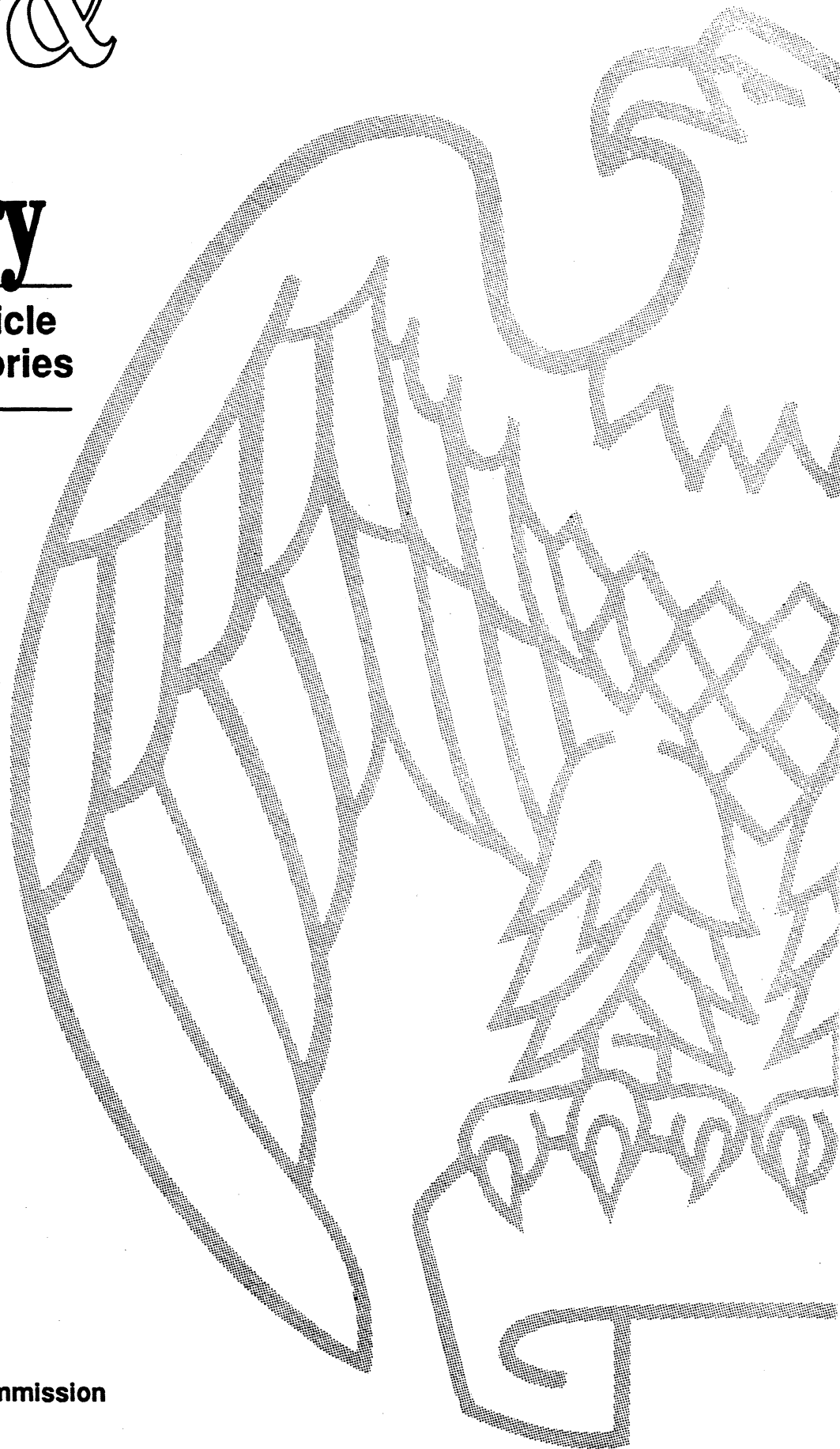


# Industry & Trade Summary

**Certain Motor-Vehicle  
Parts and Accessories**



**USITC Publication 2751**

**March 1994**

**Revised Edition**

**OFFICE OF INDUSTRIES  
U.S. International Trade Commission  
Washington, DC 20436**

**UNITED STATES INTERNATIONAL TRADE COMMISSION**

**COMMISSIONERS**

**Don E. Newquist, Chairman**  
**Peter S. Watson, Vice Chairman**  
**David B. Rohr**  
**Anne E. Brunsdale**  
**Carol T. Crawford**  
**Janet A. Nuzum**

---

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

---

**Vern Simpson**  
**Director of Industries**

---

*This report was prepared principally by*

**Adam Topolansky**

**Transportation Branch**  
**Machinery and Transportation Division**

**Address all communications to**  
**Secretary to the Commission**  
**United States International Trade Commission**  
**Washington, DC 20436**

## PREFACE

In 1991 the United States International Trade Commission initiated its current *Industry and Trade Summary* series of informational reports on the thousands of products imported into and exported from the United States. Each summary addresses a different commodity/industry area and contains information on product uses, U.S. and foreign producers, and customs treatment. Also included is an analysis of the basic factors affecting trends in consumption, production, and trade of a commodity, as well as those bearing on the competitiveness of U.S. industries in domestic and foreign markets.<sup>1</sup>

This report on certain motor-vehicle parts and accessories covers the period 1988 through 1992 and represents one of approximately 250 to 300 individual reports to be produced in this series during the first half of the 1990s. Listed below are the individual summary reports published to date on the machinery and transportation sector.

<i>USITC publication number</i>	<i>Publication date</i>	<i>Title</i>
2430	November 1991 .....	Aircraft, Spacecraft, and Related Equipment
2505	April 1992 .....	Construction and Mining Equipment
2546	August 1992 .....	Agricultural and Horticultural Machinery
2570	November 1992 .....	Electric Household Appliances
2633	June 1993 .....	Textile Machinery
2746	March 1994 .....	Aircraft and Reaction Engines, Other Gas Turbines, and Parts
2751	March 1994 .....	Certain Motor-Vehicle Parts and Accessories

---

<sup>1</sup> The information and analysis provided in this report 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 statutory authority covering the same or similar subject matter.



# CONTENTS

	<i>Page</i>
<b>Preface</b> .....	i
<b>Introduction</b> .....	1
<b>U.S. industry profile</b> .....	3
Industry structure .....	3
Consumer characteristics and factors affecting demand .....	6
<b>Foreign industry profile</b> .....	7
The Japanese motor-vehicle parts industry .....	7
The European motor-vehicle parts industry .....	8
The Canadian motor-vehicle parts industry .....	9
The Mexican motor-vehicle parts industry .....	9
The Asia-Pacific region motor-vehicle parts industry .....	10
<b>U.S. trade measures</b> .....	10
Tariff measures .....	10
U.S. Government trade-related investigations .....	13
<b>Foreign trade measures</b> .....	13
Tariff measures .....	13
Nontariff measures .....	13
<b>U.S. market</b> .....	14
Consumption .....	14
Shipments .....	14
Imports .....	14
<b>Foreign markets</b> .....	16
Foreign market profile .....	16
U.S. exports .....	17
<b>U.S. trade balance</b> .....	17
<b>Figures</b>	
1. Global production of certain motor-vehicle parts, by selected regions, 1992 .....	1
2. Materials consumed in the manufacture of passenger automobiles produced in the United States, per unit, selected years .....	3
3. Certain motor-vehicle parts: Estimated U.S. market share, by major producers, 1992 .....	4
4. Motor vehicles and parts: U.S. shipments, 1988-92 .....	5
5. Certain motor-vehicle parts and accessories: U.S. general imports, domestic shipments, and apparent consumption, 1988-92 .....	15
6. Certain motor-vehicle parts and accessories: U.S. general imports from major sources, 1992 .....	15
7. Certain motor-vehicle parts and accessories: U.S. exports to major markets, 1992 .....	16
<b>Tables</b>	
1. Certain motor-vehicle parts and accessories: Total employment and total number of production workers in all U.S. establishments, 1988-92 .....	5
2. Certain motor-vehicle parts and accessories: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1993; U.S. exports, 1992; and U.S. general imports, 1992 .....	11
3. Certain motor-vehicle parts and accessories: U.S. shipments, exports of domestic merchandise, general imports, and apparent consumption, 1988-92 .....	14
4. Certain motor-vehicle parts and accessories: U.S. exports of domestic merchandise, general imports, and merchandise trade balance, by selected countries and groups, 1988-92 .....	18
<b>Appendix</b>	
A. Explanation of tariff and trade agreement terms .....	A-1



## INTRODUCTION

This report discusses key aspects of the global industry producing certain motor-vehicle parts and accessories during 1988-92. Included are discussions of the U.S. and foreign industries, U.S. and foreign markets, and U.S. and foreign trade measures. The motor-vehicle parts and accessories covered in this summary are certain finished or semi-finished components for use in automobiles, trucks, and buses. About 8,000-10,000 such discrete parts and accessories are assembled into approximately 100 major motor-vehicle components, such as transmissions and suspension systems, during the production process. These component systems are then delivered to the assembly line for final assembly into the vehicle.

The motor-vehicle parts and accessories covered in this report accounted for approximately 70 percent of the value of all motor-vehicle parts and accessories produced and/or traded worldwide during 1988-92. The parts covered herein include: body stampings, bumpers, brakes and parts, gear boxes, axles, wheels, shock absorbers, radiators, exhaust systems, clutches, and steering wheels.<sup>1</sup> The accessories covered herein include miscellaneous parts such as wheel covers, hubcaps, tire valves, seat belts, air bags, and related items. All of these parts and accessories are classified under chapter 87 of the *Harmonized Tariff Schedule of the United States* (HTS).

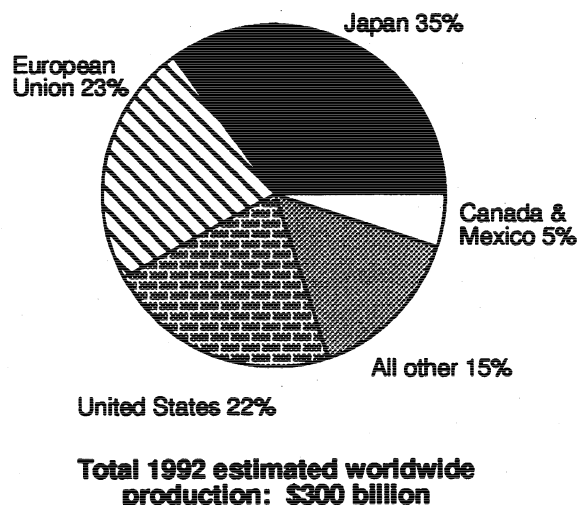
The largest producers worldwide of certain motor-vehicle parts and accessories are Japan, the European Union (EU), and the United States (figure 1). The U.S. industry currently is undergoing significant restructuring, facilitated largely by competitive pressures exerted by Japanese-owned parts makers; by new innovative manufacturing and organizational systems introduced by at least one European auto assembler;<sup>2</sup> and by the opportunities afforded by the North American Free Trade Agreement (NAFTA). In response to these forces, U.S. automakers and parts producers have begun to implement lean production<sup>3</sup>

<sup>1</sup> Other primary motor-vehicle parts that are not covered in this report include engines and engine parts, automotive storage batteries, automotive furniture, lighting equipment, and engine-related equipment. These parts will be discussed in upcoming summaries during 1994-95.

<sup>2</sup> Sweden's Volvo has developed a distinct "democratic" system in the workplace. Volvo's Udevalla plant is currently made up of six autonomous assembly units connected to a large materials and parts center and administrative building. The assembly teams participate at significant levels with management in making key planning and operational decisions.

