

## NORTH AMERICAN TRADE AFTER NAFTA RISING DEFICITS, DISAPPEARING JOBS

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The U.S. trade balance with its North American Free Trade Agreement partners, Mexico and Canada, deteriorated dramatically in 1995. In February 1996, the Commerce Department reported that the merchandise trade deficit with Mexico hit \$15.4 billion for 1995; with Canada it jumped to \$18.2 billion' (U.S. Department of Commerce 1996, Exhibit 15). The picture is even worse when the data are adjusted to exclude goods shipped through the United States to Canada and Mexico. By this measure (which provides a more accurate and relevant picture of trade, and its consequences for employment, than the more widely publicized unadjusted figures), the United States had net export deficits of \$16.8 billion with Mexico and \$3 1.6 billion with Canada in 1995.

During the entire period since NAFTA was implemented on January 1, 1994, U.S. trade balances with Mexico and Canada have steadily worsened. The increase in the U.S. net export deficit with Mexico eliminated 283,607 jobs (or job opportunities) in the U.S. economy since 1993 (**Table 1**), while the increase in the net export deficit with Canada eliminated 200,026 job opportunities (**Table 2**). These figures are based on a job multiplier of 15,382 jobs per \$1 billion of exports.\*

We estimate that, due to increasing net export deficits with Mexico and Canada since 1993, NAFTA has resulted in the loss of 483,633 jobs. Most of these jobs were lost in 1995 (367,335, **Tables 3** and 4) as the peso crisis reduced Mexican consumers' purchasing power and accelerated production in Mexico for export to the United States. The links between NAFTA and the peso crisis are discussed below.

Even when the merchandise trade deficit is used as the basis for estimating job losses, the numbers are still dramatic: 263,016 jobs lost to Mexico and 128,645 to Canada, for a total of 391,661 jobs since 1993. These effects are smaller because the merchandise trade balance includes foreign exports, which increased rapidly after 1993, especially to Canada and Mexico. There are some

**TABLE 1**  
**U.S. Trade With Mexico, 1992-95,**  
**Totals for All Commodities**  
(Millions of Dollars)

	1992	1993	1994	1995	Change Since 1993		Jobs Lost or Gained
					Dollars	Percent	
1. Imports for Consumption	<b>33,935</b>	38,668	48,605	61,721	23,053	<b>59.6%</b>	<b>(354,598)</b>
2. Imports Not for Consumption (general imports less imports for cons.)	1,250	1,262	888	<b>(16)</b>	(1,278)	-101.3%	
3. General Imports	35,184	39,930	49,493	61,705	21,755	54.5%	
4. Domestic Exports	39,605	40,265	49,136	44,881	4,615	11.5%	<b>70,991</b>
5. Foreign Exports	993	1,370	1,704	1,431	61	4.4%	
6. Total Exports	40,597	41,635	50,840	46,311	4,676	11.2%	
7. Net Exports (4 • 1)	5,670	1,598	531	(16,840)	(18,438)	<b>-1,154.0%</b>	(283,607)
8. Merchandise Trade Balance (6 • 3)	5,413	1,706	1,347	(15,394)	(17,099)	<b>-1,002.4%</b>	(263,016)

Source: U.S. Department of Commerce data and author's calculations. See [glossary](#) for definition of terms.

**TABLE 2**  
**U.S. Trade With Canada, 1992-95,**  
**Totals for All Commodities**  
(Millions of Dollars)

	1992	1993	1994	1995	Change Since 1993		Jobs Lost or Gained
					Dollars	Percent	
1. Imports for Consumption	<b>98,243</b>	110,482	128,753	144,882	<b>34,399</b>	31.1%	(529,119)
2. Imports Not for Consumption (general imports less imports for cons.)	255	<b>439</b>	<b>194</b>	<b>(0)</b>	<b>(439)</b>	<b>-100.0%</b>	
3. General Imports	98,497	110,921	128,947	<b>145,119</b>	34,197	30.8%	
4. Domestic Exports	83,218	91,866	103,643	113,261	21,395	23.3%	329,094
5. Foreign Exports	6,939	8,325	10,612	12,763	4,438	53.3%	
6. Total Exports	90,156	100,190	114,255	126,024	25,834	25.8%	
7. Net Exports (4 • 1)	(15,025)	(18,617)	(25,110)	(31,621)	(13,004)	69.9%	(200,026)
8. Merchandise Trade Balance (6 - 3)	(8,341)	(10,731)	(14,693)	(19,095)	(8,364)	77.9%	(128,645)

Sources: U.S. Department of Commerce data and author's calculations.

**TABLE 3**  
**U.S. Net Exports to Mexico**  
(Millions of Dollars)

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
Total All Commodities	5,670	1,598	531	(16,840)	(17,371)	(267,195)
37-Transportation equipment	(331)	(1,674)	(2,215)	(7,242)	(5,026)	(77,311)
B&-Electrical & electronic mach, equip, & supplies	(1,749)	(2,321)	(4,250)	(6,240)	(1,990)	(30,611)
35—Machinery, except electrical	3,412	2,919	2,924	1,221	(1,703)	(26,188)
13—Crude petroleum and natural gas	(4,007)	(219)	(4,488)	(5,428)	(939)	(14,449)
20-Food and kindred products	1,091	(154)		444	(935)	(14,380)
38—Scientific & prof instr; photograph & opt gds etc	638	504	1,385	(800)	(895)	(13,765)
01-Agricultural products	329	11	388	(421)	(809)	(12,436)
33-Primary metal products	1,183	684	644	(132)	(777)	(11,945)
23-Apparel and related products	(1,012)	(1,310)	(1,466)	(2,106)	(641)	(9,853)
98—Goods imported from canada and returned to canada	(1,168)	(1,317)	(1,570)	(2,032)	(462)	(7,109)
34—Fabricatd metl prod exc mach & transp equipment	998	980	1,350	951	(399)	(6,143)
28—Chemicals and allied products	1,939	2,230	2,735	2,344	(391)	(6,018)
02-Livestock and livestock products	(138)	(315)	(189)	(512)	(323)	(4,974)
39-Miscellaneous manufactured commodities	48	(150)	(255)	(575)	(321)	(4,936)
30—Rubber and miscellaneous plastics products	1,058	1,231	1,751	1,475	(276)	(4,250)
25-Furniture and fixtures	(152)	(217)	(469)	(688)	(219)	(3,375)
3X-Manufactured commodities not identified by kind	1,522	1,536	1,912	1,738	(174)	(2,672)
24-Lumber and wood products, except furniture	222	159	117	(47)	(164)	(2,519)
22-Textile mill products	467	518	646	500	(146)	(2,246)
32—Stone, clay, glass, and concrete products	(229)	(233)	(267)	(401)	(134)	(2,059)
92-Used or second-hand merchandise	128	131	145	15	(130)	(2,000)
26-Paper and allied products	1,152	1,262	1,565	1,438	(127)	(1,950)
09—Fish, fresh or chilled; and other marine products	(188)	(38)	(287)	(412)	(125)	(1,918)
27-Printing, publishing, and allied products	141	186	245	128	(116)	(1,790)
99—Special classification provisions, nspf	(170)	(185)	(215)	(324)	(109)	(1,677)
10-Metallic ores and concentrates	(12)	1,079	(46)	(102)	(56)	(859)
14—Nonmetallic minerals, except fuels	(74)	257	(46)	(86)	(40)	(621)
31-Leather and leather products	(159)	(159)	(180)	(220)	(40)	(621)
91—Scrap and waste	59	38	45	10	(35)	(535)
21-Tobacco manufactures	3	18	36	17	(19)	(293)
08-Forestry products, nspf	8	(4,023)	16	23	7	104
1 ?-Bituminous coal and lignite	3	702	11	36	25	387
29-Petroleum refining and related products	657	298	470	588	118	1,818

technical problems with the net export measure, which are discussed below. Thus, the best measure of the employment effects of NAFTA probably lies somewhere between the two totals. Our best estimate, then, is that between 392,000 and 484,000 jobs were lost between 1993 and 1995 because of increasing trade deficits with the NAFTA countries.

