

United States  
International Trade Commission



# INDUSTRY TRADE AND TECHNOLOGY REVIEW

OFFICE OF INDUSTRIES



USITC Publication 3363

October 2000

# PREFACE

---

The *Industry Trade and Technology Review (ITTR)* is a quarterly staff publication of the Office of Industries, U.S. International Trade Commission. The opinions and conclusions it contains are those of the authors and are not the views of the Commission or of any individual Commissioner. The report is intended to provide analysis of important issues and insights into the global position of U.S. industries, the technological competitiveness of the United States, and implications of trade and policy developments.

The information and analysis in this series are for the purpose of this report only. Nothing in this report should be construed to indicate how the Commission would find in an investigation conducted under any statutory authority.

Inquiries or comments on items appearing in this report may be made directly to the author, or to:

Director of Industries  
*Industry Trade and Technology Review*  
U. S. International Trade Commission  
500 E Street, SW  
Washington, DC 20436  
Fax: 202-205-3161

Requests for copies of the *ITTR*, or to be added to the mailing list, should be addressed to the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW, Washington, DC 20436, or by fax: 202-205-2104

---

## **Quarterly Review Staff**

Larry Brookhart  
Karl S. Tsuji

*assisted by*

Zema Tucker  
Sharon Greenfield

---

## ***Contributing Authors***

Jonathan Coleman  
Tracy Quilter  
Deborah McNay  
Laura Polly

---

**Robert A. Rogowsky**  
*Director of Operations*

---

**Vern Simpson**  
*Director of Industries*

---

# ITC READER SATISFACTION SURVEY

## Industry, Trade, and Technology Review (ITTR)

The U.S. International Trade Commission (ITC) is interested in your voluntary comments (burden < 15 minutes) to help us assess the value and quality of our reports, and to assist us in improving future products. Please **return survey by fax (202-205-3161) or by mail** to the ITC.

Your name and title (please print; responses below not for attribution): \_\_\_\_\_

Please specify information in this report most useful to you/your organization: \_\_\_\_\_

\_\_\_\_\_

Was any information missing that you consider important?                      Yes (specify below)                      No

If yes, please identify missing information and why it would be important or helpful to you: \_\_\_\_\_

\_\_\_\_\_

Please assess the **value** of this ITC report (answer below by circling all that apply): **SA**—Strongly Agree; **A**—Agree; **N**—No Opinion/Not Applicable; **D**—Disagree; **SD**—Strongly Disagree

- ▶ Report presents new facts, information, and/or data                      SA      A      N      D      SD
- ▶ Staff analysis adds value to facts, information, and/or data                      SA      A      N      D      SD
- ▶ Analysis is unique or ground breaking                      SA      A      N      D      SD
- ▶ Statistical data are useful to me/my organization                      SA      A      N      D      SD
- ▶ Subject matter and analysis are timely                      SA      A      N      D      SD
- ▶ ITC is the only or the preferred source of this information                      SA      A      N      D      SD

If not, please identify from what other source the information is available \_\_\_\_\_

Please evaluate the **quality** of this report (answer below by circling all that apply): **SA**—Strongly Agree; **A**—Agree; **N**—No Opinion/Not Applicable; **D**—Disagree; **SD**—Strongly Disagree

- ▶ Written in clear and understandable manner                      SA      A      N      D      SD
- ▶ Report findings or executive summary address key issues                      SA      A      N      D      SD
- ▶ Figures, charts, graphs are helpful to understanding issue                      SA      A      N      D      SD
- ▶ Analysis throughout report answers key questions                      SA      A      N      D      SD
- ▶ Report references variety of primary and secondary sources                      SA      A      N      D      SD
- ▶ Sources are fully documented in text or footnotes                      SA      A      N      D      SD

Please provide further comment on any of the above performance measures, as appropriate:

Suggestions for improving this report and/or future reports: \_\_\_\_\_

\_\_\_\_\_

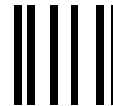
Other topics/issues of interest or concern: \_\_\_\_\_

Please provide your Internet address and update your mailing address below, if applicable:

FOLD

UNITED STATES  
INTERNATIONAL TRADE COMMISSION  
WASHINGTON, DC 20436

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE, USE \$300



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**

FIRST CLASS

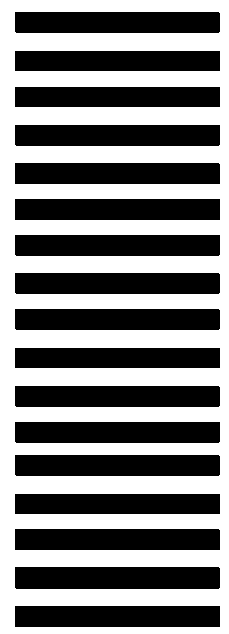
PERMIT NO. 12840

WASHINGTON, DC

POSTAGE WILL BE PAID BY ADDRESSEE

U.S. INTERNATIONAL TRADE COMMISSION  
500 E STREET, SW.  
WASHINGTON, DC 20277-2840

ATTN:  
OFFICE OF INDUSTRIES  
Industry Trade and Technology Review



# Listing of Published Articles

(July 1997 - October 2000)

---

## July 1997

Mobile satellite services  
India's steel industry emerging as a competitive global player  
Textiles and apparel: India's integration into the world economy and opportunities for U.S. firms

## October 1997

The Uruguay Round elimination of duties on pharmaceuticals: Developments in the 2 years since implementation  
Alternative materials in the U.S. automotive industry promote development of joining and bonding technology  
Electronic trade transforms delivery of audiovisual services

## January 1998

Free trade in information technology goods  
Factors affecting the commercialization of new manufacturing processes for materials  
Thermoplastic elastomers in the auto industry: Increasing use and the potential implications

## March 1998

Textiles and apparel: New U.S. trade program likely to spur imports from Israel and Jordan  
The assembly industry in Hungary: Favorable business climate creates new opportunities for U.S. industries  
Indian market reforms attract U.S. investment and trade in capital goods and equipment

## June 1998

China's evolving automotive industry and market  
Canadian involvement in Mexico's Maquiladora industry

## September 1998

Internet advertising  
Progress in recognizing and regulating global professional service providers  
Deregulation fosters globalization of the electric power industry

## **Listing of Published Articles—Continued**

---

### **December 1998**

Impediments to competitiveness in Russia's minerals and metals sector  
Nonstore retailing: Alternative retailers attracting customers  
Apparel sourcing strategies for competing in the U.S. market

### **March 1999**

Korea's foreign exchange crisis and its implications for U.S.-Korean trade  
Advanced structural ceramics: Vast potential has yet to be realized

### **June 1999**

Energy services: Recent trends and future prospects  
Market trends affecting the U.S. environmental services sector  
Health care services: Strong fundamentals and innovations foreshadow growth in U.S. exports and foreign direct investment

### **October 1999**

Outsourcing by the pharmaceutical industry provides opportunities for fine chemical producers worldwide  
Thailand's financial crisis and progress towards recovery—Implications for U.S. trade

### **December 1999**

Air transport services: International regulation and future prospects for liberalization  
Renewed services trade negotiations in the WTO

### **March 2000**

Machine vision: Vital technology for manufacturing industries  
Agriculture in the WTO: The Seattle Ministerial and beyond

### **July 2000**

Express services: Issues for negotiation in the World Trade Organization  
Production-sharing update: Developments in 1999  
Apparel market: New U.S. legislation places CBERA countries on a more equal competitive basis with Mexico

### **October 2000**

WTO agricultural trade negotiations: An update  
Steel sector explores E-commerce although wary of quick transition  
Mexico's emergence as a global automotive production center drives trade and investment

# CONTENTS

---

	<i>Page</i>
<b>WTO agricultural trade negotiations: An update</b> .....	<b>1</b>
Recent developments .....	1
June proposals .....	2
Export competition .....	3
Market access .....	3
Domestic support .....	3
Special and differential treatment .....	5
Nontrade concerns .....	5
Implementation issues .....	6
 <b>Steel sector explores E-commerce although wary of quick transition</b> .....	 <b>7</b>
Scope of E-commerce and transactions .....	9
E-commerce in operation .....	11
Effects of E-commerce .....	12
Outlook -- What it takes for an exchange to succeed .....	16
 <b>Mexico's emergence as a global automotive production center drives trade and investment</b> .....	 <b>19</b>
Improved competitive status of Mexico's automotive industry .....	20
Mexico's recent bilateral trade agreements .....	24
EU-Mexico free-trade agreement .....	24
Mexico-Brazil automotive decree .....	26
Automotive investment trends in Mexico .....	26
U.S.-Mexico trade patterns and production sharing .....	27
Implications of foreign direct investment for U.S.-Mexican automotive trade .....	32

# CONTENTS—*Continued*

	<i>Page</i>
<b>Appendix A: Key performance indicators of selected industries and regions</b> .....	A-1
<b>Steel:</b>	
Figure A-1 Integrated producers continue profitability improvement in second quarter .....	A-2
Table A-1 Imports of finished steel products exceed 1999 levels .....	A-2
Table A-2 Steel service center inventories reach record high in June .....	A-3
Figure A-2 Steel mill products, all grades: Capacity utilization in June remains high despite increasing imports .....	A-3
<b>Automobiles:</b>	
Table A-3 U.S. sales of new automobiles, domestic and imported, and share of U.S. market accounted for by sales of total imports and Japanese imports, by specified periods, January 1999-June 2000 .....	A-4
Figure A-3 U.S. sales of new passenger automobiles continue to increase in second quarter 2000; sales of imports as a percentage of the U.S. market remain unchanged from previous quarter .....	A-4
<b>Aluminum:</b>	
Figure A-4 Aluminum: U.S. exports increase despite production cutbacks related to weaker prices during second quarter 2000 .....	A-5
Table A-4 U.S. primary aluminum production scaled back amid weaker aluminum prices-net imports filled the gap-during second quarter 2000 .....	A-5
<b>Flat glass:</b>	
Figure A-5 Talks stall as Japanese imports rise .....	A-6
<b>Services:</b>	
Figure A-6 Balance on U.S. service trade accounts, by quarter, 1999-2000 .....	A-7
Figure A-7 Surpluses on cross-border U.S. service transactions with selected trading partners, by selected quarters, 1998-2000 .....	A-7
<b>North American trade:</b>	
Table A-5 North American trade, 1995-99, January-June 1999, and January-June 2000 .....	A-9

#



# WTO Agricultural Trade Negotiations: An Update

---

Jonathan Coleman<sup>1</sup>  
jcoleman@usitc.gov  
(202) 205-3465

*A recent review regarding the status of multilateral trade negotiations for agriculture<sup>2</sup> identified important policy differences among the major participants and described why compromise in Seattle could not be reached. This update reviews how the current WTO agricultural trade negotiations under article 20 of the Uruguay Round Agreement on Agriculture (URAA) are proceeding based on the first 9 months of the new Round.*

## Recent Developments

---

In early February 2000, the World Trade Organization (WTO)'s General Council agreed on the organization of further negotiations to liberalize services and agriculture.<sup>3</sup> As a result of the suspension of the Seattle Ministerial Conference without agreement on key issues related to agriculture, the new Round of talks is based on article 20<sup>4</sup> of the URAA and likely will focus on several key issues of trade reform,<sup>5</sup> including domestic supports, export competition, market access, biotechnology, state-trading enterprises (STEs), preferential treatment for developing countries, and nontrade concerns (multifunctionality).<sup>6</sup> Trade negotiations are being held in special sessions of the WTO Agriculture Committee (reporting directly to the General Council), with another chairperson steering the sessions. The WTO Agriculture Committee will also continue to conduct sessions involving other such issues as monitoring current agreements and commitments.

---

<sup>1</sup> The views expressed in this article are those of the author. They are not the views of the U.S. International Trade Commission or any of the Commissioners.

<sup>2</sup> See "Agriculture in the WTO: The Seattle Ministerial and Beyond," *Industry Trade and Technology Review*, USITC publication 3293, Mar. 2000, pp. 21-45 at USITC Internet server at <http://www.usitc.gov>.

<sup>3</sup> "WTO Services and Agriculture negotiations: meetings set for February and March, WTO press release, Feb. 7, 2000, found at [http://www.wto.org/english/news\\_e/pres00\\_e/pr167\\_e.htm](http://www.wto.org/english/news_e/pres00_e/pr167_e.htm), retrieved Feb 10, 2000.

<sup>4</sup> Article 20 of the Uruguay Round Agreement on Agriculture requires that a new Round of talks should be initiated by the final year of the implementation period (Jan. 1, 2000). However, article 20 does not indicate specific areas of negotiation nor a deadline for the negotiations to be completed.

<sup>5</sup> For added detail regarding trade reform issues, see "Agriculture in the WTO."

<sup>6</sup> The concept of agriculture's multifunctionality is that farmers contribute more than food and fiber production and farmers' compensated. Debate centers on whether a future agreement should address the "multifunctionality" of agriculture and whether governments should have the right to compensate producers for providing such nonagricultural spillover goods and services, which include environmental benefits, food safety, rural employment and development, cultural values, and ethical treatment of animals. U.S. Department of Agriculture (USDA), Economics Research Service (ERS), "The Use and Abuse of Multifunctionality," Nov. 1999. Also refer to "Agriculture in the WTO."

Negotiations got off to a rocky start with major disagreements over who should chair the trade negotiating agricultural committee (TNAC).<sup>7</sup> Even though the chairman is expected to be impartial, the European Union (EU) and Japan reportedly would not accept the candidacy of the Brazilian ambassador to the WTO, because Brazil is a member of the Cairns Group of countries.<sup>8 9</sup> In response, the Cairns Group would not consider any candidate from the EU. It took until May to finally appoint Jorge Voto-Bernales from Peru, a food-importing developing country in neither group.<sup>10</sup>

The first meeting of the TNAC, absent a permanent chairman, took place in late March 2000. Negotiators reached agreement on two major items: a schedule of work for the next 14 months and a list of technical work needed from the WTO Secretariat in support of the negotiating process.<sup>11</sup> The timetable provides that proposals for negotiations should be developed by WTO members and presented at committee meetings scheduled for June, September, and November 2000. Countries would then have time to review all the proposals before the start of earnest negotiating sessions beginning in March 2001 after the U.S. Presidential elections.<sup>12</sup> Some members reportedly speculated that negotiations could be wrapped up by the end of 2002. Negotiators asked for the WTO Secretariat to deliver technical background papers on negotiating areas, including internal supports, tariff-rate quotas (TRQs), and export subsidies and credits.<sup>13</sup> It was also agreed that the Secretariat would analyze the URAA with respect to developing countries and food-importing countries.

## June Proposals

---

At the June 2000 meeting of the TNAC, several country proposals and position papers were submitted for discussion. These proposals centered on five areas: export competition, market access, domestic support, special and differential treatment for developing countries, and nontrade concerns.

---

<sup>7</sup> “Negotiations set to open Thursday afternoon,” *WTO Watch*, Mar. 17, 2000.

<sup>8</sup> The Cairns Group strongly favors trade liberalization, including elimination of all export subsidies, significant increases in market access, and deep cuts in internal supports. The EU and Japan want to retain the right to use export subsidies, minimize further major increases in import access, and preserve the right to maintain producer subsidies. For more detail, see “Agriculture in the WTO.”

<sup>9</sup> “U.S., European Union flex muscles as WTO agriculture negotiations start,” *Feedstuffs*, April 3, 2000.

<sup>10</sup> “WTO settles on Peruvian to head agricultural talks,” *Feedstuffs*, May 22, 2000.

<sup>11</sup> “U.S. and EU flex muscle as agriculture negotiations resume,” *WTO Watch*, Mar. 24, 2000.

<sup>12</sup> “Countries start delivering proposals in WTO talks,” *WTO Watch*, June 26, 2000.

<sup>13</sup> “U.S. and EU flex muscle as agriculture negotiations resume,” *WTO Watch*, Mar. 24, 2000.

### *Export Competition*

The Cairns Group countries<sup>14</sup> called for the elimination and prohibition of all forms of export subsidies for all agricultural products, with a 50-percent reduction in the first year of the implementation. The Cairns Group also proposed to eliminate any subsidy element of other forms of “unfair” export competition, including export credits and export credit guarantees. The U.S. proposal<sup>15</sup> recommended elimination of export subsidies and export taxes. The United States also encouraged adding transparency to the operation of export-orientated STEs by requiring them to notify the WTO on sales information, acquisition costs, and export pricing, and to eliminate government financial support of such monopoly exporters. The U.S. proposal continued to call for negotiations on export credits to be covered under the Organization for Economic Cooperation and Development (OECD).