<sup>3</sup> According to Massachusetts Institute of Technology (MIT) researchers, lean production is a Japanese-developed manufacturing technique that uses less of everything compared with traditional systems of mass production. More specifically, lean production requires half the human effort in the factory, half the manufacturing space, half the investment in tools, half the product development time, and less than half the needed inventory on site. In addition, it results in fewer defects and produces a greater variety of products. The same

Figure 1  
Global production of certain motor-vehicle parts, by selected regions, 1992



Source: Estimated by USITC staff from data supplied by the U.S. Department of Commerce, Boston Consulting Group, Credit Suisse, and McKinsey Global Institute.

and/or agile production<sup>4</sup> techniques as part of an attempt to produce higher-quality motor vehicles and parts in a more cost effective manner. Lean and agile production techniques involve, among other things, a limitation on the number of direct suppliers of components. For example, industry sources indicated that a typical major automaker in Japan had a direct link with only 200 to 300 parts suppliers during the mid-1980s, whereas General Motors (GM) dealt with approximately 3,500 different suppliers just for its assembly operations.<sup>5</sup>

<sup>3</sup>—Continued

MIT sources report that Japanese lean production methods were pioneered in the 1950s by Mr. Eiji Toyoda and Mr. Taiichi Ohno at the Toyota Motor Company.

<sup>4</sup> In 1991, a group of executives from 13 leading U.S. companies compiled a vision-based strategy for the emerging global competitive environment, thus giving birth to the concept of agile manufacturing. Simply stated, agility is a characteristic that allows an organization to thrive in an environment of constant and unpredictable change. Currently, more than 150 companies and organizations are working together to find ways to implement the concept in the workplace at the Agile Manufacturing Enterprise Forum, under the auspices of Lehigh University's Iacocca Institute.

<sup>5</sup> U.S. International Trade Commission, *U.S. Global Competitiveness: The U.S. Automotive Parts Industry*, USITC publication 2037, Dec. 1987, pp. 4-13.

EU auto assemblers typically sourced original equipment (OE) parts from between 800 to 2,000 direct suppliers during 1988-91.<sup>6</sup> During this period, however, the U.S. Big Three automakers (GM, Ford, and Chrysler) gradually reduced their vertical integration as part of an attempt to take advantage of new manufacturing technologies such as flexible manufacturing<sup>7</sup> and lean production. For example, Ford eliminated nearly half of its first-tier suppliers, and plans to trim its estimated 1,200 suppliers by an additional one-third by 1995.<sup>8</sup> Chrysler, which sourced from more than 3,000 suppliers during the 1970s for many of its models, pared that number down to fewer than 2,500 per model in 1992. In 1993, the automaker typically used 600 to 800 suppliers per model line, whereas the 1993 LH cars<sup>9</sup> and the 1994 PL cars<sup>10</sup> have sourced from only 170 and 140 suppliers, respectively. Similar to GM, Chrysler launched its own supplier cost reduction (SCORE) plan in 1990. Chrysler officials report that SCORE saved about \$150 million during 1990-93 as a result of more efficient manufacturing, scheduling, inventory, and shipping. GM, which used about 2,500 parts suppliers during 1988-92, announced a major restructuring plan in 1992 called purchased input concept optimization with suppliers (PICOS). PICOS allows GM to accept unsolicited new bids from both foreign and domestic suppliers for existing contracts, and it discontinues all preferences afforded GM's Automotive Components Group (ACG) suppliers.<sup>11</sup>

As a result of the structural overhaul of supplier relationships by the U.S. Big Three automakers, OE parts manufacturers have become more than mere suppliers of parts and accessories for their customers. Leading component suppliers also have begun to provide automakers with services such as the financing of research and development (R&D), inventory, logistics, and tooling. According to industry sources, the aforementioned direct participation by suppliers in the operations of major automakers has improved relations between the two industries.<sup>12</sup>

The manufacturing processes that are used to produce certain motor-vehicle parts and accessories vary significantly; however, they typically include welding, casting, forging, molding, extrusion, and

stamping. The production of motor-vehicle bodies and body parts, which involves the welding together of about 300 metal parts stamped from sheet metal, illustrates the advantages of lean production techniques. Typically, large-volume motor-vehicle producers start with large rolls of sheet metal. Dies then create three-dimensional shapes, for example, of a car fender or truck door, as flat blanks of metal move through a series of presses. The problem with this traditional method was the relatively high volume of production required for economical operation. The massive and expensive North American press lines were designed to operate at about twelve strokes per minute, three shifts a day, to make a million or more units of a given part in a year. To simplify this process, faster die-change techniques were developed and dies were changed more frequently—every two to three hours versus two to three months.<sup>13</sup> Because the new techniques were relatively easy to master, Japanese managers decided to let the production workers perform the die changes, instead of specialists, and reduced the time required to change dies from a day to merely a few minutes by the 1970s. During the 1980s and beyond, lean production methods, which emphasize the need for skilled and highly motivated workers, have proven to be more efficient in producing automobiles and have become the major reason for the industry's restructuring.

The three most significant evolving trends with respect to the use of materials and technology in the global motor-vehicle parts and accessories industry are: (1) the increased use of lighter-weight materials, such as aluminum, plastics, and composites; (2) the increased use of electronic components; and (3) the development of alternative-fuel technologies to power vehicles. Industry analysts estimate that the use of materials such as aluminum, plastics, and composites for body panels, frames, structural members, wheels, and parts under the hood will increase by about 38 percent during 1992-2000, largely because of their lighter weight, lower production costs, and rust and dent resistance. Federal corporate average fuel economy (CAFE) requirements<sup>14</sup> have also encouraged OE manufacturers to use plastics to reduce vehicle weight and increase fuel efficiency.

While the total weight of an average U.S.-built automobile is on the rise again from an estimated low of 2,896 pounds in 1990 to about 3,150 pounds in 1993

<sup>6</sup> Boston Consulting Group, *The Competitive Challenge Facing the European Automotive Components Industry*, Executive Summary, Jan. 1991, p. 11.

<sup>7</sup> Flexible manufacturing is a production system that enables a manufacturer to produce a variety of products in small batches.

<sup>8</sup> U.S. Department of Commerce, *1992 U.S. Industrial Outlook*, Jan. 1992, p. 36-16.

<sup>9</sup> The Chrysler-built LH model cars, including the Chrysler Concord, the Dodge Intrepid, and the Eagle Vision, were introduced in the U.S. market during 1992.

<sup>10</sup> As part of the PL line-up, the Dodge Neon was introduced in the U.S. market in January 1994 and will be exported to Europe.

<sup>11</sup> U.S. Department of Commerce, *U.S. Industrial Outlook 1993*, Jan. 1993, p. 35-18.

<sup>12</sup> Ibid.

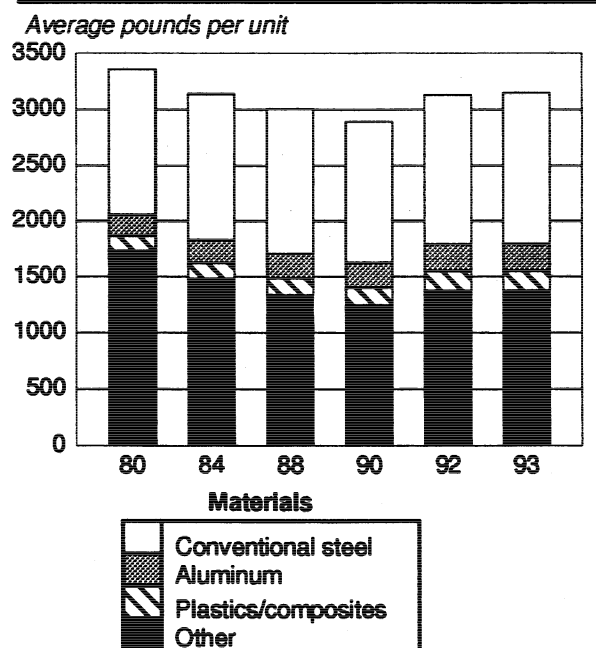
<sup>13</sup> James P. Womack, Daniel T. Jones, and Daniel Roos, *The Machine That Changed the World*, The Massachusetts Institute of Technology, 1990, p. 51.

<sup>14</sup> The Energy Policy and Conservation Act of 1975 required the Secretary of Transportation to establish mandatory average motor-vehicle fuel economy standards for passenger automobiles and light trucks. These standards are referred to as CAFE standards. Average fuel economy standards refer to performance standards that specify minimum levels of average fuel economy for automobiles and light trucks that are applicable to a manufacturer in a given model year.



(figure 2), the material composition of vehicles continues to be altered by the advent of new material applications. For example, the aluminum content of an average vehicle built in the United States increased from about 130 pounds in 1980 to 177 pounds in 1993.<sup>15</sup> Industry sources predict that this number will increase to 350 pounds by the year 2000. Aluminum will continue to be used primarily in engine and mechanical applications such as wheels, but its use in structural applications and exteriors will also be considered.<sup>16</sup>

**Figure 2**  
Materials consumed in the manufacture of passenger automobiles produced in the United States, per unit, selected years



Source: American Automobile Manufacturers Association, *Facts and Figures*, '93.

The use of plastics and plastic composites has also become more widespread in automotive applications, increasing from about 195 pounds in 1980 to an estimated 245 pounds per vehicle in 1993. The properties of plastics and composites, which include lighter weight, lower production costs, and rust and dent resistance, are likely to make them the materials of choice for various automotive parts and accessories. Currently, their automotive applications comprise bumper systems, gas tanks, window encapsulation, hoods, intake manifolds, and door and fender outer body panels.

<sup>15</sup> American Automobile Manufacturers Association (AAMA), *Facts and Figures '93*, 1993, p. 50.

<sup>16</sup> U.S. Department of Commerce, *U.S. Industrial Outlook 1993*, p. 35-23.

During the next decade, producers of certain motor-vehicle parts and accessories are expected to be transformed increasingly from manufacturers of mechanically engineered products to producers of electronic parts and accessories. For example, U.S. Government sources indicate that, by the year 2000, the proportionate value of electronic components used in automobiles and parts is expected to increase by more than 200 percent from 1987 levels.<sup>17</sup>

In addition, a recent study by Volkswagen (VW) estimated that by the year 2000, about 25 percent of an average vehicle's manufacturing cost will be allocated to electronics.<sup>18</sup> Electronically-operated safety systems, such as airbags and antilock brakes, and electrical personal-comfort systems such as electric windows and sun- and moon-roofs, have been added gradually to automobiles as standard items and have further market potential. Both safety- and personal-comfort systems are component systems that are typically assembled from a great number of parts manufactured by the motor-vehicle parts and accessories industry that is the subject of this summary.