Some analysts have claimed that the United States has benefited from NAFTA because exports have grown to both countries (see Glassman 1996). However, it makes little sense to consider only the employment-creating consequences of exports while ignoring the employment-displacing effects of imports. Many imported goods, such as automobiles imported from Mexican assembly plants, replace goods that were made in U.S. factories that have closed or downsized. Moreover, looking only at gross exports is misleading, since some of the new exports to NAFTA partners are

**TABLE 4**  
**U.S. Net Exports to Canada**  
**(Millions of Dollars)**

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
Total All Commodities	(15,025)	(18,617)	(25,110)	(31,621)	(6,510)	(100,140)
26-Paper and allied products	(6,069)	(6,049)	(6,378)	(9,536)	(3,158)	(48,576)
13-Crude petroleum and natural gas	(7,985)	(8,864)	(9,559)	(10,653)	(1,095)	(16,840)
37-Transportation equipment	(10,355)	(12,660)	(14,321)	(15,145)	(824)	(12,677)
33-Primary metal products	(3,948)	(4,266)	(5,210)	(5,952)	(742)	(11,413)
98—Goods imported from Canada and returned to Canada	(3,676)	(3,919)	(4,972)	(5,547)	(575)	(8,845)
28—Chemicals and allied products	2,141	2,600	2,577	2,161	(416)	(6,402)
25-Furniture and fixtures	(119)	(270)	(531)	(909)	(378)	(5,814)
02-Livestock and livestock products	(1,132)	(1,131)	(1,032)	(1,240)	(208)	(3,198)
35—Machinery, except electrical	6,616	7,145	8,013	7,821	(193)	(2,965)
20-Food and kindred products	178	109	52	(114)	(166)	(2,554)
32-Stone, clay, glass, and concrete products	520	460	414	296	(119)	(1,827)
34—Fabricated metal products except machinery and transport equipment	2,503	2,747	1,596	1,477	(119)	(1,826)
29-Petroleum refining and related products	(1,137)	(1,103)	(1,018)	(1,131)	(114)	(1,750)
39-Miscellaneous manufactured commodities	640	641	641	533	(108)	(1,661)
99—Special classification provisions, n.s.p.f.	(1,366)	(1,512)	(2,040)	(2,096)	(56)	(863)
31—Leather and leather products	75	65	47	31	(16)	(253)
23-Apparel and related products	(5)	(10)	(116)	(125)	(9)	(135)
92-Used or second-hand merchandise	35	6	43	35	(8)	(30)
08—Forestry products, n.s.p.f.	1	(3)	5	3	(2)	(25)
30—Rubber and miscellaneous plastics products	553	527	415	415	(1)	(12)
14—Nonmetallic minerals, except fuels	(102)	(96)	(130)	(122)	a	130
12—Bituminous coal and lignite	478	281	277	289	12	179
21—Tobacco manufactures	(195)	(370)	(44)	(16)	28	424
27-Printing, publishing, and allied products	1,356	1,244	1,305	1,350	45	698
22-Textile mill products	691	730	733	780	48	732
38—Scientific & professional instruments; photographs & optical goods etc.	1,953	2,312	2,581	2,645	64	984
3X-Manufactured commodities not identified by kind	1,939	1,961	1,855	1,965	110	1,693
91—Scrap and waste	152	345	355	482	127	1,955
09—Fish, fresh or chilled; and other marine products	(519)	(475)	(468)	(340)	129	1,977
1 O-Metallic ores and concentrates	104	111	108	255	148	2,271
@I-Agricultural products	1,031	1,004	504	736	232	3,567
36-Electrical & electronic machinery, equipment, & supplies	4,094	4,964	5,537	5,948	411	6,324
24-Lumber and wood products, except furniture	(3,476)	(5,143)	(6,351)	(5,916)	435	6,691

Sources: U.S. Department of Commerce data and author's calculations.

parts and other inputs that previously supplied assembly plants in the United States. Exports such as these do not create new jobs. Net exports provide the most reliable estimate of the effects of changing trade patterns on domestic employment, since they net out imports and exclude transshipped goods.<sup>3</sup>

The remainder of this report will examine the effects of NAFTA on specific industries, discuss its positive and negative effects on the U.S. economy, and explain the terms and statistics presented here. Tables 3 and 4, and the appendices discussed below, estimate the employment changes resulting from shifts in the trade balance since 1994; Tables 1 and 2 estimate employment impacts for the entire period since 1993.<sup>4</sup>

## Where Are the Job Losses Occurring?

The United States exports to Mexico mostly capital goods and intermediate inputs, which are used to build and supply factories that assemble final products for export to the United States. These trends are illustrated in the industry-level net export data reported in Table 3 and Appendix 1. An increase in the net export deficit occurs when imports grow faster than exports, This trend will reduce employment throughout the economy by displacing domestic production. The rough employment effects are shown in the last column of Table 3 and Appendix 1.

Table 3 shows that the largest job losses resulting from trade with Mexico in 1995 were in transportation equipment (77,311 jobs) and electrical equipment (30,611 jobs). Principal industries in these sectors included motor vehicles and parts (69,048 jobs), radio and TV sets (15,921 jobs), and communication equipment (12,266 jobs), as shown in Appendix 1. In contrast, 10,576 jobs were created in electronic components (which are used as inputs in electronic products and vehicles). Large job losses were also recorded in computers (10,692 jobs), fruits (6,378 jobs), and vegetables and melons (3,743 jobs). Interestingly, the United States recorded an overall net export deficit with Mexico in agricultural products in 1995, as shown in Table 3, despite a surplus in cash grain trade (Appendix 1).<sup>5</sup>

Detailed statistics for net exports to Canada are reported in Table 4 and Appendix 2. The largest job losses in 1995 occurred in paper products (48,576 jobs). Other sectors with increasing net export deficits included transportation equipment (including motor vehicles, with a net loss of 18,903 jobs, and aircraft, with a net gain of 6,645 jobs) and primary metal products (including a net loss of 11,560 jobs in nonferrous metals and a net gain of 2,535 jobs in steel products). Gains were registered in electronic equipment (6,324 jobs) and lumber and wood products (6,691 jobs). The latter resulted from a decrease in the net export deficit in 1995.

## Why Has NAFTA Eliminated Jobs in the United States?

Administration officials and many economists predicted prior to its passage that NAFTA would result in the creation of hundreds of thousands of jobs. Since NAFTA's implementation, some analysts have claimed support for these predictions in estimates of jobs already created by increased exports to Mexico.<sup>6</sup>

Many studies of NAFTA predicted that the U.S. trade balance would improve, leading to net increases in employment in the United States. For example, six NAFTA models reviewed in a Joint Economic Committee study in 1993 predicted net job gains ranging from 220,000 to 2.8 million (U.S. Congress, JEC 1993, 10, 11, 25). One of the most widely cited studies was prepared by Hufbauer and Schott (1993, 14), who projected that NAFTA "will create about 170,000 net new jobs in the foreseeable future" (by 1995, relative to 1990) because "U.S. exports to Mexico will continue to outstrip Mexican exports to the United States."

A few studies raised significant questions about the negative effects that NAFTA could have on the domestic economy (Faux and Lee 1992). These analyses focused on three key issues:

(1) investment diversion, (2) the weakness of Mexican demand for U.S. exports, and (3) the closely related overvaluation of the Mexican peso.

If NAFTA caused direct investment to be diverted from the United States to Mexico, jobs would be lost in the United States as factories relocated and production shifted. Domestic wages would also be reduced if threats of plant closure were used to extract concessions from workers in contract negotiations. This reduction in bargaining power seems, in retrospect, to be one of the most important and least understood consequences of NAFTA.

For trade to contribute to U.S. employment, on the other hand, U.S. net exports would have had to increase, as assumed in the Hufbauer-Schott study.<sup>7</sup> In 1992, the United States had a \$5.7 billion net export surplus with Mexico; this was the high-water mark for the United States in bilateral trade. For this surplus to grow, Mexican income would have had to grow much faster than income in the United States, primarily because the Mexican economy is so much smaller. However, Mexican growth in the early 1990s was unsustainable, in part because of the overvaluation of the peso.