### *Market Access*

Canada<sup>16</sup> proposed applying formula reductions to single tariffs, curbing tariff escalation,<sup>17</sup> increasing TRQ quantities, and eliminating in-quota tariffs. Other Canadian proposals included improved rules for TRQ administration and zero-for-zero provisions<sup>18</sup> for some commodities, such as oilseeds, barley, and malt. The United States proposed to reduce all tariffs and disparities between countries, and to achieve tariff simplifications by allowing either specific or ad valorem tariffs (not a combination of the two) and by eliminating special agricultural safeguards as outlined in article 5 of the URAA.<sup>19</sup> The U.S. proposal called for eliminating in-quota tariffs, increasing TRQ quantities, establishing rules on TRQ administration, and increasing transparency on import-orientated STEs. Finally, the U.S. proposal requested that disciplines be introduced to ensure that processes covering trade in products developed through new technologies are transparent, predictable, and timely.

### *Domestic Support*

Country proposals differed widely. In its proposal, the United States encouraged the elimination of blue box policies,<sup>20</sup> with supports split into two categories—those exempt from

---

<sup>14</sup> WTO Committee on Agriculture Special Session, WTO Negotiations on Agriculture. Cairns Group Negotiating Proposal. Export Competition. G/AG/NG/W/11, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw11\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw11_e.doc), retrieved June 30, 2000.

<sup>15</sup> WTO Committee on Agriculture Special Session. Proposal for Comprehensive Long-Term Agricultural Trade Reform. Submission from the United States. G/AG/NG/W/15, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw15\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw15_e.doc).

<sup>16</sup> WTO Committee on Agriculture Special Session. WTO Negotiations on Agriculture: Market Access. A Negotiating Proposal by Canada. G/AG/NG/W/12, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw12\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw12_e.doc).

<sup>17</sup> Tariff escalation is the application of higher tariffs on the processed or higher value-added form of a particular product, compared to the primary form. For example, applying a higher tariff to flour than to wheat.

<sup>18</sup> Zero-for-zero agreement is to liberalize trade in a specific range of products by eliminating all border measures and export subsidies.

<sup>19</sup> Article 5 of the URAA allows the imposition of transitional tariff surcharges if imports reach a quantitative threshold or lower prices below a trigger level.

<sup>20</sup> Blue box policies are permitted support payments not subject to reduction commitments because they are direct payments under production-limiting programs. For more information, see

(continued...)

disciplines (with no or minimal trade-distorting effects on trade or production) and those nonexempt. In addition, the U.S. proposal contended that the Aggregate Measure of Support (AMS)<sup>21</sup> should be reduced from the final bound URAA AMS level to a final bound level equal to a fixed percentage (e.g., 10 percent) of the value of agricultural production in a base period.<sup>22</sup> The fixed percentage would be the same for all countries, thus requiring greater cuts by those countries with higher levels of domestic support.<sup>23</sup> In one of three position papers,<sup>24</sup> the EU strongly defended the continued use of the blue box exemption, asserting that blue box supports would continue to be an important tool for further agricultural reform of their Common Agricultural Policy.<sup>25</sup> The paper cited an OECD study<sup>26</sup> which notes that, when compared to market support, area payments typically lead to smaller production, trade, and welfare impacts on other countries. Thus, it appears that the EU is determined to retain the compensatory payments system as a central feature of its future agricultural policy.

Domestic support disciplines were also addressed in a paper on green box policies<sup>27</sup> by a coalition of 11 developing countries,<sup>28</sup> which notes that AMS requirements have cut amber box policies<sup>29</sup> while green box policies have been increasing. The paper also cited a recent OECD report<sup>30</sup> finding that even though payments under green box policies may be decoupled from output, payments will inevitably impact production levels. Such payments reportedly have a favorable impact on producers' income (which in turn improves producers' ability to invest in production-enhancing technologies), and reduce the financial risks associated with the variability of agricultural production. Decoupled payments also raise land values and

---

<sup>20</sup> (...continued)

"Agriculture in the WTO," Box 3, p. 34.

<sup>21</sup> The Aggregate Measure of Support (AMS) provides an estimate of the expenditure on trade-distorting programs that must be reduced under provisions of the URAA. For added details, see "Agriculture in the WTO," Box 1, p. 24.

<sup>22</sup> "U.S. declares war on CAP direct aids," *Agra Europe*, June 30, 2000.

<sup>23</sup> For example, take the case of two countries, each with a production value of \$200,000 billion in a base period (1997-99, for example)—one with a final bound URAA AMS of \$80 billion and the other with only \$20 billion. Assuming it was agreed in the new round that the AMS of each country were to be reduced to 10 percent of the production value by the end of the implementation period, both countries would have to reduce supports to \$20 billion (10% of \$200,000), however one country would have to cut supports by \$60 billion, while the other would have to make no cuts at all. The final bound URAA AMS level can not be raised to a level equal to the fixed percentage of the value of agricultural production.

<sup>24</sup> WTO Committee on Agriculture Special Session, European Communities Proposal. The Blue Box and Other Support Measures to Agriculture, G/AG/NG/W/17, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw17\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw17_e.doc), retrieved June 30, 2000.

<sup>25</sup> "Blue box defense is key to EU's WTO position," *Agra Europe*, June 30, 2000.

<sup>26</sup> OECD, *Policy Evaluation Matrix Report* (Paris: OECD, Feb. 2000).

<sup>27</sup> Green box policies are not considered to be trade-distorting and are not subject to limitations. For added information, see "Agriculture in the WTO," Box 3, p. 34.

<sup>28</sup> WTO Committee on Agriculture Special Session, Agreement on Agriculture: Green Box/Annex 2 Subsidies. Proposal to the June 2000 Special Session of the Committee on Agriculture by Cuba, Dominican Republic, Honduras, Pakistan, Haiti, Nicaragua, Kenya, Uganda, Zimbabwe, Sri Lanka, and El Salvador, G/AG/NG/W/14, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw14\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw14_e.doc), retrieved June 30, 2000.

<sup>29</sup> Amber box policies are considered to be trade-distorting and are subject to limitations. For more information, see "Agriculture in the WTO," (Box 3), p. 34.

<sup>30</sup> OECD, *Agricultural Outlook, 2000-05*. Paris. 2000.

thereby result in land being kept in production that otherwise would be diverted to other purposes.<sup>31</sup> Developing countries also proposed creating a general subsidies box that would be subject to discipline, thus dropping the distinction between trade-distorting and non-trade-distorting supports. This proposal was based on the argument that green box programs are not neutral with respect to trade.<sup>32</sup>

### *Special and Differential Treatment*

The majority of WTO members support continuing the special treatment for developing countries that grants them longer implementation periods and some degree of exemption from the rules. A paper submitted by a coalition of developing countries<sup>33</sup> contended that developing countries have different economic, financial, and development circumstances compared with developed economies, and therefore should be granted special advantages and flexibility within the multilateral trading system. Because of food security issues, these developing countries contended that special treatment is especially needed in the agricultural sector. The paper encouraged the creation of a food security/development support policy category exempt from disciplines. Under the proposal, developing countries would be allowed to (1) exempt specified products from disciplines, (2) re-evaluate and adjust tariff levels to protect domestic producers from “cheap” imports, (3) increase the de minimus level on domestic support disciplines<sup>34</sup> to 20 percent (compared with 10 percent under the URAA), and (4) prohibit developed countries from the use of Special Safeguards.<sup>35</sup>

### *Nontrade Concerns*

The U.S. proposal noted the continued government role in agriculture in providing an income safety net for producers and in assisting farmers in development risk management tools, as well as a role for government in domestic food aid, environmental and natural resource protection, rural development, and structural adjustment in agricultural and rural communities. However, the U.S. proposal contended that support for these activities should be delivered in a manner that is, at most, minimally trade-distorting. Meanwhile the EU is continuing to push for nontrade concerns to be addressed in any new agreement on agriculture.

---

<sup>31</sup> “Farm income support. Implications for gains from trade of changes in methods of support overseas,: Australian Bureau of Agricultural and Resource Economics, *Current Issues*, No. 98.4, Aug. 1998.

<sup>32</sup> The recent emergency assistance to U.S. farmers, amounting to \$30 billion during 1998-2000, has come under criticism from developing countries as well as the EU. “Tough words come from Fischler on recent, continual U.S. farm aid,” *Feedstuffs*, June 26, 2000.

<sup>33</sup> WTO Committee on Agriculture Special Session.. Agreement on Agriculture: Special and Differential Treatment and a Development Box. Proposal to the June 2000 Special Session of the Committee on Agriculture by Cuba, Dominican Republic, Honduras, Pakistan, Haiti, Nicaragua, Kenya, Uganda, Zimbabwe, Sri Lanka, and El Salvador, G/AG/NG/W/13, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw13\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw13_e.doc), retrieved June 30, 2000.

<sup>34</sup> The support level as a percentage of the value of production below which assistance is excluded from the AMS calculation.

<sup>35</sup> URAA special safeguard provisions enable countries to temporarily apply extra duties for products specified in their schedules of concessions if import prices should fall below a certain level or if the quantity of imports rises too quickly in relation to an average over the previous 3 years.

For example, the EU provided papers covering animal welfare and food quality.<sup>36</sup> The proposal on animal welfare<sup>37</sup> supported a discussion on whether producers faced with higher costs arising directly from improved animal welfare conditions should be compensated whereas the EU paper on food quality<sup>38</sup> discussed the need for labeling requirements to protect legal recognition of product names and processes.

## **Implementation Issues**

---

Beyond specific issues affecting the agricultural negotiations, the WTO leadership has reportedly made considerable efforts in the period since Seattle to undertake confidence building steps aimed at addressing concerns of developing countries. Part of this process is to resolve implementation issues left unresolved in December 1999.<sup>39</sup> For instance, special sessions of the WTO General Council to address implementation concerns began in late June, and a work program for addressing problems of developing countries in implementing WTO agreements has been initiated.<sup>40</sup> In May 2000, WTO Members reached a compromise in which the WTO Goods Council would review favorably most member requests to extend missed implementation deadlines, as well as consider the broader contention that several of the Uruguay Round Agreements are failing to provide the developing countries with the benefits they expected when becoming WTO Members. General Council special sessions on implementation began in June 2000 with the goal of resolving remaining implementation issues no later than the Fourth WTO Ministerial Conference, anticipated about December 2001.

Nine months after the Seattle meeting, the prospects look dim for agreement and timely end to negotiations, according to various observers. After two meetings of the WTO Committee on Agriculture (March and June) the fundamental policy positions of the reformers (United States and Cairns Group) and status quo countries (EU and Japan) have not changed.<sup>41</sup> Observers point to the reality that reformer, status quo, and developing country position papers presented at the June meeting indicate that each side may have grown further apart, especially on how to handle domestic support disciplines. Although it is early in the process and countries are still staking out initial policy positions, clearly negotiators have their work cut out if negotiations are to be completed by a proposed December 31, 2002, target date.#

---

<sup>36</sup> The EU is not expected to submit a comprehensive proposal until the end of the year. "Tough start to WTO talks," *Feedstuffs*, July 10, 2000.

<sup>37</sup> WTO Committee on Agriculture Special Session, European Communities Proposal. Animal Welfare and Trade in Agriculture, G/AG/NG/W/19, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw19\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw19_e.doc), retrieved June 30, 2000.

<sup>38</sup> WTO Committee on Agriculture Special Session, European Communities Proposal. Food Quality—Improvement of Market Access Opportunities, G/AG/NG/W/18, June 28, 2000, found at: [http://www.wto.org/english/tratop\\_e/agric\\_e/ngw18\\_e.doc](http://www.wto.org/english/tratop_e/agric_e/ngw18_e.doc), retrieved June 30, 2000.

<sup>39</sup> So-called, implementation issues center of the failure of many developing countries to meet their January 1, 2000, transition deadlines agreed to under the Uruguay Round Agreements. Customs valuation, investment measures, and intellectual property rights are the most immediate implementation concern.

<sup>40</sup> "WTO to deal with poor countries' problems in implementing agreements," WTO News, found at [http://www.wto.org/english/news\\_e/news\\_e.htm](http://www.wto.org/english/news_e/news_e.htm), retrieved July 10, 2000.

<sup>41</sup> "Flexibility needed before new round, says WTO head," *Feedstuffs*, Aug. 14, 2000.

# Steel Sector Explores E-Commerce Although Wary of Quick Transition

---

Tracy Quilter<sup>1</sup>  
tquilter@usitc.gov  
(202) 205-3437

*Steelmakers and steel buyers around the world have recently aligned themselves with various Internet-based marketplaces (E-commerce exchanges or exchanges) to improve efficiencies and decrease costs. Electronic commerce (E-commerce) has led to many strategic alliances and joint ventures among industry participants as well as between steel-related and high-technology companies. However, the amount of steel sold to date through E-commerce has necessarily been limited<sup>2</sup> because the technology to conduct transactions online is still evolving. Steel is a complex product with thousands of specifications and quality requirements, necessitating a close working relationship between a mill and its customers. Moreover, mill production schedules, logistics planning, and price negotiations require a high level of communication and organization among industry participants. Hence, buyers, sellers, and facilitators need electronic integration for E-commerce to be worthwhile to the industry over the long run. This article examines the benefits and costs of E-commerce to the steel industry, efforts to surmount obstacles, and the prospects for further development of an electronic marketplace for steel.*

The emerging E-commerce models potentially offer the steel industry significant benefits inasmuch as the industry's highly fragmented and multilayered structure invites streamlining of transaction costs, from raw materials procurement to distribution of finished products. In addition, the steel industry is subject to price volatility and to an overall lack of transaction transparency. The Internet disseminates information quickly, and at the same time reduces the number of participants (mills, service centers, distributors, and traders). Moreover, the steel industry is large enough to justify the capital expenditures necessary to develop steel- and metals-specific electronic marketplaces, as well as to generate revenues to sustain these exchanges.

E-commerce, a component of electronic business (E-business), allows companies to conduct business transactions such as customer orders, insurance premium payments, or rent on a

---

<sup>1</sup> The views expressed in this article are those of the author. They are not the views of the U.S. International Trade Commission or any of the Commissioners.

<sup>2</sup> Most companies surveyed for this article reported that they have sold or purchased steel products through E-commerce, but that the number of completed transactions, although increasing, has been relatively small. World Steel Dynamics (WSD) predicts that the number of transactions will increase slowly during the first 2 years as sales channels adjust. WSD, "e-Commerce in Steel: Electrifying Some; Electrocuting Others," *Core Report PPP*, Apr. 2000, p. 2-1.

facility with all concerned parties, through and along the Internet.<sup>3</sup> For the steel industry, E-commerce takes place between businesses through electronic exchanges that speed the flow of information and facilitate the sale of products through auctions, negotiations, or catalogs. Such communications are commonly known as business-to-business (B2B) transactions, rather than business-to-consumer (B2C) transactions, by which a consumer purchases items from Internet-based retailers such as Amazon.com, or from a popular retailer's online catalog.

E-commerce in the steel industry developed from electronic data interchange (EDI) systems between mills and their customers (text box), interactive websites that allow customers to place and track orders, and company websites that provide information about products and contacts. All three systems require varying degrees of technological sophistication to use and run. Many companies have spent much time and money implementing these systems, and are in no hurry to discontinue their use;<sup>4</sup> therefore, E-commerce exchanges compete with these existing systems. However, E-commerce exchanges differ in that companies do not need to invest significant capital (although some hardware and software upgrades may be required, along with an Internet connection), and the trading community is open to a wide variety of participants. A recent paper asserts that E-commerce provides services similar to EDI to more market participants at a much lower cost.<sup>5</sup>

#### **Electronic Data Interchange**

An integrated means of exchanging information is not new to the steel industry. Steel companies and their customers have long used electronic data interchange (EDI) networks to facilitate transactions between companies. EDI networks are proprietary systems that "connect a trading community and establish a communication standard." EDI networks, in effect, transfer orders, invoices, materials certifications, and product specifications between a mill and its customer.

