On the Road: U.S. Automotive Parts Industry Annual Assessment

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The big story of 2009 was the survivability of an automotive industry hit hard by the global economic recession. Automotive parts suppliers continued to experience heavy debt and overcapacity aggravated by production cuts by automakers, especially the Detroit 3 (Ford Motor Company {Ford}, General Motors {GM}, and Chrysler). Industry analysts reported that over 50 suppliers filed for Chapter 11 protection in 2009 and up to 200 suppliers were liquidated. The number of bankruptcies in the automotive parts industry may level off in 2010, but the next couple years will remain very difficult for suppliers. Suppliers managed to survive 2009 by rationalizing capacity and production. In previous years the industry breakeven point was typically estimated to be 10.5 million units in North America, but given their resourcefulness in times of duress, suppliers were able to get the breakeven point down to 9.5 million units toward the end of 2009. In fact, some leaner, more efficient suppliers actually saw a small profit in 2009.

The Detroit 3 continued to lose U.S. market share to U.S.-affiliates of foreign-based manufacturers and imports in 2009. The Detroit 3 fell below the 50 percent market share in 2008. Many U.S. parts suppliers are dependent on the Detroit 3 whose purchases traditionally account for nearly three of every four U.S. original equipment sales.[1] U.S. suppliers also find it difficult to enter transplant automakers' supply chains, in part because transplants have long-established relationships with home-market (foreign) suppliers and have had foreign suppliers co-locate nearby their U.S. operations. Where this hasn't occurred, most have already established long-term relationships with other U.S. suppliers.

International

U.S. automotive parts exports declined 25.7 percent to $42.7 billion in 2009 compared to $57.5 billion in 2008. Most of the exports (84 percent) went to Canada, Mexico, European Union 15[2] (EU-15), and Japan in 2009. Automotive parts imports were $63 billion in 2009, down 30.5 percent from $90.6 billion in 2008. Mexico, Canada, Japan, Germany, and China combined accounted for $49.8 billion, or 79 percent of total U.S. imports of automotive parts. Specifically, imports from China fell 17.8 percent from 2008 to $7.4 billion in 2009. The overall U.S. automotive parts trade deficit of $20.3 billion, down nearly 40 percent from 2008 levels.

Outlook

The entire automotive industry suffered as a result of the global economic recession in 2009. As vehicle production and sales declined, parts production and sales concurrently decreased because most parts are destined for new vehicle production. The value of automotive parts production declined deeper than total vehicle sales because consumers also shifted from high-content trucks and SUVs to lower-content passenger cars. Industry analysts suggest that U.S. sales of vehicles will increase slightly to between 11.2

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[1] GM's Restructuring Plan, February 2009, p. 43.

[2] The selected European Union countries are Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the United Kingdom, Austria, Finland, and Sweden.

million to 12.4 million units in 2010. Still, automotive parts suppliers and automakers face another couple difficult years and most analysts don't see the automotive market improving significantly until 2012.

"[W]e'd dig the whole world with a car like this because, man, the road must eventually lead to the whole world." - Jack Kerouac, *On the Road*.

Introduction

Automotive parts consumption is directly linked to the demand for new vehicles, since roughly 70 percent of U.S. automotive parts production is for Original Equipment (OE) products. The remaining 30 percent is for repair and modification (aftermarket). If vehicle production goes down, automotive parts production and sales follow. Last year was a difficult year for U.S.-based automakers, as the economy struggled to emerge from a recession and consumers reduced their spending on vehicles. General Motors, Ford, and Chrysler continued to lose U.S. market share to other automakers, but even foreign transplant automakers had a difficult year due to the falling market. Suppliers faced added hardships of reduced orders as vehicle production was cut by automakers starting roughly in September 2008. Industry analysts estimated that suppliers were running at only about 55 percent capacity in 2009, which was about the breakeven point for many. Suppliers were able to rationalize capacity by dropping the breakeven point from 10.5 million units in North America in May 2009 to about 9.5 million units in September 2009.

The impact of the recession and decreased automotive sales that began in late 2008 had vehicle makers making drastic cut-backs, job reductions, and restructuring. Automakers delayed payments to suppliers, while suppliers, struggling to meet their own financial obligations, found little help from the credit markets. Chrysler and GM requested billions from the Federal Government to stay afloat. The loss of one of these automakers would have hurt the U.S. economy further and would have been disastrous to automakers and the automotive supply chain. The supply chain is interwoven with many suppliers serving several automakers and OE suppliers. For example, over 51 percent of Ford's suppliers also supply GM.

Following years of contraction and a generally difficult business climate for automotive parts producers, suppliers continued to fail with about 50 new automotive supplier bankruptcies and up to 200 liquidations reported in 2009. Production increased at the end of the 2009 because of the need to replenish inventories after the Federal Cash-for-Clunkers program and the launch of 2010 models. GM increased production while Chrysler resumed production after emerging from bankruptcy. The increase in production at end of 2009 along with cost-cutting measures allowed many suppliers to survive and in some cases turn a profit.

Industry analysts predict that the automotive market will improve in 2010, but that it will be years, if ever, before the automotive industry returns to levels of the past decade. Industry analysts forecast that the retail market for vehicles will go up about 1 million units and there are indications more credit will be available in 2010.

Automotive Parts Sector Definitions

Automotive parts are defined as either Original Equipment (OE), or aftermarket parts. Original equipment parts that are used in the assembly of a new motor vehicle (automobile, light truck, or truck) or are purchased by the manufacturer for its service network are referred to as Original Equipment Service (OES) parts. Suppliers of OE parts are broken into three levels. The first level is "Tier 1" suppliers who sell finished components directly to the vehicle manufacturer. The next level is "Tier 2" suppliers who sell parts and materials for the finished components to the Tier 1 suppliers. The third level is "Tier 3" suppliers who supply raw materials to any of the above suppliers or directly to vehicle assemblers. There is often overlap between the tiers. Original equipment production accounts for an estimated two-thirds to three-fourths of the total automotive parts production.

Aftermarket parts are divided into two categories: replacement parts and accessories. Replacement parts are automotive parts built or remanufactured to replace OE parts as they become worn or damaged. Accessories are parts made for comfort, convenience, performance, safety, or customization, and are designed for add-on after the original assembly of the motor vehicle.

Overview of Industry Market Conditions

The U.S. auto industry is a key component of the nation's manufacturing base. In a typical year, it accounts for about five percent of GDP and 16 percent of all durable goods shipments. The automotive industry, including the automakers and automotive parts sectors, accounted for about 666,300 domestic employees in 2009, a decline of 24 percent from 875,500 in 2008,[3] and accounted for 5.6 percent of all manufacturing employees. The Center for Automotive Research found that the automotive parts sector indirectly contributed to 4.5 million jobs nationwide in 2004.[4]

While trying to work more collaboratively with suppliers, automakers put pressure on them by seeking price concessions and tasking their suppliers to take on more research, design and manufacturing responsibilities, and by absorbing the higher costs for their inputs. Suppliers that survived 2009 have slashed costs by cutting capacity, laying off workers, and restructuring financially. The Original Equipment Suppliers Association (OESA) reported that the automotive supply sector was operating at about 55 percent capacity utilization. This is an improvement over the 45 percent capacity utilization in early 2009, but far from the 80 percent historically needed for profitability.[5]

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[3] Bureau of Labor Statistics data using NAICS 3361, 3362, and 3363. http://data.bls.gov/PDQ/outside.jsp?survey=ce

[4] *Contribution of the Motor Vehicle Supplier Sector to the Economies of the United States and its 50 States,* by Economics and Business Group, Center for Automotive Research, January 2007. http://www.cargroup.org/documents/MEMA-Final2-08-07_000.pdf

[5] *Ward's Automotive Reports*, 1/25/10, p. 3.

Pressure is further exacerbated by global competition in the parts industry. As Japanese, German, and Korean-based vehicle manufacturers gain shares of the U.S. market, they maintain relationships with their traditional supplier base. Many of those home market suppliers have been creating or expanding "transplant" capacity in the United States to meet their traditional automaker's production needs. At the same time those transplant suppliers are aggressively seeking business from the Detroit 3. In addition, suppliers in many lower cost markets are improving their quality and becoming capable of supplying even greater shares of U.S. demand from abroad. The Detroit 3 have also advocated that U.S.-based suppliers move production to lower cost countries or risk losing future contracts.

To survive, many domestic parts manufacturers are adapting to these numerous challenges. Some suppliers are willingly taking on the new responsibilities offered to them by the automakers. Some have transformed themselves into "Tier One-Half systems integrators," that engineer and build complete modules (for example, an entire interior, 4-corner suspension sets, or an entire rolling chassis) and assume both product design and development responsibilities, and down stream supply chain management functions previously undertaken by the automakers.

Due to shifting and then declining demand for vehicles, automakers have been dramatically cutting production. The impact upon suppliers when an automaker sharply curtails operations can be severe. It takes many months and significant resources to win business from vehicle assemblers or from the major "Tier 1" suppliers. Most U.S. suppliers are ill-situated to withstand major disruptions to their sales.

Dramatic growth in China and other Asian economies (i.e., India), has also led to increased costs for critical raw materials. Examples of some of the raw material price increases by July 2008, include plastic resins (up 45 percent since January 2007), rubber for tires (up 20 percent since May 2008), oil for petrochemical feedstock (up 43 percent since early January 2008), and steel for bodies, frames and bumpers (up nearly 100 percent since December 2007). Demand in the developing world, primarily China, has been a major driver behind increasing raw materials and energy commodity prices.

However, as automakers and other manufacturing industries cut back worldwide in the later part of 2008 and into 2009, the demand for many raw materials has decreased, leading to moderate price declines. Steel prices were high due to strained capacity and dramatic industrial growth in the developing world, but around June 2008 the bidding war eased and the prices started going down. The price of hot-dipped galvanized steel used in vehicle bodies, peaked at $1,303 per ton in June 2008 and dropped 11.7 percent by October 2008, but still cost nearly twice as much as it did in January 2008. Prices for materials and energy commodities saw some increases late in 2009 because of an improved outlook for world economic growth, strong import demand from China, and the weakness of the U.S. dollar. Steel prices jumped in the fourth quarter of 2009 partly because of rising automotive demand following the Cash-for-Clunkers program. The spot price for hot-rolled band used for vehicle body panels was around $559 per ton in October 2009, up from $381 in June 2009.[6]

Financial pressures from raw material prices have been affecting ties between suppliers and automakers, and between higher tier suppliers and their lower tier suppliers. Automakers are increasingly allowing material cost pass-throughs from suppliers, usually on a case-by-case basis, if the supplier can prove extraordinary pressures because of raw material costs and demonstrate efforts to keep costs down. Nonetheless, sometimes automakers and suppliers rely on the courts to enforce their price agreements. Dana Holding Corp., which emerged from Chapter 11 in 2008, asked the courts to enforce an agreement with Chrysler to establish a "mutually rewarding supply agreement." Johnson Controls Inc. filed suit against three of its suppliers that threatened to withhold shipments if they were unable to raise prices to compensate for the cost of steel.

Many analysts and industry members expect the North American industry restructuring to continue into 2011, so the pressures driving industry consolidation will remain for some time. Industry analysts predict that at least 500 of the remaining 5,000 or so U.S. automotive suppliers will fail in the next few years.[7] The continued pressure is forcing automotive suppliers to seek work in alternative fields including military, space and wind energy. While many have not been able to find sufficient work to keep their doors open, the increasing diversification of those successful combined with an improving automotive market, lower or steady raw materials costs and improved fundamentals at GM, Ford, and Chrysler should help to slow market share loss. It is an industry consolidation that has cut the number of U.S. automotive suppliers by roughly one half since 2000 and about five sixths since 1990.

The pressure for consolidation may decline but it will not end. Improving production efficiency alone will continue to require fewer producers for the same level of industrial output. Either unit sales will have to continually rise to accept the added output or the pressure to combine or reduce suppliers will exist. Chinese and Indian-based automotive manufacturers will also contest for U.S. market share as will parts makers from these markets. Any share they gain will come at the expense of current market participants. The pressure for consolidation will be particularly acute for companies competing in commodity markets without technical advantages or intellectual property to provide them with pricing relief against their peers.

Economic Indicators

Historically, the automotive sector closely tracks general economic indicators, in part because the automotive sector is a major component of these indicators (Charts 1 and 2). The United States was officially in a recession in 2009. Although the recession officially ended in July/August 2009, the U.S. economy remained weak. With the economy depressed, consumers and businesses cut vehicle purchasing. Likewise, suppliers and

[6] Automotive News, "Steel Price Jumps may Hurt in 2010," by Robert Sherefkin, p. 4.
[7] "Auto Parts Makers Change Tack, Seek Fair Winds: Firms Struggling On Clean Energy, Defense Contracts," by Dana Hedgpeth, Washington Post, August 13, 2009

automakers have been finding it difficult to secure the capital needed to purchase materials and finance sales.

Total U.S. production of light vehicles was 5.6 million units in 2009, a decline of 34 percent from the already reduced levels of 2008. The record high production of light vehicles was in 1999 with 12.6 million units. Production increased slightly at the end of 2009, following the government's Cash-for-Clunkers program. The slight production increase boded well for 2010, and industry sales forecasts for 2010 predict an increase to somewhere between 11.2-12.4 million units, up from 10.4 million in 2009.

Trends in the automotive parts industry follow the motor vehicle industry. There is a perception that in periods of downturn in the motor vehicle sector, lost OE automotive parts production and sales will be offset somewhat by aftermarket sales as demand for replacement parts for vehicles increases. On the other hand, some industry analysts suggest that this relationship is not always correct, as consumers will also tend to delay all but essential repairs during a recession particularly deep recessions like this past year. The aftermarket was fairly flat in 2009, but fared better than the OE market. The durability of parts has increased over time which results in less need for repairs. This trend has been heightened by increased imports of aftermarket parts including many counterfeits from low cost countries further eroding the aftermarket for U.S.-based OE producers. Therefore, declines in OE parts production and sales may no longer be substantially offset by increases in the demand for aftermarket parts.

According to the most recent Economic Census (with the latest data available through 2007), auto parts industry shipments were $213 billion, accounting for about 4 percent of the total U.S. manufacturing shipments (Tables 1 and 2). This is one of the highest shares of any single U.S. industrial sector. Industry employment in 2007 accounted for 4.7 percent of total manufacturing employment. The U.S. automotive parts industry was also one of the largest U.S. exporters, accounting for four percent of total U.S. goods exports in 2009 (Table 3).

The Original Equipment Suppliers Association (OESA) estimated that the worldwide market for OE automotive parts decreased to $695 billion in 2009 (Table 4). The North American market accounted for $119 billion, or 17 percent of the global demand. The North American parts content of vehicles was estimated to be $13,900[8]. OESA also estimated that in 2009 Europe accounted for $204 billion worth of OE parts; China $123 billion; and Japan and Korea $136 billion.

Domestic Market

DesRosiers, an automotive consulting firm, reported that the U.S. market for OE and aftermarket automotive parts dropped 13.8 percent in 2008 to $210 billion, from $243.7 billion in 2007 (Table 5, Charts 3 and 4).[9] The amount of OE and aftermarket parts supplied from U.S. based suppliers dropped 15.5 percent to $140.3 billion in 2008 from

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[8] Merrill Lynch estimate via OESA.
[9] "US Demand for OE and Aftermarket Parts," Dennis DesRosiers email report, 3/19/2009.