The peso's collapse was widely predicted several years in advance of its actual decline (see Faux 1993, 11, among others). While the overvaluation was partially a domestic problem (the government has frequently resisted necessary devaluations prior to the presidential elections, which occur every six years), the peso was also sustained by a U.S.-led portfolio-investment frenzy that made the ensuing crisis much worse than it would otherwise have been. U.S. investment in Mexico accelerated after NAFTA negotiations were announced in 1990. (See Blecker 1996 and Lee 1995 for more a detailed discussion of the connections between the peso crisis, NAFTA, and Mexico's overall development strategy.)

The collapse of the peso in late 1994 and early 1995, when it lost about 50% of its value against the dollar, caused a near depression in Mexico. The economic crisis has eliminated 1 million to 2 million jobs and has reduced real wages sharply. The decline in output, combined with continued high interest rates, has sharply reduced Mexican demand for U.S. goods. Devaluation has also cut Mexican wages relative to those in the United States, and there has been a tremendous increase in investment in new factories that will make goods for export to the United States.

Many of these new plants will be located in the maquiladora zone along the U.S. border. There were approximately 2,000 such plants in 1994. News reports in early 1995 said that Mexican authorities were approving applications for two to three new plants per day in this zone, and that 250 plant applications had been approved in the first quarter alone (Muñoz 1995, 23). These plants will dramatically increase both exports to and imports from Mexico in the near future.

### **What Is the Difference Between Net Exports and the Merchandise Trade Balance?**

The *merchandise trade balance* (line 8 in Tables 1 and 2) is the *difference between total exports and general imports*. The problem with this measure is that it includes goods produced in other countries and exported to Mexico or Canada through the United States. Such foreign *exports* are sometimes referred to as "transshipments." In order to determine the employment effects of trade

between two countries, it is necessary to exclude foreign exports from consideration, because goods produced in other countries do not generate employment in the United States (beyond warehousing and transportation). Note that the inclusion of foreign exports in the trade balance introduces bias only when examining trade between two countries or a group of countries. The foreign export problem disappears in the overall merchandise trade balance with all countries, because foreign imports and exports are exactly offsetting.

*Net exports* (line 7 in Tables 1 and 2) are the difference between domestic exports and imports for consumption. This is the most appropriate base for estimating the employment impacts of trade between two countries.

Net exports exclude foreign exports. U.S. foreign exports to Mexico and Canada were \$1.4 billion and \$12.8 billion in 1995, respectively, as shown in Tables 1 and 2.<sup>8</sup> Detailed foreign exports by industry are reported in **Appendices** 3 and 4. (Net exports, foreign exports, and their relationship to the merchandise trade deficit are outlined in the attached “Glossary of Trade Terms.”)

Net exports also exclude imports not for consumption (line 2 in Tables 1 and 2). This category includes goods that will be re-exported and goods being held in warehouses and foreign trade zones that could later be consumed in the United States (at which time they would be included in imports for consumption<sup>9</sup>).

It is difficult to accurately measure net exports because of several problems with the data collected by the Department of Commerce. First, goods that enter the United States under the special “chapter 98” tariff arrangements (“goods imported from Canada and returned to Canada”) seem to get lost or reclassified before they are returned. Thus, we record a net trade deficit in “industry” 98 in Tables 3 and 4 because exports in this sector are much less than imports. In addition, some of these goods are processed in Mexico (as indicated by substantial U.S. imports of “industry” 98 goods), but there are no reported exports of such goods to Mexico. These problems may distort the net export estimates. However, if these goods are simply exported in other categories, to both Mexico and Canada, then total net exports will be accurate, as reported in Tables 1 and 2. In any event, better tracking of Chapter 98 goods shipments within NAFTA is clearly needed, particularly in the case of goods transshipped from Canada to Mexico, and then back to Canada, crossing the United States on up to two occasions.

A second problem with the trade statistics is the failure of the international trade administration to distinguish imports of goods for transshipments from imports for consumption. The high level of foreign exports discussed in this report is not reflected in the level of “imports not for consumption” in Tables 1 and 2. More accurate measurement of imports for consumption, excluding goods destined for re-export (as distinguished from general imports, which include re-export items) is needed to provide a more complete understanding of the effects of transshipments and bilateral trade on employment in the United States.

Because of the existence of these problems, the “true” bilateral trade balance probably lies somewhere between the reported merchandise trade balance and the level of net exports reported here. For this reason, this paper reports the overall employment effects of trade under both measures.

## **How Are the Employment Effects of Trade Estimated?**

The job estimates shown here are computed using employment multipliers derived from U.S. Department of Commerce estimates of the jobs associated with exports (see Davis 1995). By adjusting 1992 Commerce Department estimates to account for inflation, we obtain a figure of 15,382 jobs that are created for each \$1 billion of exports. Since the Commerce Department does not calculate a comparable figure for imports, we apply the export multiplier to imports as well. If anything, this will provide a conservative estimate of jobs lost due to trade, since imports tend to be somewhat more labor intensive than exports. This multiplier is applied to changes in net exports, as shown in Tables 1 and 2.

Job losses may represent job opportunities foregone (jobs never created), and thus these estimates will generally exceed the number of workers who have been directly displaced by imports. The U.S. Department of Labor maintains a special program of adjustment assistance for displaced workers whose plants have closed as a result of a shift of production or increased imports from NAFTA countries, and it issues regular reports on the number of such displaced workers. To date, 64,493 have been certified for NAFTA Trade Adjustment Assistance.

Net job losses reported in line 7 in Tables 1 and 2 are the result of gross job creation (from increasing exports or falling imports) and job destruction (from increased imports or falling exports). Tables 1 and 2 show that for the complete NAFTA period (1994 and 1995), 354,598 jobs were eliminated by rising imports from Mexico, and 529,119 jobs were lost because of increased imports from Canada. During the same period, 70,991 jobs were created through increased exports to Mexico, and 329,094 jobs were created through increased exports to Canada. Thus, based on the net-export measure, the United States has experienced a net loss of 483,633 jobs (883,717 jobs lost less 400,085 jobs created) as a result of increased trade with Mexico and Canada since NAFTA took effect. These gross job creation and destruction figures reflect the fact that increased trade creates jobs in some industries and eliminates jobs and employment opportunities in other sectors of the economy.

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## Glossary of Trade Terms

**imports for consumption.** Goods brought into the United States for immediate domestic use. They include goods shipped out of U.S. foreign trade zones and warehouses for domestic distribution. Goods may be brought into foreign trade zones, without the payment of duties (tariffs), and further transformed there. Tariffs are paid on imported components only when they leave the FTZ, and then only if they are for domestic consumption. Duties are not paid if the goods are re-exported.

**imports not for consumption.** Goods brought into the United States for re-export, plus net receipts of foreign trade zones and customs warehouses. Equal to general imports less imports for consumption.

**general imports.** All imports, including goods going into Customs warehouses and foreign trade zones (including those that will be re-exported) and imports for consumption.

**domestic exports.** Exported goods that are produced, grown, or extracted in the United States. Includes goods that have been imported into the United States and changed here, including those coming from foreign trade zones.

**foreign exports.** Goods that are exported from the United States but were produced, harvested, or extracted in another country. They are exported in substantially the same condition as when imported. Also called transshipments.

**total exports.** The sum of domestic and foreign exports-total U.S. exports to a given destination.

**merchandise trade balance.** Total exports less general imports. Merchandise includes manufactured goods and all commodities, including oil, minerals, and agricultural products. It does not include service or investment income.

**net exports.** Domestic exports less imports for consumption. The category includes only merchandise, and not services or investment income, and it excludes foreign exports (transshipments) and imports not for consumption. It represents the difference between (1) goods produced, harvested, or extracted in the United States and then exported to other countries, and (2) goods imported into the United States for consumption.