EDI networks grew out of the commercial relationship between steel mills and automobile manufacturing companies. Even today, only large companies participate in EDI networks because they are very expensive to create and operate; an EDI network designed to accommodate one buyer and one supplier can cost between \$25,000 and \$250,000.

E-commerce brings technology similar to EDI networks to medium- and small-sized companies, thus expanding the customer and supplier base of participants in the steel distribution chain.

Source: USITC staff interviews with industry representatives, Aug. 31 to Sept. 18, 2000; and Morgan Stanley Dean Witter, "Steel B2B E-Commerce," Sept. 24, 1999, pp. 5-7.

---

<sup>3</sup> "Point and Click: Buying and Selling Metals Online," *33 Metalproducing*, Aug. 2000, p. E3.

<sup>4</sup> USITC staff interview with industry representative, Sept. 6, 2000.

<sup>5</sup> e-Steel, "e-Commerce and Steel: The New Industry Advantage," white paper, undated, p. 4, found at Internet address <http://www.esteel.com/whitepapers.shtml>, retrieved Aug. 30, 2000.



## Scope of E-Commerce and Transactions

---

E-commerce exchanges anticipate offering the steel industry multifaceted solutions to their buying and selling needs, and providing value-added services.<sup>6</sup> The initial services provided by the exchanges center on buying and selling steel mill products: MetalSite began by offering nonprime (secondary) products, whereas e-Steel followed with prime steel products. However, the goals of the exchanges go far beyond acting as mere facilitators, and these companies want to expand their capabilities to offer a wide range of services. The exchanges anticipate that these services will address problems such as high inventory levels, poor cycle times, low inventory turns, poor customer service, inconsistent communication, and the need for significant cost reduction.<sup>7</sup> Services available online vary from exchange to exchange, but many plan to include risk management, supply chain management, logistics, credit services, integration of systems, and customized content.<sup>8</sup>

Data regarding the total number of transactions or quantity of steel sold through E-commerce exchanges are not readily available. MetalSite reported that it facilitated 6,000 transactions totaling 200,000 short tons of steel products in July 2000 alone.<sup>9</sup> e-Steel does not publish transaction information. World Steel Dynamics (WSD) estimated that each E-commerce company needs transactions totaling 30 million metric tons per year in order to be successful.<sup>10</sup> Given the number of existing exchanges (table 1) and the WSD global transaction forecasts for the quantity of steel anticipated to be sold via this method (following tabulation)<sup>11</sup>, it seems likely that there will be a consolidation in the market.

<u>Year</u>	<u>Quantity</u> (MMT) <sup>1</sup>
1999 .....	0
2000 .....	5
2001 .....	24
2002 .....	44
2003 .....	62
2004 .....	89
2005 .....	132
2010 .....	400

<sup>1</sup> Million metric tons.

Source: World Steel Dynamics, "E-Commerce in Steel: Electrifying Some; Electrocuting Others," *Core Report PPP*, Apr. 2000, p. 2-6.

---

<sup>6</sup> USITC staff interview with MetalSite representatives, Sept. 18, 2000.

<sup>7</sup> Representative of MetalSite, American Institute of International Steel Annual Conference (AIIS), Mar. 28, 2000.

<sup>8</sup> Representative of e-Steel, AIIS Annual Conference, Mar. 28, 2000.

<sup>9</sup> MetalSite, "MetalSite Leads the Way in Online Sales Transactions," news release, Aug. 25, 2000.

<sup>10</sup> WSD, "E-commerce in Steel," p. 1-13.

<sup>11</sup> Projections of global transactions via E-commerce can vary widely. For example, Morgan Stanley Dean Witter projects that from 5 to 6 million metric tons will be traded on a global basis in 2000 and that the quantity could be double in 2001. This projection for 2001 is about one-half the level forecast by WSD in that year. Representative of Morgan Stanley Dean Witter, AIIS Annual Conference, Mar. 27, 2000.

**Table 1**  
**Steel- and metals-related E-commerce exchanges**

Company (Base location)	Metals industry ownership <sup>1</sup>	Target market <sup>2</sup>	
		Region	Product
Asia-steel.com (Hong Kong)		Asia	Ferrous metals
BuyStainlessOnline.com (Bensalem, PA, USA)			Stainless steel
Clickforsteel.com (India)		Middle East, Southeast Asia, Indian sub-continent	
e-Steel.com (New York, NY, USA)	US Steel, National Steel, Dofasco	Global, through affiliates	
FerrousExchange.com (New York, NY, Pittsburgh, PA, USA; Singapore)	Ispat International, Gibraltar Steel	Global	
ibuysteel.com (Canton, OH, USA)			Small steel buyers
iSteelAsia.com (Hong Kong)		Asia	
Materialnet.com (Lake Success, NY, USA)			Marketplace for service centers, all industrial metals
metaljunction.com (India)	SAIL, TISCO, and Kalyani Steels	Global	
MetalSite.net (Pittsburgh, PA, USA)	Weirton, LTV, Steel Dynamics, Bethlehem Steel, Ryerson Tull	United States	
metal-smart.com (New York, NY with international offices)			Raw materials (ferroalloy, noble alloy, and minor metals)
MetalSpectrum.com (Atlanta, GA, USA)	Alcoa-Reynolds, Allegheny Technologies, Kaiser Aluminum, North American Stainless, Olin, Vincent Metals Goods, Thyssen Krupp	North America	Aluminum, stainless steel, copper, brass, nickel alloys, and titanium (specialty metals)
OnlineMetals.com (Seattle, WA, USA)			Specializes in cut-to-length small orders for businesses and individuals using UPS for delivery
Steel24-7.com (Europe)	Arbed/Aceralia, Corus, Thyssen Krupp, and Usinor		

See footnotes at end of table.

Table 1—*Continued*  
**Steel- and metals-related E-commerce exchanges**

Company (Base location)	Metals industry ownership <sup>1</sup>	Target market <sup>2</sup>	
		Region	Product
SteelPartner.com (Washington, DC, USA)	American Iron and Steel Institute		
Steelscreen.com (Stockholm, Sweden)		Europe	
SteelVillage.com (Houston, TX, USA)		Global	Long products
WorldMetal.com (Hong Kong)		China, South Korea, Russia	

<sup>1</sup> Identifies equity interests of steel mills, service centers, and other metals firms.

<sup>2</sup> Company may not necessarily target both a regional and product market.

Source: Compiled by Commission staff.

## E-Commerce in Operation

Exchanges currently facilitate a small portion of prime and nonprime steel product sales in a spot market that reportedly accounts for one-half of the steel sold throughout the world.<sup>12</sup> Spot market sales differ from contract sales in that they typically involve higher prices, along with smaller volumes and shorter turnaround times. Participants on both sides of the spot market may benefit from E-commerce because it has the potential to provide more comprehensive and timely information related to transactions and inventory management. Industry representatives disagree about the extent to which E-commerce will affect the contract market. Currently, the steel industry continues to negotiate long-term contracts through traditional channels.<sup>13</sup> This type of business is likely to stay outside E-commerce channels until the exchanges can become fully integrated with information technology systems (i.e., EDI) already in place.<sup>14</sup>

MetalSite and e-Steel offer the most advanced and well-known models for facilitating sales of steel products, by providing support services such as lines of credit and logistical requirements, as well as plans to enable steel mills and their customers to integrate their information technology networks with E-commerce systems. Integration with sellers has partly been achieved at MetalSite, for example, where one participant, Steel Dynamics, has been able to post products for sale directly from its inventory control system. These exchanges offer various means by which to buy and sell steel, ranging from auctions and catalogs to

<sup>12</sup> Morgan Stanley Dean Witter estimates that the steel spot market accounted for 158.5 million metric tons, or one-half of the 317 million metric tons sold worldwide. Morgan Stanley Dean Witter, "B2B Basic Materials," p. 76. U.S. industry representatives suggest that from 20 to 30 percent of domestic sales are in the spot market. USITC staff interview with industry representative, Sept. 11, 2000.

<sup>13</sup> However, one company indicated that it maintains a policy of promoting E-commerce use with its contract customers. USITC staff interview with industry representative, Sept. 12, 2000.

<sup>14</sup> USITC staff interview with industry representatives, Aug. 31 to Sept. 12, 2000.

negotiations and request-for-quotes, and the choice of one partner or just a few versus the entire site membership. In effect, electronic exchanges take existing relationships and transfer them to the Internet.

FerrousExchange.com is a newly active marketplace that offers three different trading “platforms” that vary depending on the product to sell or buy. Commercial grades of steel are sold on the Exchange platform; customized products are sold on the Request for Quote platform; and nonprime material is sold on the Auction platform.<sup>15</sup> These “platforms” appear to represent the various models prevalent in the marketplace.

In contrast, MetalSite offers several options depending on the transaction method best suited to each customer.<sup>16</sup> Auctions are largely for spot purchases, and the accompanying reports can generate information such as the number of bids received for a product. Product catalogs are targeted at recurring contract-type sales. The quote finder option, introduced in September 2000, allows buyers to specify product requirements, and can include report information such as the length of negotiating time. An additional option permits mills to, in effect, sell available capacity online, enabling buyers to access mill schedules and purchase excess product<sup>17</sup> before it is rolled. This “time-on-the-mill” technology is still in the early stages of development, but in time may aid coordination between mills and their customers.<sup>18</sup>

Exchanges also offer additional services such as financial arrangements or logistics management. FerrousExchange shields the seller from a buyer’s payment default through Gerling Credit Insurance Group. e-Steel announced a program with First International Bank, whereby First International provides 14 types of commercial and international loans to e-Steel members to facilitate transaction financing and settlement online. Logistics management services are available at FerrousExchange through eflatbed.com, and at MaterialNet through CarrierPoint.com. These sites help coordinate shippers and carriers or try to reduce the number of empty backhauls in the trucking industry. Such partnerships enable exchanges to arrange transportation services as the final stage in a transaction.<sup>19</sup>

## Effects of E-Commerce

---

Steel companies with an E-commerce strategy anticipate that the technologies developed on behalf of the exchanges will help lower costs and improve efficiency by reducing both the time required and the number of staff needed to complete both sales and procurement transactions. As regional and global exchanges evolve, they should offer “both buyers and sellers the

---

<sup>15</sup> FerrousExchange, “Benefits to Members,” found at Internet address <http://www.ferrousexchange.com/Fex/ui/html/Navigation-Brochure/Marketplace/frameset.html>, retrieved Sept. 15, 2000.

<sup>16</sup> USITC staff interview with MetalSite representatives, Sept. 18, 2000.

<sup>17</sup> Because steel refining is a batch process, steelmakers may sometimes have to produce certain products in excess of known orders.

<sup>18</sup> USITC staff interview with industry representative; Sept. 6, 2000, and MetalSite representatives, Sept. 18, 2000.

<sup>19</sup> Ted Slowik, “e-Commerce Energizes Logistics,” *Metal Center News*, Aug. 2000, found at Internet address <http://www.metalcenternews.com/2000/Aug00/MCN0008f5.htm>, retrieved Sept. 6, 2000.

opportunity to participate in a much larger marketplace and find new, commercially compatible partners in the process.”<sup>20</sup> Such exchanges may also serve to drive down prices.<sup>21</sup>

Through E-commerce, steel companies hope to improve production scheduling, facilities use, sales, and inventory management.<sup>22</sup> Potential benefits to the industry include lower transaction costs, reduced transaction time, and increased productivity. Typically steel orders are completed through multiple contacts via facsimile or phone to establish specifications, quality, logistics, and price. E-commerce exchanges expect costs to decrease as intermediary steps/transactions are removed, thus reducing the amount of time it takes to process an order. For example, e-Steel cited a Credit Suisse First Boston estimate that put the average transaction cost at \$30-\$70 per ton on a spot mill order and \$125-\$225 per service center transaction; E-commerce models could decrease the cost by \$10-\$30 per ton for mills and \$75-\$125 per transaction for service centers.<sup>23</sup>

Other operations streamlined by E-commerce include data collection and report generation. MetalSite noted that buyers and sellers can obtain aggregated information regarding their transaction history, enabling them to perform necessary analysis on data such as daily market-clearing prices.<sup>24</sup> The value to the company is the immediate availability of real-time reports, rather than compiling complicated spreadsheets generated by in-house sales and marketing personnel, which in turn frees them for other business activities. In time, some exchanges anticipate the ability to provide aggregated industry data, or indices, to assist members’ decision-making processes.<sup>25</sup>

Not all analysts agree that business costs will be substantially reduced through investment in E-commerce. One report, although citing potential for long-term cost reductions, suggested that buyers and sellers may initially need to maintain existing networks while implementing E-commerce systems that are likely to increase costs in the short run.<sup>26</sup> Further, transaction fees (paid by the seller only) are an added cost of business via the exchanges. Transaction fees on auction sales at MetalSite reportedly range from 1 to 2 percent of the transaction value, and fees on other sales range from 0.25 percent to 1 percent.<sup>27</sup> At e-Steel, transaction fees reportedly range from 0.3 percent to 0.875 percent, and are based on quantity transacted.<sup>28</sup> Price discovery will be easier at those exchanges that provide aggregated price information on their sites.<sup>29</sup> The open-auction format (such as Freemarkets.com) enables participants to submit repeated bids to counter other offers as the auction progresses. So far, the number of transactions has been too small to affect overall steel prices; although industry observers anticipate that prices will be affected by E-commerce, there are different opinions as to the degree of potential shifts.

---

<sup>20</sup> Paul Millbank, “e-Commerce Clicks Into Place,” *Metal Bulletin Monthly*, June 2000, pp. 30-31.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid., p. 31.

<sup>23</sup> e-Steel, “e-Commerce and Steel: The New Industry Advantage,” p. 4.

<sup>24</sup> USITC staff interview with MetalSite representatives, Sept. 18, 2000.

<sup>25</sup> USITC staff interview with industry representatives, Sept. 12, 2000, and MetalSite representatives, Sept. 18, 2000.

<sup>26</sup> WSD, “e-Commerce in Steel,” p. 2-25.

<sup>27</sup> Ibid., pp. 7-8 to 7-13.

<sup>28</sup> Ibid.

<sup>29</sup> The Internet site *www.asia-steel.com* posts current bidding and asking prices.

- World Steel Dynamics suggests that E-commerce will increase the volatility of steel prices both in magnitude and frequency as the market adjusts to oversupply conditions or production cutbacks. However, prices will become more transparent as the industry increasingly relies on E-commerce rather than traditional methods of price determination.<sup>30</sup>
- In contrast, Morgan Stanley Dean Witter anticipates that transaction prices will remain relatively unaffected or possibly increase since some exchanges do not give buyers the opportunity to “comparison shop;” steel producers are unlikely to give up “their ability to segment the market by disclosing ‘private’ transaction prices;” and mills can aggregate small quantity orders that would typically go to service centers.<sup>31</sup>

Several exchanges operate a closed-bid auction system, whereby the only bid displayed is the one submitted by the individual participant. Some orders may only involve two parties, as exchanges develop the capability to allow buyers and sellers to designate a single party with whom to negotiate. For example, e-Steel’s “SteelDIRECT” function identifies the buyer and seller, so that the parties know “to whom they are talking”<sup>32</sup> and can customize the terms of a transaction depending on the customer. However, long-term contracts for large volumes of steel are expected to be negotiated through traditional channels and subject to customary volume discounts. In these instances, price remains nontransparent and E-commerce is merely a sales tool similar to a facsimile or an E-mail. Regardless of the sales method used, local prices remain subject to normal supply and demand pressures, resulting in increased prices as customers need steel to meet orders, or lower prices during inventory liquidations.

The effect of E-commerce on steel service centers<sup>33</sup> also has yet to be seen. Service centers that do not provide value-added services reportedly are the most at risk, along with small to medium-sized service centers. According to industry observers, the medium-sized service centers (servicing regional customers) will now face competition for market share from large service centers who place their catalogs online and have a wider geographic reach.<sup>34</sup> Those companies that simply break down large quantities of steel to sell in smaller quantities are most likely to face stiff competition from E-commerce exchanges. Small processors are now able to go online to bid for products directly from the mills as an alternative to obtaining products from a company that warehouses products. For example, Ratner Steel, a coil-processor, reportedly used MetalSite to buy steel directly from LTV, which is “now (Ratner’s) second-largest supplier, when (it) didn’t buy one ounce of (LTV’s) steel in the past.”<sup>35</sup>

Steel mills and service centers acknowledge the need for a business strategy that includes an E-commerce component. However, several obstacles are blocking a quick transition to this

---

<sup>30</sup> WSD, “e-Commerce in Steel,” pp. 2-29 to 2-32.

