewed evidence of the wage supplement evaluated in the Canadian Self-Sufficiency Experiment (Bloom *et al.*, 1999). The Canadian test of the earnings supplement did not significantly increase job search effort, more rapid re-employment, or reduced UI receipt. Kletzer (2004, p.744) asserts that for trade-displaced workers, an

earnings supplement should be regarded more properly as compensation, rather than a means to shortening unemployment. "The supplement can deliver compensation (and improve worker welfare), in a way that promotes employment, yet be judged on its compensatory merits rather than on how it addresses standing problems in the unemployment insurance system." (Kletzer, 2004, p. 744)

Self-Employment Assistance

The NAFTA Implementation Act (PL 103-182) authorised states to pay self-employment assistance (SEA) from unemployment insurance (UI) trust funds on a temporary basis. Federal UI legislation in 1998 made SEA a permanent programme, and seven states now operate small SEA programmes. Unlike most other services to assist the unemployed to obtain jobs which focus on enhancing the supply side of the labour market, SEA is designed to boost labour demand through direct job creation for unemployed workers.

The SEA programme grants a work search waiver to qualified UI beneficiaries who start their own business. During business start-up they can collect SEA benefits in lieu of UI benefits in the same amount and for the same duration as their regular UI weekly benefit. The average weekly benefit is about USD 300 and entitled duration is usually 26 weeks. They receive entrepreneurial counselling and training to help them establish successful microenterprises. To participate in SEA claimants must be determined likely to exhaust their UI benefits based on the Worker Profiling and Reemployment Services (WPRS) system.

The SEA programme is very small, serving only 3 170 participants at its maximum in 2002 and declining sharply thereafter. Among the seven states with active programmes, only five normally have more than 100 participants in a year, and none have as many as 1 000. The SEA programme has been used most intensively by: New Jersey, New York, Oregon and Pennsylvania. The number of workers entering SEA has only risen as high as 7 300 per year and annual payments have amounted to no more than 50 000 weeks compensated and USD 17 million in benefits paid. These are very small numbers compared to the regular UI programme which paid USD 58.6 billion to 16.5 million beneficiaries in 2010.

A number of states, however, have active microenterprise programmes that are not tied to state UI programmes. States sometimes find that their own state programmes are more flexible and easier to implement. Under the SEA programme, states have difficulty securing funding for microenterprise counselling and training, which cannot be funded from the state UI trust fund. Funding of entrepreneurial training through the WIA programme has been minimal in large part because the WIA performance measurement system discourages offering this service.[33]

Although Self-Employment Assistance programmes are small in the states in which they exist, it could have a modest but significant impact on the US economy, if the programme were implemented nationwide and was encouraged by the Labor Department and the state agencies. If participation in the US SEA programme reached 1 or 2% of regular UI beneficiaries and if the participants had 50% business start rates, the SEA programme could yield 50 000 to 100 000 business starts per year. At that level, SEA

33. This section draws on an overview of self-employment assistance by Wandner (2010).

would have contributed an additional 8 to 15% to the 649,700 US business starts in 2006 (Small Business Administration, 2007).

The Massachusetts Self-Employment Assistance Experiment was found to be highly cost-effective.[34] The self-employment assistance programme provided in the demonstration increased business starts among project participants, reduced the length of their unemployment, and increased their total time in employment–which includes self-employment plus wage and salary jobs. The demonstration also had a substantial positive impact on participants' earnings. When placed into a cost-benefit framework, Massachusetts self-employment assistance programme model proved to be cost-effective for project participants and society as a whole. It proved cost-effective to the government sector as well.

Overall, the self-employment assistance significantly increased total time in employment by participants (i.e. the combination of self-employment and wage and salary employment), who were randomly assigned into the project. On an annual basis, demonstration participants were employed 1.9 months longer than the control group. This result was due to the fact that both self-employment and wage and salary employment impacts were additive. The additive effect in Massachusetts resulted in a dramatic increase in the total annual earnings of project participants, compared to the control group–a net annual earnings increase of USD 5 940 per treatment group member over the three-year follow-up period.

Other dislocated worker policies

When NAFTA went into effect, several other federal policies and programmes were already in place to assist workers experiencing permanent job loss. Many of these emerged in response to widespread job loss resulting from industrial restructuring in the 1980s due to Reagan-era business tax policy changes. High levels of public concern over permanent job loss resulted in US government response through a wave of programmes aimed specifically at helping displaced workers.

The Worker Adjustment and Retraining Notification (WARN) Act became law in 1988 along with the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA) that same year. Field experiments and evaluations of services to dislocated workers led to unemployment insurance (UI) reforms in 1993 establishing Worker Profiling and Reemployment Services (WPRS) systems in all states (O'Leary, 2010). Each of these programmes was a policy response to actual or expected worker dislocation (see Box 2 for a summary of worker adjustment programmes).