## U.S. INDUSTRY PROFILE

### Industry structure

Standard Industrial Classification (SIC) categories for the certain motor-vehicle parts and accessories covered in this summary are limited to the following numbers: SIC 3714 (Motor-Vehicle Parts and Accessories) and SIC 3465 (Automotive Stampings). Commission staff estimates that during 1992 over 5,000 U.S. establishments, including some 300 Japanese-owned production facilities, produced the motor-vehicle parts and accessories covered by this summary.<sup>19</sup> The largest U.S. producers of the subject motor-vehicle parts and accessories are parts subsidiaries of the U.S. Big Three automakers, accounting for an estimated 50-percent share of the U.S. market (figure 3). The top seven independent suppliers, including Dana, Allied Signal, TRW, IIT Automotive, Rockwell Automotive, Borg Warner, and Eaton, account for an estimated 18-percent share of the U.S. market.<sup>20</sup>

U.S. shipments of parts covered by this summary declined irregularly from \$68 billion in 1988 to \$60 billion in 1991, then increased to \$65 billion in 1992

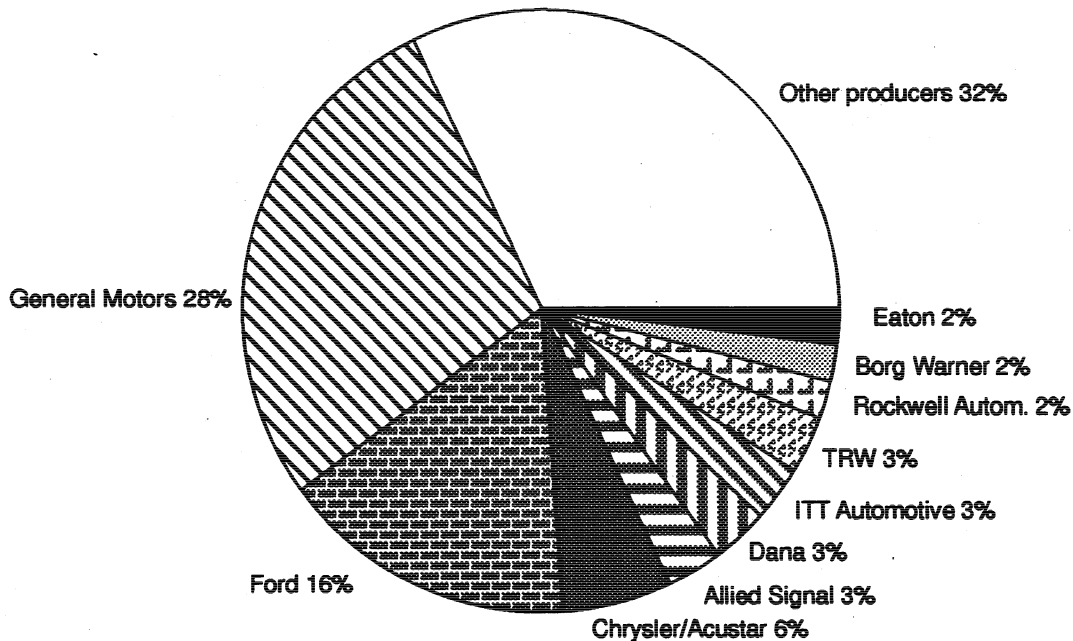
<sup>17</sup> Ibid.

<sup>18</sup> James F. Ault, President, GM Automotive Components Group Europe, *The Globalization of the Automotive Components Industry*, a position paper, 1992, p. 6.

<sup>19</sup> Estimated from data supplied by *The ELM Guide to Japanese Transplant Suppliers*, 3d edition, 1992, ELM International, Inc. and statistics of the U.S. Department of Commerce.

<sup>20</sup> Organization for Economic Cooperation and Development, *Globalization of Industrial Activities, Four Case Studies: Auto Parts, Chemicals, Construction and Semiconductors*, Paris, 1992, p. 33.

**Figure 3**  
**Certain motor-vehicle parts: Estimated U.S. market share, by major producers, 1992**



Source: J.J. Chanaron (OEDC), Trinet Market Share Report, and USITC staff estimates.

(figure 4). The decline was due mainly to a drop in domestic passenger car production, which fell from 7.1 million units in 1988 to 5.7 million units in 1992, and additionally due to increased foreign sourcing of parts. Capacity utilization rates in the U.S. parts and accessories industry first declined from 81 percent in 1988 to 68 percent in 1991, but then increased slightly to 72 percent in 1992.<sup>21</sup> In recent years, U.S. automakers have increased offshore sourcing of parts in order to change the composition of vehicle fleets, which would help them comply with CAFE requirements.<sup>22</sup>

After performing relatively poorly from the mid-1980s through the end of 1990, U.S. parts suppliers increased their earnings in early 1992 as a result of increased consumer demand in the wake of improving U.S. automobile sales and production. Since 1991, these companies have begun to attract investors expecting a cyclical upturn in the economy and the automotive industry. As suppliers' earnings have slowly improved, so has the industry's position in

the eyes of investment analysts. For example, according to the Value Line company-performance ranking system, certain niche suppliers, such as Superior Industries (aluminum wheels) and Walbro Corporation (electronic fuel injection equipment) were ranked to outperform the market averages during 1992-93.<sup>23</sup>

Total employment in U.S. establishments producing certain motor-vehicle parts and accessories declined irregularly to an estimated 437,000 in 1992 from a high of 453,000 in 1988 (table 1), representing a decrease of about 4 percent. This austerity was caused by declining U.S. automobile sales during the same period. The ratio of production workers to all workers remained relatively unchanged at approximately 80 percent during 1988-92, despite a net decrease of 10,000 production workers, from approximately 365,000 in 1988 to 355,000 in 1992. In 1992, Japanese-affiliated parts makers operating in the United States employed about 50,000 production workers, or about 14 percent of those employed by the entire U.S. industry.<sup>24</sup>

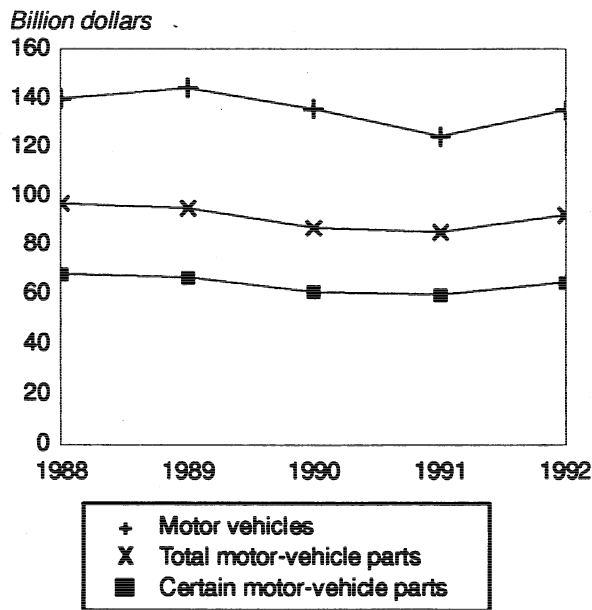
<sup>21</sup> AAMA, *Facts and Figures '93*, p. 75.

<sup>22</sup> Vehicles with less than 75-percent domestic content are excluded from the manufacturers' domestic fleets for CAFE purposes.

<sup>23</sup> Value Line, *Industry Surveys*, Apr. 17, 1992, p. 804.

<sup>24</sup> U.S. Dept. of Commerce, *1992 U.S. Industrial Outlook*, p. 36-17.

**Figure 4**  
**Motor vehicles and parts: U.S. shipments, 1988-92**



Source: Estimated by USITC staff from data supplied by the American Automobile Association and the U.S. Department of Commerce.

The level of skill required for production workers employed in the certain motor-vehicle parts and accessories industry ranges from low, or unskilled, to highly skilled. Many of the fabrication and/or assembly operations that were formerly performed by production workers are now accomplished with the use of automated machines or robots. Robots are used primarily for riveting operations.

The average hourly wage, excluding social benefits, earned by U.S. workers producing certain motor-vehicle parts declined from \$14.72 in 1988 to an estimated \$14.00 in 1992, an average annual decrease of about 1 percent.<sup>25</sup> Despite stagnating U.S. net wages during the period, the U.S. parts industry has not been able to close fully the long-standing overall wage

<sup>25</sup> U.S. Department of Commerce, *1987 Census of Manufacturers*, July 1989.

difference with one of its largest competitors, the Japanese parts industry. One survey indicated that in 1991, U.S. automotive production workers earned an average hourly wage of \$24.21, including social benefits, while the comparable wage for Japanese automotive workers averaged \$18.15 an hour.<sup>26</sup> Even when compared with high-cost European producers, the U.S. industry seems to have a comparative disadvantage largely because of higher social costs, particularly health-care costs. A survey of Ford's health care expenditures demonstrated that, in a sample year during the period (1989), the company spent \$4,532 on health care per employee in the United States, while per capita health care outlays at Ford subsidiaries were an estimated \$1,582 in Germany, \$1,231 in France, \$516 in Mexico, and \$190 in the United Kingdom.<sup>27</sup>

In 1991, total capital expenditures for new machinery in the U.S. certain motor-vehicle parts and accessories industry amounted to \$3.1 billion, up from the 1988 level of \$1.7 billion, representing an increase of 82 percent.<sup>28</sup> These expenditures amounted to about 5 percent of industry shipments in 1991.

Overall, California had the highest number of certain parts manufacturing establishments in 1992, hosting approximately 450 relatively small, mostly aftermarket producers, followed by Michigan with about 315 largely OE parts producers, and Indiana and Ohio with about 228 and 205 parts-making facilities, respectively.<sup>29</sup> Japanese-owned parts producers in the United States have sought to avoid locating in union-controlled, high-wage production practices in the northern automotive belt (Michigan, Ohio, and Indiana), preferring instead to locate in non-unionized, lower-cost labor areas in the mid-South close to the newly established Japanese-owned automaking facilities, also in the mid-South. U.S. producers of OE motor-vehicle parts and accessories are still primarily concentrated in Midwestern and North-Central States.

<sup>26</sup> AAMA, *Facts and Figures '93*, p. 74.

<sup>27</sup> U.S. International Trade Commission, "Do U.S. Health Care Costs Affect U.S. International Competitiveness?" *Industry, Trade, and Technology Review*, Oct. 1992, p. 15.

<sup>28</sup> U.S. Department of Commerce, Bureau of the Census, "Statistics for Industry Groups and Industries," *1991 Annual Survey of Manufactures*, Mar. 1993, p. 1-53; and, U.S. Dept. of Commerce, *U.S. Industrial Outlook 1993*, p. 35-18.

<sup>29</sup> *Manufacturing USA, Industry Analyses, Statistics, and Leading Companies*, Ward's Business Directory, Second Edition, 1992, p. 1562.

**Table 1**  
**Certain motor-vehicle parts and accessories: Total employment and total number of production workers in all U.S. establishments, 1988-92**

Employment	1988	1989	1990	1991	1992
Total employment .....	453,000	441,000	423,000	407,000	437,000
Production workers .....	365,000	354,000	337,000	324,000	355,000

Source: Estimated by USITC staff from official statistics of the U.S. Department of Commerce.

The U.S. industry for parts and accessories covered in this summary is mature and moderately concentrated, supplying two major market segments, the OE market and the aftermarket. Approximately 80 percent of all U.S.-made motor-vehicle parts and accessories are consumed by the OE market, with the rest accounted for by the aftermarket. OE parts producers prefer to locate near auto assembly facilities in order to minimize their transportation costs and maximize their responsiveness to automakers' just-in-time production and inventory schedules. Most OE parts firms are located in Michigan, Ohio, Indiana, Illinois, and New York. On the other hand, parts makers supplying the aftermarket have less incentive to locate near assembly sites and are thus scattered across the country. Most of these aftermarket establishments are located in California, Texas, and Florida.

As previously discussed, large U.S. automakers have, to varying degrees, owned their own supplier networks, sourcing parts from in-house facilities. GM, for example, was the world's most integrated automaker during the 1980s, with about 70 percent of the parts in each GM-built car and truck supplied by its in-house parts divisions.<sup>30</sup> Ford sourced approximately 45 percent of its parts from in-house suppliers during the 1980s, and Chrysler sourced less than 30 percent of its parts from Chrysler-owned parts producers. In contrast, Saab was one of the least integrated automakers in the world, sourcing less than 25 percent of its parts from in-house divisions prior to its acquisition by GM in 1990.<sup>31</sup> Saab traditionally only reserved for itself the manufacture of those parts most visible to the consumer—the body and the engine.

The U.S. certain motor-vehicle parts and accessories industry currently is improving its overall international competitive position.<sup>32</sup> For example, a recent survey by the Economic Strategy Institute (ESI) indicated that U.S.-owned automakers' parts and material costs averaged \$3,389 per automobile in the first half of 1992, whereas Japanese-owned automakers' costs averaged \$4,124.<sup>33</sup> Overall, U.S. auto producers claim that independent U.S.- and foreign-owned parts suppliers located in the United States enjoy regional and other advantages compared with their major foreign competitors, including lower wages, state-of-the-art technology, lower energy costs, and lower raw material costs.<sup>34</sup> However, the ESI study also claims that U.S. vehicle and parts makers continue to be disadvantaged by high health-care and pension costs, lower capacity-utilization rates, and the relatively high cost of capital.