<sup>31</sup> Morgan Stanley Dean Witter, “B2B Basic Materials: The Supply Chain Moves Online,” May 2000, pp. 82-83.

<sup>32</sup> “e-Steel’s Founder Stresses the Value of Negotiation-Based e-Commerce,” 33 *Metalproducing*, May 2000, p. 18.

<sup>33</sup> Service centers purchase steel products from mills and process the steel (by cutting, bending, coating, etc.) to customer specifications.

<sup>34</sup> WSD, “e-Commerce in Steel,” p. 5-3.

<sup>35</sup> Russ Banham, “Special Report, e-Commerce: The World Is Enough,” *CFO*, Jan. 2000.

new business model. Many companies choose to operate their own websites that enable their customers to place and track orders, while at the same time participating as members in E-commerce exchanges. Currently, several exchanges are either planned or operational, and participants are unwilling to establish relationships with only one or a few exchanges because of uncertainty about which ones may survive consolidation.<sup>36</sup> Further, service centers reportedly suggest that current E-commerce exchanges accommodate steel mills which emphasize quantity rather than service centers which stress meeting customer needs.<sup>37</sup> Currently, members must learn the operating models for several exchanges, as customers and suppliers may use different exchanges (or operate their own websites),<sup>38</sup> and each one has its own system standards.<sup>39</sup>

Steel customers have also entered into strategic alliances with the exchanges. Ford Motor Co.,<sup>40</sup> announced a multiyear agreement with e-Steel for the procurement of steel products for its metal-stamping suppliers. In addition, Ford has a minority equity position in e-Steel.<sup>41</sup> Therefore, in this instance, suppliers to Ford are encouraged to use e-Steel. Steel mills and service centers acknowledge the need to remain flexible in order to meet customer demands, and may use several exchanges. E-commerce companies will need to demonstrate that their exchange provides value to both steel users and their suppliers in order to survive.

---

<sup>36</sup> Philip Burgert, "Service Centers Feel e-Commerce Strategy Pinch," *American Metal Market*, Sept. 21, 2000, p. 4A.

<sup>37</sup> Ibid.

<sup>38</sup> Scott Robertson, "Marmon/Keystone Remains Wary of e-Commerce Hype," *American Metal Market*, Sept. 21, 2000, p. 2A.

<sup>39</sup> The American Iron and Steel Institute (AISI) announced the formation of a group of companies that will work to establish guidelines and create a uniform environment ("XML" or "extensible markup language") for steel E-commerce transactions. AISI, "AISI Forms XML Workgroup to Develop Guidelines for Internet-based Steel Transactions," press release, Sept. 18, 2000, found at Internet address <http://www.steel.org/news/pr/2000/pr000918.htm>, retrieved Sept. 27, 2000.

<sup>40</sup> Ford, together with General Motors and DaimlerChrysler, also has announced the formation of an electronic marketplace for original equipment manufacturers and their suppliers to reduce costs and improve efficiencies. The new exchange, Covisint, was approved by the U.S. Federal Trade Commission in September and by the Federal Cartel Office in Germany in October, and is expected to be operational in the fourth quarter 2000. WSD suggested that the automakers' exchange will have virtually no impact on MetalSite or e-Steel, because they do not buy steel on a spot basis. Covisint, "Covisint Receives Bundeskartellamt Clearance," press release, Sept. 26, 2000, found at Internet address <http://www.covisint.com>, retrieved Oct. 6, 2000; Mark Roberti and Elizabeth Wasserman, "Big 3's Auto Exchange Gets Green Light," *The Standard*, Sept. 11, 2000, found at Internet address <http://www.theindustrystandard.com>, retrieved Sept. 12, 2000; and Peter Marcus, WSD, AIIS Annual Conference, Mar. 27, 2000.

<sup>41</sup> "Ford Will Procure Steel Through e-Steel," *New Steel*, July 2000, pp. 9-10.

## **Outlook--What It Takes for an Exchange to Succeed**

---

Most industry observers agree that consolidation will occur among the exchanges because the market is not large enough to support all of the existing operations. Speculation centers on the number of exchanges that will survive and what factors will determine their survival. Exchanges that concentrate on specific products may end up merging with companies that maintain a broader product range.<sup>42</sup> MetalSite identifies several characteristics or assets it considers to be crucial in order to attract initial users and maintain members:

- Sustain sufficient volume to attract participants on a regular basis;
- Provide information regarding the products available;
- Develop a global reach for steel as an industry with buyers and sellers worldwide;
- Offer several different ways to conduct transactions;
- Have the ability to integrate existing systems (i.e., EDI) into the exchange's format;
- Maintain neutrality despite steel mill equity interest in many exchanges;
- Ensure the security of business proprietary information; and
- Achieve an advantage by being first to the market.<sup>43</sup>

Several mills have an equity position in the exchanges, thus ensuring seller participation, which in-turn attracts buyers. Adequate volume and product availability, along with attentive service, are considered essential to ensure buyer participation in the various exchanges and to encourage repeat business. Industry observers have asserted that producer involvement in E-commerce sites is crucial to achieving these business goals.<sup>44</sup> MetalSite founders include Weirton Steel, LTV, and Steel Dynamics. In contrast, e-Steel began with no steel industry investment, but eventually offered equity positions to Dofasco and US Steel Group of USX Corp.<sup>45</sup> Each exchange is run as an independent, "neutral" company in order to ensure the security of confidential information despite steel mill and service center equity interest in the exchanges. However, some exchanges operate without any industry ownership (see table 1).

A significant component of the steel E-commerce exchanges is their ability to integrate with the legacy systems already in place and accommodate multiple users. e-Steel and MetalSite both have systems that are designed to eventually integrate with those of exchange participants. e-Steel has teamed with USX Engineers and Consultants to implement integration services in an effort to "significantly (decrease) transaction processing costs and

---

<sup>42</sup> MetalSite recently announced intentions to form an alliance with MetalSpectrum, an exchange founded by several specialty metals-industry companies, to cooperate and integrate supply-chain technology solutions. "MetalSite, MetalSpectrum Eye Alliance," *American Metal Market*, Sept. 11, 2000, p. 2.

<sup>43</sup> Paul Taylor, "MetalSite: Your e-Commerce Opportunity," white paper version 1.2, Feb. 15, 2000, found at Internet address <http://www.metalsite.net>.

<sup>44</sup> Representatives of J.P. Morgan Securities and Morgan Stanley Dean Witter, AIIS Annual Conference, Mar. 27, 2000.

<sup>45</sup> More integrated mills have taken an active interest in ownership of exchanges than have minimills, whereas minimills have been industry leaders regarding steelmaking technology in recent years.



(shorten) sales cycles for both made-to-order and existing steel inventory.”<sup>46</sup> According to industry sources, industry knowledge and experience is important to creating E-commerce processes that will meet the needs of the metals industry. E-commerce will become more valuable once such integration has occurred; until then, it adds to the cost of a transaction rather than decreasing the cost because companies are required to maintain dual systems.<sup>47</sup> As recently as May of this year, one report observed that “the major limiting factor (regarding the rate in adoption of the Internet by the steel industry) is the shortcomings of the current B2B technology, which cannot yet fully handle inquiry to settlement and/or more sophisticated product offerings.”<sup>48</sup>

Integration among steel and metals buyers, sellers, and facilitators is key to achieving the full potential of E-commerce in the steel industry. Although some administrative efficiencies are already apparent, and limited customer-base enlargement has occurred, the perception in the industry is that the number of completed transactions is still relatively small and participation in exchanges comes with its own costs. However, these companies report that they intend to continue to develop E-commerce strategies in an effort to enhance their business. E-commerce is a tool that they cannot afford to be without because some customers are ready to use it now, whereas others are still more comfortable with traditional methods of communication. In order to increase the number of transactions, E-commerce exchanges must prove their value to both steel sellers and steel buyers, who will reward the successful exchanges with the quantity of steel needed to make them profitable.#

---

<sup>46</sup> e-Steel, “STEELink,” found at Internet address <http://www.esteel.com/steellink.shtml>, retrieved Sept. 7, 2000.

<sup>47</sup> USITC staff interview with industry representative, Sept. 6, 2000.

<sup>48</sup> Morgan Stanley Dean Witter, “B2B Basic Materials,” p. 74.



# Mexico's Emergence as a Global Automotive Production Center Drives Trade and Investment

---

Deborah McNay<sup>1</sup>  
mcnay@usitc.gov  
(202) 205-3425

Laura Polly<sup>1</sup>  
polly@usitc.gov  
(202) 205-3408

*U.S., European, and Japanese automakers and producers of automotive parts have invested in new and existing assembly plants throughout North America, further integrating the regional automotive market and manufacturing base. Mexico, in particular, is benefitting from increased foreign direct investment (FDI) as a result of the North American Free-Trade Agreement (NAFTA) and Mexico's numerous bilateral trade agreements with some 28 countries, including the 15 members of the European Union (EU). Mexico's long-term role as an important automotive manufacturing and export base also stems from its strategic advantages as a member of NAFTA. U.S.-Mexican trade in automotive products will likely increase as production is rationalized within North America, as European automakers and suppliers increase their investments in Mexico, and as Mexican market demand increases in the future. This article examines the development of Mexico as a leading automotive production center, both as an integral player in the North American industry and as a key manufacturing location for global producers as free-trade agreements (FTAs) and other bilateral agreements are negotiated.*

The Mexican automotive industry emerged from the country's 1995 economic crisis in a strong competitive position. The Mexican passenger vehicle manufacturing industry,<sup>2</sup> which specializes in the production of small and medium-size cars and light trucks, produced a record-setting 1.5 million vehicles in 1999, an increase of 5 percent over the 1998 total. This year, 2000, production is expected to reach a new record of 1.7 million vehicles, with more than 70 percent for export.<sup>3</sup> Moreover, motor vehicle sales in Mexico reached 665,783 vehicles in 1999 (up 35 percent from the 1998 total), with imports from all countries accounting for 37 percent of the Mexican market.<sup>4</sup>

---

<sup>1</sup> The views expressed in this article are those of the authors. They are not the views of the U.S. International Trade Commission or any of the Commissioners.

<sup>2</sup> Passenger vehicles refer to passenger cars and light trucks (minivans, sport-utility vehicles, and pickup trucks). This article primarily discusses passenger vehicles and related parts, although certain tables provide data for all motor vehicles (passenger cars, light trucks, medium- and heavy-duty trucks, buses, and bodies and chassis of such vehicles).

<sup>3</sup> "Mexico's Automotive Industry Successfully Competes in the Global Market," *NAFTA Works*, May 2000, p. 1.

<sup>4</sup> *Automotive News, 2000 Market Data Book*, p. 38.

Although Mexico currently ranks as the world's 11th-largest producer of motor vehicles, the Mexican industry is composed almost entirely of subsidiaries of foreign manufacturers that determine the local product mix and local production levels as part of their global vehicle-manufacturing strategies.<sup>5</sup> Volkswagen accounts for the bulk of passenger car manufacturing in Mexico, at 41 percent of the 1999 total. Other passenger vehicle manufacturers with operations in Mexico, in descending order of production volume, are General Motors (GM), DaimlerChrysler (DC), Ford, Nissan, Honda, and BMW (table 1).<sup>6</sup> Medium- and heavy-duty truck manufacturers include DC (Chrysler, Mercedes-Benz, and Freightliner brands) (Germany), Dina (Mexico), Ford (United States), Kenworth (United States), GM (United States), Navistar (United States), Oshkosh (United States), and Scania (Sweden).

The following discusses competitive factors, bilateral trade agreements, and investment trends affecting Mexico's emergence as a leading automotive production center. The implications of foreign direct investment for future U.S.-Mexico automotive trade are also addressed.

## Improved Competitive Status of Mexico's Automotive Industry

---

Because of Mexico's geographic location, manufacturing competence, and existing automotive manufacturing infrastructure, Mexico is increasingly chosen as the lead North American assembly site for key new vehicles and components.<sup>7</sup> DC debuted production of the PT Cruiser in Toluca, which was originally the sole global source for the vehicle. Overwhelming demand for the vehicle prompted DC to add production in Austria. Volkswagen's Puebla factory is the exclusive world producer of the New Beetle. The Ford Focus, an important new entrant in the small car segment, is produced in two North American production sites, of which one is Hermosillo, which industry experts report as one of Ford's premier plants in the world.<sup>8</sup> Production of GM's first cross-over vehicle,<sup>9</sup> the Pontiac Aztek, began in 2000 at Ramos Arizpe, to be followed by production of the Buick Rendezvous at that same plant.

---

<sup>5</sup> For additional information on increasing global market integration of the automotive sector, especially in North America, see United States International Trade Commission (USITC), *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1995-1998* (ch. 3, Motor Vehicles and Parts), USITC publication 3265, Dec. 1999, pp. 3-1 to 3-12, posted at USITC Internet server at [www.usitc.gov](http://www.usitc.gov) ("Reports and Publications" and search for production sharing).

<sup>6</sup> Automotive News, *2000 Market Data Book*, May 2000, p. 31.

<sup>7</sup> Brain Corbett, Drew Winter, and Katherine Zachary, "Ay Caramba! Mexico is heading into the automotive big leagues," *Ward's Auto World*, May 2000, p. 50.

<sup>8</sup> Corbett, Winter, and Zachary. Hermosillo benefits from a higher level of automation than that found in most Mexican operations, approaching the automation level typical of U.S. plants. "1 goal, 2 paths: Two plants paint different pictures of Ford's assembly operations," excerpt from *Harbour Report 2000* by Harbour & Associates, Inc., *Automotive News*, Aug. 21, 2000, p. 24P.

<sup>9</sup> Cross-over, or hybrid, vehicles fuse characteristics of more than one class of vehicle. The Aztek was designed as an all-in-one vehicle that drives like a sport sedan, has the functionality of a van, and conveys the off-road characteristics of a sport-utility vehicle.

**Table 1**  
**Motor vehicle production in Mexico by plant, in units, 1999**

Manufacturer (city, state)	Models produced	Production	
		Export 1999	Total 1999
BMW (Toluca, Mexico)	BMW 3 series, 5 series, 7 series, Porsche 911	0	1,605
Chrysler (Lago Alberto, Mexico City)	Ram pickup, Ramcharger	79,741	96,455
Chrysler (Saltillo, Coahuila)	Ram pickup	143,707	143,707
Chrysler (Toluca, Mexico)	Cirrus, Neon, Sebring, Stratus	72,303	92,624
Ford (Cuautitlan, Mexico)	Contour, Mystique, F Series truck, medium truck	27,566	70,332
Ford (Hermosillo, Sonora)	Escort, Focus, Tracer	109,521	126,940
Ford (Monterrey, Nuevo Leon)	Chassis	26,930	26,930
General Motors (Ramos Arizpe, Coahuila)	Cavalier, Joy/Swing, Monza, Sunfire, Chevy pickup	81,672	189,541
General Motors (Silao, Guanajuato)	Chevy CK pickup, Chevy Suburban, GMC Suburban, Silverado, Tahoe, Yukon, Yukon XL	124,159	133,219
General Motors (Toluca, Mexico)	Chevy CK pickup, Chevy P Model, Chevy CT Series	225	8,261
Honda (El Salto, Durango)	Accord	1,795	10,241
Mercedes Benz (Santiago, Mexico)	C Class, E Class, Freightliner Truck, Mercedes Truck	0	21,941
Nissan (Aguascalientes, Aguascalientes)	Sentra, Tsuru	41,732	101,489
Nissan (Cuernavaca, Morelos)	Lucino, Sentra, Tsubame, Tsuru, Chassis, Nissan pickup	8,667	84,085
Volkswagen (Puebla, Puebla)	Beetle, Golf, Jetta, Sedan Type 1, Cabrio	341,306	410,308
Various other heavy truck makers	Dina, Navistar, Oshkosh, Kenworth, Scania	0	16,482

Source: Ward's AutoInfoBank.