$166.3 billion in 2007. U.S. based suppliers accounted for 66.8 percent of the U.S. parts market. Market share of U.S. based suppliers has been declining since 1998 when they accounted for 81 percent of the market.

Original Equipment (OE) Sector

The U.S. demand for OE parts, including heavy duty truck parts, was estimated to be $139.4 billion in 2008[10] (Table 5 and Charts 5, 6, 7). This is a decrease of 20.5 percent from the $175.3 billion in 2007. The OE parts market also decreased 19.2 percent in Canada in 2008 to $36.7 billion, but increased slightly (3.4 percent) in Mexico to $35.9 billion. The North American OE parts market was down 34.3 percent from $222.9 billion in 2008 to $146.5 billion in 2009.[11]

Globally, the top 100 OE suppliers recorded $588 billion in sales in 2008, a decrease of four percent from $612.52 billion in sales they had in 2007 (Table 7, Charts 8 and 9). The top 10 global OE suppliers saw a seven percent decrease in sales to $217.5 billion in 2008 down from their sales of $233.9 billion in 2007. Robert Bosch Gmbh had worldwide OE sales of $33.9 billion. Delphi was down 19 percent from 2007, with $18.1 billion in OE sales. Only three U.S. suppliers were among the top 10 global OE suppliers in 2008: Johnson Controls, Delphi, and TRW. Most suppliers saw sales drop in 2008, especially those closely tied to General Motors and Chrysler, and those producing for light trucks, as light truck sales fell more dramatically than passenger cars. European suppliers were not hit as hard in 2008 because the collapse of the European auto market came later than in North America and Japan.

Growth for the majority of suppliers dependent mainly upon mature markets has stalled according to an analysis by PriceWaterhouseCoopers.[12] The analysis observed that suppliers "strategically entering emerging markets to improve both their cost position and diversify away from traditional customers have tended to generate above average operating income growth despite strong home market headwinds."

Because of the 34 percent decline in vehicle production, original equipment parts experienced a similar decrease in sales volume in 2009. However, analysts noted that OE sales by value were down even more because of a shift from higher-content value SUVs to lower-content value small passenger cars. Original equipment parts demand in 2009 was down to lows not seen since 1993 ($164 billion) in current dollars, or if the market demand is adjusted for inflation in constant dollars not seen since the 1950's.[13]

In addition to the challenges of high raw material costs and shifting or declining market demand, competition was also growing as foreign suppliers opened shop in North America. An estimated 800-1,000 suppliers from overseas built plants in North America

[10] "NA Outlook for Sales and Production and OE Parts Demand," DesRosiers analysis email, 1/23/09.
[11] "Decade in Review: OE and Aftermarket Demand for Parts," DesRosiers analysis email, 2/9/10.
[12] PWC Automotive Institute's Analyst Note, PriceWaterhouseCoopers, 8/1/07.
[13] "*NA* Outlook for Sales and Production and OE Parts Demand," DesRosiers analysis email, 1/23/09..

in the past 20 years, creating a mass global "localization" of the supplier sector.[14] Some foreign suppliers, especially European companies, that expanded businesses in North America to supply their Detroit 3 customers, are also trying to move away from Detroit 3 business to Asian automakers. However, Japanese suppliers are not immune either. Suppliers in North America all face competition, declining market share, historically high material costs, and demanding customers, although the foreign suppliers face fewer legacy costs and so tend to operate more efficiently than their U.S. counterparts.

North American parts supplied by transplant suppliers in North America had increased from about 10 percent to over 30 percent between 1997-2007.[15] According to Automotive News, in 2004, foreign-affiliated suppliers produced 33.1 percent of OE parts sold in North America, up from 27.5 percent in 2001 (Table 5, Charts 3 and 4).[16] Foreign-affiliated suppliers made significant inroads into the U.S. market through acquisitions, sales to transplant automakers, and sales to the Detroit 3. Moreover, transplant vehicle production in the United States grew significantly, from only 2.6 million light vehicles in 1999 to just over 4 million units in 2007. However, the economic recession and decline in vehicle production also hit the transplant automakers, returning them to 1999 levels of about 2.6 million vehicles produced in the United States in 2009.

The Detroit 3 have continued to purchase more foreign-based supplier components. For example, Siemens, a German supplier, which had no share of audio systems in North America in 2003, had grown to 25 percent share by 2005. Also, Denso Corporation, the third largest supplier in the world, reported that its sales to the Detroit 3 were rising and that the North America market represented about 40 percent of its total sales, while Toyota accounted for another 40 percent of Denso's business in North America.[17] In August 2008, Chrysler named Denso Corporation as its first "Supplier of Choice." This means Denso is the default supplier with whom other suppliers must compete to win contracts and Denso will not have to compete to keep current orders.

The effect of the foreign-based suppliers' increased production within the North American market is also affecting the North American content of vehicles. In fact, some Japanese vehicles, such as the Toyota Sienna had a 90 percent U.S. and Canadian component content, while traditional American vehicles, such as the Chevrolet Suburban, Ford Mustang and Jeep Grand Cherokee have between 61-72 percent U.S. and Canadian content.

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[14] "Size of the parts market in North America," DesRosiers analysis email, 1/19/2007.
[15] "Size of the parts market in North America," DesRosiers analysis email, 1/19/2007.
[16] Chappell, Lindsay. "Transplant Suppliers Surge in N.A.," Automotive News, November 28, 2005, pp. 1 and 35.
[17] Denso is a member of the Toyota group with Toyota owning 22.9 percent of Denso. Denso expected double-digit growth between 2007-2012 in North America.

Aftermarket

The combination of lower gasoline prices, easing cutbacks in miles driven, and expectations of lower new vehicle sales has the potential to increase aftermarket sales in the near to intermediate term. The aftermarket experienced a sales boom after 1,160 dealerships closed in 2009. It was estimated that more than $7 billion in 2009 parts and services would be redirected to independent service outlets and auto parts stores and non-OE auto parts distributors as dealers closed shop.[18] Independent garages employed an estimated 332,262 individuals. It is estimated that 70 percent (176 million) of out-of-warranty vehicles are repaired at independent shops.

The perception that a weak economy favors the aftermarket appears to be holding for the short-term. Cost-awareness amongst automobile consumers have lead many to invest in servicing and repairs of their vehicles rather than purchasing a new one because of the effect of the weakened global economy. The aftermarket (parts and services) is estimated to be a nearly $200 billion industry and has benefited as consumers defer new vehicle purchases because of uncertainty about their jobs, housing market, and availability of disposable income. Still, even the aftermarket is not immune to the state of the economy.

While the recession boosted the aftermarket's financial viability in the short-term, not all long-term indicators are promising. Mergers and acquisition activity in the aftermarket was down in 2008 because of tight credit markets and diminishment in earnings and revenue in the industry. Recent merger and acquisition activity was centered on "distressed deals," where companies sell or merge because of desperation rather than growth potential.

There are two primary models used in determining the size of the aftermarket. The "Survey Cost Method" involves using the number of vehicles on the road for each model year and multiplying by a survey-derived estimate of service and repair dollars spent on vehicles by model year. This method is used by many industry analysts and consultants. Another model is the "Joint Industry Channel Forecasting Model" which uses an econometric model that incorporates census data, vehicles in operation by model year and vehicle type, survey derived estimates of maintenance and repair activity and current economic conditions. This method was developed in 2002 by DRI-WEFA as a joint project of Motor Equipment and Manufacturers Association and the Automotive Aftermarket Industry Association (AAIA). In 2007, AAIA, Automotive Aftermarket Suppliers Association,[19], and the Specialty Equipment Market Association had Global Insight (formerly DRI-WEFA) update the model.[20] Using the Survey Cost Method (Table 6), the size of the U.S. automotive aftermarket including the service sector was $187.3 billion in 2008, down slightly from 2007.

Focusing solely on the parts portion of the market, the North American aftermarket parts sector was worth $80.3 billion in 2009 in wholesale dollars, up slightly (0.9 percent) from

[18] Lang Marketing, Globe Newswire, 3/17/09.
[19] A part of MEMA.
[20] AASA. "2008-2009 Automotive Aftermarket Status Report," pp. 39-41.

2008.[21] The aftermarket in North America has shown a slow, but steady increase since 2000 when the market was $62.4 billion.

The automotive aftermarket sector does not encounter the same price and cost cut pressures from automakers that the OE supply chain faces, but the sector is still affected by the overall state of the economy. Factors influencing the health of the aftermarket sector industry include: the number of vehicles reaching prime aftermarket age (about 8 years); the cost of fuel; the amount of unperformed maintenance; and the ability to get or keep used cars in circulation. In 1996, there were a total of 198 million vehicles in operation in the United States. By 2007, that number had grown to over 241 and more vehicles "came of age" needing more repairs. In the longer term, the number of cars sold was only 10.3 million in 2009, down from 17 million a few years ago, which means in the aftermarket's sweet spot of 5-7 years, there will eventually be fewer cars needing service. The aftermarket is also experiencing a shift from Do-It-Yourself (DIY) to Do-It-For-Me (DIFM) consumers as vehicles become more complex and baby boomers age, however this has little effect on the parts sold.

There were fewer new cars bought (10.3 million vehicles) in 2009 than were scrapped (14 million vehicles), resulting in 246 million vehicles on the road, four million fewer than in 2008.[22] The average vehicle age increased to 10.6 years for all cars and light trucks up from 10.2 years in 2007.[23] In 2007, the percentage of cars 11 years old or older was 41.3 percent compared with 40.9 percent in 2006.[24] For trucks the percentage was 29.5 percent in 2007, and 29.2 percent in 2006. The older fleet reflects improved overall vehicle durability. Despite improved durability per unit, increased vehicle lifespan provides a market for replacement aftermarket parts such as struts, exhaust systems, water pumps and alternators, as well as performance and styling products. This increased fleet age offers increased aftermarket sales which offsets to some degree the lower parts replacement rate due to increasing new vehicle quality and reliability. Other factors tend to counteract this effect.

Sustained periods of gasoline costs over $3 per gallon could result in uncertainty for the consumer, reduced miles driven, and prolonged periods of deferrals of automotive services. The fewer miles driven also reduce wear, leading to less maintenance. The average annual miles driven by motorists, 11,604 miles for cars in 2007, was down slightly from previous years. The U.S. Department of Transportation found Americans drove 6.6 billion miles more in 2009 than in 2008, an increase of 0.2 percent. Although gas prices have dropped from the $4 per gallon levels experienced in the summer of 2008, Americans continued to drive less miles on average.

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[21] DesRosiers, Dennis. "Decade in Review: OE and Aftermarket Demand for Parts," Analysis email, 2/9/10. Wholesale Dollars are what wholesaler pay for parts, not the consumer and excludes the service labor in a job.
[22] WANADA Bulletin #1-10, 8 Jan. 2010, p. 7.
[23] Lang Marketing, Globe Newswire, 3/17/09.
[24] Carley, Larry, "Aftermarket Hits $295 Billion per Year," Automotive Aftermarket Products Expo, 10/31/07.

Also, according to *Aftermarket Business*, many consumers no longer judge replacement/aftermarket parts on anything other than form, fit, and function, since quality parts can and do come from everywhere. No longer is the "Made in America" mark considered an indication of better quality over parts from other countries. Moreover, other countries are producing quality parts at lower prices. This shift in acceptance of foreign parts has been fueled by general U.S. consumer acceptance of foreign-made items and has led to China and India's success in entering the American aftermarket.[25] A potential challenge to the independent aftermarket is getting repair information so that shops can compete with OE dealers and shops. Aftermarket participants have complained that several vehicle manufacturers unduly restrict the ability of independent service channels to repair their vehicles by limited access to needed repair information. They complain that key information is restricted to the vehicle manufacturer's dealership networks. The automakers contend that some of this technical information is intellectual property that needs to be protected from competition.

Aftermarket suppliers do need to be able to keep up with new technology. Some industry consultants speculated that higher fuel prices could be an opportunity for aftermarket suppliers by providing incentive to purchase fuel-efficiency technologies, and keeping vehicles maintained for better fuel efficiency. The specialty equipment segment of the aftermarket (products that are not purchased out of necessity, but rather out of choice) has been a traditional bright spot in the automotive parts industry. This segment saw growth rates averaging nearly 8 percent annually for the 10 years leading up to 2008, while the total automotive aftermarket grew at an average rate of 4.1 percent, according to the Specialty Equipment Market Association.[26] In 2007, retail sales for the segment were $38.11 billion, an increase of 3.8 percent from 2006, and up 79.8 percent since 1998.[27] The specialty equipment market includes products used to modify the performance, appearance, and/or handling of vehicles. However, as consumers feel an economic pinch they are likely to focus on necessary replacements over specialty equipment.

As hybrids become more popular, industry analysts predict growth in styling and accessory products (specialty equipment) that will make hybrids look, function and perform better. Analysts believe consumers will also want more environmentally friendly equipment. The key will be to provide a benefit without compromising fuel economy.

Remanufacturing

The remanufactured automotive parts industry is estimated to be roughly an $85-100 billion industry worldwide. Based on estimates by the Automotive Parts Remanufacturers Association (APRA), the value of remanufactured parts was about $40 billion in the United States in 2009. Around 2,000-3,000 remanufactured automotive parts companies operate in the United States, including approximately 150 light vehicle production engine remanufacturers, ranging from assembly line operations to very small

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[25] Ross, Sativa, "Staring Down Commoditization," *Aftermarket Business*, 12/05.
[26] *SEMA NEWS*, June 2007, p. 47 and *SEMA News*, June 2008, p. 31.
[27] *SEMA NEWS*, June 2008, p. 32.

companies with two or three employees. Many heavy duty engine remanufacturers are owned by the original equipment companies.

The remanufacturing industry produces goods that are partially comprised of components recovered from end-of-life products combined with new components in place of certain worn or damaged parts that are no longer useable. The process transforms the recovered and new components into “like-new” goods**.** This reuse of inputs yields important economic and environmental benefits. Remanufactured goods generally have the appearance, performance, and life expectancy of new goods. They often meet the same performance requirements as, and enjoy warranties similar or identical to, equivalent new goods (original equipment parts). In short, remanufactured products are intended to be identical to and indistinguishable from products manufactured entirely from raw materials, new parts or components.

Remanufacturing reduces the volume of material entering the waste stream by re-directing retired products to the remanufacturing process. Remanufacturing thereby reduces the amount of raw materials consumed**,** uses less energy and reduces harmful emissions when compared to manufacturing a new part. Remanufacturing saves on new raw material inputs and on energy use because recovered goods retain the energy and inputs from their original manufacture. For instance, remanufacturing of automotive alternators requires only 12 to 14 percent of the energy that it would normally take to manufacture a new alternator, contributing to the sustainability of the manufacturing process. These savings can result in lower product prices for consumers and higher margins for producers and retailers.

During most of 2000-2007, domestic demand for remanufactured automotive parts in the United States began to slow due to original equipment parts lasting longer and competition from low cost new parts imported primarily from China. However, the APRA believes (total data is not available) the U.S. remanufacturing industry grew somewhat in 2008-09 due to the drop in new vehicle sales and will continue to grow in 2010 even though the U.S. market for new vehicles is beginning to recover. This is due to the increasing age of the vehicle fleet in the United States, and the demand for replacement parts, including remanufactured parts, should help the parts aftermarket industry grow.