<sup>30</sup> Ibid.

<sup>31</sup> Womack, *The Machine That Changed the World*, p. 139.

<sup>32</sup> *Value Line*, Apr. 17, 1992.

<sup>33</sup> Economic Strategy Institute, June 1992, as reported in "Chrysler, Ford Leaner than Japan, Study Finds," *Automotive News*, June 22, 1992, p. 4.

<sup>34</sup> USITC, *U.S. Global Competitiveness*, p. 3-3.

## Consumer Characteristics and Factors Affecting Demand

U.S. consumers of certain motor-vehicle parts and accessories are primarily U.S. motor-vehicle producers, and ultimately the purchasers of the motor vehicles produced by the U.S. motor-vehicle industry. U.S. consumers consider a number of factors when purchasing an automobile, including price, quality,<sup>35</sup> fuel economy, safety, and comfort. The U.S. automobile industry, which consumes about 80 percent of the subject motor-vehicle parts produced in the United States, has steadfastly responded to such purchasing criteria as determined by its consumers. However, in recent years, affordability, quality, and safety have become the most important of those variables as indicated by most U.S. consumer surveys. For example, during recent years, high-quality parts produced by Japanese and German parts makers have compelled the U.S. motor-vehicle parts industry to assign higher priority to product quality. U.S. suppliers also have increased their R&D expenditures in order to develop a larger variety of safety equipment for use in automobiles, trucks, and buses.

During 1988-92, U.S. sales of aftermarket motor-vehicle parts leveled off primarily because consumers deferred scheduled maintenance and discretionary services due to repeated economic uncertainties. In addition, industry sources indicated that increasingly well designed and engineered OE parts, such as longer lasting spark plugs and shock absorbers that were introduced during 1988-92, reduced demand for aftermarket replacement. Furthermore, new diagnostic technologies more accurately identify parts likely to fail, thereby reducing the need for unnecessary preventive maintenance which traditionally required more aftermarket parts.<sup>36</sup>

However, industry sources predicted a rebound in aftermarket sales during 1992-93, citing a recent decline in the scrappage rate.<sup>37</sup> Partly as a result of this decline, vehicles of at least 5 years of age (those most likely to need repairs) now account for about 62 percent of the total in operation.<sup>38</sup> Correspondingly, the median age for passenger vehicles on the road increased from 4.9 years in 1970 to 7.0 years in 1992,<sup>39</sup> thus likely increasing the need for replacement parts. During 1993-94, U.S. demand for aftermarket parts and accessories also were predicted to increase because stricter emission standards, and specifically the Clean Air Act of 1990 and its subsequent amendments, likely will require more repairs on used

<sup>35</sup> High quality is largely a matter of U.S. consumer perception, but also can be measured in terms of defects, durability, and performance.

<sup>36</sup> U.S. Dept. of Commerce, *1992 U.S. Industrial Outlook*, p. 36-17.

<sup>37</sup> The number of vehicles scrapped annually as a percentage of the vehicles in use.

<sup>38</sup> U.S. Dept. of Commerce, *1992 U.S. Industrial Outlook*, p. 36-18.

<sup>39</sup> AAMA, *Facts and Figures '93*, p. 36.

<sup>40</sup> *Value Line*, Mar. 20, 1992, p. 113.

automobiles and dictate the increased use of new technologies in emissions testing.<sup>40</sup>

## FOREIGN INDUSTRY PROFILE

In 1992, total world production of the motor-vehicle parts and accessories covered here was estimated to be \$300 billion; the United States was estimated to be the third-largest producer of these products with 22 percent of world production (valued at \$65 billion), preceded by Japan with an estimated 35 percent (\$105 billion), and the EU with an estimated 23 percent (\$70 billion).<sup>41</sup> Other OECD members, specifically Canada, Australia, Sweden, and Austria, accounted for a combined 8 percent of global industry production. In addition, parts makers in Mexico, Taiwan, Singapore, Malaysia, Korea, Brazil, China, and the Central and Eastern European countries are currently increasing production of these parts and accessories.

In 1991, German automotive workers received the highest gross compensation in the world at \$28.65 per hour.<sup>42</sup> In 1991, the United States had the second highest average hourly gross compensation rate at \$24.21 per hour, and Sweden and Belgium followed, at \$22.61 and \$22.20 per hour, respectively. Japan's average hourly gross compensation rate in 1991 was \$18.15; the Southeast Asian countries, including Singapore, Malaysia, Indonesia, Thailand, and the Philippines, had a combined average hourly gross compensation rate of \$5.72 in 1991.

Labor productivity with respect to certain motor-vehicle parts was recorded to be the highest in Japan at 124 unit values in 1990, followed by the United States at 100 (Index: U.S.= 100), and Germany at 76 unit values.<sup>43</sup>

According to industry sources, the leading automotive producing nations have begun and are likely to continue shifting more of their production to rapidly developing lower-cost regions, such as Southeast Asia, Latin America, and East Central Europe.

The largest foreign producers of certain motor-vehicle parts and accessories typically are associated with, and have long-term relationships with, vertically integrated leading motor vehicle manufacturers such as GM, Ford, Toyota, VW, Nissan, Fiat, Renault, Chrysler, Peugeot SA,<sup>44</sup> and Honda.

<sup>41</sup> Estimated by USITC staff from data supplied by the U.S. Department of Commerce, The Boston Consulting Group, Credit Suisse, and McKinsey Global Institute.

<sup>42</sup> Bureau of Labor Statistics (BLS) officials, USITC staff interviews, Mar. 18, 1992. BLS statistics are tabulated only at a 3-digit SIC level. The wage rates cited here correspond to SIC 371, which includes both motor vehicles and parts. These rates include all fringe benefits.

<sup>43</sup> McKinsey Global Institute, *Manufacturing Productivity*, Oct. 1993, Exhibit B-6.

<sup>44</sup> Peugeot SA includes Citroen.

<sup>45</sup> USITC staff estimates.

Suppliers associated with these ten producers hold an estimated combined 60- to 70-percent share of the global market for certain motor-vehicle parts.<sup>45</sup> Large independent suppliers of certain motor-vehicle parts, including Robert Bosch of Germany, Nippondenso of Japan, and Allied Signal, Dana, and TRW of the United States are increasingly utilizing global production and marketing strategies. In 1992, these five suppliers hold an estimated combined 15-percent share of the global market.<sup>46</sup>

## The Japanese Motor-Vehicle Parts Industry

Japanese shipments of certain motor-vehicle parts totaled an estimated \$105 billion in 1992. The Japanese motor-vehicle parts industry<sup>47</sup> consists of about 9,500 suppliers and employs about 550,000 people.<sup>48</sup> Only about 500 of these suppliers, however, can be considered primary suppliers, based on their scale of operation, technological level, and ties to the 11 large vehicle manufacturers.<sup>49</sup> Most of these primary suppliers belong to specific vehicle maker groups, such as the Toyota and Nissan Motor groups. According to industry sources, the leading Japanese parts makers include Nippondenso, Bridgestone, Sumitomo Rubber, Sumitomo Metal, Aisin Seiki, Sumitomo Electric, Yazaki, Diesel Kiki, Yokohama Rubber, and Mitsubishi Electric.<sup>50</sup>

The Japanese motor-vehicle parts industry can be described as 11 pyramidal structures with vehicle makers at each pyramid's apex. The large vehicle makers produce only about 25 percent of their OE parts in-house—typically engines, axles, chassis, body panels, and other bulky body parts and key components.<sup>51</sup> Each vehicle group tends to create its own supplier organization(s) in order to enhance group solidarity, ensure more cohesive management,

<sup>46</sup> OECD, *Globalization of Industrial Activities*, p. 33.

<sup>47</sup> Japanese auto producers rely more on noncaptive suppliers than do U.S. auto producers, i.e., U.S. automakers outsource a smaller share of their parts requirements than do Japanese automakers. However, Japanese outsourcing is often a form of cross-sourcing, since large Japanese auto producers frequently source parts from each other's keiretsu (network) suppliers instead of independent outside sources, i.e., from suppliers not affiliated with the 11 Japanese automakers.

<sup>48</sup> Dodwell Marketing Consultants, *The Structure of the Japanese Auto Parts Industry*, Sept. 1983, p. 3.

<sup>49</sup> The eleven large vehicle manufacturer groups in Japan include the Toyota Group, the Daihatsu Group, the Hino Motors Group, the Nissan Group, the Fuji Heavy Industries Group, the Nissan Diesel Group, the Toyo Kogyo Group, the Honda Motor Group, the Mitsubishi Motors Group, the Isuzu Motors Group, and the Suzuki Motors Group.

<sup>50</sup> The Economist Intelligence Unit, as reported in "World Automotive Components," *Financial Times*, July 14, 1992, special section, p. V.

<sup>51</sup> U.S. Department of Commerce, *Distribution System of the Japanese Auto Parts Aftermarket*, June 1991, p. 17.

<sup>52</sup> U.S. General Accounting Office, *U.S.-Japan Trade, Evaluation of the Market-Oriented Sector-Selective Talks*, July 1988, p. 51.

and control costs and quality. Toyota Motor Corp., for example, has two supplier organizations: the Kyoho-Kai organizational chain, which is composed of 224 parts suppliers, and the Eiho-Kai organizational chain, which includes 57 suppliers, mostly subcontractors.

The Japanese aftermarket parts industry differs from its U.S. counterpart in that there are a limited number of independent producers of replacement parts in Japan. In addition, the existing Japanese motor-vehicle parts distribution channels for the aftermarket are complex; few retail aftermarket parts outlets are available to the Japanese public, although reportedly there is a growing market for auto accessories, especially foreign imports.<sup>52</sup>

Both the U.S. and the EU governments continue to seek market openings in Japan for U.S.- and EU-owned motor-vehicle parts suppliers. The Japanese Government, largely as a result of the Market-Oriented Sector-Selective (MOSS)<sup>53</sup> talks with the United States, undertook a campaign to ensure that its vehicle inspection program did not discriminate against automobiles with foreign parts. As a result of the MOSS talks and the subsequent Market-Oriented Cooperation Plan, the U.S. and Japanese Governments have also exchanged up-to-date lists of Japanese and U.S. motor-vehicle and parts manufacturers, and conducted seminars to acquaint U.S. parts manufacturers with techniques for obtaining business with Japanese companies.<sup>54</sup> In November 1991, Japanese vehicle makers announced an intensified effort to expand purchases of U.S. auto parts by 1994. These largely voluntary measures culminated in the Global Partnership Plan of Action in January 1992, which included a voluntary commitment by Japan to increase Japanese purchases of U.S.-made parts from \$9 billion in 1990 to \$19 billion in 1994. In July 1993, Japan and the United States signed the so-called Framework Agreement, which targeted motor vehicles and parts as one of the principal commodity areas for improved access to the Japanese market.<sup>55</sup>

### The European Motor-Vehicle Parts Industry

An estimated 2,275 first-tier EU establishments produced certain motor-vehicle parts and accessories in

<sup>53</sup> The United States and Japan initiated the MOSS talks in 1985 to address Japanese market access issues for telecommunications, electronics, medical equipment/pharmaceuticals, and forestry products. Transportation machinery (informally referred to as the auto parts MOSS talks) was added as a fifth sector in 1986.

<sup>54</sup> Office of the U.S. Trade Representative, 1993 *National Trade Estimate Report on Foreign Trade Barriers*, Washington DC, 1993.

<sup>55</sup> USITC staff interview with an official of the U.S. Department of Commerce, Feb. 15-16, 1994.

<sup>56</sup> Boston Consulting Group, *The Competitive Challenge*, p. 6.