**APPENDIX 1**  
**U.S. Net Exports to Mexico,**  
**Three-Digit Industries**  
(Millions of Dollars)

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
Total All Commodities	5,670	1,598	531	(16,840)	(17,371)	(267,195)
011—Cash grains and other crops	1,292	1,073	1,487	1,368	(119)	(1,830)
013—Field crops, except cash grains	125	191	235	213	(22)	(341)
016—Vegetables and melons	(603)	(829)	(895)	(1,139)	(243)	(3,743)
017—Fruits, fresh chld or in brine; edble tree nuts etc	(506)	(442)	(462)	(877)	(415)	(6,376)
01 E-Horticultural specialties	21	18	24	14	(9)	(144)
021—Livestock, exc dairy, poultry & animal specialties	(180)	(354)	(237)	(524)	(296)	(4,405)
024—Dairy cattle for breeding, live	32	26	29	6	(23)	(347)
025—Poultry and eggs	9	14	17	13	(5)	(70)
027—Animal specialties	1	(1)	3	(7)	(10)	(152)
081—Timber tracts	3	5	7	6	(1)	(22)
083—Forestry products, nspf	5	(0)	9	17	8	125
091—Fish, fresh, chilled, or frozen, and other marine	(188)	(241)	(287)	(412)	(125)	(1,916)
101—Iron ore	0	0	0	0	0	1
102—Copper ore	(14)	0	(6)	(15)	(8)	(130)
103—Lead and zinc ore	(4)	(5)	(3)	(4)	(1)	(12)
104—Precious metal ores, including gold content	(3)	(19)	(49)	(80)	(32)	(467)
106—Ferroalloy ores, nspf	(1)	(1)	4	(10)	(14)	(222)
109—Metallic ores, nspf	10	5	7	7	(1)	(9)
122—Bituminous coal and lignite	2	10	10	31	21	317
123—Anthracite coal	1	1		6	5	70
131—Crude petroleum and natural gas	(4,081)	(4,105)	(4.56:)	(5,596)	(1,032)	(15,871)
132—Natural gas liquids	73	82	75	168	92	1,423
141—Granite, limestone etc suit monumtl, paving, etc	0	1	1	0	(1)	(10)
142—Crushed or broken stone, including riprap	(13)	(13)	(18)	(24)	(6)	(90)
144—Sand, crude and manufactured, and gravel	8	3	7	9	3	41
145—Clay, ceramic, and refractory minerals	21	23	35	33	(2)	(25)
147—Chemical and fertilizer minerals	(94)	(47)	(55)	(58)	(3)	(44)
149—Nonmetallic minerals, nspf	5	(4)	(14)	(46)	(32)	(494)
201—Meat products and meat packing products	791	702	887	505	(362)	(5,872)
202—Dairy products	160	255	184	112	(72)	(1,104)
203—Canned & presvd seafood, fruits, veg, jams, etc.	(208)	(219)	(210)	(304)	(93)	(1,432)
204—Grain mill products	246	257	328	223	(105)	(1,609)
205—Bakery prod ex frz exc sealng wafers comm waf etc	3	4	(9)	(47)	(37)	(575)
206—Sugar and confectionery products	57	7	19	(59)	(78)	(1,200)
207—Food preparations and related products, nspf	254	236	302	370	68	1,047
208—Beverages and flavoring extracts	(165)	(154)	(156)	(312)	(156)	(2,396)
209—Food preparations and related products, nspf	(48)	(9)	35	(46)	(80)	(1,238)
21 I-Cigarettes	6	21	40	23	(17)	(262)
212—Cigars, cheroots, and cigarillos	(3)	(3)	(4)	(6)	(2)	(31)
213—Tobacco and snuff	0	0	0	0	0	1
214—Manufactured tobacco, nspf inc proc sheet tobacco	0	0	0	0	0	0
221—Cotton broad woven fabrics	7	9	55	2	(53)	(820)
222—Silk and manmade fiber broad woven fabrics	136	162	200	168	(32)	(495)
223—Wool broad woven fabrics and wool blankets	20	(1)	(0)	(0)	0	0
224—Narrow fabrics of textile materials	47	66	74	88	14	211
225—Knit fabrics and hosiery of textile materials	29	29	40	11	(29)	(449)
227—Floor coverings	49	61	58	32	(26)	(402)
228—Yarn and thread, textile fibers	1	(1)	12	9	(3)	(46)
229—Textile goods, nspf	178	192	207	191	(16)	(245)
23X—Military apparl, all typ & mat inc headwr & footwr	6	4	1	0	(1)	(18)
231—Suits and coats, men's and boys', except raincoats	(7)	(3)	(3)	(26)	(22)	(341)
232—Shirts, nightwr, undrwr, trsrs & wrk clothng m & b	(44)	(92)	(151)	(645)	(494)	(7,602)
233—Wgi dresses, bls, cts, suits & shrts, ex kt shirts	(79)	(96)	(202)	(285)	(83)	(1,277)
234—Nightwr & undrwr, wgi; corsets & allied garments	(76)	(99)	(123)	(172)	(48)	(745)
235—Headwear	(23)	(26)	(25)	(31)	(5)	(63)
236—Outerwear, nspf, of textile materials	(271)	(269)	(270)	(352)	(62)	(1,267)
237—Fur wearing apparel and fur articles, nspf	3	2	3	1	(2)	(35)

**APPENDIX 1 (cont.)**  
**U.S. Net Exports to Mexico,**  
**Three-Digit Industries**  
(Millions of Dollars)

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
238-Wearing apparel and accessories, nspf	(2)	2	23	23	(1)	(8)
239-Fabricated textile articles, nspf	(519)	(738)	(719)	(620)	99	1,524
241—Logs, pulpwood, utility line poles, piling etc	17	7	12	10	(2)	(34)
242-Sawmill and planing mill products	232	215	163	71	(92)	(1,411)
243—Millwk, veneer, plywood & structural wood products	(15)	(52)	(58)	(78)	(20)	(314)
244-Wooden containers	12	12	15	9	(6)	(90)
245-Wood buildings and mobile homes	3	3	4	4	0	0
249-Miscellaneous wood products	(26)	(26)	(19)	(63)	(44)	(670)
251—Household furniture, nspf	(34)	(42)	(34)	(55)	(22)	(333)
252—Office furniture	0	0	0	0	0	2
254—Partitions, shelving, lockers, office & store fix	2	(2)	(6)	(14)	(8)	(116)
259—Venetina blinds & pts, i/s or aluminum; furn, nspf	(121)	(174)	(429)	(619)	(190)	(2,928)
261—Pulp mill products	187	200	249	352	104	1,593
262-Paper mill products	264	324	443	205	(238)	(3,654)
263-Paperboard mill products	0	0	0	0	(0)	(2)
265—Paperboard containers and boxes	348	386	459	544	85	1,301
267-Convertd paper/paperboard prod exc contnrs & boxes	353	351	414	337	(77)	(1,188)
271-Newspapers	(3)	2	1	1	(0)	(3)
272-Periodicals if enterd within 6 mo of date of issue	30	26	37	19	(18)	(281)
273-Books and pamphlets	50	81	111	47	(63)	(972)
274-Printing and publishing matter, nspf	3	2	2	2	(0)	(2)
275—Printed matter, nspf	64	78	104	105	1	19
276-Manifold business forms & interleaved carbon sets	0	1	1	0	(1)	(9)
277—Greeting cards	6	10	1	(1)	(2)	(23)
278—Blankbooks, loose leaf binders and devices	(12)	(17)	(16)	(49)	(33)	(509)
279-Printg blcks cylndrs pltes shts & stereotypes etc	4	4	4	3	(1)	(10)
281—Industrial inorganic chemicals	159	163	206	226	21	320
282—Plast mat & syn resns syn rbr syn oth mmd fib etc	694	699	844	735	(109)	(1,679)
283—Drugs	(18)	93	116	89	(27)	(417)
284-Soaps, detergents & cleang prep; perfms cosmet etc	125	152	206	91	(115)	(1,769)
285—Paints, varnishes, and allied products	86	89	131	106	(26)	(394)
286—Industrial organic chemicals	618	691	865	933	67	1,038
287-Agricultural chemicals, nspf	129	172	202	52	(150)	(2,302)
289—Miscellaneous chemical products	147	169	165	112	(53)	(815)
291—Petroleum refinery products	616	259	426	542	116	1,778
295—Paving and roofing materials	(2)	1	2	(10)	(11)	(176)
299-Products of petroleum and coal, nspf	43	38	42	56	14	216
3XX—Manufactured commodities not identified by kind	1,522	1,536	1,912	1,738	(174)	(2,672)
301—Tires and inner tubes	152	155	143	118	(25)	(377)
302-Footwear, rubber or plastic	23	30	24	9	(14)	(220)
305—Rubber and plastics hose and belting	135	155	205	188	(18)	(271)
306-Druggist r med suppl inc glvs of rbr or plastic	64	56	68	33	(35)	(536)
308-Miscellaneous plastics products	684	835	1,311	1,126	(185)	(2,846)
31 I-Tanned and finished leathers	23	35	13	42	29	452
313—Leather cut to shapes suit f convrsn into ftwr etc	(4)	(7)	(9)	(10)	(1)	(22)
314—Footwear, except rubber	(137)	(133)	(117)	(159)	(41)	(635)
315—Leather gloves, except sport gloves	(2)	(1)	(3)	(2)	1	16
31 B-Luggage and related items	(36)	(45)	(47)	(63)	(17)	(258)
317—Handbags and other personal leather goods	(6)	(4)	(5)	(11)	(6)	(96)
319—Leather goods, nspf	2	(5)	(12)	(17)	(5)	(77)
321-Flat glass	(29)	(36)	(42)	(43)	(2)	(26)
322-Glass cont; pressed & blown glass & glassware	(71)	(41)	(11)	(40)	(30)	(458)
323-Glass products, made of purchased glass	16	20	(52)	(90)	(37)	(574)
324-Cement, hydraulic, and cement clinker	(29)	(26)	(22)	(30)	(9)	(136)
325—Structual clay products	(53)	(67)	(76)	(77)	(1)	(22)
326-Pottery and related products	(47)	(62)	(76)	(93)	(17)	(263)
327-Concrete, gypsum and plaster products, and lime	(8)	(7)	(3)	(14)	(11)	(173)
328-Cut stone and stone products	(16)	(15)	(14)	(20)	(6)	(87)
329-Abrasive, asbestos & misc nonmetllc mineral prods	8	(0)	27	6	(21)	(321)