U.S. parts remanufacturers continue to increase their presence overseas. Several have completed purchases of foreign remanufacturers, especially in the European Union. Cardone, based in Philadelphia and the largest privately owned parts remanufacturer in the world, recently acquired three Remy Automotive Europe plants in the United Kingdom. ArvinMeritor, headquartered in Troy, Michigan, purchased Belgian-based Trucktechnic, a remanufacturer of brakes and brake parts, in July 2008. TRW Automotive, based in Livonia, Michigan, bought UK’s Brake Engineering in 2008. In 2009, Vermont-based Sonnax, a remanufacturer of transmission components, began operating in the EU. Other U.S. companies are expanding their remanufacturing operations in not only the EU, but many other regions of the world. This is especially true for U.S.-based Caterpillar, the largest automotive and heavy equipment remanufacturer in the world.

However, many countries limit trade in remanufactured products. Such barriers include outright trade bans, higher tariffs and fees, or stringent regulation, certification, and inspection requirements. Many of these barriers exist because countries associate remanufactured goods with used goods and waste. These barriers can also be an excuse to protect inefficient domestic firms, which is more often the case. The U.S. government has been working with industry to address the barriers to trade in remanufacturing through individual country agreements specifically addressing limits on remanufactured parts, our free trade agreement negotiations, and the WTO Doha Round.

Employment Trends

In its January 2007 report, *Contribution of the Motor Vehicle Supplier Sector to the Economies of the United States and Its 50 States*, the Center for Automotive Research (CAR), found that automotive suppliers contribute to 4.5 million jobs nationwide and provide more jobs than any other sector in seven states- Michigan, Indiana, Kentucky, Missouri, Ohio, South Carolina and Tennessee. It was reported that automotive suppliers account for more jobs and provide more economic well-being to more Americans than any other manufacturing sector.

The Original Equipment Suppliers Association (OESA) estimates that there were 30,000 firms in the North American automotive supply chain in 1990, but just 10,000 in 2000 and 8,000 in 2004. There are now roughly 5,000, each enjoying significantly higher sales volumes, but likely to require significantly fewer total employees.[28] The global economic slump is expected to hasten and expand these declines.

The Bureau of Labor Statistics (BLS), U.S. Department of Labor, reported that employment in the automotive parts industry was an estimated 470,000 jobs in 2009 (Table 10 and Chart 10). This is a decline of 22.2 percent from the 603,800 jobs in 2008. The last time the number of jobs increased in the automotive parts industry occurred in 2000, when employment grew 0.3 percent to 920,300. However, employment fell sharply the following year to just 850,200 jobs.

U.S. auto parts makers have cut more than four times as many manufacturing jobs as the automakers during the past six years and that trend is expected to continue. Many Japanese, German, and Korean suppliers have established manufacturing facilities in the United States that employ a large number of production workers. Still, for each employee added to these foreign transplants over the past 14 years, U.S. automotive companies have let go 6.1 employees.[29]

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[28] *An Odyssey of the Auto Industry*, presented before the SAE World Congress on March 8, 2004 and McCracken, Jeffery, "Battered Auto-Parts Makers Could Face More Pain," *Wall Street Journal*, 8/13/07, p. A3 and "Auto Parts Makers Change Tack, Seek Fair Winds: Firms Struggling On Clean Energy, Defense Contracts," by Dana Hedgpeth, Washington Post, August 13, 2009.
[29] "Import Brands Add As Detroit 3 Subtract," *Automotive News*, 11/26/07, p. 34.

Less than eight percent of the nation’s private work force was unionized at the end of 2008. When public employees are added to the figure, 12.5 percent of all workers belong to unions, about half the amount there were 25 years ago. The United Auto Workers (UAW) had fewer than 450,000 members at the end of 2009, down from 1.5 million in 1979. Part of this decline was due to greater productivity that allowed auto companies to build more cars with fewer people, but it also reflects reluctance on the part of blue-collar workers to vote for union representation, especially in the new Southern auto transplants and U.S.-owned parts companies. More than 50,000 UAW workers have accepted early retirement since 2007. Industry experts expect that union membership will decrease another 50,000 to less than 400,000 members in 2010-11 because of additional early retirements, layoffs, buyouts and possible bankruptcies in the parts industry.

Many suppliers are negotiating and re-negotiating contracts with unions (primarily the UAW) in efforts to cut back on health care, pension, and labor costs. UAW leaders realize that prospects of even maintaining current pay and benefit levels are dim because so many large suppliers are in Chapter 11. Thus, suppliers are able to lower wages and cut back or eliminate these costs. For example, Delphi and Visteon negotiated changes with the UAW in 2006 that would lower retirees’ health care benefits and increase health care costs for current working UAW members.

In March 2009, Delphi eliminated health care for salaried retired workers, and it was upheld by the court. In December 2009, a bankruptcy judge ruled Visteon had permission to eliminate health care benefits for most of its retirees. In addition, Visteon received permission to cut company-paid medical, prescription and life insurance coverage to 6,550 current and future employees, as well as their spouses and dependents. In July 2009, Dana, one of the largest U.S.-owned parts companies, entered into an agreement with the UAW and the United Steel Workers to set up a Voluntary Employees Beneficiary Association (VEBA); similar to those agreed upon with the Detroit 3 in 2007.

Among the most watched negotiations in the U.S. parts industry in 2009 were negotiations between the UAW and American Axle. When negotiations broke down, the UAW called a strike which lasted 11 weeks. American Axle then threatened to move much of its production to its Mexican plants. The UAW agreed to wage rates reported to be half of what they were previously (from about $28 to about $14); the closure of two plants; an upfront lump-sum payment of $5,000 to all hourly workers, and various buyout payments if additional U.S. plants close.

Late in 2007, GM, Ford, and Chrysler negotiated new contracts with the UAW, decreasing benefits for current and future employees and also lowering retiree benefits. On March 9, 2009, Ford UAW members approved additional changes to the 2007 contract. The changes include fewer holidays, eliminating the jobs bank, and most importantly, changes to the Voluntary Employees Beneficiary Association (VEBA). Similar changes were approved by GM and Chrysler UAW workers during bankruptcy proceedings. Also included in the new GM and Chrysler agreements were a no strike clause until 2015, one less holiday, and fewer job classifications. Undoubtedly, when a union contract expires with a parts company in the future, each company will want a contract with similar, if not more, concessions.

Leading Industry Stories of 2009

Federal Bailout of the Automotive Industry

The U.S. government pumped nearly $120 billion into the automotive industry, bailing out General Motors and Chrysler[30], backing the "Cash for Clunkers" program that boosted sales, and providing funding indirectly to suppliers through the two bankrupt automakers.

In early 2009, the Motor and Equipment Manufacturers Association (MEMA) submitted an urgent appeal to the U.S. Treasury Department for at least $18.5 billion in government aid for suppliers. The request noted that total payments to suppliers from the Detroit 3 were expected to total $2.4 billion in the month of March 2009, down from $8.7 billion in December 2008.

The Treasury Department announced a $5 billion program to help U.S. auto parts suppliers in March 2009. The program was meant to insure that parts suppliers got the money owed to them for their products no matter what happened to their automaker customers, especially GM and Chrysler as the specter of bankruptcy loomed over the automakers.

The Supplier Support Program was designed to provide suppliers with the confidence they needed to continue shipping parts and support they needed to help access loans to pay their employees and suppliers and continue their operations. The cycle of frozen credit markets, and supplier uncertainty had the potential to disrupt the industry and the restructuring efforts of GM and Chrysler. Generally suppliers that ship parts to auto companies receive payment for those shipments about 45-60 days later. In a normal credit environment, suppliers can either sell or borrow against those commitments (receivables) to pay their workers and suppliers and continue operations, but in 2009 GM and Chrysler were delaying payments while in bankruptcy and banks were reluctant to extend credit based on receivables owed by firms in bankruptcy. The program allowed the parts makers to sell their receivables into the program at a slight discount. This provided them with needed funding and helped unlock credit. Suppliers could sell their receivables to the government for immediate cash at a discount or could choose credit insurance where the Treasury Department would back any payment due to a supplier from its customer.

The $5 billion came from the Troubled Asset Relief Program, the fund set up to bail out banks and financial institutions. General Motors and Chrysler participated in the program as they went through bankruptcy, while Ford opted out of the program because it had enough cash to pay its suppliers. General Motors and Chrysler were responsible for running the program and Citibank would administer the funds. This limited the

[30] For information on the Federal bailout of GM and Chrysler, see the Road Ahead companion report.

suppliers that could participate, as the eligible suppliers had to be a U.S. Tier 1 supplier selected by GM or Chrysler. This meant that some large suppliers like Magna and Visteon were left out. Visteon got only about 5 percent of its revenue from GM and Chrysler, while Magna, the largest supplier in North America, was excluded because it is a Canadian firm.

Suppliers viewed the program as inadequate. It required several conditions to participate in the program and suppliers could often find better loans and rates from other sources. The program also only targeted parts sold. The credit insurance had a 2 percent fee and the Quick Cash option had a 3 percent fee. These fees amounted to annual rates between 12-25 percent. Additionally, Chrysler and GM had budgeted enough to cover the payments and received approval from the bankruptcy courts to pay suppliers for parts shipments. After GM and Chrysler emerged from bankruptcy, the Treasury Department announced that the program would end in April 2010.

As the Treasury program only assisted Tier 1 suppliers, trade associations tried to get an expansion to assist Tier 2 and 3 suppliers or suggested a separate aid program from the Small Business Association (SBA). The SBA's 7(a) loan guarantee program, which helps small companies who can't get commercial loans, has a $2 million cap per loan. MEMA argued that was too low to help small parts companies and suggested that the cap be raised to $5 million level. One program that was offered as a model was Michigan's to aid suppliers. In June 2009, Michigan started a program with $12 million set aside to guarantee loans for small suppliers. Companies could use the government support as collateral for loans.

Delphi Bankruptcy Comes to an End

After four years in bankruptcy, Delphi was able to exit in October 2009. Delphi was the 13th largest company to file for bankruptcy protection in U.S. history. Delphi Corporation lost $3.1 billion in 2007, compared to $5.5 billion in 2006. About $3 billion of the 2006 loss was related to the buyouts of about 20,000 workers. Delphi's global OE sales were $18.1 billion in 2008, down from $22.3 billion in 2007. Delphi expected the losses to continue until it could address its high U.S. cost structure and complete its restructuring. Delphi talked with GM, the UAW and investors about cuts and plant closures needed to emerge from bankruptcy. A plan for a group of investors, including Appaloosa Management LP, Cerberus Capital Management LP, and their partners, to invest up to $3.4 billion in Delphi for a 70 percent ownership stake, fell apart when Cerberus bought Chrysler from DaimlerChrysler. An investment group led by Appaloosa Management LP picked up the reins to back a $2.55 billion equity plan to support the reorganization and Delphi hoped to close a deal for $6.1 billion in financing to exit from Chapter 11 in April 2008.

Days before Delphi was to exit, Appaloosa Management LP raised concerns about the terms GM got for increasing its support and whether GM would have too much influence over Delphi. Appaloosa Management subsequently announced that it had terminated its planned equity investment, causing Delphi to flounder longer in Chapter 11 protection.

Delphi took Appaloosa to court for breach of contract and fraud in an attempt to force the $2.55 billion investment plan.

GM has booked $11 billion in expenses connected to Delphi and could take on more financial responsibility despite facing its own financial troubles. GM continued to lend Delphi money to help the supplier emerge from bankruptcy, lending Delphi nearly $1 billion over the years, taking back employees, and taking over portions of pension funds.

A plan in October 2008 rested largely on GM's agreement to provide a total of $10.6 billion in support of Delphi's reorganization. In 2009, General Motors facilitated Delphi's exit by taking back five U.S. plants and Delphi's global steering business. GM assumed more than $1 billion in Delphi obligations and waived $2 billion in claims. GM also planned to invest $1.75 billion and provide Delphi with loans. Delphi was granted approval of its Debtor-In-Possession (DIP) Accommodation Agreement that gave Delphi the authority to continue to use proceeds of its DIP Credit Facility through June 30, 2009. Delphi received permission to cancel retiree health benefits and end post-retirement basic life insurance benefits, a move that would allow Delphi to reduce its liabilities by $1.1 billion.

Chapter 11 proceedings completed with Delphi as a privately held company with Elliott Management Corporation and Silverpoint Capital LP as senior creditors. A number of Delphi's plants will be grouped under a new entity, the Reorganized DPH Holdings Co, for liquidation.

Delphi had 166 plants worldwide in 2002, including 45 in the United States and Canada, and employed 185,200 people worldwide, including 147,900 hourly workers. Seventy-five percent of the hourly workers were union represented, including 25,200 by the UAW in the United States. About half of Delphi's business was with GM, which purchased $14 billion worth of parts from Delphi in 2004. In Europe, however, GM only accounted for 18 percent of Delphi European revenues. In 2007, GM accounted for 37 percent of Delphi's $22.3 billion in sales. Delphi still produced about $1,562 in parts per GM vehicle in 2007, down from $1,695, and was hurt by GM's production cuts.

The new Delphi will have four U.S. plants and 133,000 employees worldwide, including 1,500 hourly employees in the United States. None of the employees will be represented by the UAW. Sales in the first year after exiting bankruptcy are expected to be less than $10 billion. The core products will be electronics, including telematics, engine management, safety, wiring and connections, power products and controls, climate control, and consumer electronics.

Other Industry Developments

Counterfeiting

Counterfeiting continues to be a major growing issue in the automotive parts industry. The U.S. Federal Trade Commission in 1997 estimated that counterfeit automobile parts cost the American automotive supplier industry $12 billion annually worldwide, including $3 billion in the United States alone. In a 2007 study issued by the U.S. Chamber of Commerce, Ford concluded that counterfeit auto parts cost it roughly $1 billion annually. The parts that tend to be counterfeited the most are frequently replaced parts, such as brake pads, spark plugs, and various types of filters. Both the Motor and Equipment Manufacturers Association (MEMA) and the Organization for Economic Cooperation and Development (OECD) claim the majority of counterfeit parts are made in China. Other nations with significant numbers producing and exporting fake auto parts include Taiwan, Hong Kong, Russia, India, Pakistan, and Uruguay. Automotive counterfeiting takes jobs and money away from legitimate companies, jeopardizes public safety, tarnishes brand names, and increases costs related to warranty claims, investigations, legal fees, and preventative measures.

In March 2006, the U.S. government enacted the "Stop Counterfeiting in Manufactured Goods Act," which was supported by the U.S. auto parts industry. The Act strengthens previous U.S. trademark laws by prohibiting the trafficking of counterfeit trademarks such as labels, patches and medallions, and requiring the destruction of equipment used to make counterfeit goods. In October 2008, President Bush signed the "PRO-IP Act of 2007," which increases both civil and criminal penalties for trademark and copyright infringement.

In 2009, a WTO panel ruled that certain Chinese intellectual property protection and enforcement rules were inconsistent with China's WTO obligations. China committed to correcting these inconsistencies by spring 2010.

The automotive industry is supportive of negotiations leading to a global Anti-Counterfeiting Trade Agreement (ACTA). The ACTA is a proposed plurilateral agreement that would provide strict enforcement of intellectual property rights. The participants working on ACTA include the United States, Australia, Canada, European Union, Japan, Korea, Mexico, Morocco, New Zealand, Singapore, and Switzerland.