1992. Italy leads the EU countries in the number of these parts suppliers with 700, followed by Germany (420), Spain (315), France (280), and the United Kingdom (245). Total employment in the EU certain motor-vehicle parts industry was estimated at about 665,000 during 1989-92.<sup>56</sup>

Leading EU producers of certain motor-vehicle parts include Robert Bosch of Germany, Valeo of France, Magnetti Marelli of Italy, and the primarily U.S.-owned GM Automotive Components Group (ACG), which is headquartered in France. Three of the top 20 EU producers, Magnetti Marelli, GM-ACG, and French-owned ECIA, have had long-term relationships with OE vehicle producers such as Fiat, GM Opel, and Renault, respectively.<sup>57</sup>

EU shipments of certain motor-vehicle parts reached approximately \$70 billion in 1992, having grown by about 3 percent annually during 1988-92. Germany, France, Italy, Spain, and the United Kingdom accounted for about 95 percent of total EU production during the period. In 1992, Germany accounted for 35 and 39 percent of the total value of EU production of vehicles and certain motor-vehicle parts, respectively. In addition, German firms accounted for approximately 44 percent of the EU value added in this sector during the period, primarily because German production typically has a greater high-technology component.<sup>58</sup>

Traditionally, the purchase of OE parts in the EU has been highly nationally focused. For example, during the late 1980s, Mercedes Benz and VW purchased an estimated 90 percent and 80 percent respectively of outsourced components from other German-owned firms, and Italian-owned Fiat sourced about 88 percent of its parts from national suppliers.<sup>59</sup> With the continuing economic integration in the EU, however, EU-owned OE automobile and parts producers are likely to increase outsourcing from more cost-effective non-domestic suppliers. Major EU parts producers, such as German-owned Bosch, for example, also have increasingly sought to establish their own production facilities in the lower-cost, Southwest European region. At the same time, EU vehicle manufacturers also indicate that they soon intend to reduce the number of suppliers from whom they source individual components, which is likely to increase internal competitive pressures on EU parts producers. In response to their customers' needs, EU suppliers reportedly are developing and manufacturing so-called integrated systems in an attempt to cut manufacturing costs, ensure OE automobile assemblers of faster service, and reduce administrative expenses. Mainly as a result of the shift towards integrated systems, the

<sup>57</sup> *Ibid*, p. 9.

<sup>58</sup> *Ibid*, p. 3.

<sup>59</sup> *Ibid*, p. 10.

<sup>60</sup> Ward's Communications, *Ward's Automotive International*, Dec. 1993, p. 6.

number of EU parts suppliers is expected to shrink to approximately 1,000 by the year 2000.<sup>60</sup>

The EU currently supports collaborative industry research projects on automotive parts under the EUREKA program.<sup>61</sup> Similarly, in the Prometheus project, 13 European automakers are undertaking joint research to develop automotive electronics systems to improve vehicle safety and to moderate adverse environmental effects. In the Carmat project, European automobile, chemical, and other manufacturers are researching new materials for automotive parts focusing on plastics, composites, ceramics, and reinforced materials.<sup>62</sup>

Two of the six member nations of the EFTA, Sweden and Austria, are relatively important producers of motor vehicles and parts. Both of these countries possess a skilled workforce, stable economic climate, and a long tradition of manufacturing transportation equipment. Although the total combined size of the subject motor-vehicle parts industries in these two nations is currently estimated to be about \$10 billion, pending their membership in the EU, Swedish and Austrian motor-vehicle parts producers could contribute to EU motor-vehicle parts production.

Major Western automotive producers invested in excess of \$3 billion in Central and East European (CEE) automobile and parts production facilities during 1989-91.<sup>63</sup> The Hungarian motor-vehicle parts industry attracted more than one-third of this investment in the CEE parts industry during 1989-91, primarily because of a substantially liberalized investment climate. CEE parts production and exports should increase because of the region's cost-competitive wages, skilled work force, proximity to West European producers of motor vehicles, and commitment to modernization and investment.<sup>64</sup> One source predicts that CEE demand for automobiles and parts will rise by an estimated 112 percent in less than 20 years.<sup>65</sup> In addition, The Commonwealth of Independent States also offers a potentially fertile ground for new motor-vehicle parts production facilities.

### The Canadian Motor-Vehicle Parts Industry

According to Canadian government sources, approximately 630 firms produced an estimated

<sup>61</sup> The EUREKA project, which was instituted by the French Government in 1985, sought to master and exploit new technologies in both the private and public sectors in Europe. Its participants include the EU member states and the countries of the European Free Trade Association (EFTA).

<sup>62</sup> OECD, *Globalization of Industrial Activities*, p. 51.

<sup>63</sup> U.S. International Trade Commission, *Central and Eastern Europe: Export Competitiveness of Major Manufacturing and Services Sectors*, USITC publication 2446, Nov. 1991, p. 86.

<sup>64</sup> *Ibid.*

<sup>65</sup> *Chilton's Automotive Industries*, Jan. 1992, p. 14.

\$14 billion worth of motor-vehicle parts in Canada during 1992.<sup>66</sup> About 440 (70 percent) of those firms produced the motor-vehicle parts and accessories covered in this report with an estimated output of \$10 billion during 1992. Only about 20 percent of the parts industry in Canada is Canadian-owned. Canada's principal automotive parts manufacturers, with the exception of Magna International, are subsidiaries of U.S., Japanese, and EU firms.<sup>67</sup> Export-oriented production segments of the Canadian parts industry include piston-type internal combustion engines, tires, locks and hinges, rubber and plastic products for automotive use, and automotive furniture.

The Canadian motor-vehicle parts industry, located primarily in the Province of Ontario, is closely associated with the U.S. automotive industry. During the 1980s, motor-vehicle parts trade between the United States and Canada increased, largely because of cross-border rationalization of assembly and parts operations by the U.S. Big Three automakers. The concurrent expansion of the Canadian automotive industry was achieved by design as subsidiaries of the Big Three U.S. automakers and Japanese-owned automakers sought not only to supply the Canadian market, but to increase their exports to the United States.

During the 1980s, U.S.- and Japanese-owned automakers enjoyed several advantages from producing in Canada vis-à-vis the United States. Benefits included lower Canadian overhead costs, reduced social cost components of production (lower health care and pension plan costs) for automotive manufacturers in Canada,<sup>68</sup> and generally lower, non-union labor rates. In the 1990s, the Canadian automotive industry's relative cost advantage vis-à-vis the U.S. automotive industry has diminished; in addition, U.S. automotive firms have other investment options because of the recent liberalization of the Mexican automotive industry.

### The Mexican Motor-Vehicle Parts Industry

Approximately 300 Mexican firms produced certain motor-vehicle parts and accessories in 1992 with an estimated annual output of \$6 billion. In addition to the OE parts industry in Mexico, the maquiladora program<sup>69</sup> has contributed significantly to U.S.-Mexico parts trade. The number of maquila plants producing transportation equipment<sup>70</sup> in Mexico grew rapidly, from 65 plants in 1985 to 149 plants in

<sup>66</sup> Industry, Science and Technology Canada, *Statistical Review of the Canadian Automotive Industry: 1992*, Aug. 1993, p. 46.

<sup>67</sup> OECD, *Globalization of Industrial Activities*, p. 52.

<sup>68</sup> Industry, Science and Technology Canada, Government of Canada, official, USITC staff telephone interview, Oct. 28, 1991.

<sup>69</sup> The maquiladoras are in-bond production facilities established in 1965 under Mexico's Border Industrialization Program.

<sup>70</sup> Includes automobiles, trucks, parts, aerospace, and heavy equipment.



1991. These maquilas represented about 20 percent of total maquiladora employment in Mexico in 1991. In 1991, GM had 29 maquila plants in Mexico, Ford had 9, Chrysler had 6, and Japanese-owned Honda had 2. Other U.S. firms with maquiladora operations in automotive parts include United Technologies, Bendix, Dana, Kelsey Hayes, Trico Components, and A.O. Smith. Other foreign-owned parts maquilas include German-owned Robert Bosch and Japanese-owned American Yazaki.<sup>71</sup> Latin American sales of automobiles and parts, including Mexico's, are projected to double by 2010.<sup>72</sup>

### The Asia-Pacific Region Motor-Vehicle Parts Industry

The Asia-Pacific producers of the subject motor-vehicle parts include well-established traditional suppliers, such as those located in Australia and New Zealand; major new competitors, such as those in Korea; and rapidly developing parts producers in Southeast Asia. Overall, these producers account for approximately 15 percent of world production. Korea and several newly industrialized Southeast Asian nations, such as Singapore, Indonesia, Taiwan, Malaysia, and Thailand, are well positioned to further increase parts production and exports due to favorable local economic conditions and relatively low wage rates. For example, during 1988-92, Korea was successful in expanding its motor-vehicle industry, with over 87 percent of the parts for its motor-vehicle assemblers being supplied locally by Korean firms.<sup>73</sup> The Korean government has adopted a policy of building the local parts industry through licensing and other interfirm arrangements with foreign companies, rather than on the basis of direct investment. Nevertheless, it has given investment assistance to firms producing larger components such as engines, axles, and transmissions.<sup>74</sup> Depending on the speed of its economic liberalization policies, China also is likely to increase motor-vehicle parts production and may soon export more components to Western markets.

## U.S. TRADE MEASURES

### Tariff Measures

General column 1 rates of duty for U.S. imports of the subject motor-vehicle parts and accessories range from zero (for cast iron parts and accessories) to 3.1 percent ad valorem (table 2).<sup>75</sup> In 1992, the dutiable value of U.S. imports of certain motor-vehicle parts and accessories was \$7.5 billion, representing 47 percent of total U.S. imports of these products. About

half of U.S. imports of these products entered the United States free of duty in 1992, including, for example, cast iron accessories (HTS subheading 8708.99.30), other parts and accessories, not elsewhere specified or included (nesi) (HTS subheading 8708.99.50), parts and accessories, nesi, of bodies (HTS subheading 8708.29.00), brakes and parts thereof (HTS subheading 8708.39.50), and gear boxes for the vehicles of HTS heading 8703 (HTS subheading 8708.40.20).

Several bilateral and multilateral trade agreements and programs provide for preferential duty rates or duty-free provisions for the products covered here. The following are the most significant tariff preference programs affecting the U.S. automotive sector trade:

- (1) the North American Free Trade Agreement (NAFTA), as implemented by the North American Free Trade Agreement Implementation Act (Public Law 103-182, approved Dec. 8, 1993), provides for the phaseout of U.S. duties over not longer than a 10-year period beginning January 1, 1994, on certain motor-vehicle parts and accessories imported from Mexico. Also, beginning on January 1, 1994, Mexico is obligated to phase out its duties on 75 percent (by value) of imports of such goods from the United States over a 5-year period, while the remaining tariffs will be eliminated over 10 years. The NAFTA became effective for both the United States and Mexico on January 1, 1994.
- (2) the United States-Canada Automotive Products Trade Act of 1965 (APTA), which has provided for duty-free entry of specified motor vehicles and motor-vehicle parts and accessories traded between the United States and Canada;
- (3) the U.S. Generalized System of Preferences, which has provided for non-reciprocal duty-free entry of eligible articles from certain developing countries; and
- (4) the aforementioned Mexican maquiladora program.<sup>76</sup>

U.S. imports of automotive products under HTS subheadings 9802.00.60 and 9802.00.80 increased from \$10.7 billion in 1980 to \$50.4 billion in 1989, an annual average increase of 19 percent.<sup>77</sup> The principal sources of U.S. imports of automotive products under HTS subheading 9802.00.80 during the 1980s (most of which were new automobiles) were Canada, Japan, and Mexico. During this period, the principal

<sup>76</sup> U.S.-origin materials and components shipped to Mexico for processing or assembly, then returned to the United States in the form of finished goods, may be entered free of duty under HTS subheadings 9802.00.60 and 9802.00.80. Most maquiladora products are imported into the United States under HTS subheading 9802.00.80.

<sup>77</sup> Most of this increase was recorded after 1986, when automakers began to enter APTA-eligible products under the provisions of HTS subheading 9802.00.80 in order to avoid the Customs user fee applicable to entries of APTA-eligible goods in chapters 1-97 of the HTS that was established in December 1986.