Silao was selected as the lead plant for launching GM's all-new Suburban/Yukon XL full-size sport-utility vehicles. Nissan's Aguascalientes facility is the sole supplier of the new Sentra for North America.<sup>10</sup>

Automotive parts production<sup>11</sup> from approximately 1,000 Mexican component producers has been estimated to range between \$44 billion to \$56 billion in 1998.<sup>12</sup> These components include those destined for the original equipment manufacturers (OEM) market (i.e., automakers) as well as those shipped to the aftermarket as replacement parts. Delphi

<sup>10</sup> Corbett, Winter, and Zachary.

<sup>11</sup> Because of differences in the scope of products included in the term "auto parts," data cited in this article from various sources may not be directly comparable.

<sup>12</sup> U.S. Department of State, *Mexico - Automotive Aftermarket Parts - ISA981101*, Market Research Reports, Nov. 1, 1998.

Automotive Systems, the former parts division of GM, is the largest component manufacturer in Mexico. Other U.S. firms, such as Lear and Johnson Controls, also have a major presence in the Mexican market.<sup>13</sup> In addition to motor vehicles, U.S. automakers also manufacture engines and engine components in Mexico for incorporation into vehicles assembled throughout North America. Several Mexican firms, such as Sanluis Rassini (a producer of foundation brakes and leaf springs) and engine component manufacturers Teksid and Nematik, have developed the technological and manufacturing capabilities to become significant suppliers to the North American automotive industry.

U.S. and foreign suppliers of automotive parts have followed their customers to Mexico in response to automakers' pursuit of localized production, just-in-time deliveries, increased local content, sourcing diversity, smaller supplier bases, and greater modularity.<sup>14</sup> Not only automakers but large manufacturers of automotive components are encouraging their suppliers to localize supply because of these changes in manufacturing and sourcing strategies.<sup>15</sup> Through their Mexican operations, these manufacturers have introduced technological improvements and marketing skills that have enhanced Mexico's competitiveness and industrial base.<sup>16</sup> Moreover, the presence of non-U.S. suppliers in Mexico has also created a more competitive environment for U.S. firms that have traditionally dominated the Mexican market.<sup>17</sup>

With the increased adoption of manufacturing improvements, automotive producers located in Mexico have been able to expand their manufacturing capabilities and product base beyond traditional labor-intensive assembly to include sophisticated production operations and centers of engineering and technical excellence. These operations now often supply the entire North American market rather than just Mexican assembly plants of U.S. and other foreign automakers, and often complement the activities of North American parts facilities. TRW Inc., for example, has named its Santa Rosa plant as its only "Center of Excellence" for brake actuation systems,<sup>18</sup> and Johnson Controls opened its seat mechanism technical center in

---

<sup>13</sup> "Mexico Shapes Up as European Gateway to US," *Automotive World*, July 24, 2000, found at Internet address <http://www.just-auto.com/>, retrieved July 25, 2000.

<sup>14</sup> The PT Cruiser provides a good example of the pull of motor vehicle manufacturers. TRW, Oxford, Valeo, Meritor, Lear, Johnson Controls, and Standard Products are among the suppliers that located or expanded facilities to supply the PT Cruiser at Toluca. Brian Corbett, "Toluca Feels Blessed by PT Cruiser Duty," *Ward's Automotive Reports*, Mar. 27, 2000, pp. 1-2. However, the Cruiser program is also supplied by many U.S. plants, which provides a boost to U.S. parts production. Brendan M. Case and Laurence Iliff, "U.S. Car-Makers' 'South of the Border' Plants Boost Mexico's Economy," *Dallas Morning News*, Apr. 19, 2000, found at Internet address <http://today.newscast.com>, retrieved Apr. 25, 2000.

<sup>15</sup> For example, TRW has established a goal to supply two-thirds of its actuation system components from North America by 2003, and is encouraging its European suppliers to source from North America. "TRW Launches North American Actuation Center of Excellence," May 17, 2000, found at Internet address <http://today.newscast.com>, retrieved May 18, 2000.

<sup>16</sup> Peter Marsh, "European and U.S. Links Have Helped Mexican Component-Maker Nematik Prosper," Mar. 1, 2000; and Peter Marsh and Andrea Mandel-Campbell, "Unik: A Piston-Maker Owes Much to Foreign Assistance," Mar. 1, 2000, found at Internet address <http://today.newscast.com>, retrieved Mar. 2, 2000.

<sup>17</sup> U.S. Department of State, *Mexico - Automotive Original Eq. Manufacturers - ISA970801*, Market Research Reports, Aug. 1, 1997.

<sup>18</sup> "Brake Business Moves South of the Border," *Ward's AutoWorld*, July 2000, p. 34.

Reynosa, Tamaulipas, in May 2000.<sup>19</sup> In addition, U.S. parts manufacturers intend to expand beyond their OEM customer base to tap the Mexican aftermarket. Delphi plans to enter with a new division named Delphi After Market, with components sourced locally as well as imported.<sup>20</sup> Meritor Automotive, another U.S.-based parts manufacturer, is also active in the spare parts market with its dedicated aftermarket business.

Similarly, Mexico's motor vehicle industry has demonstrated significant improvements in labor productivity, product quality, and competitiveness. According to a noted automotive manufacturing productivity analyst, adoption of lean manufacturing techniques in Mexico have led to these improvements.<sup>21</sup> Further, the quality of vehicles built in Mexican plants has been steadily improving and is currently comparable to vehicles built in the United States and Canada. Despite extensive reliance on manual labor, many Mexican plants are reported by industry observers as having better labor productivity than comparable U.S. or Canadian plants.<sup>22</sup> Some industry observers also claim that training and education of workers in most Mexican assembly plants is comparable to their counterparts in the United States,<sup>23</sup> and that this skilled low-cost<sup>24</sup> workforce contributes to overall industry efficiency.<sup>25</sup> Although plant productivity would likely be even higher if increased automation were introduced to the production process (and low labor costs tend to discourage investment in costly automation), lower levels of automation result in relatively more flexible operations, a competitive advantage in terms of facilitating changes in production volumes.<sup>26</sup>

Although Mexico offers an attractive manufacturing environment for automakers, several obstacles impede the automotive industry in Mexico from attaining its full competitive potential. First, despite consistent growth in the Mexican economy since 1996, relatively low per capita incomes and high interest rates restrict domestic demand for new car sales and lead producers to focus on export markets. Domestic demand should pick up, however, with continued expansion of the Mexican economy and with more competitive interest rates anticipated to accompany increased participation in the Mexican market by foreign banking

---

<sup>19</sup> "Company Report: Johnson Controls," *Twin Plant News*, Feb. 2000, p. 10.

<sup>20</sup> "Delphi Attacks Spare Parts Market in Mexico," *Reforma/Infolatina*, Apr. 19, 2000, found at Internet address <http://today.newscast.com>, retrieved May 22, 2000.

<sup>21</sup> According to Harbour & Associates, Ford Hermosillo, DC Saltillo, and GM Silao are among the most competitive plants in North America, and Hermosillo surpasses the performance of many other Ford plants in the region. "1 goal, 2 paths: Two plants paint different pictures of Ford's assembly operations," excerpt from *Harbour Report 2000* by Harbour & Associates, Inc., *Automotive News*, Aug. 21, 2000, p. 24P.

<sup>22</sup> Corbett, Winter, and Zachary.

<sup>23</sup> Ibid.

<sup>24</sup> Manufacturing cost advantages resulting from Mexico's low wage rates reportedly are offset to some degree by in-bound and out-bound freight costs. Corbett, Winter, and Zachary. Nissan Mexico officials report that wage rates are not a significant factor when doing business in Mexico, because the labor content is less than 10 percent of total vehicle costs in the United States. Katherine Zachary, "Mexico: Ground zero for Nissan's revival," *Ward's Automotive International*, May 2000, p. 1.

<sup>25</sup> Brendan M. Case and Laurence Iliff, "U.S. Car-Makers' 'South of the Border' Plants Boost Mexico's Economy," *Dallas Morning News*, Apr. 19, 2000, found at Internet address <http://today.newscast.com>, retrieved Apr. 25, 2000.

<sup>26</sup> "Mexican Auto Sector Comes of Age," *North American Free Trade and Investment Report*, June 15, 2000, p. 18.

services. Retail prices also are expected to decline with the elimination of automotive tariffs among NAFTA partners by 2004 and with intensified price competition anticipated to follow an influx of new automakers drawn to Mexico by the EU-Mexico FTA.<sup>27</sup> Second, the auto industry in Mexico also faces infrastructure problems such as water and power shortages<sup>28</sup> that reportedly continue to hamper manufacturing efficiency. Finally, the automakers' supply network in Mexico continues to be highly fragmented as a result of decades of protection through restrictions on foreign ownership prior to NAFTA, and local content requirements for motor vehicle producers in Mexico. Auto parts assembly plants established under the Maquiladora and PITEX programs<sup>29</sup> form a tier of suppliers benefitting from relatively modern equipment and technology not available to many indigenous Mexican firms. Parts made by indigenous, formerly "protected," producers are often not competitive with parts made by foreign-based companies.

## **Mexico's Recent Bilateral Trade Agreements**

---

The rules of origin and content requirements specified by bilateral trade agreements and the market-access preference accorded to signatory countries encourage consideration of Mexico as an ideal location for automotive-related FDI. Automakers in Mexico can take advantage of a comparatively large number of bilateral trade agreements, including current agreements with the United States and Canada, the EU, Brazil, Chile, Colombia, Venezuela, Bolivia, Costa Rica, Nicaragua, Guatemala, El Salvador, Honduras, and Israel. Reportedly, Argentina and Singapore are also interested in negotiating such agreements with Mexico.<sup>30</sup> Mexico is also negotiating an FTA with Panama that would give Mexico complete FTA coverage in Central America.<sup>31</sup>

### ***EU-Mexico Free-Trade Agreement***

The EU-Mexico FTA entered into force on July 1, 2000. Provisions of the the agreement that apply to the automotive sector include the following:

- Mexico's elimination of its "Decree for the Development and Modernization of the Automotive Industry" by January 1, 2004;<sup>32</sup>
- Reductions of Mexican tariffs on most EU vehicles from 20 percent to 3.3 percent upon entry into force of the FTA and elimination by January 1, 2003;
- Application of these preferential duties within a tariff quota of 15 percent of the Mexican market (EU vehicles currently represent 2 percent of the Mexican market);

---

<sup>27</sup> Economist Intelligence Unit (EIU), "Mexico's automotive sector: taking centre stage in global production strategies," ch. 5 in *Motor Business International*, 2nd quarter 2000, p. 71.

<sup>28</sup> Corbett, Winter, and Zachery.

<sup>29</sup> For further explanation, see USITC, *Production Sharing*, p. 1-11.

<sup>30</sup> Lindsay Chappell, "Mexico lures overseas suppliers," *Automotive News*, May 15, 2000, p. 30; and "Brazil, Mexico agree on reduced tariffs," *Ward's Automotive International*, May 2000, p. 2.

<sup>31</sup> U.S. Department of State telegram No. 131328Z, "Mexico's Expanding Trade and FTAs with Central America," U.S. Embassy, Mexico City, July 2000.

<sup>32</sup> Trade balancing elements of that decree require that foreign automobile producers in Mexico export \$0.66 for every \$1.00 imported into Mexico. The decree also sets local content requirements.



- Elimination or reduction of Mexican tariffs on EU automotive parts to 5 percent or less by January 1, 2003; and
- Abolishment of all duties by the EU on Mexican vehicles by January 1, 2003.<sup>33</sup>

In addition, vehicles from Mexico and the EU must have local content of 60 percent to qualify for FTA benefits. However, Mexico was granted a 5-year transition period to reach that level of local content.<sup>34</sup> The rules of origin for automotive products were drafted to assure that Mexico would not become a platform for duty-free entry into Europe of vehicles assembled in Mexico chiefly from U.S.-made parts.<sup>35</sup> The rules of origin that determine local content of auto parts differ from those applied to assembled vehicles.

As a result of the EU-Mexico FTA, some observers expect Mexico to become the common bridge between Western Europe, North America, and South America, using its advantages to become an intercontinental hub of automotive manufacturing.<sup>36</sup> European automakers may begin looking more seriously at investment in Mexico because the agreement puts them on a competitive level comparable with U.S. automakers that benefit from NAFTA. Significantly, by permitting EU automakers that do not have a manufacturing presence in Mexico to benefit from the EU-Mexico FTA automotive tariff cuts, the agreement may ultimately lead to substantial investments in Mexico because some of these producers may prefer to establish a market presence through imports prior to investing in local manufacturing facilities.<sup>37</sup>

Since completion of the EU-Mexico FTA negotiations, several automakers announced plans to invest over \$2 billion in Mexican operations. Renault and Nissan are investing in their first joint operation since merging in 1999, and Peugeot is considering its first investment in Mexican operations as well. Volkswagen, already the largest motor vehicle producer and exporter in Mexico, has committed to spending one-third of its global budget during the next 5 years on its operations in Mexico. The EU-Mexico FTA is especially beneficial for Volkswagen, which reportedly ships over 2,000 New Beetles weekly from Mexico to Europe, and imports one-third of its manufacturing inputs from Germany.<sup>38</sup> Recent reports indicate, however, that Volkswagen would like to reduce its reliance on parts from Europe in an effort to limit transport costs and take advantage of just-in-time delivery.<sup>39</sup> In addition, Hyundai (Korea) is opening a bus-manufacturing operation in Mexico.

---

<sup>33</sup> U.S. Department of State telegram No. 251612Z, "Details of EU-Mexico Free Trade Agreement," US-EU Brussels, Feb. 2000.

<sup>34</sup> U.S. Department of State telegram, "Details of EU-Mexico Free Trade Agreement," Feb. 2000. The local content requirement will increase from 45 percent in 2000 to 50 percent in 2002, reaching its final level of 60 percent in 2005. "EU Commission Prepares to Approve Uneven Mexico Trade Deal," Jan. 14, 2000, found at Internet address <http://www.insidetrade.com/>, retrieved Jan. 14, 2000.

<sup>35</sup> "EU, Mexico sign trade pact," *Ward's Auto World*, Jan. 2000, p. 13.

<sup>36</sup> Bob Schnorbus, "Mexico: Autos and Trade Drive Economy," *The Power Report*, Mar. 2000, p. 15.

<sup>37</sup> "EU Pact Seen Spurring Investment in Mexico," *Ward's Automotive Reports*, Jan. 24, 2000, p. 3.

<sup>38</sup> Just-Auto Editorial Team, "EU carmakers converge on Mexican gateway," Jan. 5, 2000, found at [www.just-auto.com](http://www.just-auto.com), retrieved June 12, 2000.

<sup>39</sup> Andrea Wielgat, "Mexico-EU treaty to encourage foreign investment," *Ward's Automotive International*, Feb. 2000, p. 12.

### *Mexico-Brazil Automotive Decree*

Mexico and Brazil concluded a 2-year automotive decree<sup>40</sup> in April 2000, covering passenger cars and trucks of up to 9 metric tons. The decree provides for each country to import up to 40,000 vehicles from the other country in the first year, and 50,000 vehicles in the second year, at an 8-percent tariff. If these first- and second-year quotas are not met, the remainder may be imported at the preferential tariff rate in a third-year extension of the decree. Previously, Mexico was assessing a 20-percent tariff on Brazilian-made autos, and Brazil was assessing a 35-percent tariff on autos from Mexico. Brazil and Mexico are currently negotiating a wider reaching bilateral trade agreement that is expected to be signed by the end of 2000, which may extend the automotive decree an additional 5 years. With this new agreement, Brazil would like for Mexico to increase the quota for Brazilian cars to 100,000 annually. In addition, Mexico and Brazil are negotiating an agreement to mutually reduce tariffs on automotive parts to 8 percent. Mexico is also negotiating another agreement with the Mercosur trade bloc that should be in place by the end of 2001.<sup>41</sup>

Rules of origin that determine local content are an important component of the Mexico-Brazil agreement because Mexico's motor vehicle industry is heavily integrated with that of the United States under NAFTA, whereas Brazil shares a vehicle regime with Argentina. Reportedly, exporting companies in both Mexico and Brazil would be required to have plants in both countries and the exported vehicles must have a minimum of 30-percent domestic content.<sup>42</sup> GM, Ford, DC, Nissan, Renault, Volkswagen, BMW, Honda, Volvo, and Scania have plants in both countries, and Brazilian subsidiaries of Renault, Mercedes, Scania, and VW all have significant export operations to Mexico.<sup>43</sup> This decree is especially important to the Mexican subsidiaries of Volkswagen and DC; in early 2000, the Government of Mexico raised the preferential tariff rate of 8 percent granted these two automakers on imports into Mexico from their Brazilian subsidiaries to 23 percent.<sup>44</sup>

## **Automotive Investment Trends in Mexico**

---

U.S., Japanese, and European automakers have made considerable investments in new and existing assembly plants throughout North America to introduce new models and expand capacity for current popular models. Auto companies have invested \$30 billion in Mexico since 1994 and could invest an additional \$13 billion over the next 3 years, according to industry observers.<sup>45</sup> Announced plans by the world's leading automakers to begin production

---

<sup>40</sup> The "Decree for the Application of the Additional 7th Protocol of the Agreement in Pursuit of the 9th Partial Renegotiation between the Government of the United States of Mexico and the Government of the Federal Republic of Brazil" is part of the larger Latin American Integration Association agreement.