Alternative Fuels Advanced Technologies

Congress legislated a number of incentives and mandates for alternative fuels and advanced technologies over the last several years. Likewise, the courts have impelled the U.S. Environmental Protection Agency (EPA) to make a ruling on climate change which led it to determine the need to regulate greenhouse gas emissions. While under its Federal exception, the State of California is also been in the process of regulating greenhouse gases. The National Highway and Traffic Safety Administration (NHTSA) worked with EPA and the State of California to meet its Congressional mandate to increase U.S. vehicle efficiency to 35 miles per gallon by 2016.

Suppliers can expect to benefit from the incentives and mandates automakers must meet if they can provide technologies to make cars more fuel efficient or enable the switch to alternative fuels. According to KPMG's 2010 global automotive survey, 90 percent of senior executives expect the industry to focus on new technologies with an aim to produce more fuel efficient vehicles.[31]

Some of the technologies that vehicle producers are exploring include direct fuel-injection systems, diesel exhaust after-treatment systems, start-stop technology, low friction tires, light weight materials and electrically driven accessories. Most of these technologies are applicable to any vehicles including hybrids, plug-ins, conventional petroleum fueled, or biofueled. Modern engines tend to require few changes to make them capable of accepting and burning alternative fuels. Flex fuel engines currently on the market are not optimized for burning ethanol. Instead, the engine management control and fuel system are altered to allow the engine to accept, recognize and burn multiple fuels. Third generation biofuels will likely need even fewer changes as most will share basic chemistry with the gasoline or diesel fuels they are being created to replace.

Vehicle producers are making improvements across their line-ups. Most companies are working on a number of different technologies. Chrysler is working to revamp its fleet relying heavily on its Italian partner for small cars and advanced engine technologies. Likewise, Ford has committed to roll out its direct injection, turbo, variable valve "Ecoboost" engines to 90 percent of its vehicle line-up by 2013. Volkswagen, BMW, and Mercedes are fortifying their U.S. product line-ups by making their advanced diesels available to more models and working hard to dispel negative consumer perceptions of these vehicles in the United States. GM is strengthening its product line-up by reintroducing the "electric vehicle" with its plug-in hybrid Volt. Nissan is also leaning on an electric vehicle introduction to beef up is vehicle mix market with its fully electric Leaf. Toyota continues to follow through on its plans to make hybrids available across its fleet. Their competition in the hybrid realm continues to heat up as even the Korean firm Hyundai now has its 2011 Sonata hybrid entering the fray.

While the companies will rely on many technologies, electric drive technologies will play an increasing roll as mileage requirements increase. Former GM Vice Chairman, Bob Lutz said that 80 percent of vehicles will be hybrids by 2020 in order to meet the pending fuel economy requirements.[32] The electrical components for electric drive vehicles fall into three basic categories: electric motors, batteries (or fuels cells and tanks), and control electronics. Other potential sources of supplier business for these systems would be electrically driven auxiliary systems, software controls, instrument panels and cooling

[31] "KPMG's Global Auto Executive Survey 2010," http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/Documents/Global-Auto-Survey-2010.pdf
[32] Shepardson, David. "Lutz: Most Vehicles Will Be Hybrid by 2020," *Detroit News,* 3/19/08.

systems. Suppliers that provide related components for conventional powertrains should have an advantage in adapting their parts to these new systems.

Battery research is a top priority for all of the electric drive vehicle options. Batteries are important for electric, hybrid and fuel cell vehicles. GM's Lutz also said that building so many hybrids will add $6,000-$7,000 to the cost of an average vehicle. The primary reason for this added cost in his estimation is the price of batteries. The challenge is to create a battery that can recharge quickly, last long and not overheat, while still being small, light and cost-effective. If the cost of lithium ion batteries doesn't decrease as projected, it could jeopardize the development of many electric drive vehicles. Battery manufacturers, including A123 Systems, Compact Power, and a partnership between Johnson Controls Inc. and Saft Advanced Power Solutions, are leading research to overcome Li-ion battery shortcomings. Many of their current offerings have little chance of overheating and can take many charges and recharge cycles but are limited in the amount of energy they can store. Others can store a lot of energy, but heat when discharged and have a short shelf life. Furthermore, prices will have to decline significantly to increase sales.

Unfortunately, much of the new demand for parts made possible by U.S. Government incentives could be captured by foreign suppliers. One reason for this is that many foreign suppliers already provide fuel efficient technologies to automakers elsewhere in the world. Another is that the supply-base for some of the newer products is currently concentrated in other markets.

Virtually every manufacturer is working to market a plug-in vehicle by 2014. To supply these vehicles, automakers are generally turning to foreign suppliers for battery cells. Current production of battery cells is centered in Asia. A similar situation exists for electric motors and power inverters. Japanese suppliers are the source for most of the world's current hybrid parts. While interested in U.S.-based A123's battery cells for their Volt, GM decided to purchase its initial battery cells for the Volt program from Korean-based supplier LG. Ironically, the production of the battery cells would have occurred in Asia whichever choice GM made since A123 currently produces its battery cells primarily in China and Korea. The new incentives however are expected to help alleviate that problem with a number of battery makers in the process of building U.S. production facilities.

Automakers and parts suppliers are trying to determine where the key intellectual properties will lie if automobiles become primarily electric drive vehicles in the future. Battery cells are combined together with battery management systems and temperature management systems to create battery packs. GM reported that it plans to manufacture in-house the lithium ion battery packs for the Chevrolet Volt and it will also begin in-house production of electric motors. Part of Ford's $1 billion in hybrid and electric vehicle spending is also aimed at in-house production battery packs. The battery packs include the battery cells, cooling/heating systems and electronic controls needed for the batteries' operation. GM and Ford are suggesting that packaging lithium batteries is one of the most important aspects or "core technologies" of electric vehicle production.

Several battery cell manufacturers believe however that cell production capabilities will be the biggest differentiator. The answer to this question is extremely important for the future of the firms involved. In a similar situation IBM guessed wrong on the key technology to control in the burgeoning personal computer market, allowing Microsoft to seize the operating system market and eventually eclipse IBM in sales.

In-Vehicle Electronics, Engineering, Safety, and New Technologies

Automobiles are largely defined by their gadgetry, horsepower, and fuel efficiency, arguably making the automotive industry more reliant and intertwined with evolving technology and innovation than any other manufacturing industry. Indicative of this trend is the fact that the value added to vehicles by suppliers will grow from 40 percent in 2002 to 55 percent by 2015.[33]

Among some of the new technologies being added or becoming standard on vehicles are safety features like blind-spot detection, and side/head airbags. Other innovations being added are navigation systems, MP3 player connections, Bluetooth wireless connections, and mobile video. In addition, the Global Positioning System (GPS) and telematics packages that connect cars to home computers will become standard within the next few years. Even more opportunities are evolving in telematics as more manufacturers are developing electric vehicles. Energy management and navigation will become more essential in terms of determining vehicle range and finding locations for recharging/battery swap stations, as well as showing elevation topography, given how batteries powered vehicles are have greater variability in range based on these features (while they use a higher percentage of their energy and therefore range going uphill they reclaim most of that energy going downhill).

By 2012, original equipment manufacturers and aftermarket suppliers are expected to create a $2.4 billion telematics market in the United States, and a global market of $9.3 billion. Accessories available in upcoming vehicle models will include cameras and sensors that not only help the driver see danger coming, but react accordingly to avoid potential collisions. Demand for retrofitting such innovations into the existing car fleet will concurrently generate immense opportunities in the telematics aftermarket sector.

In recent years manufacturers have placed increasing emphasis on “green” technology, which promotes alternative energy sources as well as reduced hydro-carbon-based fuel usage. Despite the current recession, overall energy demand is expected to increase 50 percent globally and 70 percent in the developing world by 2030 barring major increases of efficiency. This theme was carried over from last year’s SEMA show as well, reiterating the importance of emerging and efficient technologies for the automotive industry. According to John Waraniak, vice president of SEMA, there are four “megatrends” that will be the focus of technological advancement in the auto industry: green technologies; connectivity between multiple systems; safety features; and, temperature-levels and efficiencies gained by cooling vehicles. Each of these trends is discussed below.

[33] Roland Berger Strategy Consultants and OESA, “The Odyssey of the Auto Industry: Suppliers Changing Manufacturing Footprint,” 04/2004.

Green technologies as noted above include new powertrain options making their way to the market such as gasoline-electric hybrid technology (e.g., Prius, Fusion), plug-in hybrid, (e.g., Volt), and cleaner diesel technology (such as the urea injection system Mercedes-Benz' calls BlueTEC). The BlueTEC system lowers nitrogen oxide emissions, allowing diesel engines to run cleaner, though it adds cost and lowers the fuel efficiency advantage of diesels. Advancement in diesel technology and hybrid diesel/electric hybrid vehicles may provide better fuel economy than is obtained from gas/electric hybrids. Dean Tomazik of FEV Inc. states that future diesel engines might feature four-way catalysts, variable valve timing and variable compression ratios.

For the past several years, the challenge has been in making horsepower and green power co-exist. Consumers still want good vehicle performance, but also want fuel efficiency. According to Michael Seuffert of Aftermarket Business, "keeping up with these megatrends represents challenges for the aftermarket, but even greater opportunities for those developing products and services in aerodynamics, brakes, suspension, electronics, mass reduction, fuel efficiency, start-stop technology and personalization applications."

The market has shifted from a concentration on sound systems to one that is about navigation and entertainment systems. AM radios were first installed in vehicles in 1930, FM radios in 1952, tape decks were introduced in 1964, and CD players in 1982. In the last 10 years, DVD players, satellite radios, high-definition radios, navigation devices, and MP3 adaptors have been introduced into vehicles. Analysts expect many more devices and interfaces in the years to come. In 1999, navigation and entertainment systems accounted for fewer than 12 percent of total mobile electronics retail sales. By 2006, the market share nearly doubled to 23.5 percent.

At the November 2008, SEMA show, the ten most sought after "new-products" were all electronic equipment. Connectivity is key and convergence is the watchword in mobile electronics. This means one device can integrate multiple tasks. For example, Ego Look, a Bluetooth device, can be paired with a person's cell phone to do other things such as call by voice, check messages by voice, download address book, and with iPod integration. In addition, the Dual HXD7714 head unit for the dash has built-in Bluetooth and HD radio, but will also control an iPod. Next Base is a dual-screen DVD system that straps onto backs of the headrests in a vehicle.

A survey by TechnoMetrica found that one in ten owners have navigation or safety/security services installed in their vehicles; about one out of five consumers were planning to install navigation systems within the next 12 months, while 13 percent were planning to install safety/security services.[34] DVD players were moderately important to consumers. More than 58 percent of 2009 models offered portable media player interfaces, especially for MP3 players such as the iPod, up from 39 percent in 2008. In addition, 82 percent of the 2009 models offered Bluetooth wireless connection, up from 70 percent in 2008. The increasing size and demand of data for infotainment systems, digital maps, 3D images, and information about the surrounding area are requiring large

[34] Spoonhower, Jim, "Mobile Electronics," *SEMA NEWS*, 12/07, pp. 94-98.

data storage devices such as embedded hard disks, which were found on 90 models in 2009. Embedded computer hard drives were about a third of 2009 models and USB interface were also\ on a third of the models, up from 16 percent in 2008.[35]

Subscription telematic services are also becoming more prevalent. The industry leader, OnStar was available on 90 percent of GM vehicles in 2009. OnStar has been providing service for 13 years and has over 5 million subscribers. Ford's Sync system is serviced by Continental and ATX provides service to BMW and Lexus in the United States. In November 2009, Mercedes Benz USA (MBUSA) and Hughes Telematics, Inc. (HTI) launched "mbrace" a new telematics offering that they say brings an unprecedented level of connectivity to customers. This will replace "Teleaid", the previous system of the last ten years. HTI provides service to the Chrysler and Daimler 2010 models. Toyota also announced a proprietary Safety Connect that was offered in its brands in 2009. In addition to these services providing navigation, collision notification, traffic alerts, automatic toll pay, wireless bluetooth connection, and remote door unlock, these services will include informing drivers of weather conditions, allowing drivers to access entertainment, allow manufacturers to remotely update software, allow remote emissions and safety testing, allow "teen" tracking, give re-routing suggestions to avoid congestion, provide in-vehicle satellite television, automatically slow down a stolen vehicle, and enable mileage-based insurance.

All of this in-vehicle electronic equipment has many experts concerned about safety. Nearly 25 percent of car accidents or near accidents involved non-driving distractions in 2007. Automakers and parts suppliers are trying to use the in-vehicle electronics to improve safety. By improving center stack configurations, tactile controls on the steering wheel and better versions of heads-up LED windshield displays they hope to reduce distractions. Automakers and suppliers are also using the technology to develop lane departure notification systems, collision avoidance systems, and inattentive driver alert systems/driver drowsiness detection.

Advanced adaptive cruise control began entering the market on European luxury cars in 2006. Adaptive cruise control (ACC) maintains a certain distance from the car in front, down to a crawl. Advanced ACC would bring the car to a stop and could resume its cruise control functions from a stop. Such technology raises legal and liability questions involving equipment that functions independently of the driver. The technology is also expensive, with costs about $1,500 to $2,500, mostly because of the radar or infrared emitters and sensors used to track other cars. Suppliers are working on ways to reduce the price, including using camera-based systems and less expensive radar equipment.

In addition to consumer demand and competition, legislation is also driving innovation. Safety features used only in luxury cars may one day become standard. The National Highway Traffic Safety Administration (NHTSA) is considering mandating systems that automatically slow vehicles down when an impending collision is detected as well as sensors that watch for other vehicles during lane changes. The technology is currently

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[35] Scott, Patricia, "iSupply Report: 2009 Vehicles will have more iPod, Bluetooth Connections," *Automotive News*, 10/9/08.

offered in some luxury vehicles and often relies on the radars and sensors in adaptive cruise control systems as outlined above. Doing so currently could add close to $3,000 to the price of a new car. Waraniak believes that it may take until 2030 to have a critical mass of vehicles talking to each other to prevent crashes.

Having vehicles communicating with each other and capable of taking control to prevent accidents would enable other technologies as well. For instance, cars could talk to traffic lights as they approached. If no other vehicles were approaching the lights could turn green to allow them to pass without stopping. This would reduce time, vehicle wear and tear, and energy. Vehicles could also communicate with other vehicles on highways and - using the split second reactions available in their safety systems - enable vehicles to take control and slipstream the air with other automobiles thereby saving energy and freeing the driver from controlling the vehicle.

The Obama administration's decision to raise CAFE standards to 35 miles per gallon by 2016 has also influenced the way manufacturers are looking at new technology. For example, one of the top new technologies is an aftermarket part in automobiles that indicates to drivers whether or not they are driving at optimal efficiency. Electronic tools connect to the on-board diagnostics (OBD-II) port and provide instantaneous and average fuel economy readings. Tire makers such as Goodyear and Michelin have also developed new tread compounds and tread designs which increase fuel efficiency by five percent and stop the vehicle about 25 feet sooner than the baseline tire at 50 mph on wet pavement.

Suppliers with products such as air bags, antilock brakes and electronic stability control (ESC) systems, have benefited from automakers' emphasis on safety and new safety regulations. In 2007, NHTSA passed its final rule on ESC. ESC systems use automatic computer-controlled braking of individual wheels to assist the driver in maintaining control in critical driving situations. The law ensures that ESC will become standard on all vehicles except the largest trucks by 2012. Currently, only 30 percent of new vehicles have ESC. ESC suppliers expect to get a sales boost of more than $1 billion from the new regulation. In fact, the North American market for ESC systems is expected to expand from about $555 million in 2006 to $1.8 billion by 2012.