<sup>71</sup> Congressional Research Service, *U.S.-Mexico Trade in the Automotive Industry*, June 24, 1991, pp. 5-6.

<sup>72</sup> Chilton's, p. 14.

<sup>73</sup> OECD, *Globalization of Industrial Activities*, p. 53.

<sup>74</sup> *Ibid.*, p. 53.

<sup>75</sup> Refer to appendix A for an explanation of tariff and trade agreement terms.



Table 2

Certain motor-vehicle parts and accessories: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1993; U.S. exports, 1992; and U.S. general imports,<sup>1</sup> 1992

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1993		U.S. exports, 1992	U.S. imports, 1992
		General	Special <sup>2</sup>		
<i>Million dollars</i>					
8708.10.00	Bumpers and parts thereof, for the motor vehicles of headings 8701 to 8705 .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	390.3	451.0
8708.21.00	Safety seat belts for bodies (including cabs) for the motor vehicles of headings 8701 to 8705 .....	3.1%	Free (A*,B,E,IL) 1.8% (CA)	277.6	869.2
8708.29.00	Other parts and accessories of bodies (including cabs) of the motor vehicles of headings 8701 to 8705 .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	4,510.3	1,811.7
8708.31.50	Mounted brake linings, for the motor vehicles of headings 8701 to 8705 .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	37.0	156.6
8708.39.50	Other brakes and servo-brakes and parts thereof, for the motor vehicles of headings 8701 to 8705 .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	886.8	1,318.1
8708.40.10	Gear boxes for the vehicles of subheading 8701.20, or heading 8702 or 8704 .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	443.8	162.8
8708.40.20	Gear boxes for the vehicles of heading 8703 .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	1,085.3	1,979.5
8708.40.50	Gear boxes for other vehicles, for the motor vehicles of headings 8701 to 8705 .....	3.1%	Free (A,E,IL) 1.8% (CA)	100.8	14.2
8708.50.30	Drive axles with differential for tractors, other than for agricultural use .....	2.2%	Free (A,E,IL) 1.3% (CA)	225.5	4.6
8708.50.50	Drive axles with differential, for the motor vehicles of heading 8703 .....	3.1%	Free (A,B,E,IL) 1.5% (CA)	225.5	147.4
8708.50.80	Drive axles with differential, for the motor vehicles 8701 to 8705, other than tractors or those of heading 8703 .....	3.1%	Free (A,B,E,IL) 1.5% (CA)	225.5	85.5
8708.60.30	Non-driving axles and parts thereof, for tractors, other than for agricultural use .....	2.2%	Free (A,E,IL) 1.3% (CA)	65.4	0.7
8708.60.50	Non-driving axles and parts thereof, for the motor vehicles of heading 8703 .....	3.1%	Free (A,B,E,IL) 1.5% (CA)	65.4	93.6

Table 2—Continued

Certain motor-vehicle parts and accessories: Harmonized Tariff Schedule subheading; description; U.S. col. 1 rate of duty as of Jan. 1, 1993; U.S. exports, 1992; and U.S. general imports,<sup>1</sup> 1992

HTS subheading	Description	Col. 1 rate of duty as of Jan. 1, 1993		U.S. exports, 1992	U.S. imports, 1992
		General	Special <sup>2</sup>		
<i>Million dollars</i>					
8708.60.80	Non-driving axles and parts thereof, for the motor vehicles of headings 8701 to 8705, other than tractors or those of heading 8703 .....	3.1%	Free (A,B,E,IL) 1.5% (CA)	65.4	175.2
8708.70.30	Road wheels and parts and accessories thereof, for tractors, other than for agricultural use or road tractors .....	2.2%	Free (A,E,IL) 1.3% (CA)	11.6	1.5
8708.70.80	Road wheels and parts and accessories thereof, for the motor vehicles of headings 8701 to 8705, other than tractors (except road tractors) .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	435.0	489.2
8708.80.50	Suspension shock absorbers, for the motor vehicles of headings 8701 to 8705, other than tractors for agricultural use .....	3.1%	Free (A,B,E,IL) 1.5% (CA)	215.7	223.5
8708.91.50	Radiators, for the motor vehicles of headings 8701 to 8705, other than tractors for agricultural use .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	242.5	261.1
8708.92.50	Mufflers and exhaust pipes, for the motor vehicles of headings 8701 to 8705, other than tractors for agricultural use .....	3.1%	Free (B,E,IL) 1.8% (CA)	292.2	461.4
8708.93.50	Clutches and parts thereof, for the motor vehicles of headings 8701 to 8705, other than tractors for agricultural use .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	86.7	202.9
8708.94.50	Steering wheels, steering columns and steering boxes, for the motor vehicles of headings 8701 to 8705, other than tractors for agricultural use .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	432.8	308.9
8708.99.20	Parts nesi of tractors, other than those suitable for agricultural use or road tractors .....	2.2%	Free (A,E,IL) 1.3% (CA)	472.5	62.7
8708.99.30	Cast iron parts and accessories nesi, for the motor vehicles of 8701 to 8705, other than tractors .....	Free		24.2	2.2
8708.99.50	Parts and accessories nesi, for the motor vehicles of headings 8701 to 8705, other than of cast iron or for tractors .....	3.1%	Free (A,B,E,IL) 1.8% (CA)	6,215.6	6,222.4

<sup>1</sup> U.S. general imports of certain motor vehicle parts include products that enter the United States through foreign trade zones.

<sup>2</sup> Programs under which special tariff treatment may be provided, and the corresponding symbols for such programs as they are indicated in the "Special" subcolumn, are as follows: Generalized System of Preferences (A); Automotive Products Trade Act (B); Agreement on Trade in Civil Aircraft (C); United States-Canada Free-Trade Agreement (CA); Caribbean Basin Economic Recovery Act (E); United States-Israel Free Trade Area (IL); and Andean Trade Preference Act (J).

Source: U.S. exports and imports compiled from official statistics of the U.S. Department of Commerce.

motor-vehicle parts that qualified for duty-free treatment under HTS subheading 9802.00.80 were headlights, wheels, glass, fabric, tires, engine parts, catalytic converters, and batteries.<sup>78</sup>

In addition, the recently completed (December 1993) GATT Uruguay Round of trade negotiations may result in further reductions in U.S. and foreign duties on the articles covered by this summary. The final Uruguay Round schedule of U.S. concessions was not available when this summary was prepared.

There are currently no readily identifiable nontariff barriers to U.S. imports of certain motor-vehicle parts and accessories. However, in a related matter, U.S. Department of Transportation and Environmental Protection Agency certification requirements applicable mainly to motor-vehicle emissions render the personal importation of finished automobiles that are not built to meet those standards highly impractical, mainly because of the high cost of conversion to U.S. specifications (estimated at approximately \$3,000-\$5,000 per automobile).

### U.S. Government Trade-Related Investigations

The Commission's most recent comprehensive factfinding investigation concerning the motor-vehicle parts industry was published in December 1987.<sup>79</sup> This report examined the factors affecting global competitiveness in the U.S. motor-vehicle parts industry. Some of the principal findings of this investigation included the following: (1) certain U.S. motor-vehicle parts producers gained in competitive strength during 1982-86 recognizing that continued improvements in quality, delivery, and cost-effectiveness were necessary for the industry to prosper in the 1990s; (2) there was a notable increase in the level of foreign investment in the U.S. automotive industry during 1982-87, and there were indications that such investment could lead to a gain in overall U.S. employment; and (3) major U.S. upstream supplier industries would be affected by shifts in the level of competitiveness of the U.S. auto parts industry.

In November 1991, the Commission published another report in a factfinding investigation concerning rules of origin issues applicable to the North American automotive industry.<sup>80</sup> This study examined issues relating to the formulation of eligibility rules for the automotive sector under the then proposed North American Free Trade Agreement (NAFTA).

<sup>78</sup> See U.S. International Trade Commission, *Production Sharing: U.S. Imports under Harmonized Tariff Schedule Subheadings 9802.00.60 and 9802.00.80, 1986-1989*, USITC publication 2365, Mar. 1991.

<sup>79</sup> U.S. International Trade Commission, *U.S. Global Competitiveness: The U.S. Automotive Parts Industry*, USITC publication 2037, Dec. 1987.

<sup>80</sup> U.S. International Trade Commission, *Rules of Origin Issues Related to NAFTA and the North American Automotive Industry*, USITC publication 2460, Nov. 1991.

During 1987-92, the Commission conducted several statutory investigations concerning certain motor-vehicle parts. In April 1987, the Commission determined that the U.S. industry producing tubeless steel disc wheels was not materially injured by reason of imports from Brazil sold at less than fair value (LTFV) in the United States.<sup>81</sup> Similar negative determinations were made with respect to (1) shock absorbers from Brazil in September 1988;<sup>82</sup> (2) steel wheels from Brazil in May 1989;<sup>83</sup> and (3) tubeless steel disc wheels from Brazil in November 1991.<sup>84</sup>

## FOREIGN TRADE MEASURES

### Tariff Measures

In 1992, Canada and Mexico, the two largest markets for U.S. exports of certain motor-vehicle parts and accessories, accounted for 77 percent of total U.S. exports of these products. In 1992, the rate of duty on Canadian imports of certain motor-vehicle parts and accessories from the United States averaged less than 1 percent ad valorem. Most of these components entered Canada either free of duty or at substantially reduced duty rates under the APTA or the CFTA. The rate of duty on Mexican imports of these parts from the United States in 1992 averaged about 13 percent ad valorem.<sup>85</sup> With NAFTA having become effective on January 1, 1994, Mexico is now obligated to phase out all of its duties on certain motor-vehicle parts in a 10-year period.

EU member states currently assess duties ranging from 5 to 14 percent ad valorem on imports of certain motor-vehicle parts. Japan has an average duty rate of less than 5 percent ad valorem on imports of automotive parts.

### Nontariff Measures

During 1988-92, representatives of the U.S. automotive industry often claimed that Japan maintained nontariff barriers to imports of certain motor-vehicle parts and accessories from the United States and other foreign sources. Specific Japanese actions and practices noted by U.S. industry sources include alleged unfair links between Japanese suppliers and Japanese automakers, unreasonable delays in

<sup>81</sup> U.S. International Trade Commission, *Certain Tubeless Steel Disc Wheels from Brazil*, (investigation No. 731-TA-335 (Final)), Apr. 1987.

<sup>82</sup> U.S. International Trade Commission, *Shock Absorbers and Parts, Components, and Subassemblies Thereof from Brazil*, (investigation No. 731-TA-421 (Preliminary)), Sept. 1988.

<sup>83</sup> U.S. International Trade Commission, *Certain Steel Wheels from Brazil*, (investigation No. 701-TA-296 (Final)), May 1989.

<sup>84</sup> U.S. International Trade Commission, *Certain Tubeless Steel Disc Wheels from Brazil*, (investigation No. 731-TA-335 (Court Remand)), Nov. 1991.

<sup>85</sup> U.S. International Trade Commission, *The Likely Impact on the United States of a Free Trade Agreement with Mexico*, USITC publication 2353, Feb. 1991, pp. 4-21.

negotiations for contracts, difficulty in obtaining the information necessary for bids, unreasonable engineering or design standards, and frequent product modification requests.<sup>86</sup>

U.S. parts producers have asserted that several foreign countries have nontariff barriers to imports of U.S. goods. For example, U.S. industry representatives claim that restrictions such as licensing requirements, quotas, export restraints, embargoes, and currency exchange controls were prevalent in Colombia, Mexico, Venezuela, and Brazil. Restrictive business practices and discriminatory purchasing patterns are also alleged to exist in Korea. According to U.S. industry sources, several countries, including Mexico, Brazil, Korea, and Taiwan, justified the existence of such nontariff measures as necessary to protect their developing industries.