**APPENDIX 1 (cont.)**  
**U.S. Net Exports to Mexico,**  
**Three-Digit Industries**  
(Millions of Dollars)

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
331—Blast furnace, stl wrk, rllng mill & fin mill prod	655	301	62	(201)	(263)	(4,051)
332—Iron and steel products	38	32	28	20	(8)	(125)
333—Smelter and refined nonferrous metals	30	(17)	(3)	(328)	(325)	(4,992)
334—Secondary smelting & refining of nonferrous metals	(45)	(93)	(91)	(103)	(12)	(184)
335—Rolled, drawn, and extruded nonferrous metal	482	433	617	448	(169)	(2,600)
336—Nonferrous metal castings and forgings	14	19	20	20	(0)	(0)
339—Primary metal products, nspf	10	10	11	12	1	9
341—Drums, cans, boxes, and other containers, nspf etc	63	40	45	32	(13)	(207)
342—Cutlery, hand tools, and hardware, nspf	210	256	279	157	(122)	(1,879)
343—Heating equipment, except electric & warm air; etc	49	14	22	1	(22)	(332)
344—Fabricated structural metal products	50	44	79	8	(71)	(1,087)
345—Bolts, nuts, screws, rivets, washers & sim art etc	114	135	254	305	51	784
346—Metal forgings and stampings	355	393	364	221	(143)	(2,194)
348—Ordnance & accessories exc veh & guided missiles	0	14	16	(5)	(20)	(311)
349—Fabricated metal products, nspf	156	84	292	232	(60)	(918)
351—Engines & turbines, parts & accessories, nspf	524	419	441	555	114	1,754
352—Farm and garden machinery and equipment	154	164	184	94	(90)	(1,387)
353—Construction, mining & matls handling machinery	618	438	573	125	(448)	(6,896)
354—Metlwrkg mch & equip, pts access & attach, nspf	575	420	518	396	(121)	(1,868)
355—Spec indus mch & equip nspf pts access & atl nspf	389	318	458	348	(110)	(1,689)
356—Genrl ind mach & equip, nspf, pts & attach, nspf	591	473	315	207	(108)	(1,659)
357—Office, cmputg, acctg mach, pts & accessories nspf	240	354	77	(618)	(695)	(10,692)
358—Refrigeration and service industry machinery, etc	131	130	73	(213)	(286)	(4,406)
359—Fluid power pumps & mtrs & scales & balancs ex lab	192	203	285	328	42	653
361—Electric distribution equipment	(123)	(209)	(211)	(287)	(76)	(1,166)
362—Electrical industrial apparatus	127	52	(150)	(296)	(146)	(2,246)
363—Household appliances, nspf, and parts, nspf	(324)	(344)	(399)	(574)	(175)	(2,685)
364—Electric lighting and wiring equipment	(120)	(225)	(240)	(150)	90	1,379
365—Radio/tv rcv sets; phonograph; recorders; etc	(992)	(1,189)	(2,210)	(3,245)	(1,035)	(15,921)
366—Communication equipment, nspf, and parts, nspf	181	1a7	(102)	(899)	(797)	(12,266)
367—Electronic components and accessories	111	155	880	1,568	688	10,576
369—Electrical machinery, apparatus, and parts, nspf	(608)	(748)	(1,819)	(2,357)	(538)	(8,282)
371—Motor vehicles & motor vehicle equip & pts, nspf	(1,358)	(2,196)	(2,902)	(7,391)	(4,489)	(69,048)
372—Aircraft and parts, nspf	906	480	536	111	(425)	(6,540)
373—Ship and boat building and repairing	24	17	28	13	(15)	(237)
374—Rr equip & pts, nspf, of rr & railway rolling stock	57	5	56	22	(34)	(526)
375—Motorcycles, bicycles, and parts, nspf	15	6	15	(6)	(21)	(325)
376—Spacecraft	0	0	0	0	(0)	(0)
379—Misc transportation equipment, parts, nspf	25	15	51	10	(41)	(633)
381—Engn, lab, scient & res instr & assoc eqp pts nspf	5	1	(3)	6	9	143
382—Mech measng & contrllg instr & automtc temp contrl	522	442	165	(383)	(548)	(8,422)
384—Surgical, medical & dental instruments&supplies	(28)	(69)	(172)	(415)	(243)	(3,735)
385—Ophthalmic focus lenses, unmntd, inc cont lens etc	(21)	(18)	(7)	(27)	(20)	(308)
386—Photographic equipment and supplies	133	122	83	4	(79)	(1,213)
387—Watches, clocks, clockwkw oper devc & pts, nspf	27	27	29	14	(15)	(231)
391—Jewelry, silverware, and plated ware	(45)	(61)	(52)	(67)	(15)	(226)
393—Musical instruments, and parts, nspf	(14)	(17)	(18)	(28)	(10)	(148)
394—Toys and amusement, sporting, and athletic goods	(69)	(158)	(202)	(433)	(230)	(3,544)
395—Pens, pencils, carbon paper, and other office etc	36	27	3	(5)	(8)	(125)
396—Jewelry, nspf; buttons, needles & misc notions	2	8	(16)	(31)	(15)	(238)
399—Miscellaneous manufactured products, nspf	139	52	31	(12)	(43)	(655)
91 O—Scrap and waste	59	38	45	10	(35)	(535)
920—Used or second-hand merchandise	128	131	145	15	(130)	(2,000)
980—U.s. gds ret & reimptd art, dty pd upon importatn	(1,168)	(1,317)	(1,570)	(2,032)	(462)	(7,109)
990—Special classification provisions, nspf	(170)	(185)	(215)	(324)	(109)	(1,677)

Sources: U.S. Department of Commerce data and author's calculations.