The success of airbags, which NHTSA estimates saved over 18,000 lives since their inception, has led to an increase in side-curtain airbag business. Like the ESC rules, new federal side-impact regulations will increase installation of side-curtain airbags as automakers and suppliers devise different ways to meet the standard.

Various technologies for keeping the car cool offer another opportunity for manufacturers to increase vehicle energy efficiency. Energy-efficient auto air conditioners are finally making their way in North America, after years of popularity in Europe. Electronically controlled variable compressors are only used in 20 percent of North American vehicles at the present time. However, according to a senior director at Visteon Corporation's global climate-control business, usage will increase to 60 percent within five years. The inclusion of air conditioners in EPA's carbon emissions regulations has made improving air conditioning efficiency an important variable for auto manufacturers in meeting U.S. vehicle efficiency standards. Variable compressors save fuel by drawing enough power from the engine to cool the cabin, rather than a fixed-mode compressor, which can only be turned on or off. This can drain four to six horsepower from an engine.

Some of the issues surrounding telematics that must be assessed involve privacy, cost, and legal issues concerning collaboration, control, and accountability. With multiple databases storing information about consumers' driving habits, insurance companies have become interested in tracking information on everything that happens to the car on the road. For example, several car insurance companies like Travelers and Progressive are testing driving monitors that record basic measures like the time a client drives, distance, and other data. These calculations can determine a driver's risk of accident and can, be used to raise or lower premiums. However benign the information may be, access to personal information raises serious concerns about privacy. In addition, with all of the information stored in electronic databases, the question arises as to the owner of that information. After Mercedes cancelled its contract with ATX, the two companies became locked in a court battle over ownership of the Tele Aid database, raising questions over the rights to customer information and crucial web tools. Costs of new technology will also always be a concern, particularly for a government-mandated safety option that is expensive. However, as technology is developed and mass-produced, costs will decrease accordingly.

Lastly, as convergence of functions increase, it is unclear which manufacturer or supplier should be held accountable if something goes wrong. Many of the vehicles that are recalled today involve malfunctions of the vehicle electronics systems. For example, while current recalls are reportedly unintended acceleration related to floor mats, the real issues may be more affiliated with the vehicle electronic systems. Indeed, as the level of telematics are incorporated into a vehicle, the more electronic interfaces occur, which can present a whole new host of unforeseen and unexpected problems, as noted in the cruise control discussion above. It may be a long time before drivers trust vehicles to drive themselves.

International Developments and Trade

Global automotive industry production and sales are expected to remain depressed over the next few years, with only gradual improvement. Despite weakening in the United States market in previous years, suppliers globally managed to eke out profitability. Suppliers in developed country markets faced more difficulty, while those in developing markets generally experienced growth. In its 2006 Global Automotive Supplier Study, Roland Berger Strategy Consultants found that suppliers based in Western Europe, South Korea and other parts of the world maintained steady profitability between 2000 and 2005, while Japanese suppliers posted 3.2 percent gains. During the same period, North American suppliers declined 3.6 percent. Those most successful had a narrowly focused product portfolio, broad customer base globally, low reliance on business with the Detroit 3, and aggressively used component sourcing from low-cost regions of the world.

Going forward, the BRIC (Brazil, Russia, India, and China) countries are expected to experience growth in the automotive sector while developed countries are likely to see static sales or declines. Some U.S. suppliers found that while they are having difficulties in home markets, their foreign operations were profitable. Large suppliers, such as Johnson Controls Inc., Lear Corporation, TRW Automotive Inc., ArvinMeritor Inc., and Dupont Automotive Systems, received at least 35 percent of their total revenue from Europe in 2007. Some suppliers tried to reduce their dependence on the high-cost, low-margin American market and shift manufacturing to lower cost countries. Suppliers, often with the encouragement of automakers, are exploring growth opportunities in the BRIC developing countries. These countries are seeing more growth in the automotive industry than North America, Japan, and Western Europe. Still the growth in the developing world was moderate in 2009 and expected to remain moderate another year or two as the automotive sector gradually improves.

The U.S. trade deficit in automotive parts dropped 38.7 percent in 2009 to $20.3 billion, down from $33.1 billion in 2008 (Table 13, Charts 11 and 12). The parts deficit increased the past few years because U.S.-made automotive parts manufacturers lost market share to increasingly competitive foreign production. However, in addition to a global reduction in demand for automotive parts, the weak dollar has made U.S. exports more competitive while restraining U.S. imports. Both automotive parts exports and imports declined in 2009 because of the global automotive slump, though, imports declined at a greater rate than exports.

According to U.S. Census data, the United States exported $42.7 billion worth of automotive parts in 2009. This is a decrease of 25.7 percent from the $57.5 billion exported in 2008 (Table 14, Charts 11 and 13). Automotive parts exports to Canada ($19.4 billion) and Mexico ($12.1 billion) accounted for 73.8 percent of the total U.S. parts exports in 2009 (Chart 14). U.S. automotive parts exports to Japan and the EU-15 accounted for $4.2 billion, or 9.9 percent, of the total U.S. automotive parts exports.

In 2009, automotive parts exports to China rose 4.9 percent to $937 million. However, exports to Brazil declined 34.4 percent to $553 million, declined 78.4 percent ($53 million) to Russia, and 33.3 percent ($131 million) to India in 2009.

Automotive parts imports to the United States from almost every country declined in 2009. U.S. automotive parts imports declined 30.5 percent to $63 billion in 2009 from $90.6 billion in 2008 (Table 15, Charts 11 and 15). In 2009, Canada accounted for $10.5 billion worth of U.S. automotive parts imports and Mexico accounted for $18.3 billion. Together, automotive parts from these two countries accounted for 46 percent of the total U.S. automotive parts imports (Chart 16). Rounding out the top five supplier countries of automotive parts to the United States in 2009 were Japan ($8.8 billion), China ($7.4 billion), and Germany ($4.8 billion).

Japanese auto parts shipments to the United States were down 34.9 percent in 2009 from 2008 levels. A large portion of these imports are components for assembly at the Japanese transplant facilities. The Japanese produced roughly 2.2 million vehicles in the

United States in 2009. Japanese-based firms' U.S. auto plants are now sourcing more of their components in the United States, Canada, and Mexico due at least in part to the higher Yen exchange rate.

Automotive parts imports from China declined 17.8 percent in 2009 (Charts 17 and 18). Imports from China had been steadily increasing the past several years, including 4.8 percent in 2008 to $9 billion, from $8.6 billion in 2007 and passed Germany as the United States' fourth largest source of auto parts after Mexico, Canada, and Japan. However, Parts imports from Brazil dropped 45.1 percent to $953 million, 32.5 percent to $498 million from India, and 7.4 percent to $535 million from Russia.

China

In 2009, China became the largest auto market in the world, with vehicle sales increasing 46 percent to reach 13.6 million units. Production in China was 13.8 million units, an increase of 48 percent.

China's accession to the WTO in 2001 allowed increased access to China's auto market. Since then, vehicle production and sales in China have experienced explosive growth. Global vehicle manufacturers with operations in China have encouraged suppliers to set up manufacturing facilities in China, since most of China's traditional domestic suppliers were not globally competitive. The automakers also expected China to become a low-cost source of auto parts for their worldwide operations. To date, however, most automotive production in China has been devoted to the growing domestic market.

Most of the top global auto suppliers now have operations in China, and there continues to be expansion-related announcements. With increased foreign investment and the gradual consolidation of domestic companies, China's automobile and parts manufacturers are becoming more competitive. Vehicle exports from China will inevitably increase when the growth rate of new vehicle sales slow in China and Chinese automakers gain the ability to produce vehicles and parts of high enough quality.

China aims to have its total annual production capacity of pure electric, plug-in, hybrid and other new energy vehicles reach 500,000 units by 2011. While the Chinese automotive industry lags in competitiveness concerning current automotive technologies, companies such as BYD could be at the forefront of introducing electric and advanced technology vehicles. The Chinese government's emphasis on developing electric vehicles and other types of alternative energy vehicles could also be an impetus for its industry to lead the development of this new product market. The new technology presents opportunities for capable suppliers who are willing to cooperate with Chinese automakers in developing these advanced vehicles.

China's automotive aftermarket is expected to continue to grow at an annual rate of 40 percent, as the market increases for both new and used autos, the number of outlets offering aftermarket parts and services expands, new emissions control technologies are introduced, and the Chinese economy continues to grow. In 2008, the Chinese government approved an amendment to the National Road Traffic Safety Law, allowing the sale and installation of more than 500 accessory and performance product categories for consumers to legally accessorize their vehicles.

When considering sourcing from China, U.S. companies have been cautioned by industry analysts not to be lured by price and/or low wage rates alone, but to consider their potential suppliers' quality levels, a supplier's technical and engineering expertise to cope with design changes, as well as all of the various logistical factors, such as necessary lead time, and delivery schedules and costs. The safety and compliance of Chinese-manufactured goods is also a sourcing concern, as evidenced by the recall during the summer of 2007 of 450,000 defective tires imported from China.

As Chinese auto producers prepare to enter Western markets in the next few years, top global suppliers are assisting them with engineering, technical, and managerial expertise. Chinese automakers are also buying factory equipment from leading international suppliers. Competitive Chinese suppliers are looking to begin manufacturing and selling in overseas markets. Many are acquiring or investing in small and medium-sized suppliers located in these markets, including the United States, to help them begin manufacturing and/or assist with distribution as well as transfer technology back to China.

Automotive parts imports from China declined slightly in 2009, but are expected to increase again and account for an increasing share of U.S. automotive parts imports. The U.S. automotive parts trade deficit with China will likely grow over the next few years as exports to China will not keep up with imports. Many automotive parts companies will continue to move production to China and other low-wage countries like India and Eastern Europe, in an effort to reduce costs and remain competitive.

China's auto parts exports to the United States alone have increased 43 percent from 2004 to 2009. However, rising labor rates, raw material prices, currency exchange rates, and shipping costs all have the potential to cut into China's cost advantage and could slow the growth of Chinese auto parts exports in the future.

The Chinese government's auto policies, including automotive-related R&D activities, have strongly encouraged the development of the local supplier industry. In spring 2006, the United States, along with the EU and Canada, requested World Trade Organization (WTO) dispute settlement consultations with China regarding regulations on imported auto parts. They argued that China's auto parts tariff classification regulations resulted in increased tariffs that are higher than China agreed to in its WTO accession agreement, and it discouraged auto manufacturers in China from using imported auto parts. China's regulations imposed a vehicle tariff rate (typically 25 percent) on imported auto parts if the imported parts exceeded a fixed percentage of the final vehicle content or vehicle price, or when specific combinations of imported auto parts were used in the final vehicle. The tariff on imported parts is typically 10 percent. In mid-September 2008, China appealed the WTO's July 2008 ruling that China must bring its import tariffs for foreign auto parts into compliance with international trade rules. However, in December

2008, China's appeal was rejected. In September 2009, in response to the WTO ruling, China eliminated the additional charges on imported auto parts.

In September 2009, the United States decided to impose three years of additional ad valorem tariffs on imported tires from China. The International Trade Commission had previously determined that there had been a disruption in the U.S. tire market from a surge of imported passenger vehicle and light truck tires from China. The surge resulted in a decrease in the U.S. production of similar products, closings of domestic tire plants, and a decrease in related U.S. employment.

Concluding Thoughts

The U.S. automotive parts industry underwent significant changes the past year in response to serious economic challenges: North American vehicle production fell 32 percent and global production fell 14 percent; GM and Chrysler declared bankruptcy and later emerged from bankruptcy; about 50 major suppliers declared bankruptcy; and, another 150-200 suppliers were liquidated. Suppliers had to merge, restructure, liquidate, cut costs, cut employment, find new sources for their inputs, and make production improvements. Supply base capacity utilization fell to 45.9 percent in June 2009, but through attrition, downsizing and an improving economy it rose to 54.8 percent by January 2010. Supplier capacity is being rationalized to reach a utilization rate appropriate to support a smaller market in North America versus the market it was supporting earlier in the decade.

The financial breakeven point based on 50-60 percent of capacity utilization dropped from 10.5 million units in May 2009 to 9.5 million units in September 2009.[36] While the recession is over, the outlook for 2010 and 2011 is not highly positive. Automotive production should increase, but will remain at historically low levels for at least the next two years. U.S. automotive sales in 2010 are forecast to be between 11.2 million to 12.4 million units for 2010. Many suppliers are still having difficulty getting adequate credit and economic strains will continue to cause many suppliers to fail for the next couple years.

The automotive parts industry will continue to consolidate and restructure in order to survive and compete in the increasingly competitive world automotive market. With some of the accomplishments made so far, such as the drastic reduction in capacity and dramatically lower breakeven points, it is clear many suppliers are, in fact, "on the road" to recovery. Further consolidation will continue, but for many the worst has probably passed.

[36] OESA, "How We Will Know We Didn't Waste This Crisis" Powerpoint presentation, January 10, 2010.

FACT SHEET

Production

- U.S. automotive parts industry production declined further in 2009 compared with 2008, in large part because of the collapse of the global vehicle market, production cutbacks especially at the Detroit 3, and the GMs and Chrysler bankruptcies. Industry analysts predict that 2010 will improve slightly, but will still be a very difficult year for U.S. automotive parts suppliers and vehicle makers as the market remains depressed and competition remains fierce. This is especially true for the Detroit 3 and the suppliers that rely heavily on them.

- The Bureau of Labor Statistics (BLS), U.S. Department of Labor, reported that employment in the automotive parts industry was an estimated 470,000 jobs in 2009. This is a decline of 22.2 percent from the 603,800 jobs in 2008. The last time the number of jobs increased in the automotive parts industry occurred in 2000, when employment grew 0.3 percent to 920,300.

- Regardless of production and employment declines, automotive manufacturers and suppliers directly and indirectly account for more jobs than any other manufacturing sector.

- According to the most recent Economic Census (with data through 2007), auto parts industry shipments were $213 billion, accounting for about 4 percent of the total U.S. manufacturing shipments. This is one of the highest shares of any single U.S. industrial sector.

Sales

- The U.S. original equipment parts market was down 35.3 percent from $149.9 billion in 2008 to $97 billion in 2009.

- The 150 largest North American OE suppliers had sales of $162.2 billion in 2008, down 16 percent from 2007. The top 10 North American suppliers accounted for 33.8 percent of the total in 2008, down slightly from 36.2 percent of the total in 2007. Canadian supplier, Magna International, maintained its position as the largest supplier of parts in North America.

- The U.S. aftermarket parts market in wholesale dollars was $72.2 billion in 2009, up slightly (1.8 percent) from $70.9 billion in 2008.

International Trade

- The 2009 U.S. trade deficit in automotive parts significantly decreased 38.7 percent, to $20.3 billion, from $ 33.1 billion in 2008.

- U.S. exports of automotive parts in 2009 were $42.7 billion, a decrease of 25.7 percent from 2008 levels.

- Exports to Canada and Mexico accounted for 74 percent of the total U.S. automotive parts exports in 2009, reaffirming the importance of the NAFTA.

- U.S. exports to China increased 4.9 percent in 2009, from $893 million in 2008 to $937 million in 2009.

- U.S. imports of automotive parts were $63 billion in 2009, a decrease of 30.5 percent from 2008 levels.