34. Benus, Johnson, Wood, Grover, Shen (1994).

6. Conclusion

Following the elimination of tariffs under NAFTA, the volumes of exports and imports between North American countries have steadily increased. The rates of growth in North American trade have been similar to trade between the United States and the rest of the world. Consumers of final goods and producers buying intermediate goods gained as a result of lower prices induced by trade expansion. However, the transition after further trade expansion has also involved short-term adjustment costs for selected groups, affecting both employment opportunities and wage levels of some American workers. While these losses may be modest compared to the contemporaneous employment effects of US trade with the rest of the world, thousands of workers were displaced. In addition, some research suggests that the job losses due to trade may be concentrated in relatively low skill jobs, whereas a substantial portion of the new opportunities created by trade may arise in relatively high skill jobs. Not all trade-displaced workers have the capacity and resources to bridge the job-skill reemployment gap. As a result, specific public policies emerged in order to address these adjustment problems and facilitate transition.

The principal aim of this note was to provide an overview of the US policy responses to NAFTA and demonstrate how those responses fit into a broader policy aiming to support displaced workers. We focused specifically on Trade Adjustment Assistance, Self-employment Assistance and other supporting policies. As shown, Trade Adjustment Assistance provided substantial income replacement to NAFTA displaced workers. However, research suggests that TAA retraining and reemployment assistance did not appreciably increase employment among trade impacted workers. Although Self-Employment Assistance is a smaller programme, targeting a narrower population, research points to significant positive effects on employment; there may be potential benefits of increasing the geographic coverage of this measure.

Tariffs are a vestige of an earlier era of public finance. Tariffs on imports protect domestic employees to the extent that foreign producers can supply at costs sufficiently below the market price with the tariff, but this protection often comes at an economic cost. Assuming equal production technologies, there is a potential for foreign producers to extract their surplus in the presence of a tariff by doing things like paying lower wages, providing cheaper working conditions, and failing to fully control and pay for environmental impacts. The gains from trade under NAFTA that result from lower product and input prices may or may not be enough to offset the associated adjustment costs. So the arithmetic of Pareto comparisons yields uncertain results. As a result, there is a clear need for further research to provide updated estimates of the employment impacts of NAFTA, as well as other regional trade agreements, and evaluation of policy responses.

The United States now has free trade agreements in force with 17 countries.[35] Under NAFTA, the United States experienced trade liberalisation implemented hand-in-hand

35. These countries were: Australia, Bahrain, Canada, Chile, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Israel, Jordan, Mexico, Morocco, Nicaragua, Oman, Peru and Singapore. The United States has signed free trade agreements with three other countries (Colombia, Korea and Panama), which were subsequently confirmed the Senate and signed by the President. Their entry into force is pending. The US is currently in negotiations for an Asia-Pacific trade agreement, known as the Trans-Pacific Partnership (TPP).

with complementary measures to promote labour and environmental standards among the three trading partners. After the example of NAFTA, all subsequent American free trade agreements have included labour and environmental standards as integral chapters in free trade accords. Over the long-run these requirements in trade agreements are potentially even more important to consumer-workers in America than the short-term savings provided through lower prices.

Free trade agreements between countries address tariffs, quotas and embargoes. The labour and environmental requirements of the new American agreements help level the playing field for American workers producing goods and competing for jobs world-wide. If foreign production facilities are required to assure the same rights and safety for their workers, and if they must make similar efforts to prevent environmental contamination, then international competition for sales of goods–which result in jobs–is based on talent and capital advantages, not labour exploitation and environmental damage. If the free trade agreements properly address these factors, the prices of final goods will fully reflect the costs of these inputs in production. Lowering tariffs and trade barriers could result in the loss of American jobs, but with properly enforced rules on labour and the environment, free trade could increase American jobs. Economic efficiency will be served only if all costs of production–including worker and environmental safety–are fully covered by the bargain. The NAFTA agreement sets an example for subsequent American free trade agreements to include stronger provisions to level the playing field on conditions to equalise competitive trading advantages. As global trade in merchandise continues to expand and more nations accept common standards for worker compensation, worker safety, and worker freedoms along with environmental protections, the level of economic activity will continue to increase, creating more jobs to be shared across international borders.

The effects of NAFTA should not be assessed too narrowly relative to conditions at the time it went into force in 1994. World trade is a rising share of economic activity for all NAFTA partners and for most other countries around the world. As the inexorable growth in global trade continues, the United States has pursued more free trade agreements building on the precedents of NAFTA, including standards for business and labour practices. Thus, there are likely to be expanding economic benefits not only directly from NAFTA-related trade, but also from the application of NAFTA principles in other trade liberalisation initiatives.

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