**APPENDIX 2**  
**U.S. Net Exports to Canada,**  
**Three-Digit Industries**  
(Millions of Dollars)

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
Total All Commodities	(15,025)	(18,617)	(25,110)	(31,621)	(6,510)	(100,140)
01 I-Cash grains and other crops	(275)	(301)	(613)	(492)	121	1,865
013—Field crops, except cash grains	142	80	28	132	104	1,600
016—Vegetables and melons	605	642	574	618	45	688
017—Fruits, frsh chld or in brine; edble tree nuts etc	499	538	484	467	(17)	(260)
018—Horticultural specialties	60	45	32	11	(21)	(327)
021—Livestock, exc dairy, poultry & animal specialties	(916)	(918)	(786)	(929)	(143)	(2,194)
024—Dairy cattle for breeding, live	(27)	(26)	(16)	(23)	(7)	(113)
025—Poultry and eggs	35	38	40	25	(16)	(239)
027—Animal specialties	(224)	(225)	(271)	(313)	(42)	(652)
081—Timber tracts	(8)	(7)	(6)	(6)	0	2
083—Forestry products, nsfp	9	4	11	9	(2)	(27)
091—Fish, fresh, chilled, or frozen, and other marine	(519)	(475)	(468)	(340)	129	1,977
1 01—Iron ore	(57)	(72)	(155)	(94)	62	951
1 02—Copper ore	64	136	171	246	74	1,145
103—Lead and zinc ore	95	50	88	116	28	425
104—Precious metal ores, including gold content	1	1	4	3	(0)	(6)
106—Ferrous alloy ores, nsfp	(7)	(8)	(3)	(11)	(7)	(115)
109—Metallic ores, nsfp	8	4	3	(5)	(8)	(129)
122—Bituminous coal and lignite	454	258	252	256	3	53
123—Anthracite coal	23	23	25	33	8	127
131—Crude petroleum and natural gas	(7,481)	(8,193)	(8,716)	(9,351)	(635)	(9,765)
132—Natural gas liquids	(504)	(670)	(842)	(1,302)	(460)	(7,076)
141—Granite, limestone etc suit monumtl, paving, etc	4	2	2	4	1	22
142—Crushed or broken stone, including riprap	12	11	3	9	6	90
144—Sand, crude and manufactured, and gravel	14	19	21	22	1	8
145—Clay, ceramic, and refractory minerals	81	86	93	94	1	21
147—Chemical and fertilizer minerals	(80)	(58)	(82)	(92)	(9)	(144)
149—Nonmetallic minerals, nsfp	(133)	(156)	(168)	(159)	9	132
201—Meat products and meat packing products	(86)	(187)	(185)	(207)	(23)	(348)
202—Dairy products	37	47	48	48	0	5
203—Canned & presvd seafood, fruits, veg, jams, etc.	398	383	381	399	19	286
204—Grain mill products	182	166	122	125	4	54
205—Bakery prod ex frz excl sealng wafers comm waf etc	4	(16)	(31)	(44)	(13)	(196)
206—Sugar and confectionery products	32	105	61	27	(34)	(524)
207—Food preparations and related products, nsfp	(34)	(38)	(125)	(150)	(25)	(385)
208—Beverages and flavoring extracts	(412)	(454)	(487)	(436)	51	786
209—Food preparations and related products, nsfp	58	103	269	124	(145)	(2,231)
21 I-Cigarettes	(177)	(334)	(43)	(20)	23	352
212—Cigars, cheroots, and cigarillos	0	0	(11)	(7)	4	63
213—Tobacco and snuff	(19)	(37)	9	9	0	8
214—Manufactured tobacco, nsfp inc PROC sheet tobacco	1	1	(69)	(89)	(20)	(310)
221—Cotton broad woven fabrics	79	a9	38	26	(12)	(190)
222—Silk and manmade fiber broad woven fabrics	132	143	210	217	7	107
223—Wool broad woven fabrics and wool blankets	9	16	13	22	9	131
224—Narrow fabrics of textile materials	26	29	(18)	(44)	(26)	(403)
225—Knit fabrics and hosiery of textile materials	95	101	73	89	17	254
227—Floor coverings	162	138	183	181	(1)	(21)
228—Yarn and thread, textile fibers	36	40	(57)	(30)	28	423
229—Textile goods, nsfp	151	174	238	254	16	240
231—Suits and coats, men's and boys', except raincoats	(67)	(86)	(154)	(209)	(55)	(844)
232—Shirts, nightwr, undrwr, trsrs & wrk clothng m & b	(13)	(17)	(8)	(24)	(17)	(254)
233—Wgi dresses, bls, cts, suits & shrts, ex kt shirts	(26)	(29)	72	86	14	214
234—Nightwr & undrwr, wgi; corsets & allied garments	10	16	16	21	5	75
235—Headwear	6	6	(103)	(138)	(35)	(536)
236—Outerwear, nsfp, of textile materials	(37)	(49)	5	15	10	158
237—Fur wearing apparel and fur articles, nsfp	(30)	(43)	(20)	(25)	(5)	(72)
238—Wearing apparel and accessories, nsfp	(3)	(2)	(113)	(135)	(23)	(347)
239—Fabricated textile articles, nsfp	157	194	88	202	114	1,757

**APPENDIX 2 (cont.)**  
**U.S. Net Exports to Canada,**  
**Three-Digit Industries**  
(Millions of Dollars)

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
241-Logs, pulpwood, utility line poles, piling etc	23	6	(5,534)	(4,802)	732	11,267
242-Sawmill and planing mill products	(3,128)	(4,560)	(158)	(243)	(85)	(1,304)
243—Millwk, veneer, plywood&structural wood products	(36)	(86)	296	264	(32)	(492)
244-Wooden containers	4	4	(3)	(6)	(3)	(49)
245-Wood buildings and mobile homes	2	(2)	(921)	(1,074)	(152)	(2,346)
249-Miscellaneous wood products	(343)	(506)	161	138	(23)	(351)
251-Household furniture, nspf	13	9	31	27	(4)	(59)
252—Office furniture	2	2	(52)	(69)	(17)	(260)
254-Partitions, shelving, lockers, office &store fix	2		(1,730)	(2,108)	(379)	(5,823)
259—Venetina blinds & pts, i/s or aluminum; furn, nspf	(136)	(28)	(708)	(1,861)	(1,153)	(17,737)
261-Pulp mill products	(1,615)	(1,469)	(5,497)	(7,619)	(2,122)	(32,640)
262-Paper mill products	(4,569)	(4,707)	995	1,241	245	3,773
263—Paperboard mill products	(1)	(1)	0	0	0	0
265-Paperboard containers and boxes	67	64	26	(36)	(62)	(961)
267-Convertd paper/paperboard prod exc contnr & boxes		64	59	26	(32)	(498)
271-Newspapers	(22)	(29)	25	22	(3)	(43)
272-Periodicals if enterd within 6 mo of date of issue		419	440	454	14	219
273-Books and pamphlets	625	609	642	648	6	86
274-Printing and publishing matter, nspf	34	35	23	21	(3)	(43)
275-Printed matter, nspf	180	119		78	(13)	(207)
276-Manifold business forms & interleaved carbon sets	7	6	98	(1)	(9)	(144)
277—Greeting cards	14	14	8	58	50	775
278—Blankbooks, loose leaf binders and devices	39	44	39	46	6	99
279-Printg blcks cylindr pltes shts & stereotypes etc	20	25	28	25	(3)	(44)
281—Industrial inorganic chemicals	(178)	(144)	(245)	(228)	17	254
282-Plast mat & syn resns syn rbbr syn oth mmd fib etc	662	732	657	409	(248)	(3,811)
283-Drugs	680	807	740	741	1	10
284-Soaps, detergents & cleang prep; perfms cosmet etc	411	482	514	552	38	592
285-Paints, varnishes, and allied products	254	284	318	326	8	123
286-Industrial organic chemicals	383	484	540	207	(333)	(5,122)
287-Agricultural chemicals, nspf	(234)	(255)	(277)	(202)	75	1,150
289-Miscellaneous chemical products	164	209	330	356	26	402
291-Petroleum refinery products	(1,147)	(1,112)	(986)	(1,115)	(129)	(1,979)
295—Paving and roofing materials	(27)	(39)	15	(56)	(9)	(137)
299-Products of petroleum and coal, nspf	37	47	1,855	1,965	24	366
3XX—Manufactured commodities not identified by kind	1,939	1,961			110	1,693
301—Tires and inner tubes	(197)	(216)	(222)	(128)	93	1,437
302-Footwear, rubber or plastic	(2)	(1)	(5)	(7)	(2)	(30)
305—Rubber and plastics hose and belting	78	162	165	178	14	212
306-Druggist r med suppl inc glvs of rbbr or plastic	177	129	118	117	(1)	(12)
308-Miscellaneous plastics products	497	453	359	254	(105)	(1,619)
31 I-Tanned and finished leathers	32	34	36	12	(24)	(362)
313—Leather cut to shapes suit f convrsn into ftwr etc	1	1	(2)	(1)	1	9
314-Footwear, except rubber	21	12	(11)	(9)	2	29
315-Leather gloves, except sport gloves	1	0	0	0	(0)	(6)
316—Luggage and related items	14	12	14	19	5	78
317-Handbags and other personal leather goods	1	1	2	2	0	7
319—Leather goods, nspf	6	6	8	7	(1)	(8)
321 -Flat glass	132	138	115	124	9	138
322-Glass cont; pressed & blown glass &glassware	199	173	163	157	(7)	(104)
323-Glass products, made of purchased glass	117	133	164	181	18	269
324-Cement, hydraulic, and cement clinker	(87)	(112)	(138)	(157)	(24)	(369)
325—Structural clay products	42	43		33	(7)	(106)
326-Pottery and related products	77	88	97	89	(8)	(117)
327—Concrete, gypsum and plaster products, and lime	(5)	(42)	(83)	(138)	(55)	(853)
328—Cut stone and stone products	(5)	(7)	(8)	(19)	(10)	(161)
329-Abrasive, asbestos & misc nonmetlic mineral prods	51	47	59	25	(34)	(525)
331-Blast furnace, stl wrk, rllng mill & fin mill prod	(740)	(942)	(901)	(736)	165	2,535
332-Iron and steel products	57	49	43	38	(5)	(84)
333-Smelter and refined nonferrous metals	(3,123)	(3,128)	(4,186)	(4,938)	(752)	(11,560)