<sup>41</sup> "Brazil trade pact talks with Mexico continue," *Ward's Automotive International*, Sept. 2000, p. 5.

<sup>42</sup> U.S. Department of State telegram No. 161651Z, "Exports bring hope for auto makers after heavy losses," U.S. Consulate, Sao Paulo, Mar. 2000.

<sup>43</sup> "Brazil close to motors accord with Mexico," *Financial Times Electronic Publishing*, received Apr. 12, 2000.

<sup>44</sup> Reuters, "Mexico, Brazil to Slash Vehicle Tariffs," *Los Angeles Times*, Apr. 26, 2000, p. C7.

<sup>45</sup> Case and Iliff.

or increase capacity indicate Mexico's increasing importance to their global production strategies (table 2).

Ongoing and planned expansions in North American motor vehicle manufacturing capacity and increased production rationalization have generated new market opportunities for suppliers and stimulated investment in the regional automotive parts sector (table 3). For example, Mexican, U.S., and European parts producers are expected to invest over \$10 billion in the Mexican parts industry within the next 2 years,<sup>46</sup> in addition to the nearly \$7 billion invested in the Mexican supplier industry since 1994.<sup>47</sup>

## **U.S.-Mexico Trade Patterns and Production Sharing**

---

Mexico surpassed Japan as the second-leading market for U.S. motor vehicle exports in 1997, as U.S. exports to Mexico registered an average annual increase of 131 percent during 1995-97, but slowed considerably to 17 percent in 1998 (table 4). In 1999, U.S. exports to Mexico increased by \$29 million (1 percent) to \$2.3 billion. Mexico's level of motor vehicle imports is likely to rise further as manufacturers round out their product offerings in Mexico, reduce the number of models and platforms manufactured in Mexico to achieve increased economies of scale, and implement production rationalization strategies.<sup>48</sup> Mexico ranks as the third-leading source of U.S. motor vehicle imports, accounting for 13 percent of such imports in 1999. U.S. motor vehicle imports from Mexico increased by \$2.6 billion (20 percent) to \$15.8 billion in 1999.

The importance of Mexico in North American automotive production and trade extends into the parts sector, reflecting the influence of NAFTA in shaping North American industry integration. The U.S. automotive industry is believed to incorporate a significant level of U.S. parts in its Mexican operations, generating large trade flows in such sectors as engines and related parts. As a result, Mexico is the second-leading market for U.S. exports of automotive parts, accounting for \$5.1 billion (19 percent) of such exports in 1999 (table 5). Mexico is also a leading U.S. import source of automotive components, supplying \$3.4 billion (16 percent) of such imports in 1999.

---

<sup>46</sup> Joel Millman, "Mexico Becomes a Leader in Car Parts," *Wall Street Journal*, Mar. 30, 1999, p. A21.

<sup>47</sup> "Mexico Shapes Up as European Gateway to US."

<sup>48</sup> EIU, p. 75.

**Table 2**  
**Motor vehicles: Selected investment and production plans for Mexico**

<b>Manufacturer</b>	<b>Capacity expansion/investment plans in Mexico</b>	<b>Plant location (city, state)</b>
DaimlerChrysler	Began production of the PT Cruiser at Toluca in January 2000, with a capacity of 100,000 per year for global distribution. Planning to invest \$1.2 billion during 2000-02 mainly to expand production lines as part of the company's \$2.0 billion, 5-year plan for its Mexican operations.	Toluca, Mexico Lago Alberto, Mexico City Saltillo, Coahuila
Ford	Committed \$1 billion to expand its Mexican operations during 1997-2000. One-half was devoted to a new small car engine plant in Chihuahua, and one-half was allocated to development of the Focus and Visteon parts plants.	Chihuahua City, Chihuahua Hermosillo, Sonora
General Motors	Will double its Mexican capacity from 300,000 to 608,000 vehicles per year by 2007. Doubled the size of its Ramos Arizpe plant to build SUV crossover vehicles Pontiac Aztek, Buick Rendezvous, and a Saab model beginning in January 2001. May also double capacity at Silao to add a GMT800-based model.	Ramos Arizpe, Coahuila Silao, Guanajuato
Hyundai (Bering Hyundai International)	Is investing \$7 million during 2000-04 to build a bus plant in Puebla; production will be for Mexican and U.S. markets.	Puebla, Puebla
Renault-Nissan	Nissan completed during the first part of 2000 an \$800 million project to move all production of the Sentra for the Western Hemisphere to Aguascalientes. Nissan is increasing production at its two plants by 50 percent in 2000. Nissan reportedly is also considering producing a full-sized pickup for export to the United States.  The Renault-Nissan Alliance is investing \$400 million to implement its plan for Mexico, which includes introducing production of two Renault models at Nissan plants - the Scenic at Cuernavaca in 2001 and the Clio at Aguascalientes in 2002. The two automakers may also jointly produce a new car for the Mexican market.	Aguascalientes, Aguascalientes Cuernavaca, Morelos
Volkswagen	Inaugurated a \$50 million design center in 1999. Will spend \$1 billion during 2000-04 on improvements to Puebla, including engine production and preparations to build a convertible model of the New Beetle. Volkswagen may decide to produce an extended-cab pickup; Puebla would be a likely choice for North American production.	Puebla, Puebla
Volvo AB	Invested \$20 million in 1999 to increase bus and truck capacity.	San Nicolas de la Garza, Nuevo Leon

Sources: EIU, *Motor Business International*, 2nd quarter 2000, ch. 5; and various industry trade publications.

**Table 3**  
**Motor vehicle parts: Selected investments in Mexico**

Manufacturer (country)	Investments in Mexico	Plant location (city, state)
Oxford Automotive (U.S.)	New plant for the production of automotive assemblies; February 2000 start-up.	Ramos Arizpe, Coahuila
Eaton (U.S.)	New plant for the production of heavy truck transmissions; expected start-up in 1st quarter 2001.	San Luis Potosi, San Luis Potosi
Meritor Automotive (U.S.)	New plant for the production of heavy-duty drive axles and drivelines; February 2000 start-up. Expansion of its wheel facility.	Queretaro, Queretaro San Luis Potosi, San Luis Potosi
Budd Co. (U.S.)	New plant for the manufacture of automotive stampings; April 2000 start-up.	Silao, Guanajuato
TRW (U.S.)	New plant for the production of brake parts and assemblies; May 2000 start-up.	Santa Rosa Jauregui, Queretaro
Hayes Lemmerz (U.S.)	Expansion of its aluminum wheels facility to be completed in 2001.	Chihuahua City, Chihuahua
Mannesman Sachs (Germany)	New plant for the production of torque converters; March 1999.	Ramos Arizpe, Coahuila
Lenische Cable Assemblies (Germany)	New plant for the production of wiring harnesses; 2nd quarter 1999 start-up.	Hermosillo, Sonora
Lemforder Corp. (Germany)	New plant for the manufacture of chassis components; May 1999 start-up.	Toluca, Mexico

Sources: Various industry publications

**Table 4**  
**Motor vehicles: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, 1995-99**

Country	<i>(Million dollars)</i>				
	1995	1996	1997	1998	1999
U.S. exports of domestic merchandise:					
Canada	11,301	12,030	14,201	13,369	14,425
Japan	2,981	2,562	1,558	1,118	807
Mexico	361	1,158	1,929	2,248	2,277
Germany	641	1,163	1,092	1,163	1,075
Other	6,053	5,768	5,592	4,624	3,465
Total	21,337	22,681	24,372	22,522	22,049
U.S. imports for consumption:					
Canada	33,235	33,675	35,883	37,670	46,563
Japan	28,994	26,861	27,906	28,864	32,115
Mexico	8,386	11,714	12,270	13,225	15,813
Germany	7,661	8,346	9,761	12,484	15,094
Other	5,939	6,518	7,164	7,583	10,078
Total	84,215	87,114	92,984	99,826	119,663
U.S. merchandise trade balance:					
Canada	-21,934	-21,646	-21,682	-24,301	-32,138
Japan	-26,013	-24,300	-26,347	-27,745	-31,308
Mexico	-8,025	-10,556	-10,340	-10,976	-13,537
Germany	-7,020	-7,183	-8,669	-11,322	-14,019
Other	115	-748	-1,574	-2,961	-6,612
Total	-62,877	-64,433	-68,612	-77,305	-97,614

Note.--Calculations based on unrounded data.

Source: Compiled from official statistics of the U.S. Department of Commerce.

**Table 5**  
**Certain motor-vehicle parts: U.S. exports of domestic merchandise, imports for consumption, and merchandise trade balance, 1995-99**

(Million dollars)

Country	1995	1996	1997	1998	1999
U.S. exports of domestic merchandise:					
Canada .....	12,619	12,774	14,206	14,308	16,218
Mexico .....	3,767	3,725	5,074	4,903	5,088
Japan .....	789	1,050	1,337	1,253	997
Germany .....	691	654	642	602	498
Other .....	4,399	4,590	5,065	4,922	4,480
Total .....	22,265	22,793	26,324	25,988	27,281
U.S. imports for consumption:					
Canada .....	6,383	6,753	7,335	7,576	9,009
Mexico .....	2,170	2,500	2,981	3,184	3,687
Japan .....	4,191	3,774	3,493	3,491	4,562
Germany .....	787	873	812	887	951
Other .....	2,767	2,967	3,183	3,629	4,516
Total .....	16,298	16,867	17,804	18,767	22,725
U.S. merchandise trade balance:					
Canada .....	6,236	6,021	6,870	6,732	7,209
Mexico .....	1,597	1,225	2,094	1,719	1,400
Japan .....	-3,402	-2,724	-2,156	-2,238	-3,564
Germany .....	-96	-219	-170	-285	-453
Other .....	1,632	1,623	1,882	1,293	-36
Total .....	5,967	5,927	8,520	7,221	4,557

Note.—Calculations based on unrounded data; figures may not add to totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Mexico is a significant production-sharing partner for the U.S. automotive industry. Rationalization of production<sup>49</sup> through investment in production-sharing operations is one of various strategies employed by the automotive industry to reduce costs or to achieve other competitive advantages in U.S. and third-country markets.<sup>50</sup> Many motor vehicles and automotive parts assembled in Mexico incorporate numerous U.S.-origin components and materials. In 1999, the official reported value of U.S. content (\$850 million) contained in imports from Mexico of motor vehicles entered under production-sharing provisions of the Harmonized Tariff Schedule (HTS) accounted for more than one-half of the \$1.5 billion in total imports of motor vehicles entered under these provisions (table 6).<sup>51</sup> Nearly all motor

<sup>49</sup> The term “rationalization of production” generally refers to a strategic location of production processes at different locations that take advantage of inherent efficiencies or reduced costs of the various production inputs (e.g., labor wage rates, skilled workforces, key materials, etc.) available from each locale. Other factors that have an impact on plant location decisions include transport costs, infrastructure, and proximity to strategic markets.

<sup>50</sup> For added information and specific detail on the automotive sector, see USITC, *Production Sharing*, and USITC, “Production-Sharing Update: Developments in 1999” (Automotive Sector), *Industry Trade and Technology Review*, USITC publication 3335, July 2000, p. 12, posted at USITC Internet server at [www.usitc.gov](http://www.usitc.gov) (“reports”).

<sup>51</sup> Imports that incorporate U.S. content can enter the United States either free of duty or at reduced duties under the production-sharing provisions of chapter 98 of the HTS which provide the only U.S. source of data for documenting the use of U.S.-made components in foreign assembly. However, official U.S. statistics are increasingly unable to quantify the magnitude and scope of production-sharing activity. A significant and growing portion of motor vehicle and

(continued...)

Table 6  
 Motor vehicles: Total U.S. imports from Mexico, and U.S. imports from Mexico under NAFTA and the production sharing provisions of HTS Chapter 98 (HTS PSP), 1998 and 1999

Source of imports	1998	1999	Change in value 1998-99	Percentage change 1998-99
————— Thousand dollars —————				
Total imports	13,224,569	15,813,389	2,588,820	20
Entered under:				
NAFTA and HTS PSP	444,877	1,480,334	1,035,457	233
NAFTA only	12,750,878	14,310,598	1,559,720	12
HTS PSP only	1,496	918	-578	-39
All other	27,318	21,538	-5,780	-21
Total NAFTA <sup>1</sup>	13,195,756	15,790,933	2,595,177	20
Total HTS PSP <sup>2</sup>	446,373	1,481,252	1,034,879	232
U.S. content in total HTS PSP	249,080	849,927	600,847	241

<sup>1</sup> NAFTA only plus NAFTA and HTS PSP.

<sup>2</sup> HTS PSP only plus NAFTA and HTS PSP.

Note.—Calculations based on unrounded data; figures may not add to totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

vehicles imported from Mexico entered duty-free under NAFTA in 1999, totaling \$15.8 billion. Industry sources have reported that, beginning with the implementation of NAFTA, many U.S. importers of motor vehicles discontinued use of the production-sharing provisions of the HTS and opted for the more favorable and less onerous regulatory requirements of NAFTA.<sup>52</sup> Motor vehicle parts imported from Mexico under the production-sharing provisions in 1999 (valued at more than \$1.2 billion) also contained a significant share of U.S. content (nearly 68 percent), which totaled \$847 million (table 7).

Official Mexican statistics also provide a gauge for the total value of such U.S. components used in Mexico's automotive operations. U.S.-made parts imported by Mexico for use in automotive plants operating under the PITEEX and Maquiladora programs<sup>53</sup> totaled \$8.4 billion in 1999.<sup>54</sup> Facilities operating under these programs exported vehicles valued at

<sup>51</sup> (...continued)

parts imports from production-sharing operations, for example, does not enter under these chapter 98 provisions because the goods are eligible for duty-free treatment under NAFTA.

<sup>52</sup> Association of International Automobile Manufacturers, Inc., written submission to the USITC in connection with inv. No. 332-237, *Production Sharing: Use of U.S. Components and Materials in Foreign Assembly Operations, 1993-1996*, USITC publication 3077, Dec. 1997, Sept. 20, 1996, p. 7.

<sup>53</sup> Assembly plants can operate under either the PITEEX (Program for Temporary Importation to Manufacture Exported Products) or the Maquiladora Program, but not both.

<sup>54</sup> The data reflect goods classified in the Harmonized System (HS) as destined for use in motor vehicles, but do not include data for instruments, audio equipment, electronic components, or parts made of rubber, plastics, or metal imported by PITEEX and maquiladora companies for automotive assembly that are not separately identified in the HS as specifically dedicated for motor vehicles. Compiled by USITC staff from "World Trade Atlas: Mexico Edition, Annual Summary 1993 to 1999," which used data provided by INEGI, the statistical agency of the Government of Mexico.

Table 7

Motor vehicle parts: Total U.S. imports from Mexico, and U.S. imports from Mexico under NAFTA and the production sharing provisions of HTS Chapter 98 (HTS PSP), 1998 and 1999

Source of imports	1998	1999	Change in value 1998-99	Percentage change 1998-99
—————Thousand dollars—————				
Total imports	3,184,094	3,687,493	503,399	16
Entered under:				
NAFTA and HTS PSP	1,260,232	1,151,743	-108,489	-9
NAFTA only	1,672,734	2,227,481	554,747	33
HTS PSP only	78,267	96,753	18,486	24
All other	172,861	211,517	38,656	22
Total NAFTA <sup>1</sup>	2,932,966	3,379,224	466,258	16
Total HTS PSP <sup>2</sup>	1,338,499	1,248,496	-90,003	-7
U.S. content in total HTS PSP	924,286	847,172	-77,114	-8

<sup>1</sup> NAFTA only plus NAFTA and HTS PSP.