## U.S. MARKET

### Consumption

During the 1980s, the United States lost its position as the top market for the subject parts and accessories to the EU and Japan. Specifically, during 1988-92, U.S. consumption of these products fell from about \$73 billion in 1988 to approximately \$59 billion in 1991 and then recovered to \$64 billion in 1992 (table 3).

This pattern in U.S. consumption was largely attributable to the U.S. recession and slow recovery during the period. At the same time, the rationalization of automobile and parts production by the Big Three U.S. automakers and their parts subsidiaries have enabled the U.S. automotive industry to increase U.S.

<sup>86</sup> Mr. Lee Kadrich, Director, Government Affairs and International Trade, The Automotive Parts and Accessories Association, Hearing Before the House Committee on Ways and Means, Mar. 30, 1992.

exports of these products, especially to Canada and Mexico.

### Shipments

U.S. shipments of certain motor-vehicle parts and accessories declined steadily from \$68 billion in 1988 to \$60 billion in 1991 before rising to \$65 billion in 1992 (figure 5).<sup>87</sup> The decrease was caused primarily by the corresponding decline in U.S. shipments of motor vehicles, and the continued rationalization of North American motor-vehicle and parts production by the U.S. Big Three automakers. During the period, a growing share of U.S. motor-vehicle and parts production was shifted to Mexico, as U.S. motor-vehicle producers increasingly used maquila assembly operations in Mexico.

U.S. shipments of certain motor-vehicle parts and accessories is projected to increase by about 3-5 percent during the next 5-10 years. U.S. shipments should rise because of an anticipated rebound in U.S. sales and production of motor vehicles.<sup>88</sup>

### Imports

U.S. general imports of certain motor-vehicle parts and accessories increased from \$14.1 billion in 1988 to \$15.8 billion in 1992, or by 12 percent. The increase was largely attributable to a growing rationalization of U.S. auto parts production in the Western Hemisphere. Meanwhile, an increasing number of foreign-owned parts makers opened production facilities in the United States during 1988-92. These parts firms became primary suppliers to Japanese-owned motor-vehicle producers located in the United States, and reportedly are aiming to supply the subsidiaries of the U.S. Big Three automakers.

<sup>87</sup> U.S. Dept. of Commerce, *U.S. Industrial Outlook 1993*, p. 35-18.

<sup>88</sup> *Value Line*, Apr. 17, 1992.

**Table 3**  
**Certain motor-vehicle parts and accessories: U.S. shipments, exports of domestic merchandise, general imports,<sup>1</sup> and apparent consumption, 1988-92**

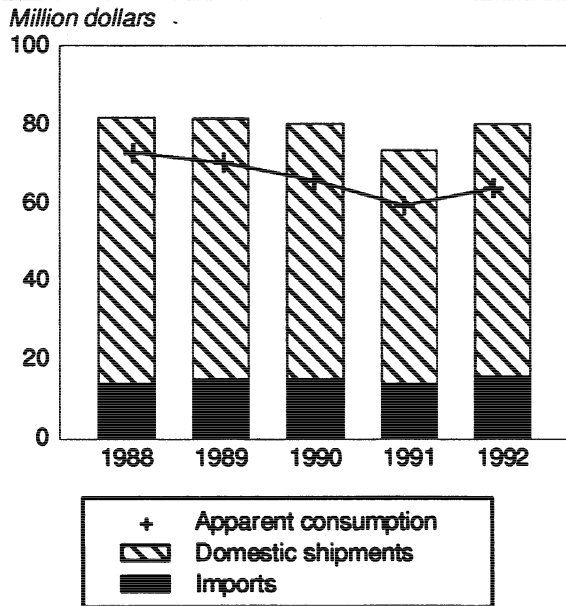
Year	U.S. production	U.S. exports	U.S. imports	Apparent U.S. consumption	Ratio of imports to consumption
					Percent
<i>Million dollars</i>					
1988 .....	67,901	9,149	14,062	72,814	19.3
1989 .....	66,551	11,504	15,269	70,316	21.7
1990 .....	65,114	14,548	15,235	65,801	23.2
1991 .....	59,674	14,302	14,073	59,445	23.7
1992 .....	64,519	16,551	15,841	63,809	24.8

<sup>1</sup> U.S. general imports of certain motor-vehicle parts include products that enter the United States through foreign trade zones.

<sup>2</sup> Estimated by the staff of the U.S. International Trade Commission.

Source: Compiled from official statistics of the U.S. Department of Commerce, except as noted.

**Figure 5**  
**Certain motor-vehicle parts and accessories**  
**U.S. general imports<sup>1</sup>, domestic shipments,**  
**and apparent consumption, 1988-92**



<sup>1</sup> U.S. general imports of certain motor-vehicle parts include products that enter the United States through foreign trade zones.

Source: Estimated by USITC staff from data supplied by the American Automobile Association and the U.S. Department of Commerce.

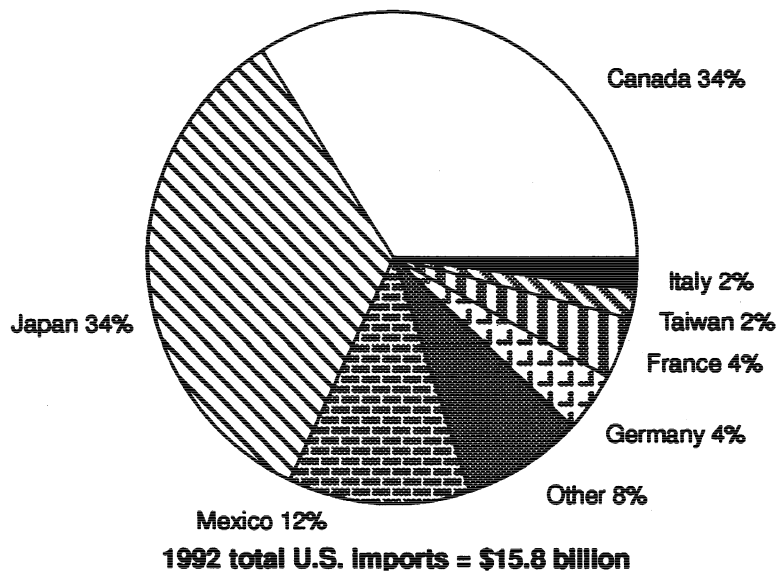
In 1992, the largest categories of U.S. imports of certain motor-vehicle parts were other parts and accessories, nesii (for example, air bags and components, and catalytic converters) at \$6.5 billion; transmissions and related components at \$2.9 billion; brakes and parts at \$1.5 billion; body stampings at \$906 million; and safety seat belts at \$869 million. During 1989-92, the greatest U.S. import increases were recorded in the categories of safety seat belts at 63 percent; mufflers and tailpipes at 42 percent; body stampings at 35 percent; and radiators at 29 percent.

During 1988-92, Canada, Japan, and Mexico accounted for about 80 percent of total U.S. imports of certain motor-vehicle parts and accessories (figure 6). Japan and Canada were the leading sources of these products in 1992, each supplying 34 percent of total U.S. imports in 1992. Mexico's share doubled from 6 percent in 1988 to 12 percent in 1992.

Official statistics that measure the level of U.S. imports of parts through foreign trade zones (FTZs)<sup>89</sup> are scant. However, a recent proliferation of foreign

<sup>89</sup> In the United States, an FTZ is a special enclosed area within, or adjacent to, a port of entry and is usually located at an industrial park or a warehouse facility. Although operated under the supervision and enforcement of the U.S. Customs Service, FTZs are considered to be outside the customs territory of the United States for purposes of customs entry procedures. With certain exceptions, foreign or domestic merchandise can be brought into an FTZ for storage, repacking, assembly, manufacturing, or other processing. Foreign merchandise brought into an FTZ is not subject to duty, formal entry procedures, or quotas, unless, or until, it is imported into the U.S. customs territory.

**Figure 6**  
**Certain motor-vehicle parts and accessories: U.S. general imports<sup>1</sup> from major sources, 1992**



<sup>1</sup> U.S. general imports of certain motor-vehicle parts include products that enter the United States through foreign trade zones.

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

trade subzones in the United States indicates the widespread use of imported parts by U.S.-based auto assembly operations. Currently, there are 42 auto assembly or engine-assembly foreign trade subzones operating in the United States, of which 33 subzones are operated by the Big Three U.S. automakers and 9 are operated by foreign automakers.<sup>90</sup>

## FOREIGN MARKETS

### Foreign Market Profile

Canada and Mexico, the two leading foreign markets for U.S.-produced certain motor-vehicle parts and accessories, accounted for 54 percent and 23 percent, respectively, of U.S. exports in 1992 (figure 7). As previously discussed, the Canadian automotive market is closely tied to the U.S. automotive market and is dominated by subsidiaries of the U.S. Big Three automakers. U.S. exports of parts to Canada increased because of cross-border rationalization of assembly operations by the U.S. Big Three automakers and the corresponding rapid expansion of the Canadian auto industry during the 1970s and early 1980s.<sup>91</sup> As a result of this

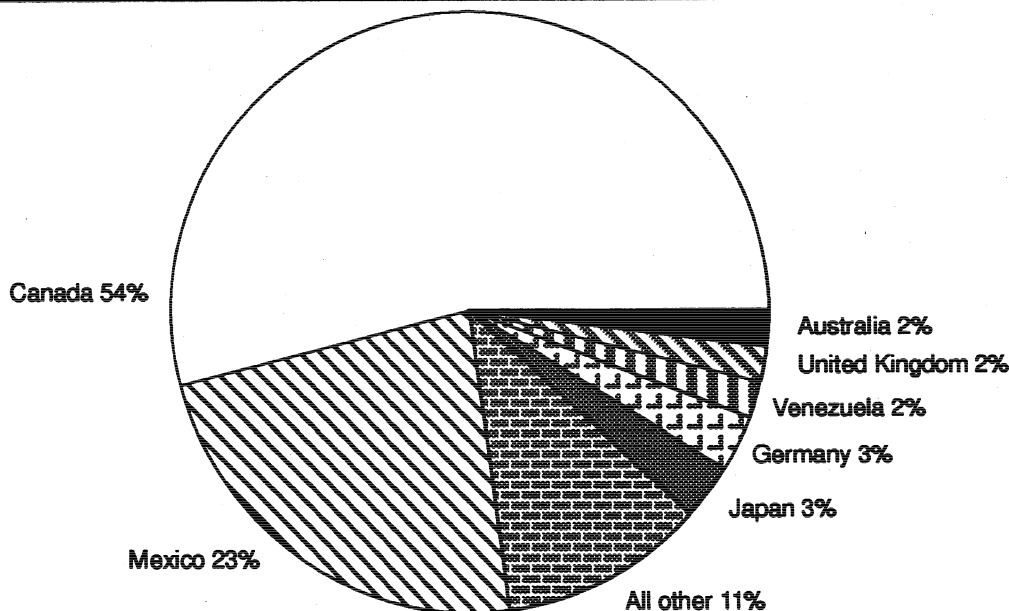
<sup>90</sup> *Ward's Automotive International*, vol. 7, No. 15, Aug. 1992, p. 13.

<sup>91</sup> Industry, Science and Technology Canada, *Statistical Review of the Canadian Automotive Industry*, Ottawa, Aug. 1991, Table 2.1., p. 18.

expansion, certain segments of the Canadian parts industry were not able to keep up with Canadian auto industry demands. Consequently, U.S. parts manufacturers supplied vehicle manufacturers located in Canada. The undercapacity of the Canadian parts industry was especially large for body stampings, transmissions, and air-conditioning equipment. However, in 1990, the Canadian market for automobiles contracted, largely because of higher interest rates, as well as new taxes levied on gasoline, tires, and fuel-inefficient vehicles by the Canadian Government and the Province of Ontario.