**APPENDIX 2 (cont.)**  
**U.S. Net Exports to Canada,**  
**Three-Digit Industries**  
(Millions of Dollars)

	1992	1993	1994	1995	Net Change 1994 to 1995	Jobs Gained or Lost in 1995
334--Secondary smelting & refining of nonferrous metals	(502)	(413)	(479)	(496)	(16)	(252)
335--Rolled, drawn, and extruded nonferrous metal	457	274	422	300	(122)	(1,672)
336-Nonferrous metal castings and forgings	(6)	(4)	(5)	(15)	(10)	(153)
339-Primary metal products, nspf	(92)	(103)	(102)	(104)	(2)	(26)
341--Drums, cans, boxes, and other containers, nspf etc	102	71	1	12	11	162
342--Cutlery, hand tools, and hardware, nspf	395	426	477	510	33	513
343-Heating equipment, except electric & warm air; etc	79	47	33	27	(7)	(100)
344-Fabricated structural metal products	131	125	109	(45)	(154)	(2,372)
345-Bolts, nuts, screws, rivets, washers & sim art etc	180	169	176	212	36	559
346-Metal forgings and stampings	1,055	1,121	(51)	(81)	(30)	(458)
348--Ordnance & accessories exc veh & guided missiles	161	159	156	125	(31)	(483)
349-Fabricated metal products, nspf	400	629	694	717	23	354
351-Engines & turbines, parts & accessories, nspf	1,044	1,294	2,271	2,324	52	805
352-Farm and garden machinery and equipment	483	606	518	465	(53)	(812)
353--Construction, mining & matls handling machinery	203	47	636	831	195	3,005
354--Metlwrkg mch & equip, pts access & attach, nspf	320	397	(37)	(207)	(170)	(2,611)
355--Spec indus mch & equip nspf pts access & att nspf	320	253	119	75	(44)	(684)
356--Genrl ind mach & equip, nspf, pts & attach, nspf	1,598	1,621	1,831	1,821	(10)	(152)
357-Office, cmputg, acctg mach, pts & accessories nspf	1,452	1,394	1,063	786	(277)	(4,265)
358--Refrigeration and service industry machinery, etc	802	894	1,020	1,141	121	1,856
359-Fluid power pumps & mtrs & scales & balancs ex lab	393	639	593	586	(7)	(107)
361--Electric distribution equipment	55	71	68	77	9	143
362-Electrical industrial apparatus	333	337	299	345	45	697
363-Household appliances, nspf, and parts, nspf	569	584	525	364	(161)	(2,473)
364-Electric lighting and wiring equipment	723	809	940	1,036	96	1,471
365--Radio/tv recv sets; phonograph; recorders; etc	967	1,109	1,447	1,485	38	580
366-Communication equipment, nspf, and parts, nspf	137	122	(131)	(153)	(22)	(346)
367-Electronic components and accessories	269	513	851	1,228	377	5,800
369-Electrical machinery, apparatus, and parts, nspf	1,041	1,420	1,538	1,567	29	452
371-Motor vehicles & motor vehicle equip & pts, nspf	(10,242)	(12,245)	(13,162)	(14,391)	(1,229)	(18,903)
372-Aircraft and parts, nspf	(235)	(377)	(769)	(337)	432	6,645
373-Ship and boat building and repairing	(2)	(109)	(139)	(312)	(173)	(2,661)
374--Rr equip & pts, nspf, of rr & railway rolling stock	(217)	(230)	(493)	(386)	107	1,652
375--Motorcycles, bicycles, and parts, nspf	57	75	74	94	20	310
376--Spacecraft	(0)	(0)	0	(0)	(0)	(5)
379--Misc transportation equipment, parts, nspf	285	227	169	187	19	286
381-Engn, lab, scient & res instr & assoc eq pts nspf	(34)	41	24	2	(22)	(340)
382--Mech measng & contrllg instr & automtc temp contrl	840	1,057	1,278	1,363	85	1,305
384--Surgical, medical & dental instruments & supplies	741	768	793	789	(5)	(71)
385--Ophthalmic focus lenses, unmntd, inc cont lens etc	76	87	88	96	8	126
386--Photographic equipment and supplies	315	355	396	389	(7)	(108)
387--Watches, clocks, clockwkw oper devc & pts, nspf	14	4	1	6	5	71
391--Jewelry, silverware, and plated ware	16	13	24	(1)	(24)	(377)
393-Musical instruments, and parts, nspf	22	20	18	15	(3)	(52)
394-Toys and amusement, sporting, and athletic goods	191	183	163	118	(44)	(682)
395-Pens, pencils, carbon paper, and other office etc	171	174	185	204	18	284
396--Jewelry, nspf; buttons, needles & misc notions	34	39	46	45	(1)	(17)
399-Miscellaneous manufactured products, nspf	207	213	205	151	(53)	(817)
91 O-Scrap and waste	152	345	355	482	127	1,955
920--Used or second-hand merchandise	35	6	43	35	(6)	(130)
980--U.s. gds ret & reimptd art, dty pd upon importatn	(3,676)	(3,919)	(4,972)	(5,547)	(575)	(8,845)
990--Special classification provisions, nspf	(1,366)	(1,512)	(2,040)	(2,096)	(56)	(863)

Sources: U.S. Department of Commerce data and author's calculations.