- The United States imported $28.8 billion worth of automotive parts from Mexico and Canada in 2009. These imports accounted for 46 percent of total U.S. automotive parts imports.

- Automotive parts imports from China have grown significantly in recent years. In 2000, the United States imported $1.6 billion worth of automotive parts. By 2007, these imports grew to $8.6 billion, passing Germany as the fourth largest supplier of auto parts to the United States. However, imports from China decreased 17.8 percent to $ $7.4 billion in 2009.

- The U.S.-China auto parts trade deficit had grown six-fold from only $1.5 billion in 2001 to almost $8.2 billion in 2008. These exponential increases peaked in 2008. The current global recession allowed the U.S. trade deficit with China in 2009 to drop 20.3 percent to $6.5 billion.

Industry Issues

- In 2009, a reduction in global automotive sales and decreased automotive production impacted many U.S. parts suppliers. It was reported that there were over 50 bankruptcies among automotive suppliers and between 150-200 liquidations in 2009.

- Previously industry breakeven point was estimated to be 10.5 million units in North America, but suppliers were able to get the breakeven point down to 9.5 million units toward the end of 2009. Some leaner, more efficient suppliers actually saw some profit in 2009.

Appendix 1

Office of Transportation and Machinery Automotive Parts Product Listings

Revised 12.05.2007

To facilitate the analysis of trade data for automotive parts on a market-based model, the Office of Transportation and Machinery (OTM) has created six product groupings from the available, individual 10-digit product codes. The core of the codes is contained in Chapter 87, "Vehicles Other Than Railway or Tramway Rolling-Stock, and Parts and Accessories Thereof" of the internationally-agreed Harmonized Tariff System (HTS). We list these groups and their codes below. Some codes are not valid for current years, but are included to assure that data for products so coded for previous years are retrieved from the database and assigned to the appropriate OTM group.

The OTM groups are not "official" product subcategories, and are not listed in the Harmonized Tariff System nomenclature published by the U.S. International Trade Commission (USITC) for coding imports (Internet address: http://www.usitc.gov/taffairs.htm), nor in the parallel "Schedule B" published by the U.S. Census Bureau for coding exports (http://www.census.gov/foreign-trade/schedules/b/2001/sb87.htm). The OTM attempts to closely approximate the core automotive industry by excluding certain items for example, parts explicitly listed for motorcycles, golf-carts, snowmobiles, agricultural equipment, etc.

Readers should realize that OTM is not the only, nor the "official," U.S. government source for trade data on the auto industry, nor are we able to produce custom data runs for the public. Persons seeking data for individual or different product codes are welcome to utilize at no charge the data retrieval system operated by the USITC to access the federal government's official trade data base. Please note, some of the data on the trade database may be restricted from the public. The ITC's retrieval system, *Trade DataWeb*, can be accessed at <http://dataweb.usitc.gov/scripts/user_set.asp>.

HTS Codes by Product Group

HTS Codes for U.S. Imports of:	
Bodies and Parts	
7007110000	Safety Glass
7007110010	Safety Glass
7007211000	Windshields
7007211010	Windshields
7007215000	Safety Glass
7009100000	Rear-View Mirrors
8301200000	Locks
8301200060	Other Locks
8302103000	Hinges
8302303000	Other Mountings
8302303010	Pneumatic Cylinders

HTS Codes for U.S. Exports of:	
Bodies and Parts	
7007110000	Safety Glass
7007211000	Windshields
7007215000	Safety Glass
7009100000	Rear-View Mirrors
8301200000	Locks
8302103000	Hinges
8302300000	Other Mountings
8707100020	Bodies
8707100040	Bodies
8707905020	Bodies
8707905040	Bodies

8302303060	Other Mountings
8302306000	Other Mountings
8707100020	Bodies
8707100040	Bodies
8707905020	Bodies
8707905040	Bodies
8707905060	Bodies
8707905080	Bodies
8708100010	Stampings of Bumpers
8708100050	Bumpers and Parts
8708103010	Stampings of Bumpers
8708103050	Bumpers
8708106010	Stampings Parts of Bumpers
8708106050	Parts of Bumpers
8708210000	Seat Belts
8708290010	Stampings of Bodies
8708290025	Truck Caps
8708290050	Parts & Access. of Bodies
8708290060	Parts & Access. of Bodies
8708291000	Inflators & Modules Airbags
8708291500	Door Assemblies
8708292000	Body Stampings
8708295010	Stampings
8708295025	Truck Caps
8708295060	Other Parts
8708950500	Inflators & Modules Airbags
8708952000	Airbag Parts
8708995045	Slide in Campers
8708996100	Airbags
9401200000	Seats
9401200010	Child Safety Seats
9401200090	Seats
9401901000	Seat Parts
9401901010	Seat Parts of Leather
9401901020	Seat Parts of Textile
9401901080	Seat Parts
9401901085	Seat Parts
9403406000	Wooden Furniture for M.V.
9403506000	Wooden Furniture for M.V.
9403901000	Furniture?
9403901040	Parts of Furniture for M.V.
9403901050	Parts of Furniture for M.V.
9403901080	Parts of Furniture for M.V.
9403901085	Parts of Furniture for M.V.
8707905060	Bodies
8707905080	Bodies
8708100010	Stampings of Bumpers
8708100050	Bumpers and Parts
8708210000	Seat Belts
8708290010	Stampings of Bodies
8708290025	Truck Caps
8708290050	Parts & Access. of Bodies
8708290060	Parts & Access. of Bodies
8708295025	Truck Caps
8708295070	Other Pts. & Access. Bodies
8708295170	Parts & Access of Bodies
8708990045	Slide-in Campers
8708998030	Slide-in Campers
8708998130	Slide-in Campers
9401200000	Seats
9401901000	Seat Parts
9401901010	Seat Parts of Leather
9401901080	Seat Parts
9403901000	Parts of Furnitures

Chassis and Drivetrain Parts

4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
6813100050	Brake Linings & Pads
6813200015	Brake Linings & Pads
6813200025	Asbestos Friction
6813810050	Brk Lngs & Pads, not asbestos
6813890050	Min Sub Friction
6813900050	Friction Materials
7318160010	Lugnuts
7318160015	Lugnuts
7318160030	Lugnuts
7318160045	Other Lugnuts
7320100015	Leaf Springs
7320103000	Leaf Springs
7320106015	Leaf Springs
7320106060	Leaf Springs
7320201000	Helical Springs
8421394000	Catalytic Converters
8482101000	Ball Bearings
8482101040	Ball Bearings
8482101080	Ball Bearings
8482105044	Radial Bearings
8482105048	Radial Bearings
8482200010	Tapered Roller Bearings
8482200020	Tapered Roller Bearings
8482200030	Tapered Roller Bearings
8482200040	Tapered Roller Bearings
8482200050	Tapered Roller Bearings
8482200060	Tapered Roller Bearings
8482200070	Tapered Roller Bearings
8482200080	Tapered Roller Bearings
8482400000	Needle Roller Bearings
8482500000	Other Cylindrical Bearings
8708301090	Brakes and Parts
8708305020	Brake Drums
8708305030	Brake Rotors (Discs)
8708305040	Mounted Brake Linings
8708305090	Brake Parts
8708315000	Mounted Brake Linings
8708395010	Brake Drums & Rotors
8708395020	Brake Drums
8708395030	Brake Rotors
8708395050	Brakes & Servo-Brakes

Chassis and Drivetrain Parts

4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
6813100000	Brake Linings & Pads
6813200000	Friction Material
6813810000	Brake Linings
6813890000	Other Brake Materials
6813900000	Other Friction Materials
7320100000	Leaf Springs
7320201000	Helical Springs
8421394000	Catalytic Converters
8482101000	Ball Bearings
8482105044	Radial Bearings
8482105048	Radial Bearings
8482200020	Tapered Roller Bearings
8482200030	Tapered Roller Bearings
8482200040	Tapered Roller Bearings
8482200060	Tapered Roller Bearings
8482200070	Tapered Roller Bearings
8482200080	Tapered Roller Bearings
8482400000	Needle Roller Bearings
8482500000	Other Cylindrical Bearings
8708300010	Mounted Brake Linings
8708300050	Brakes & Servo-Brakes
8708310000	Mounted Brake Linings
8708390000	Other Brakes
8708401000	Gear Boxes
8708401110	Gear Boxes
8708401150	Gear Boxes
8708402000	Gear Boxes
8708403500	Gear Boxes
8708406000	Gear Boxes
8708408000	Gear Box Parts & Access.
8708500050	Drive Axles
8708504110	Drive Axles
8708504150	Non-Driving Axles
8708507200	Drive Axle Parts & Access
8708600050	Non-Driving Axles
8708700050	Road Wheels & Pts.
8708800050	Suspension Shock Absorbers
8708805000	Suspension Shock Absorbers
8708807000	Suspension Systems Parts
8708918000	Radiator Parts & Access.
8708925000	Radiators

8708401000	Gear Boxes
8708401110	Gear Boxes
8708401150	Gear Boxes
8708402000	Gear Boxes
8708405000	Gear Boxes
8708407000	Cast Iron Parts, Gear Box
8708503000	Drive Axles for Tractors
8708505110	Drive Axles for Tractors
8708505000	Drive Axles
8708505110	Drive Axles
8708506100	Drive Axles
8708505150	Non-Driving Axles
8708506500	Non-Driving Axles
8708507900	Parts of Non-Driving Axles
8708508000	Drive Axles
8708508100	Cast Iron Parts, Drive Axles
8708508500	Drive Shaft Parts
8708508900	Drive Axles Parts
8708509110	Spindles for Non-Drive Axles
8708509150	Parts of Non-Driving Axles
8708509300	Cast Iron Parts, Drive Axles
8708509500	Drive Shaft Parts
8708509900	Parts, Drive Axles
8708605000	Non-Driving Axles
8708608010	Spindles
8708608050	Non-Driving Axles
8708704530	Road Wheels
8708704545	Road Wheels
8708704560	Wheel Rims
8708706030	Wheel Covers
8708706045	Wheel Covers & Hubcaps
8708708010	Wheels
8708708015	Wheels
8708708025	Wheels
8708708030	Wheels
8708708035	Wheels
8708708045	Wheel Rims
8708708050	Parts & Access. for Wheels
8708708060	Wheel Covers & Hubcaps
8708708075	Parts & Access. for Wheels
8708801300	Suspension Shock Absorbers
8708801600	Suspension Shock Absorbers
8708803000	Suspension Shock Absorbers
8708804500	Suspension Shock Absorbers
8708805000	Suspension Shock Absorbers
8708806000	Cast Iron Parts, SS
8708806510	Beam Hanger Brackets
8708928000	Muffler Parts & Access.
8708935000	Clutches and Parts
8708945000	Steering Wheel, Column
8708948000	Steering Wheel Parts & Acces
8708990070	Wheel Hub Units
8708995800	Wheel Hub Units
8708996100	Airbags
8708998015	Wheel Hub Units
8708998115	Wheel Hub Units

8708806590	Suspension System Parts
8708925000	Mufflers
8708935000	Clutches & Parts
8708936000	Clutches
8708937500	Parts of Clutches
8708945000	Steering Wheels, Columns
8708947510	Steering Shaft Assembly
8708947550	Parts
8708995010	Steering Shaft Assemblies
8708995020	Wheel Hub Units
8718995025	Wheel Hub Units
8708995030	Beam Hanger Brackets
8708995800	Wheel Hub Units
8708996400	Half Shafts & Drive Shafts
8708996700	Parts (joints?)
8708996710	Universal Joints->01
8708996720	Universal Joints- >01
8708996790	Other Joints->01
8708996810	Pwr Trns Univ Jnts
8708996820	Pwr Trns Univ Jnts
8708996890	Power Trans Parts
8708997030	Beam Hanger Brackets
8708997060	Suspension System Parts
8708997330	Steering Shaft Assemblies
8708997360	Parts for Steering Systems
8708998015	Wheel Hub Units
8708998115	Wheel Hub Units
8716905010	Axles & Parts for Trailers
8716905030	Wheels for Trailers

Electrical and Electric Components

8414308030	Compressors
8414596040	Fans
8414598040	Fans & Blowers
8415200000	Air Conditioners
8415830040	Air Conditioners
8415900040	Parts of Air Conditioners
8415908040	Parts of Air Conditioners
8415908045	Parts of Air Conditioners
8501324500	Electric Motors
8507100060	Storage Batteries
8507304000	Nickel-Cadmium Batteries
8507904000	Parts for Lead Acid Batteries
8511100000	Spark Plugs
8511200000	Magnetos, Dynamos
8511300040	Distributors

Electrical and Electric Components

8414308030	Compressors
8414596040	Fans
8414598040	Fans & Blowers
8415200000	Air Conditioners
8415830040	Air Conditioners
8507100050?	Storage Batteries
8507100060	Storage Batteries
8507904000	Parts for Lead Acid Batteries
8507904050?	Parts for Batteries?
8511100000	Spark Plugs
8511200000	Magnetos, Dynamos
8511300040	Distributors
8511300080	Ignition Coils
8511400000	Starter Motors
8511500000	Generators

8511300080	Ignition Coils
8511400000	Starter Motors
8511500000	Generators
8511802000	Voltage Regulators
8511806000	Other Engine Ignition Equip.
8511902000	Parts for Voltage Regulators
8511906020	Parts for Distributer Sets
8511906040	Other Parts Engine Ignition
8512202000	Lighting Equipment
8512202040	Lighting Equipment
8512204000	Signaling Equipment
8512204040	Signaling Equipment
8512300020	Horns
8512300030	Radar Dectectors
8512300040	Sound Signaling Equipment
8512402000	Defrosters
8512404000	Windshield Wipers
8512902000	Parts of Signaling Equipment
8512906000	Lighting Equipment Parts
8512907000	Parts of Defrosters
8512909000	Parts of Windshield Wipers
8517120020	Radio Telephones
8519812000	Cassette Tape Players
8519910020	Cassette Tape Players
8519911000	Cassette Tape Players
8519934000	Cassette Tape Players
8525201500	Radio Transceivers
8525206020	Radio Telephones
8525209020	Radio Telephones
8525601010	Radio Transceivers, CBs
8527211005	Radio-Tape Players (CDs)
8527211010	Radio-Tape Players
8527211015	Radio-Tape Players
8527211020	Radio-Tape Players
8527211025	Radio-Tape Players
8527211030	Radio-Tape Players
8527214000	Radio-Combinations
8527214040	Radio-Combinations
8527214800	Radio-Combinations
8527290020	Radio-Receivers AM
8527290040	Radio-Receivers FM/AM
8527290060	Radio-Receivers
8527294000	Radio-Receivers FM/AM
8527298000	Radio- Recievers
8527298020	Radio-Receivers AM
8527298060	Radio-Receivers
8531800038	Radar Detectors
8511802000	Voltage Regulators
8511806000	Other Engine Ignition Equip.
8511906020	Parts for Distributor Sets
8511908000	Other Elec Ignition Equip
8512202000	Lighting Equipment
8512204000	Signaling Equipment
8512300000	Sound Signaling Equip
8512300030	Radar Dectectors
8512300050	Sound Signaling Equip
8512402000	Defrosters
8512404000	Windshield Wipers
8512902000	Parts of Signaling Equip.
8512905000	Parts of Lighting Equip.
8512908000	Other Pts of Elec. Equip.
8517120020	Radio Telephones
8519934000	Cassette Tape Players
8525201000	CB Transmission Apparatus
8525206000	Other Transmission Apparat.
8525209020	Radio Telephones
8525209050?	Radio Telephones?
8525601010	Radio Receivers (CB)
8527210000	Radiobroadcast Receivers
8527290000	Other Radiobroadcast Receiv
8531800038	Radar Detectors
8531809038	Radar Detectors
8536410005	Signaling Flashers
8539100020	Beam Lamp Units
8539100040	Beam Lamp Units
8544300000	Ignition Wiring Sets
8708950000	Airbags for MV
9029100000	Revolution Counters
9029205000	Other Speedometers/Tacho
9029900000	Pts & Access of Rev Counter
9104000000	Inst Panel Clocks