<sup>2</sup> HTS PSP only plus NAFTA and HTS PSP.

Note.—Calculations based on unrounded data; figures may not add to totals shown.

Source: Compiled from official statistics of the U.S. Department of Commerce.

\$12.7 billion and automotive components valued at \$15.5 billion to the United States in 1999. U.S. and Mexican data suggest that U.S.-made components supplied to Mexico's automotive assembly operations remain of significant magnitude as the trend toward full integration of the North American automotive industry continues.

## Implications of Foreign Direct Investment for U.S.-Mexican Automotive Trade

Although the Mexican motor-vehicle industry is dominated by the presence of foreign manufacturers that produce in Mexico, the Government of Mexico has altered the competitive landscape by negotiating a number of preferential trade agreements with non-NAFTA trading partners that will likely influence automakers' strategic decisions, enhancing the country's position as an attractive investment site and gateway to the European, South American, and North American markets. U.S. and foreign vehicle and parts manufacturers are likely to increase their FDI in the Mexican automotive industry to meet local content requirements specified in recent bilateral trade agreements. The goals of this added investment are to meet growing Mexican consumer demand, access untapped markets, and further rationalize North American production. Influx of additional new motor vehicle and component manufacturers and products will continue to strengthen the manufacturing and technological base of the Mexican automotive industry, thus helping to create a more competitive and attractive investment environment, and to provide greater sourcing and manufacturing flexibility and cost savings opportunities for foreign producers.<sup>55</sup>

<sup>55</sup> Chappell, "Mexico lures."



Production and trade levels of Mexican motor vehicles and parts will likely increase as automotive manufacturers supply the domestic and foreign markets from their Mexican manufacturing and assembly plants. Industry observers believe that with the signing of the EU-Mexico FTA, the Mexican Government hopes to increase exports as a means of lowering Mexico's trade deficit with Europe, as well as diversify its customer base and decrease its trade dependence on North America, especially the United States.<sup>56</sup> However, the United States will likely remain the focal point of Mexican automotive trade because of geographic proximity, the long-established integration of the North American market, and continued FDI by U.S. firms in the Mexican automotive industry.#

---

<sup>56</sup> "EU carmakers converge on Mexican gateway."

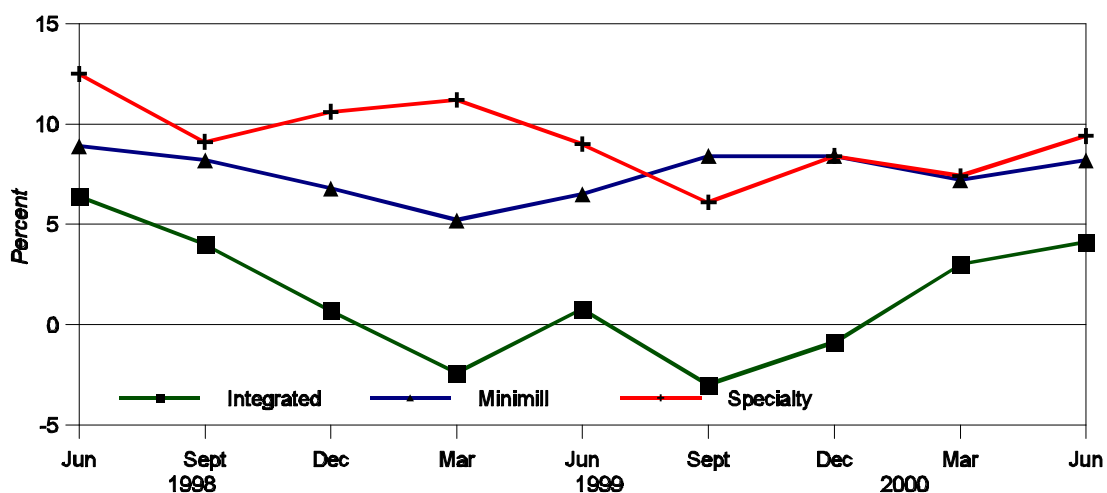


**APPENDIX A**  
**KEY PERFORMANCE INDICATORS OF SELECTED**  
**INDUSTRIES AND REGIONS**

- STEEL** (Tracy Quilter, 202-205-3437/tquilter@usitc.gov)
- AUTOMOBILES** (Laura A. Polly, 202-205-3408/polly@usitc.gov)
- ALUMINUM** (Karl Tsuji, 202-205-3434/tsuji@usitc.gov)
- FLAT GLASS** (James Lukes, 202-205-3426/lukes@usitc.gov)
- SERVICES** (Tsedale Assefa, 202-205-2374/assefa@usitc.gov)
- NORTH AMERICAN TRADE** (Ruben Mata, 202-205-3403/mata@usitc.gov)

## STEEL

**Figure A-1**  
**Integrated producers continue profitability<sup>1</sup> improvement in second quarter**



<sup>1</sup> Operating profit as a percent of sales. Integrated group contains 9 firms. Minimill group contains 8 firms. Specialty group contains 4 firms.

Source: Individual company financial statements.

- All three sectors of the steel industry posted profitability increases for the second quarter of 2000. Several integrated producers cited a combination of increased shipments, higher average selling prices, and a better value-added product mix as contributing to improved profitability since the fourth quarter of 1999.
- The U.S. Emergency Steel Loan Guarantee Board approved \$365 million in guaranteed loans to Geneva Steel, GS Technologies, Northwestern Steel & Wire, and Wheeling-Pittsburgh. Wheeling-Pittsburgh announced in September temporary layoffs at its Steubenville, Ohio plant. J&L Structural of Pennsylvania filed for Chapter 11 bankruptcy protection, but plans to maintain production while the company restructures.

**Table A-1**  
**Imports of finished steel products exceed 1999 levels**

Item	Q2 2000	Percentage change, Q2 2000 from Q2 1999 <sup>1</sup>	YTD 2000	Percentage change, YTD 2000 from YTD 1999 <sup>1</sup>
Producers' shipments (1,000 short tons) . . . . .	28,647	11.8	57,311	15.4
Finished imports (1,000 short tons) . . . . .	8,145	22.5	15,470	18.7
Ingots, blooms, billets, and slabs (1,000 short tons) . . .	2,377	2.5	4,822	27.4
Exports (1,000 short tons) . . . . .	1,599	29.2	3,305	37.7
Apparent supply, finished (1,000 short tons) . . . . .	37,570	12.6	74,298	15.9
Ratio of finished imports to apparent supply (percent) .	28.0	<sup>2</sup> 1.1	27.3	<sup>2</sup> 1.1

<sup>1</sup> Based on unrounded numbers.

<sup>2</sup> Percentage point change.

Note.—Because of rounding, figures may not add to the totals shown.

Source: American Iron and Steel Institute.

STEEL

Table A-2  
 Steel service center inventories reach record high in June

Item	Mar. 2000	June 2000	Percentage change, June 2000 from		
			June 1999 <sup>1</sup>	Q2 2000	Q2 1999
Shipments (1,000 net tons) . . . . .	2,856	2,316	-8.5	7,696	7,354
Ending inventories (1,000 net tons) . . . . .	8,708	8,898	2.2	8,898	7,854
Inventories on hand (months) . . . . .	3.3	3.6	( <sup>2</sup> )	3.6	3.3

<sup>1</sup> Based on unrounded numbers.

<sup>2</sup> Not applicable.

Note.—Because of rounding, figures may not add to the totals shown.

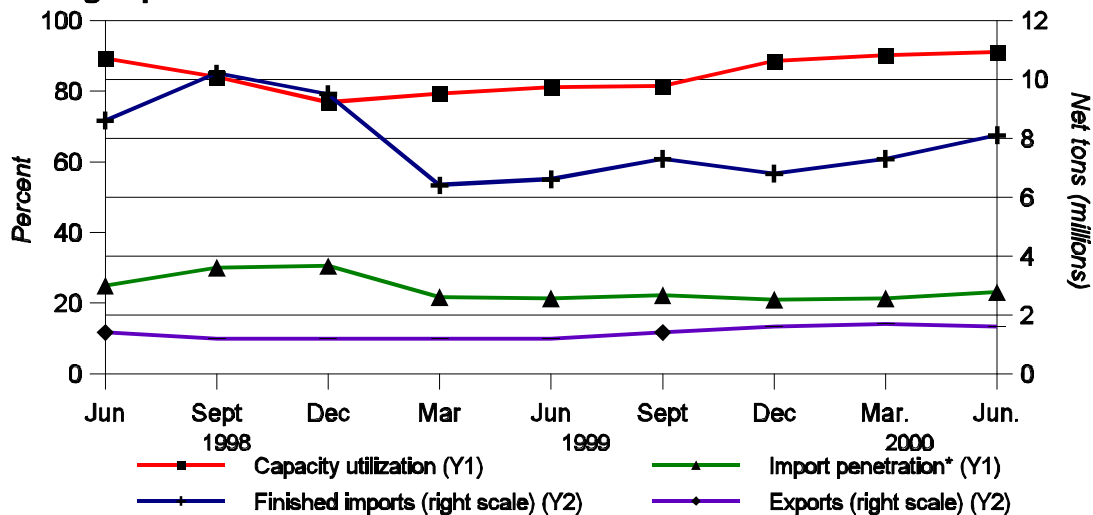
Source: Steel Service Center Institute.

- Service centers registered record inventory levels in June 2000 as inventories grew for the tenth consecutive month.<sup>1</sup> SSCI indicated that while demand factors remained high, some areas, such as construction spending, had slowed. In September, 61 percent of surveyed SSCI members considered current inventory levels to be too high compared with current shipments.<sup>2</sup>
- Second quarter imports of finished steel mill products reached their highest levels since the fourth quarter of 1998. Imports of semifinished steel products increased slightly from the same period in 1999. Imports of all steel mill products from India, Ukraine, China, and Taiwan experienced the greatest percentage increases from the second quarter of 1999 to the second quarter of 2000.

<sup>1</sup> SSCI, press release, "Service Centers Settle Into Summer," Aug. 4, 2000.

<sup>2</sup> SSCI, "Business Conditions, Part I-North America," Sept. 8, 2000.

Figure A-2  
 Steel mill products, all grades: Capacity utilization in June remains high despite increasing imports



\* Finished import share of apparent open market supply.

Source: American Iron and Steel Institute.

**AUTOMOBILES**

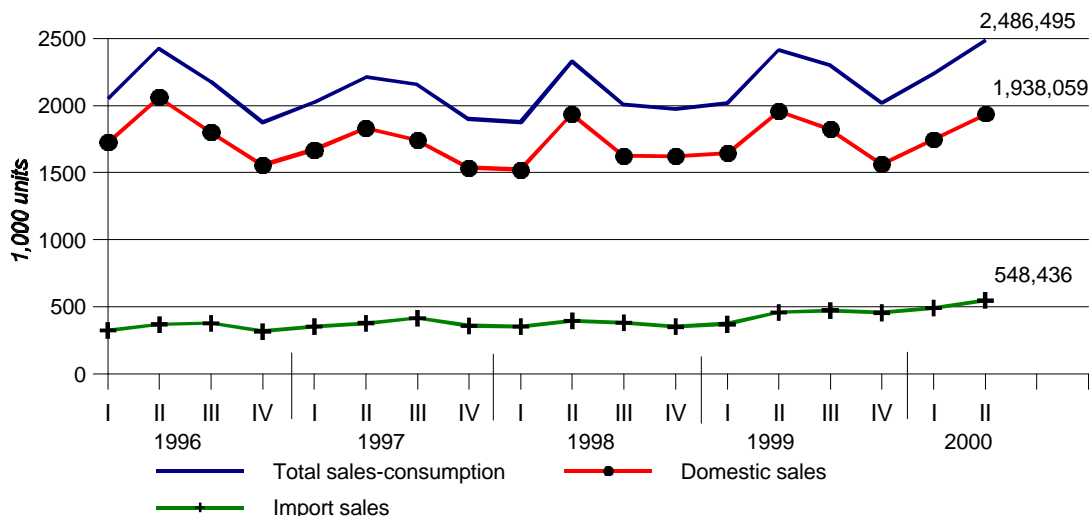
**Table A-3**  
U.S. sales of new automobiles, domestic and imported, and share of U.S. market accounted for by sales of total imports and Japanese imports, by specified periods, January 1999-June 2000

Item	Apr.-Jun. 2000	Jan.-Jun. 2000	Percentage change	
			Apr.-Jun. 2000 from Jan.-Mar. 2000	Jan.-Jun. 2000 from Jan.-Jun. 1999
U.S. sales of domestic autos (1,000 units) <sup>1</sup> .....	1,938	3,686	10.9	2.4
U.S. sales of imported autos (1,000 units) <sup>2</sup> .....	548	1,041	11.4	25.3
Total U.S. sales (1,000 units) <sup>1,2</sup> .....	2,486	4,727	11.0	6.7
Ratio of U.S. sales of imported autos to total U.S. sales (percent) <sup>1,2</sup> .....	22.1	22.0	0.4	17.4
U.S. sales of Japanese imports as a share of the total U.S. market (percent) <sup>1,2</sup> .....	9.8	10.0	-5.4	12.1

<sup>1</sup> Domestic automobile sales include U.S.-, Canadian-, and Mexican-built automobiles sold in the United States.  
<sup>2</sup> Imports do not include automobiles imported from Canada and Mexico.

Source: Compiled from data obtained from *Automotive News*.

**Figure A-3**  
U.S. sales of new passenger automobiles continue to increase in second quarter 2000; sales of imports as a percentage of the U.S. market remain unchanged from previous quarter

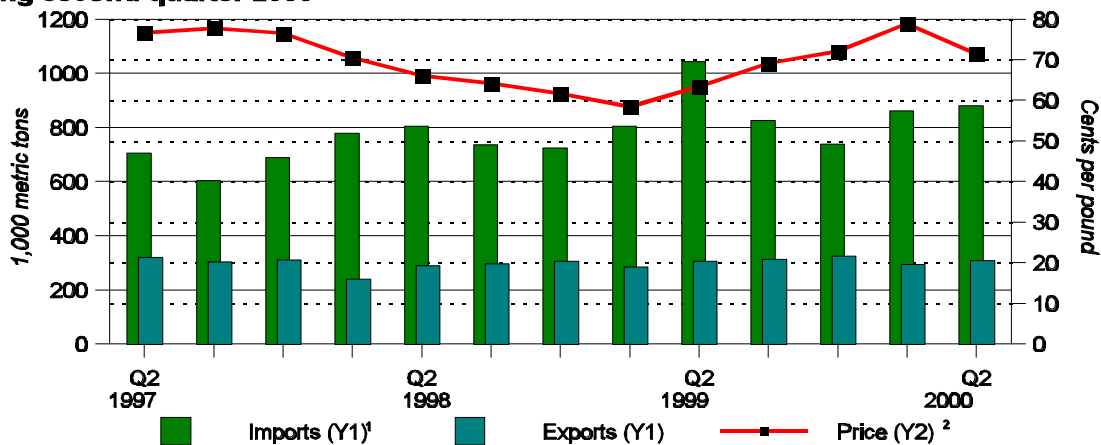


Note.—Domestic automobile sales include U.S.-, Canadian-, and Mexican-built automobiles sold in the United States; these same units are not included in import sales.

Source: *Automotive News*; prepared by the Office of Industries.

ALUMINUM

**Figure A-4**  
**Aluminum: U.S. exports increase despite production cutbacks related to weaker prices during second quarter 2000**



<sup>1</sup> Crude forms (metals and alloys) and mill products (e.g., plates, sheets, and bars) for consumption.

<sup>2</sup> Quarterly average of the monthly U.S. market price of primary aluminum ingots.

Source: U.S. Geological Survey.