**APPENDIX 3**  
**US. Foreign Exports to Mexico**  
(Thousands of Dollars)

	1992	1993	1994	1995
<b>Total All Commodities</b>	<b>992,552</b>	<b>1,370,016</b>	<b>1,704,219</b>	<b>1,430,679</b>
01-Agricultural products	6,089	12,355	5,164	5,496
02-Livestock and livestock products	725	608	1,352	124
0&Forestry products, nsfp	2,001	173	2,428	2,024
09—Fish, fresh or chilled; and other marine products	25,188	18,034	18,235	16,475
1 O-Metallic ores and concentrates	7	3	8	0
12—Bituminous coal and lignite	81	455	67	0
13-Crude petroleum and natural gas	72	2,698	721	290
14-Nonmetallic minerals, except fuels	240	1,532	1,750	1,509
20—Food and kindred products	33,111	39,680	12,677	12,757
21-Tobacco manufactures	385	557	1,644	52
22-Textile mill products	5,902	5,553	7,513	6,393
23-Apparel and related products	17,294	28,398	23,203	8,630
24-Lumber and wood products, except furniture	2,294	3,189	2,879	911
25-Furniture and fixtures	603	4,608	5,067	1,957
26-Paper and allied products	7,652	5,992	8,788	32,403
27-Printing, publishing, and allied products	1,768	2,321	2,373	2,508
28-Chemicals and allied products	25,414	32,223	38,847	41,069
29—Petroleum refining and related products	4,229	1,250	1,383	970
3X-Manufactured commodities not identified by kind	2,477	2,377	4,033	2,904
30—Rubber and miscellaneous plastics products	25,641	43,847	46,901	43,794
31-Leather and leather products	4,478	10,968	8,698	3,052
32—Stone, clay, glass, and concrete products	4,658	7,840	7,153	3,404
33—Primary metal products	17,898	15,647	23,495	24,456
34—Fabricatd metl prod exc mach & transp equipment	45,023	72,839	53,203	21,503
35-Machinery, except electrical	196,297	274,078	467,742	493,242
36—Electrical & electronic mach, equip, & supplies	376,034	421,710	459,595	422,530
37-Transportation equipment	68,527	231,259	315,262	154,636
38—Scientific & prof instr; photograph & opt gds etc	79,748	80,368	92,036	87,264
39-Miscellaneous manufactured commodities	30,649	40,137	85,447	36,668
91—Scrap and waste	314	401	148	293
92-Used or second-hand merchandise	7,056	8,062	5,695	3,108
99-Special classification provisions, nsfp	699	851	710	255

Sources: U.S. Department of Commerce data and author's calculations.

**APPENDIX 4**  
**U.S. Foreign Exports to Canada**  
(Thousands of Dollars)

	1992	1993	1994	1995
Total All Commodities	6,938,513	8,324,540	10,611,912	12,762,992
01-Agricultural products	468,360	512,261	587,000	635,124
02-Livestock and livestock products	458	1,938	1,111	1,927
0&Forestry products, nspf	12,630	11,721	14,525	16,526
09-Fish, fresh or chilled; and other marine products	56,527	60,060	62,158	70,011
10—Metallic ores and concentrates	3,652	3,276	4,652	4,052
12—Bituminous coal and lignite	0	275	0	1,611
13—Crude petroleum and natural gas	18	9	9,269	3,848
14—Nonmetallic minerals, except fuels	6,224	5,206	2,690	3,690
20—Food and kindred products	209,807	170,209	199,250	190,929
21-Tobacco manufactures	62	29	89	102
22-Textile mill products	37,197	34,312	41,551	46,394
23-Apparel and related products	61,634	69,990	92,076	130,599
24-Lumber and wood products, except furniture	20,586	22,787	27,979	33,574
25—Furniture and fixtures	29,540	47,787	120,533	164,704
26—Paper and allied products	27,950	38,135	60,692	83,384
27-Printing, publishing, and allied products	18,220	22,141	26,669	34,407
28-Chemicals and allied products	124,269	210,558	268,994	328,872
29-Petroleum refining and related products	10,743	25,615	8,873	10,095
3X-Manufactured commodities not identified by kind	1,571	0	58,615	87,768
30—Rubber and miscellaneous plastics products	53,567	68,875	88,752	116,145
31—Leather and leather products	45,320	51,099	64,409	83,328
32—Stone, clay, glass, and concrete products	39,216	49,326	57,447	63,318
33-Primary metal products	145,676	197,503	314,750	412,559
34—Fabricatd metl prod exc mach & transp equipment	122,022	157,973	202,074	208,922
35—Machinery, except electrical	1,617,251	2,084,212	2,626,482	2,868,047
36—Electrical & electronic mach, equip, & supplies	2,195,637	2,495,092	3,263,845	4,434,055
37-Transportation equipment	238,612	343,861	455,466	621,251
@-Scientific & prof instr; photograph & opt gds etc	290,058	350,296	399,736	469,142
39—Miscellaneous manufactured commodities	160,092	198,862	226,421	256,946
91—Scrap and waste	994	1,840	7,372	6,842
92—Used or second-hand merchandise	10,142	16,046	18,160	19,009
98-Goods imported from <i>canada</i> and returned to <i>canada</i>	926,165	1,070,972	1,241,804	1,333,106
99-Special classification provisions, nspf	4,312	2,275	58,469	22,706

Sources: U.S. Department of Commerce data and author's calculations.

## Endnotes

1. The export data used to construct Table 2, which shows a \$19.1 billion merchandise trade deficit with Canada, do not include about \$934 million in U.S. exports to Canada that were included in the Department of Commerce (1996) trade release but that have not been incorporated into the department's detailed statistics that were used to prepare this report. The missing exports will be included in new trade estimates that will be released in June 1996. Inclusion of these exports will reduce 1995 job losses associated with Canadian trade to approximately 85,700 jobs. We use the original Commerce figures for consistency with the detailed data. As a result of inquiries about missing exports, the Commerce Department recently announced that it has changed the methods used to collect export data to correct this problem.
2. The most recent Commerce Department employment multiplier is 16,532 jobs per billion dollars of exports in 1992. This estimate is adjusted downward here for changes in inflation between 1992 and 1995. See Scott (1995, 6) for an explanation of the annual multiplier-adjustment procedure.
3. Using net exports to measure the effects of trade also assumes that imports displace domestically produced goods. If domestic demand is limited, and there is excess capacity in the domestic economy, then employment and output would rise if domestic production replaced imports.
4. The employment effects of changes in the trade balance at the industry level, for the entire NAFTA period (Tables 3 and 4 and Appendices 1 and 2) can be estimated by multiplying the change in the net export balance for that sector since 1993 times the employment multiplier used here (15,382 jobs per \$1 billion of traded goods).
5. Table 3 includes a category of "goods imported from Canada and returned to Canada." These goods show up as imports from Mexico. This is a statistical discrepancy, because exports in this category are included in other sectors. In principle, trade in such goods should have no net effect on the U.S. trade balance. U.S. trade statistics could be improved by separately identifying these goods in U.S. domestic or foreign exports to Mexico, and by establishing similar categories for U.S. trade with Canada, so that goods transshipped through the United States to Canada and Mexico can be excluded from bilateral trade balances.
6. See, for example, *Orlando Sentinel* editorial (Nov. 11, 1994), "Trade a Strong Suit," which argues that the General Agreement on Tariffs and Trade should be passed on the "free-trade success story of the United States, Mexico and Canada." See also Remi L. Wrona, "Ratification Would Bring Enormous Benefits to U.S.," *St. Louis Post-Dispatch* (Nov. 18, 1994), which claims that, "This increase in [U.S.] export[s] to Mexico] could support up to an estimated 100,000 new jobs in 1994. These are high-skill, high-paying jobs in sectors like auto, machinery and computers."
7. This scenario also assumes that the economy is not operating at full capacity and that the Federal Reserve does not dampen the positive effects of a trade surplus by raising interest rates in response.
8. See Scott (1995) for additional historical data concerning U.S. trade with Mexico.
9. It is technically possible for imports for consumption to exceed general imports, as occurred in 1995 in U.S. trade with Mexico (Table 1), when imports for consumption from warehouses and trade zones exceeded the quantities of general imports being received by those facilities. However, it is more likely that this number represents a data error, as discussed in the text.

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