8531808038	Radar Detectors
8531809038	Radar Detectors
8536410005	Signaling Flashers
8539100010	Beam Lamp Units
8539100020	Beam Lamps
8539100040	Beam Lamps
8539100050	Beam Lamp Units
8539212040	Halogen Lamps
8544300000	Ignition Wiring Sets
9029104000	Taximeters
9029108000	Revolution Counters, Odom.
9029204080	Other Speedometers, Tach.
9029902000	Parts & Access of Taximeters
9029908040	Parts & Access of Speed/Tac
9029908080	Parts & Access of Odometers
9104002510	MVT & Cases Panel Clock
9104004000	Instrument Panel Clocks
9104004510	Movements of Inst. Clock

Engines and Parts

4010101020	Belts
4016931010	O-Rings
4016931020	Oil Seals
4016931050	Gaskets
4016931090	Gaskets
8407341400	Engines
8407341540	Engines
8407341580	Engines
8407341800	Engines
8407342040	Engines
8407342080	Engines
8407344400	Engines
8407344540	Engines
8407344580	Engines
8407344800	Engines
8408202000	Compression Ignition Engine
8409911040	Cast Iron Parts
8409913000	Aluminum Cylinder Heads
8409915010	Connecting Rods
8409915080	Parts
8409919110	Connecting Rods
8409919190	Parts
8409919910	Connecting Rods
8409991040	Cast-Iron parts
8409999110	Connecting Rods
8409999190	Parts
8413301000	Fuel Injection Pumps

Engines and Parts

8407342000	SP-IG Piston Engine
8407342030	SP-IG Engine
8407342090	Other Engine
8408202000	Compression Ignition Engine
8409914000	Pts for Engines
8409994000	Other Pts for Engines
8413301000	Fuel Injection Pumps
8413309000	Fuel, Lub., Cooling Pumps
8413911000	Parts of Fuel Injection Pumps
8414308030	Compressor/Air Conditioners
8414593000	Turbochargers
8421230000	Oil or Fuel Filters
8421310000	Intake Air Filters
8483101020	Transmission Shafts
8483103010	Camshafts & Crankshafts

8413309000	Fuel, Lub., or Cooling Pumps
8413309030	Fuel Pumps
8413309060	Lubricating Pumps
8413309090	Cooling Medium Pumps
8413911000	Parts of Fuel Injection Pumps
8414593000	Turbochargers
8421230000	Oil or Fuel Filters
8421310000	Intake Air Filters
8483101030	Camshafts and Crankshafts
8483103010	Camshafts and Crankshafts
9802004020	Combust. Engine Repair
9802005030	Value of Repairs on Engines

Miscellaneous Parts

3819000000	Brake Fluid
3819000010	Brake Fluid
3819000090	Other Liquids
3820000000	Anti-Freeze
4016993000	Vibration Control
4016995010	Mechanical Articles
4016995500	Vibration Control
4016996010	Mechanical Articles
8301200030	Steering Wheel Immobilizers
8425490000	Jacks
8426910000	Lifting Machinery
8431100090	Parts of Winches, Jacks
8708407550	Parts, Radiators
8708706060	Parts & Access. for Wheels
8708915000	Radiators
8708917000	Cast Iron Parts, Radiators
8708917510	Radiator Cores
8708917550	Parts, Radiators
8708927000	Cast Iron Parts, Mufflers
8708927500	Parts, Mufflers
8708993000	Cast Iron Parts
8708947000	Cast Iron Parts
8708995005	Brake Hoses
8708995060	Radiator Cores
8708995070	Cable Traction Devices
8708995080	Parts
8708995085	Parts
8708995090	Parts
8708995200	Cast Iron Parts
8708995500	Vibration Control Goods
8708998005	Brake Hoses of Plastics
8708998045	Radiator Cores
8708998060	Cable Traction Devices

Miscellaneous Parts

3819000000	Brake Fluid
3820000000	Anti-Freeze
4016995010	Mechanical Articles
8425490000	Jacks
8426910000	Lifting Machinery
8431100090	Parts of Winches, Jacks
8708915000	Radiators
8708990050	Pts & Access
8708990090	Other Pts & Access
8708990095	Pts & Access
8708998075	Other Pts & Access
8708998175	Parts & Access NESOI
8716900000	Parts of Trailers
8716905000	Parts

8708998080 Parts
8708998105 Brake Hoses-Plastic
8708998160 Cable Traction Devices
8708998180 Parts
8716905050 Parts for Trailers
8716905060 Parts for Trailers

Automotive Tires and Tubes

4011100010 Radial Tires for M.V.
4011100050 Pneumatic Tires for M.V.
4011101000 Radial Tires for M.V.
4011101010 Radial Tires->01
4011101020 Radial Tires->01
4011101030 Radial Tires->01
4011101040 Radial Tires->01
4011101050 Radial Tires->01
4011101060 Radial Tires->01
4011101070 Radial Tires->01
4011105000 Pneumatic Tires for M.V.
4011200005 Radial Tires for Lt. Trucks
4011200010 Pneumatic Tires for Lt. Truck
4011200015 Radial Tires for Buses/Truck
4011200020 Pneumatic Tires for Buses/Tr
4011200025 Radial Tires for Buses off
4011200030 Pneumatic Tires for Buses off
4011200035 Radial Tires for Buses off
4011200050 Pneumatic Tires for Buses off
4011201005 Radial Tires for Lt. Trucks
4011201015 Pneumatic Tires for Buses/Tr
4011201025 Radial Tires for Buses off
4011201035 Pneumatic Tires for Buses off
4011205010 Tires, ex. Radial for Lt. Truc
4011205020 Pneumatic Tires for Buses
4011205030 Tires, ex. Radial, for Bus
4011205050 Pneumatic Tires for Bus
4012104005 Retreaded Tires for M.V.
4012104015 Retreaded Tires for Light on
4012104025 Retreaded Tires for Bus/Truc
4012104035 Retreaded Tires for Bus/Truc
4012105005 Retreaded Radial Tires M.V.
4012105009 Retreaded Tires for M.V.
4012105015 Retreaded Radial Tires Bus
4012105019 Retreaded Tires for Lt. Truck
4012105025 Retreaded Radial Tires Bus
4012105029 Retreaded Tires for Bus/Truc
4012105035 Retreaded Radial Tires Bus
4012105050 Retreaded Tires for Bus/Truc

Automotive Tires and Tubes

4011100010 Radial Tires for M.V.
4011100050 Pneumatic Tires for M.V.
4011101000 Radial Tires for M.V.
4011105000 Pneumatic Tires for M.V.
4011200005 Radial Tires for Lt. Trucks
4011200010 Pneumatic Tires for Lt. Truck
4011200015 Radial Tires for Buses/Truck
4011200020 Pneumatic Tires for Buses/Tr
4011200025 Radial Tires for Buses off
4011200030 Pneumatic Tires for Buses off
4011200035 Radial Tires for Buses off
4011200050 Pneumatic Tires for Buses off
4011201005 Radial Tires for Lt. Trucks
4011201015 Pneumatic Tires for Buses/Tr
4011201025 Radial Tires for Buses off
4011201035 Pneumatic Tires for Buses off
4011205010 Tires, ex Radial, for Lt. Truc
4011205020 Pneumatic Tires for Buses
4011205030 Tires, ex Radial for Bus/Tr
4011205050 Pneumatic Tire for Bus/Tr
4012105020 Retreaded Tires Bus/Truck
4012106000 Other Retreaded Tires
4012110000 Retreaded Tires
4012120000 Retreaded Tires
4012190000 Retread Tires
4012200000 Used Pneumatic Tires
4013100010 Inner Tubes
4013100020 Inner Tubes
4013900000 Other Inner Tubes

4012108009	Retreaded Tires for M.V.
4012108019	Retreaded Tires for Lt. Truck
4012108029	Retreaded Tires for Bus/Truc
4012108050	Retreaded Tires for Bus, ex.
4012114000	Retreaded Tires for Cars
4012118000	Retreaded Tires for Cars
4012124015	Retreaded Tires for Lt. Truck
4012124025	Retreaded Tires for Bus/Truc
4012124035	Retreaded Tires for Bus/Truc
4012128019	Retread Tire for Lt. Truck
4012128029	Retread Tire for Bus/Truck
4012128050	Retread Tire for Bus
4012194000	Retreaded Tires for Bus, ex.
4012198000	Retread Tire for Bus
4012205000	Used Pneumatic Tires
4012206000	Used Pneumatic Tires
4013100010	Inner Tubes
4013100020	Inner Tubes

HTS Codes Numerically Ordered

HTS Codes for Import	
3819000000	Brake Fluid
3819000010	Brake Fluid
3819000090	Other Liquids
3820000000	Anti-Freeze
4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
4010101020	Belts
4011100010	Radial Tires for M.V.
4011100050	Pneumatic Tires for M.V.
4011101000	Radial Tires for M.V.
4011101010	Radial Tires->01
4011101020	Radial Tires->01
4011101030	Radial Tires->01
4011101040	Radial Tires->01
4011101050	Radial Tires->01
4011101060	Radial Tires->01

Schedule B Codes for Export	
3819000000	Brake Fluid
3820000000	Anti-Freeze
4009120020	Brake Hoses
4009220020	Brake Hoses
4009320020	Brake Hoses
4009420020	Brake Hoses
4009500020	Brake Hoses
4011100010	Radial Tires for M.V.
4011100050	Pneumatic Tires for M.V.
4011101000	Radial Tires for M.V.
4011105000	Pneumatic Tires for M.V.
4011200005	Radial Tires for Lt. Trucks
4011200010	Pneumatic Tires for Lt. Truck
4011200015	Radial Tires for Buses/Truck
4011200020	Pneumatic Tires for Buses/Tr
4011200025	Radial Tires for Buses off
4011200030	Pneumatic Tires for Buses off
4011200035	Radial Tires for Buses off
4011200050	Pneumatic Tires for Buses off

4011101070	Radial Tires->01
4011105000	Pneumatic Tires for M.V.
4011200005	Radial Tires for Lt. Trucks
4011200010	Pneumatic Tires for Lt. Truck
4011200015	Radial Tires for Buses/Truck
4011200020	Pneumatic Tires for Buses/Tr
4011200025	Radial Tires for Buses off
4011200030	Pneumatic Tires for Buses off
4011200035	Radial Tires for Buses off
4011200050	Pneumatic Tires for Buses off
4011201005	Radial Tires for Lt. Trucks
4011201015	Pneumatic Tires for Buses/Tr
4011201025	Radial Tires for Buses off
4011201035	Pneumatic Tires for Buses off
4011205010	Tires, ex. Radial for Lt. Truc
4011205020	Pneumatic Tires for Buses
4011205030	Tires, ex. Radial, for Bus
4011205050	Pneumatic Tires for Bus
4012104005	Retreaded Tires for M.V.
4012104015	Retreaded Tires for Light on
4012104025	Retreaded Tires for Bus/Truc
4012104035	Retreaded Tires for Bus/Truc
4012105005	Retreaded Radial Tires M.V.
4012105009	Retreaded Tires for M.V.
4012105015	Retreaded Radial Tires Bus
4012105019	Retreaded Tires for Lt. Truck
4012105025	Retreaded Radial Tires Bus
4012105029	Retreaded Tires for Bus/Truc
4012105035	Retreaded Radial Tires Bus
4012105050	Retreaded Tires for Bus/Truc
4012108009	Retreaded Tires for M.V.
4012108019	Retreaded Tires for Lt. Truck
4012108029	Retreaded Tires for Bus/Truc
4012108050	Retreaded Tires for Bus, ex.
4012114000	Retreaded Tires for Cars
4012118000	Retreaded Tires for Cars
4012124015	Retreaded Tires for Lt. Truck
4012124025	Retreaded Tires for Bus/Truc
4012124035	Retreaded Tires for Bus/Truc
4012128019	Retread Tire for Lt. Truck
4012128029	Retread Tire for Bus/Truck
4012128050	Retread Tire for Bus
4012194000	Retreaded Tires for Bus, ex.
4012198000	Retread Tire for Bus
4012205000	Used Pneumatic Tires
4012206000	Used Pneumatic Tires
4013100010	Inner Tubes
4013100020	Inner Tubes
4016931010	O-Rings
4011201005	Radial Tires for Lt. Trucks
4011201015	Pneumatic Tires for Buses/Tr
4011201025	Radial Tires for Buses off
4011201035	Pneumatic Tires for Buses off
4011205010	Tires, ex Radial, for Lt. Truc
4011205020	Pneumatic Tires for Buses
4011205030	Tires, ex Radial for Bus/Tr
4011205050	Pneumatic Tire for Bus/Tr
4012105020	Retreaded Tires Bus/Trucks
4012106000	Other Retreaded Tires
4012110000	Retreaded Tires
4012120000	Retreaded Tires
4012190000	Retread Tires
4012200000	Used Pneumatic Tires
4013100010	Inner Tubes
4013100020	Inner Tubes
4013900000	Other Inner Tubes
4016995010	Mechanical Articles
6813100000	Brake Linings & Pads
6813200000	Friction Materials
6813810000	Brake Linings
6813890000	Other Brake Materials
6813900000	Other Friction Materials
7007110000	Safety Glass
7007211000	Windshields
7007215000	Safety Glass
7009100000	Rear-View Mirrors
7320100000	Leaf Springs
7320201000	Helical Springs
8301200000	Locks
8302103000	Hinges
8302300000	Other Mountings
8407342000	Spark Ig Piston Engines
8407342030	Spark Ig Engine
8407342090	Other Engine
8408202000	Compression Ignition Engine
8409914000	Pts for Engines
8409994000	Other Pts for Engines
8413301000	Fuel Injection Pumps
8413309000	Fuel, Lub., Cooling Pumps
8413911000	Parts of Fuel Injection Pumps
8414308030	Compressors/Air Condition
8414593000	Turbochargers
8414596040	Fans
8414598040	Fans & Blowers
8415200000	Air Conditioners
8415830040	Air Conditioners
8421230000	Oil or Fuel Filters
8421310000	Intake Air Filters