The Mexican market is one of the world's fastest growing markets for certain motor-vehicle parts. To date, however, the Mexican automobile market has been supplied almost entirely by foreign-owned automotive production facilities located in Mexico. In 1991, German-owned Volkswagen had about 25 percent of the Mexican market, Japanese-owned Nissan had an estimated 22-percent share, GM and Ford each held about 17 percent, and Chrysler had about 16 percent. Under NAFTA, however, U.S. industry analysts predict that foreign market shares in Mexico might shift favorably toward U.S. automakers. During 1988-92, Mexican production of certain parts increased at an annual rate of 19 percent, to approximately \$7 billion in 1992. The United States supplied about 73 percent of the foreign direct investment in the Mexican auto parts industry in 1989. Other foreign investment came from the United

**Figure 7**  
**Certain motor-vehicles parts and assessories: U.S. exports to major markets, 1992**



1992 total U.S. exports = \$16.6 billion

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

Kingdom (8.7 percent), Germany (6.4 percent), and Japan (3.5 percent).<sup>92</sup> Most of the U.S. investment in Mexico was channelled to maquiladora plants. The EU market for certain motor-vehicle parts and accessories is estimated at about \$65 billion and is projected to grow at about 2 percent annually during the next decade.<sup>93</sup> Germany accounts for about 33 percent of EU consumption of certain motor-vehicle parts and accessories, followed by France at 22 percent, Spain at 14 percent, Italy at 13 percent, and the United Kingdom at 12 percent. These five countries account for nearly all of the automobile production in the EU, and therefore are major consumers of certain motor-vehicle parts. In 1992, U.S. exports of these products to the EU accounted for about 8 percent of total U.S. exports, making it the third largest foreign market after Canada and Mexico.

U.S. exports of certain motor-vehicle parts and accessories to Japan, the third largest market for these products, totaled \$547 million in 1992. The U.S. industry has long considered Japan to be a potentially larger market for U.S.-made products; however, as discussed, many U.S. parts makers believe that Japanese nontariff barriers are a key obstacle to U.S. exports. Pending the outcome of regional strategic and economic alliances, U.S. firms also believe that there is good potential for future increases in U.S. exports to certain Latin American countries, the Central and East European region, the Commonwealth of Independent States, and China.

---

<sup>92</sup> U.S. Department of State, *CMP (Country Market Profile) Industry Sector Analysis*, Eduardo Sandoval, Mexico City, Mar. 1990, p. 3.

<sup>93</sup> Boston Consulting Group, *The Competitive Challenge*, p. 5.

## U.S. Exports

U.S. exports of certain motor-vehicle parts and accessories increased from \$9.1 billion in 1988 to \$16.6 billion in 1992, or by 81 percent. In 1992, the most significant of these commodities exported by the United States included other parts and accessories, nesl, at \$7.0 billion; stampings at \$1.6 billion; transmissions and parts at \$1.5 billion; and brakes and parts at \$924 million. During 1988-92, the biggest U.S. export increases were recorded in the categories of suspension shock absorbers at 143 percent; brakes and parts at 93 percent; radiators at 76 percent; seat belts at 67 percent; and mufflers and exhaust pipes at 64 percent.

Canada, which was the largest market for U.S.-produced parts and accessories during 1988-92, received 54 percent (\$8.9 billion) of total U.S. exports of these products in 1992. In 1992, Mexico was the second-largest U.S. export market for these products at \$3.8 billion, whereas U.S. exports to the EU totaled about \$1.3 billion in 1992.

## U.S. TRADE BALANCE

With respect to the products covered by this summary, the United States moved from a trade deficit of \$4.9 billion in 1988, to a trade surplus of \$710 million in 1992 (table 4). This improvement in the U.S. trade balance was largely attributable to: (1) new production and inventory methods applied by the U.S. automotive industry; (2) the decline in the value of the U.S. dollar during 1988-92, particularly relative to the Japanese yen and the German mark; (3) the improving international competitiveness of the U.S. parts industry, especially in North America; and (4) the ability of U.S. firms to produce components with specific technology requirements (e.g., airbags and catalytic converters) that are competitive with similar products manufactured by major foreign suppliers.

**Table 4**  
**Certain motor-vehicle parts and accessories: U.S. exports of domestic merchandise, general imports, and merchandise trade balance, by selected countries and country groups, 1988-92<sup>1</sup>**  
*(Million dollars)*

Item	1988	1989	1990	1991	1992
<b>U.S. exports of domestic merchandise:</b>					
Canada .....	5,802	6,907	8,757	8,019	8,935
Japan .....	181	314	498	469	547
Mexico .....	1,077	1,921	2,825	3,156	3,833
Germany .....	208	297	329	404	524
France .....	181	116	125	98	136
United Kingdom .....	189	222	225	210	256
Venezuela .....	189	91	108	186	285
Brazil .....	107	124	102	64	52
Taiwan .....	11	29	46	39	47
Korea .....	69	101	133	237	191
All other .....	1,135	1,382	1,400	1,420	1,745
<b>Total .....</b>	<b>9,149</b>	<b>11,504</b>	<b>14,548</b>	<b>14,302</b>	<b>16,551</b>
<b>U.S. general imports:</b>					
Canada .....	5,395	5,850	5,432	4,767	5,377
Japan .....	4,515	5,162	5,293	4,970	5,432
Mexico .....	904	1,045	1,171	1,373	1,887
Germany .....	1,001	917	776	587	632
France .....	549	466	621	649	604
United Kingdom .....	374	339	351	290	265
Venezuela .....	23	28	49	47	59
Brazil .....	254	249	240	198	241
Taiwan .....	223	266	278	253	289
Korea .....	81	94	111	88	91
All other .....	743	853	913	851	964
<b>Total .....</b>	<b>14,062</b>	<b>15,269</b>	<b>15,235</b>	<b>14,073</b>	<b>15,841</b>
<b>U.S. merchandise trade balance:</b>					
Canada .....	407	1,057	3,325	3,252	3,558
Japan .....	-4,334	-4,848	-4,795	-4,501	-4,885
Mexico .....	173	876	1,654	1,783	1,946
Germany .....	-793	-620	-447	-183	-108
France .....	-368	-350	-496	-551	-468
United Kingdom .....	-185	-117	-126	-80	-9
Venezuela .....	166	63	59	139	226
Brazil .....	-147	-125	-138	-134	-189
Taiwan .....	-212	-237	-232	-214	-242
Korea .....	-12	7	22	149	100
All other .....	392	529	487	569	781
<b>Total .....</b>	<b>-4,913</b>	<b>-3,765</b>	<b>-687</b>	<b>229</b>	<b>710</b>

<sup>1</sup> Export values are based on f.a.s. value, U.S. port of export. General imports include products that enter the United States through foreign trade zones.

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



**APPENDIX A**  
**EXPLANATION OF TARIFF AND TRADE AGREEMENT TERMS**

## TARIFF AND TRADE AGREEMENT TERMS

The *Harmonized Tariff Schedule of the United States* (HTS) replaced the *Tariff Schedules of the United States* (TSUS) effective January 1, 1989. Chapters 1 through 97 are based upon the internationally adopted Harmonized Commodity Description and Coding System through the 6-digit level of product description, with additional U.S. product subdivisions at the 8-digit level. Chapters 98 and 99 contain special U.S. classification provisions and temporary rate provisions, respectively.

Rates of duty in the *general* subcolumn of HTS column 1 are most-favored-nation (MFN) rates; for the most part, they represent the final concession rate from the Tokyo Round of Multilateral Trade Negotiations. Column 1-general duty rates are applicable to imported goods from all countries except those enumerated in general note 3(b) to the HTS, whose products are dutied at the rates set forth in *column 2*. Goods from Albania, Armenia, Belarus, Bulgaria, the People's Republic of China, the Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Mongolia, Poland, Russia, Slovakia, and the Ukraine are currently eligible for MFN treatment. Among articles dutiable at column 1-general rates, particular products of enumerated countries may be eligible for reduced rates of duty or for duty-free entry under one or more preferential tariff programs. Such tariff treatment is set forth in the *special* subcolumn of HTS column 1. Where eligibility for special tariff treatment is not claimed or established, goods are dutiable at column 1-general rates.

The *Generalized System of Preferences* (GSP) affords nonreciprocal tariff preferences to developing countries to aid their economic development and to diversify and expand their production and exports. The U.S. GSP, enacted in title V of the Trade Act of 1974 and renewed in the Trade and Tariff Act of 1984, applies to merchandise imported on or after January 1, 1976 and before July 4, 1993. Indicated by the symbol "A" or "A\*" in the special subcolumn of column 1, the GSP provides duty-free entry to eligible articles the product of and imported directly from designated beneficiary developing countries, as set forth in general note 3(c)(ii) to the HTS.

The *Caribbean Basin Economic Recovery Act* (CBERA) affords nonreciprocal tariff preferences

to developing countries in the Caribbean Basin area to aid their economic development and to diversify and expand their production and exports. The CBERA, enacted in title II of Public Law 98-67, implemented by Presidential Proclamation 5133 of November 30, 1983, and amended by the Customs and Trade Act of 1990, applies to merchandise entered, or withdrawn from warehouse for consumption, on or after January 1, 1984; this tariff preference program has no expiration date. Indicated by the symbol "E" or "E\*" in the special subcolumn of column 1, the CBERA provides duty-free entry to eligible articles, and reduced-duty treatment to certain other articles, which are the product of and imported directly from designated countries, as set forth in general note 3(c)(v) to the HTS.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "IL" are applicable to products of Israel under the *United States-Israel Free Trade Area Implementation Act* of 1985 (IFTA), as provided in general note 3(c)(vi) of the HTS. Where no rate of duty is provided for products of Israel in the special subcolumn for a particular provision, the rate of duty in the general subcolumn of column 1 applies.

Preferential rates of duty in the special subcolumn of column 1 followed by the symbol "CA" are applicable to eligible goods originating in the territory of Canada under the *United States-Canada Free-Trade Agreement* (CFTA), as provided in general note 3(c)(vii) to the HTS.

Preferential nonreciprocal duty-free or reduced-duty treatment in the special subcolumn of column 1 followed by the symbol "J" or "J\*" in parentheses is afforded to eligible articles the product of designated beneficiary countries under the *Andean Trade Preference Act* (ATPA), enacted in title II of Public Law 102-182 and implemented by Presidential Proclamation 6455 of July 2, 1992 (effective July 22, 1992), as set forth in general note 3(c)(ix) to the HTS.

Other special tariff treatment applies to particular *products of insular possessions* (general note 3(a)(iv)), goods covered by the *Automotive Products Trade Act* (APTA) (general note 3(c)(iii)) and the *Agreement on Trade in Civil Aircraft* (ATCA) (general note 3(c)(iv)), and *articles imported from freely associated states* (general note 3(c)(viii)).

The *General Agreement on Tariffs and Trade* (GATT) (61 Stat. (pt. 5) A58; 8 UST (pt. 2) 1786) is the multilateral agreement setting forth basic principles governing international trade among its 111 signatories. The GATT's main obligations relate to most-favored-nation treatment, the maintenance of scheduled concession rates of duty, and national (nondiscriminatory) treatment for imported products; the GATT also provides the legal framework for customs valuation standards, "escape clause" (emergency) actions, antidumping and countervailing duties, and other measures. Results of GATT-sponsored multilateral tariff negotiations are set forth by way of separate schedules of concessions for each participating contracting party, with the U.S. schedule designated as Schedule XX.

Officially known as "The Arrangement Regarding International Trade in Textiles," the *Multifiber Arrangement* (MFA) provides a framework for the negotiation of bilateral agreements between importing and producing countries, or for unilateral action by importing countries in the absence of an agreement. These bilateral agreements establish quantitative limits on imports of textiles and apparel, of cotton and other vegetable fibers, wool, man-made fibers and silk blends, in order to prevent market disruption in the importing countries—restrictions that would otherwise be a departure from GATT provisions. The United States has bilateral agreements with many supplying countries, including the four largest suppliers: China, Hong Kong, the Republic of Korea, and Taiwan.