- The quarterly average price of primary aluminum ingot fell 7.4 cents per pound in second quarter 2000, as announced restarts of some idled aluminum smelting capacity and scheduled boosts in global production over-shadowed concerns about the continued drop in London Metals Exchange (LME) inventory levels. At the same time, U.S. smelters scaled back production of primary aluminum because of higher Pacific Northwest electricity prices, tight supplies of alumina, and sagging aluminum prices. However, domestic aluminum consumption remained robust, resulting in a slight increase in import penetration.
- Boosted by the enthusiastic response of Algroup (Switzerland) shareholders to its stock-swap offer, Alcan (Canada) anticipates completing its two-way merger with Algroup by mid-to-late October. U.S.-based Alcoa has been negotiating agreements to sell off certain smelting and refining interests as part of the merger-approval conditions with U.S.-based Reynolds, and also acquiring businesses to enhance its aluminum, specialty metals, and plastics product lines. Meanwhile, the Russian aluminum industry has also experienced restructuring. Two new aluminum groups have formed or will be formed from consolidations of individual facilities--Russky Aluminy (RussAl) in March and the Siberian Urals Aluminum Co. (SUAL), anticipated in fall 2000.

**Table A-4**

**U.S. primary aluminum production scaled back amid weaker aluminum prices—net imports filled the gap—during second quarter 2000**

Item	Q2 1999	Q1 2000	Q2 2000	Percentage change	
				Q2 2000 from Q2 1999	Q2 2000 from Q1 2000
Primary production (1,000 metric tons)	938	964	942	0.4	-2.3
Secondary recovery (1,000 metric tons)	844r	935r	935	5.8	0.0
Imports (1,000 metric tons)	1,043	862	880	-15.6	2.1
Import penetration (percent) <sup>1</sup>	40.8r	34.5r	35.2	<sup>2</sup> -5.6	<sup>2</sup> 0.7
Exports (1,000 metric tons)	306	293	307	0.3	4.8
Average nominal price (¢/lb)	63.3	78.8	71.4	12.8	-9.4
LME inventory level (1,000 metric tons)	756	755	515	-31.9	-31.8

<sup>1</sup> Calculations based on unrounded data

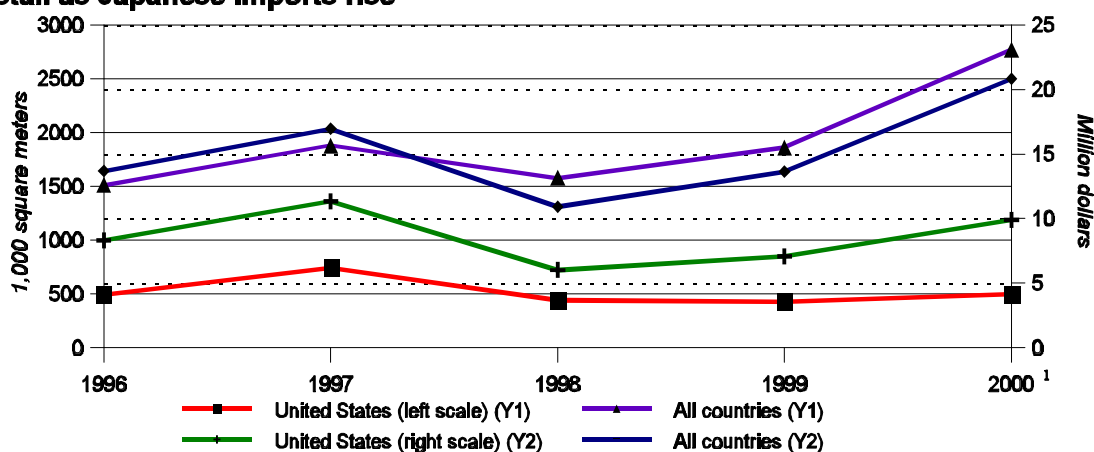
<sup>2</sup> Percentage point change

Note: Revised data indicated by "r."

Sources: Compiled from data obtained from U.S. Geological Survey and World Bureau of Metal Statistics.

## FLAT GLASS

**Figure A-5**  
**Talks stall as Japanese imports rise**



<sup>1</sup>Data for 2000 include Jan.-May (latest available data).

Source: Average monthly Japanese imports of flat glass compiled from official statistics of the Ministry of Trade and Industry, Japan.

### Background

- The U.S.-Japanese agreement on Japanese market access for imports of flat glass sought to increase access and sales of foreign flat glass in Japan through such means as increased adoption of nondiscriminatory standards and expanded promotion of safety and insulating glass. The agreement covered the 1995-99 period and expired on December 31, 1999.<sup>1</sup>

### Current

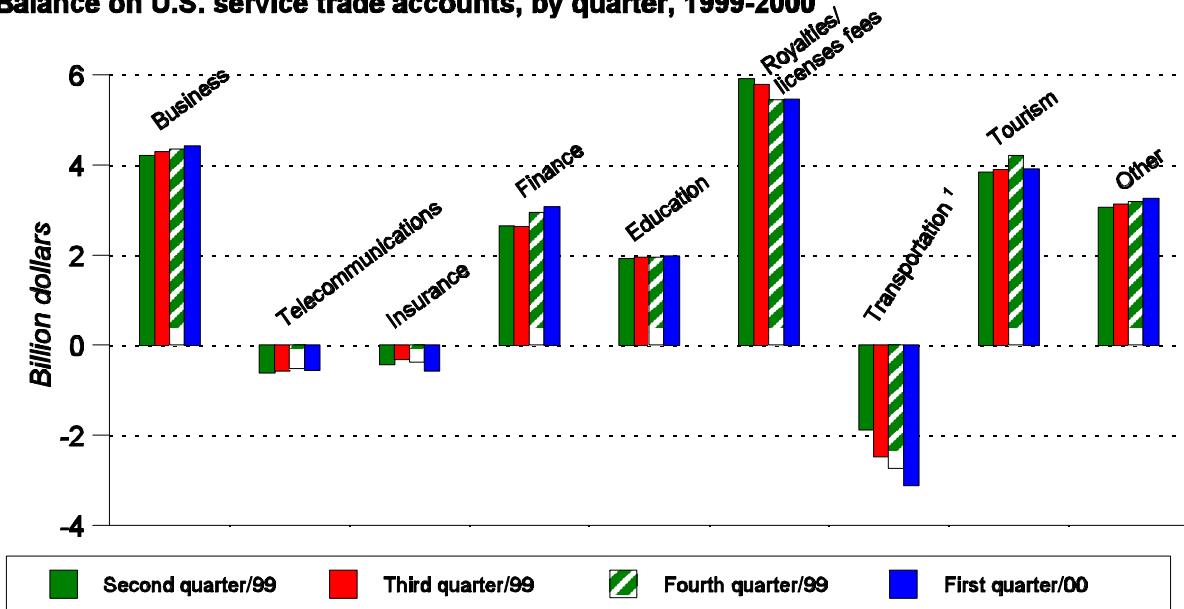
- Japanese demand for imported glass has continued to improve in 2000. However, despite an increase of imports from the United States, the U.S. share of Japan's market has declined because of a large increase of less expensive imports from Thailand, Indonesia, China, Korea, and Malaysia. The average monthly quantity of Japanese imports from all countries increased by 49 percent for 2000 (Jan.-May) to 2.8 million square meters, while the average monthly value of such imports increased by 53 percent to \$20.8 million. Imports from the United States in 2000 (Jan.-May) increased by 16 percent to 500,000 square meters, and increased in value by 40 percent to \$9.9 million.
- An anticipated joint government/industry meeting to address the remaining market access barriers has thus far failed to materialize following government-to-government discussions between the U.S. and Japanese Governments earlier in the year.

<sup>1</sup> Office of the U.S. Trade Representative (USTR), "The President's 1999 Annual Report on the Trade Agreements Program," p. 227, downloaded from <http://www.ustr.gov/reports/tpa/2000/index.html> on Mar. 3, 2000.



SERVICES

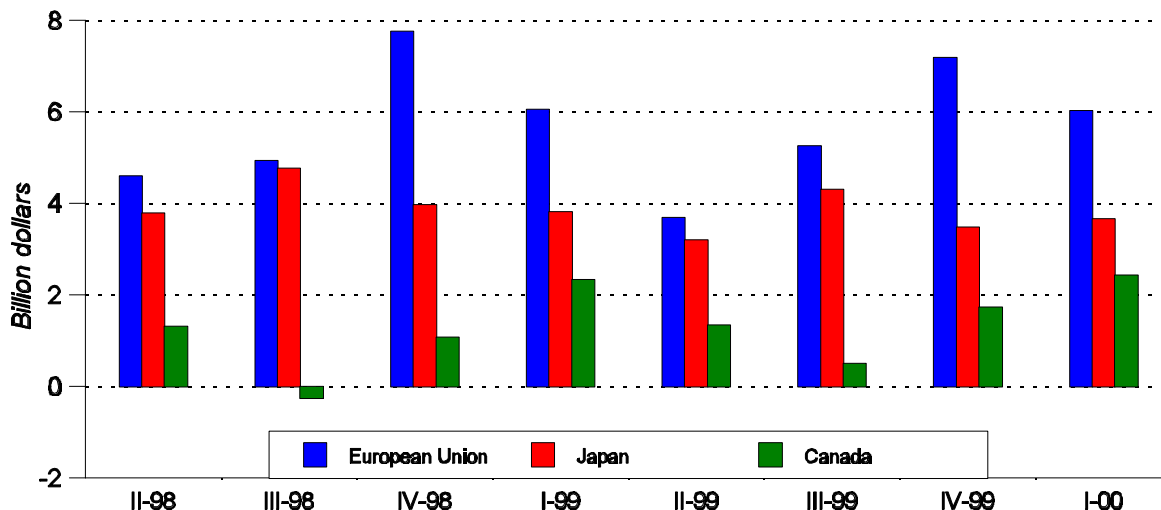
**Figure A-6**  
**Balance on U.S. service trade accounts, by quarter, 1999-2000**



<sup>1</sup> Includes port fees.

Source: Bureau of Economic Analysis, *Survey of Current Business*, July 2000, pp. 106-107.

**Figure A-7**  
**Surpluses on cross-border U.S. services transactions with selected trading partners, by selected quarters, 1998-2000<sup>1</sup>**



<sup>1</sup> Private-sector transactions only; military shipments and other public-sector transactions have been excluded

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July 1999, pp. 112-115; Oct. 1999, pp. 42-45; Jan. 2000, pp. 112-115; Apr. 2000, pp. 186-189; and July 2000, pp. 116-119.

## North American Trade

U.S. trade with its NAFTA partners, and the use of U.S.-made components in Mexican assembly plants based on imports under the production-sharing tariff provisions of HTS chapter 98, are highlighted in table A-5. The following is a summary of key developments in the first half of 2000.

- During January-June 2000, total U.S. trade with its NAFTA partners (\$308 billion) increased by 20 percent (\$50 billion) over the comparable period of 1999. The U.S. merchandise trade deficits with Canada (\$-34 billion) and Mexico (\$-17 billion) continued the upward trend which began in 1998, increasing by 43 percent and 17 percent, respectively. These increased deficits in the first half principally reflect sustained growth in the U.S. GDP (up by 5.2 percent) and greater U.S. demand for oil and natural gas as Canada and Mexico supply one-third of total U.S. energy-related imports.
- Mexico's economy grew by 7.8 percent in the first half whereas Canada posted a 1.2 percent growth rate in the period. This economic expansion bolstered U.S. exports to Mexico by 29 percent (to \$48 billion) and to Canada by 11 percent (to \$81 billion) over the comparable 1999 period. Exports to Mexico and Canada accounted for more than half of the total growth in U.S. manufactured exports whereas U.S. exports to the other major trading partners, such as the European Union, were up only 4 percent during the same period.
- U.S. imports from Canada during the first half of 2000 increased by 19 percent (\$18 billion) to \$115 billion compared with an increase from Mexico of 26 percent (\$13 billion) to \$65 billion. Automobiles, auto parts, crude petroleum, natural gas, computers and peripherals were the leading U.S. imports supplied by both countries. Telecommunications equipment from Canada, and apparel, electronic equipment, and television receivers from Mexico also accounted for an important part of the higher U.S. imports from North American partners.
- Reflecting the broad eligibility of goods for duty-free treatment under trade agreements (e.g., Uruguay Round, NAFTA) or tariff-preference programs, and the elimination of the Customs user fee on NAFTA-eligible goods, imports from Mexico of products assembled from U.S. components and entered under the production-sharing provisions dropped by 25 percent (\$33 billion) during the first half of 2000 to \$10 billion. The share of total U.S. imports from Mexico accounted for by goods entering the United States under these provisions fell from 26 percent to 16 percent. Meanwhile, U.S. imports entering under NAFTA increased by 22 percent (\$7.5 billion) to \$41 billion, or 64 percent of total U.S.-Mexico trade.
- As the staging for the elimination of tariffs on goods made in Mexico progresses under the various free trade agreements negotiated by Mexico with 28 countries (including the European Union (15) and Israel that entered into force on July 1, 2000), Mexico is likely to become an even more attractive location for foreign investment. Mexico provides an appealing target for investment by companies that seek duty-free entry into these global markets and are willing to use assembly plants in Mexico to gain "Made in Mexico" status under the rules of origin that determine local content requirements of these agreements.

**NORTH AMERICAN TRADE**

**Table A-5**  
**North American trade, 1995-99, January-June 1999, and January-June 2000**

Item	1995	1996	1997	1998	1999	January-June		Percent change 1999/00
						1999	2000	
-----Value (million dollars)-----								
U.S.-Mexico trade:								
Total imports from Mexico . . . .	61,721	74,179	85,005	93,017	109,018	51,446	64,868	26
U.S. imports under production-sharing provisions (PSP) of HTS Chapter 98: <sup>1</sup>								
Total value . . . . .	24,962	27,925	28,883	27,162	25,875	13,394	10,083	-25
Percent of total imports . . . . .	40	38	34	29	24	26	16	-
U.S. components in HTS PSP imports:								
Total value . . . . .	12,833	14,649	15,483	14,484	13,928	7,328	5,474	-25
Percent of HTS PSP imports . . . . .	51	52	54	53	54	55	54	-
Percent of total imports . . . . .	21	20	18	16	13	14	8	-
U.S. imports under NAFTA: <sup>2</sup>								
Total value . . . . .	43,927	55,076	62,837	68,326	71,318	33,696	41,232	22
Percent of total imports . . . . .	71	74	74	73	65	65	64	-
Total exports to Mexico . . . . .	44,881	54,686	68,393	75,369	81,381	37,174	48,118	29
U.S. exports of components <sup>3</sup> to HTS Chapter 98 production-sharing operations as a percent of total U.S. exports . . . . .								
	29	27	23	19	17	20	11	-
U.S. merchandise trade balance with Mexico <sup>4</sup> . . . . .								
	-16,840	-19,493	-16,612	-17,648	-27,637	-14,272	-16,750	-17
U.S. -Canada trade:								
Total imports from Canada . . . .	144,882	156,299	167,881	174,685	198,242	96,420	114,503	19
Total exports to Canada . . . . .	113,261	119,123	134,794	137,768	145,731	72,893	80,911	11
U.S. merchandise trade balance with Canada <sup>5</sup> . . . . .								
	-31,621	-37,176	-33,087	-36,918	-52,511	-23,526	-33,592	-43

<sup>1</sup>The production-sharing provisions of HTS Chapter 98 are 9802.00.60, 9802.00.80, and 9802.00.90.

<sup>2</sup>Some import entries from Mexico declare eligibility for preferential tariff treatment under both NAFTA and the HTS production-sharing provisions (PSP); such entries are reported in the totals for both imports under HTS PSP (and U.S.-made components in HTS PSP imports) as well as imports under NAFTA.

<sup>3</sup>Represents the total value of U.S. components in HTS production-sharing provision imports.

<sup>4</sup>The hyphen (-) symbol indicates a loss or trade deficit, or not applicable. The \$27.6 billion deficit in U.S. merchandise trade with Mexico in 1999 was partially offset by a \$2.6 billion U.S. surplus in bilateral services trade.

<sup>5</sup>The \$52.5 billion deficit in U.S. merchandise trade with Canada in 1999 was partially offset by a \$5.8 billion U.S. surplus in bilateral services trade.

Source: Compiled by U.S. International Trade Commission staff from official statistics of the U.S. Department of Commerce. Statistics in footnote 4 on U.S. services trade with Mexico are based on preliminary data provided in U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, July 2000, Vol. 80, No.7.