4016931020	Oil Seals
4016931050	Gaskets
4016931090	Gaskets
4016993000	Vibration Control
4016995010	Mechanical Articles
4016995500	Vibration Control
4016996010	Mechanical Articles
6813100050	Brake Linings & Pads
6813200015	Brake Linings & Pads
6813200025	Asbestos Friction
6813810050	Brk Lngs & Pads, Not Asbest
6813890050	Min Sub Friction Materials
6813900050	Friction Materials
7007110000	Safety Glass
7007110010	Safety Glass
7007211000	Windshields
7007211010	Windshields
7007215000	Safety Glass
7009100000	Rear-View Mirrors
7318160010	Lugnuts
7318160015	Lugnuts
7318160030	Lugnuts
7318160045	Other Lugnuts
7320100015	Leaf Springs
7320103000	Leaf Springs
7320106015	Leaf Springs
7320106060	Leaf Springs
7320201000	Helical Springs
8301200000	Locks
8301200030	Steering Wheel Immobilizers
8301200060	Other Locks
8302103000	Hinges
8302303000	Other Mountings
8302303010	Pneumatic Cylinders
8302303060	Other Mountings
8302306000	Other Mountings
8407341400	Engines
8407341540	Engines
8407341580	Engines
8407341800	Engines
8407342040	Engines
8407342080	Engines
8407344400	Engines
8407344540	Engines
8407344580	Engines
8407344800	Engines
8408202000	Compression Ignition Engine
8409911040	Cast Iron Parts
8409913000	Aluminum Cylinder Heads
8421394000	Catalytic Converters
8425490000	Jacks
8426910000	Lifting Machinery
8431100090	Parts of Winches, Jacks
8482101000	Ball Bearings
8482105044	Radial Bearings
8482105048	Radial Bearings
8482200020	Tapered Roller Bearings
8482200030	Tapered Roller Bearings
8482200040	Tapered Roller Bearings
8482200060	Tapered Roller Bearings
8482200070	Tapered Roller Bearings
8482200080	Tapered Roller Bearings
8482400000	Needle Roller Bearings
8482500000	Other Cylindrical Bearings
8483101020	Transmission Shafts
8483103010	Camshafts & Crankshafts
8507100050	Storage Batteries
8507100060	Storage Batteries
8507904000	Parts for Lead Acid Batteries
8507904050	Parts for Batteries
8511100000	Spark Plugs
8511200000	Magnetos, Dynamos
8511300040	Distributors
8511300080	Ignition Coils
8511400000	Starter Motors
8511500000	Generators
8511802000	Voltage Regulators
8511806000	Other Engine Ignition Equip.
8511906020	Parts for Distributor Sets
8511908000	Other Elec Ignition Equip
8512202000	Lighting Equipment
8512204000	Signaling Equipment
8512300000	Sound Signaling Equipment
8512300030	Radar Detectors
8512300050	Sound Signaling Equipment
8512402000	Defrosters
8512404000	Windshield Wipers
8512902000	Parts of Signaling Equip.
8512905000	Parts of Lighting Equipment
8512908000	Other Pts of Elec Equipment
8517120020	Radio Telephones
8519812000	Cassette Tape Players
8525201000	CB Transmission Apparatus
8525206000	Other Transmission Apparat
8525209020	Radio Telephones
8525209050	Radio Telephones
8525601010	Radio Transceivers (CB)
8527210000	Radiobroadcast Receivers

8409915010	Connecting Rods
8409915080	Parts
8409919110	Connecting Rods
8409919190	Parts
8409919910	Connecting Rods
8409991040	Cast-Iron parts
8409999110	Connecting Rods
8409999190	Parts
8413301000	Fuel Injection Pumps
8413309000	Fuel, Lub., or Cooling Pumps
8413309030	Fuel Pumps
8413309060	Lubricating Pumps
8413309090	Cooling Medium Pumps
8413911000	Parts of Fuel Injection Pumps
8414308030	Compressors
8414593000	Turbochargers
8414596040	Fans
8414598040	Fans & Blowers
8415200000	Air Conditioners
8415830040	Air Conditioners
8415900040	Parts of Air Conditioners
8415908040	Parts of Air Conditioners
8415908045	Parts of Air Conditioners
8421230000	Oil or Fuel Filters
8421310000	Intake Air Filters
8421394000	Catalytic Converters
8425490000	Jacks
8426910000	Lifting Machinery
8431100090	Parts of Winches, Jacks
8482101000	Ball Bearings
8482101040	Ball Bearings
8482101080	Ball Bearings
8482105044	Radial Bearings
8482105048	Radial Bearings
8482200010	Tapered Roller Bearings
8482200020	Tapered Roller Bearings
8482200030	Tapered Roller Bearings
8482200040	Tapered Roller Bearings
8482200050	Tapered Roller Bearings
8482200060	Tapered Roller Bearings
8482200070	Tapered Roller Bearings
8482200080	Tapered Roller Bearings
8482400000	Needle Roller Bearings
8482500000	Other Cylindrical Bearings
8483101030	Camshafts and Crankshafts
8483103010	Camshafts and Crankshafts
8501324500	Electric Motors
8507100060	Storage Batteries
8507304000	Nickel-Cadmium Batteries
8527290000	Other Radiobroadcast Receiv
8531800038	Radar Detectors
8531809038	Radar Detectors
8536410005	Signaling Flashers
8539100020	Beam Lamp Units
8539100040	Beam Lamp Units
8544300000	Ignition Wiring Sets
8707100020	Bodies
8707100040	Bodies
8707905020	Bodies
8707905040	Bodies
8707905060	Bodies
8707905080	Bodies
8708100010	Stampings of Bumpers
8708100050	Bumpers and Parts
8708210000	Seat Belts
8708290010	Stampings of Bodies
8708290025	Truck Caps
8708290050	Parts & Access. of Bodies
8708290060	Parts & Access. of Bodies
8708295025	Truck Caps
8708295070	Other Pts & Access of Bodies
8708295170	Parts & Access of Bodies
8708300010	Mounted Brake Linings
8708300050	Brakes & Servo-Brakes
8708310000	Mounted Brake Linings
8708390000	Other Brakes
8708401000	Gear Boxes
8708401110	Gear Boxes
8708401150	Gear Boxes
8708402000	Gear Boxes
8708403500	Gear Boxes
8708406000	Gear Boxes
8708408000	Gear Box Parts & Access.
8708500050	Drive Axles
8708504110	Drive Axles
8708504150	Non-Driving Axles
8708507200	Drive Axles Parts & Access.
8708600050	Non-Driving Axles
8708700050	Road Wheels & Pts.
8708800050	Suspension Shock Absorbers
8708805000	Suspension Shock Absorbers
8708807000	Suspension System Parts
8708915000	Radiators
8708918000	Radiator Parts & Access.
8708925000	Radiators
8708928000	Muffler Parts & Access.
8708935000	Clutches and Parts
8708945000	Steering Wheel, Column

8507904000	Parts for Lead Acid Batteries
8511100000	Spark Plugs
8511200000	Magnetos, Dynamos
8511300040	Distributors
8511300080	Ignition Coils
8511400000	Starter Motors
8511500000	Generators
8511802000	Voltage Regulators
8511806000	Other Engine Ignition Equip.
8511902000	Parts for Voltage Regulators
8511906020	Parts for Distributer Sets
8511906040	Other Parts Engine Ignition
8512202000	Lighting Equipment
8512202040	Lighting Equipment
8512204000	Signaling Equipment
8512204040	Signaling Equipment
8512300020	Horns
8512300030	Radar Dectector
8512300040	Sound Signaling Equipment
8512402000	Defrosters
8512404000	Windshield Wipers
8512902000	Parts of Signaling Equipment
8512906000	Lighting Equipment Parts
8512907000	Parts of Defrosters
8512909000	Parts of Windshield Wipers
8517120020	Radio Telephones
8519812000	Cassette Tape Players
8519910020	Cassette Tape Players
8519911000	Cassette Tape Players
8519934000	Cassette Tape Players
8525201500	Radio Transceivers
8525206020	Radio Telephones
8525209020	Radio Telephones
8525601010	Radio Transceivers, CBs
8527211005	Radio-Tape Players (CDs)
8527211010	Radio-Tape Players
8527211015	Radio-Tape Players
8527211020	Radio-Tape Players
8527211025	Radio-Tape Players
8527211030	Radio-Tape Players
8527214000	Radio-Combinations
8527214040	Radio-Combinations
8527214800	Radio-Combinations
8527290020	Radio-Receivers AM
8527290040	Radio-Receivers FM/AM
8527290060	Radio-Receivers
8527294000	Radio-Receivers FM/AM
8527298000	Radio Recievers
8527298020	Radio-Receivers AM

8708948000	Steering Wheel Parts & Acces
8708950000	Airbags for MVs
8708990045	Slide-in Campers
8708990050	Pts & Access.
8708990070	Wheel Hub Units
8708990090	Other Pts & Access
8708990095	Pts & Access
8708995800	Wheel Hub Units
8708996100	Airbags
8708998015	Wheel Hub Units
8708998030	Slide-In Campers
8708998075	Other Pts & Access
8708998115	Wheel Hub Units
8708998130	Slide-in Campers
8708998175	Parts & Access NESOI
8716900000	Parts of Trailers
8716905000	Parts
9029100000	Revolution Counters
9029205000	Other Speedometers/Tacho
9029900000	Pts & Access of Rev Counter
9104000000	Inst Panel Clocks
9401200000	Seats
9401901000	Seat Parts
9401901010	Seat Parts of Leather
9401901080	Seat Parts
9403901000	Parts of Furnitures

8527298060	Radio-Receivers
8531800038	Radar Detectors
8531808038	Radar Detectors
8531809038	Radar Detectors
8536410005	Signaling Flashers
8539100010	Beam Lamp Units
8539100020	Beam Lamp
8539100040	Beam Lamp
8539100050	Beam Lamp Units
8539212040	Halogen Lamps
8544300000	Ignition Wiring Sets
8707100020	Bodies
8707100040	Bodies
8707905020	Bodies
8707905040	Bodies
8707905060	Bodies
8707905080	Bodies
8708100010	Stampings of Bumpers
8708100050	Bumpers and Parts
8708103010	Stampings of Bumpers
8708103050	Bumpers
8708106010	Stampings Parts of Bumpers
8708106050	Parts of Bumpers
8708210000	Seat Belts
8708290010	Stampings of Bodies
8708290025	Truck Caps
8708290050	Parts & Access. of Bodies
8708290060	Parts & Access. of Bodies
8708291000	Inflators & Modules Airbags
8708291500	Door Assemblies
8708292000	Body Stampings
8708295010	Stampings
8708295025	Truck Caps
8708295060	Other Parts
8708301090	Brakes and Parts
8708305020	Brake Drums
8708305030	Brake Rotors
8708305040	Brake Linings
8708305090	Brake Parts
8708315000	Mounted Brake Linings
8708391090	Brakes & Parts
8708395010	Brake Drums & Rotors
8708395020	Brake Drums
8708395030	Brake Rotors
8708395050	Brakes & Servo-Brakes
8708401000	Gear Boxes
8708401110	Gear Boxes
8708401150	Gear Boxes
8708402000	Gear Boxes

8708405000	Gear Boxes
8708407000	Cast Iron Parts, Gear Box
8708407550	Parts, Radiators
8708503000	Drive Axles
8708505000	Drive Axles
8708505110	Drive Axles
8708505150	Non-Driving Axles
8708506100	Drive Axles
8708506500	Non-Driving Axles, NESOI
8708507900	Non-Driving Axles Parts
8708508000	Drive Axles
8708508100	Cast Iron Parts, Drive Axles
8708508500	Parts, Drive Shaft
8708508900	Parts, Drive Axles
8708509110	Spindles of Non-Driving Axle
8708509150	Non-Driving Axles Parts
8708509300	Cast Iron Parts, Drive Axles
8708509500	Parts, Drive Shaft
8708509900	Parts, Drive Axles
8708605000	Non-Driving Axles
8708608010	Spindles
8708608050	Non-Driving Axles
8708704530	Road Wheels
8708704545	Road Wheels
8708704560	Wheel Rims
8708706030	Wheel Covers
8708706045	Wheel Covers & Hubcaps
8708706060	Parts & Access. for Wheels
8708708010	Wheels
8708708015	Wheels
8708708025	Wheels
8708708030	Wheels
8708708035	Wheels
8708708045	Wheel Rims
8708708050	Parts & Access. for Wheels
8708708060	Wheel Covers & Hubcaps
8708708075	Parts & Access. for Wheels
8708801300	Suspension Shock Absorbers
8708801600	Suspension Shock Absorbers
8708803000	Suspension Shock Absorbers
8708804500	Suspension Shock Absorbers
8708805000	Suspension Shock Absorbers
8708806000	Cast Iron Parts, SS
8708806510	Beam Hanger Brackets
8708806590	Parts for Suspension System
8708915000	Radiators
8708917000	Cast Iron Parts, Radiators
8708917510	Radiator Cores
8708917550	Parts, Radiators

8708925000	Mufflers
8708927000	Cast Iron Parts, mufflers
8708927500	Parts, Mufflers
8708935000	Clutches & Parts
8708936000	Clutches
8708937500	Parts of Clutches
8708945000	Steering Wheels, Columns
8708947000	Cast Iron Parts
8708947510	Steering Shaft Assembly
8708947550	Parts, Steering
8708950500	Inflators
8708952000	Parts, Airbags
8708993000	Cast Iron Parts
8708995005	Brake Hoses
8708995010	Steering Shaft Assemblies
8708995020	Wheel Hub Units
8708995030	Beam Hanger Brackets
8708995045	Slide in Campers
8708995060	Radiator Cores
8708995070	Cable Traction Devices
8708995080	Parts
8708995085	Parts
8708995090	Parts
8708995200	Cast Iron Parts
8708995500	Vibration Control Goods
8708995800	Wheel Hub Units
8708996100	Airbags
8708996400	Half Shafts & Drive Shafts
8708996700	Parts (joints?)
8708996710	Universal Joints->01
8708996720	Universal Joints- >01
8708996790	Other Joints->01
8708996810	Parts Pwr Trns, Univ Jnts
8708996820	Parts Pwr Trns, Univ Jnts
8708996890	Parts Power Train
8708997030	Beam Hanger Brackets
8708997060	Suspension System Parts
8708997330	Steering Shaft Assemblies
8708997360	Parts for Steering Systems
8708998005	Brake Hoses of Plastics
8708998015	Wheel Hub Units
8708998045	Radiator Cores
8708998060	Cable Traction Devices
8708998080	Parts
8708998105	Brake Hoses- Plastic
8708998115	Wheel Hub Units
8708998160	Cable Traction Devices
8708998180	Parts
8716905010	Axles & Parts for Trailers

8716905030	Wheels for Trailers
8716905050	Parts for Trailers
8716905060	Parts for Trailers
8718995025	Wheel Hub Units
9029104000	Taximeters
9029108000	Revolution Counters, Odom.
9029204080	Other Speedometers, Tach.
9029902000	Parts & Access of Taximeters
9029908040	Parts & Access of Speed/Tac
9029908080	Parts & Access of Odometers
9104002510	MVT & Cases Panel Clock
9104004000	Instrument Panel Clocks
9104004510	Movements of Inst. Clock
9401200000	Seats
9401200010	Child Safety Seats
9401200090	Seats
9401901000	Seat Parts
9401901010	Seat Parts of Leather
9401901020	Seat Parts of Textile
9401901080	Seat Parts
9401901085	Seat Parts
9403406000	Wooden Furniture for M.V.
9403506000	Wooden Furniture for M.V.
9403901000?	Furniture
9403901040	Parts of Furniture for M.V.
9403901050	Parts of Furniture for M.V.
9403901080	Parts of Furniture for M.V.
9403901085	Parts of Furniture for M.V.
9802004020	Combust. Engine Repair
9802005030	Value of Repairs on Engines

North American Industry Classification System (NAICS)

335911	Storage Battery Mfg
336211	Motor Vehicle Body Mfg
336311	Carburetor, Piston, Piston Ring, & Valve Mfg
336312	Gasoline Engine & Engine Parts Mfg
336321	Vehicular Lighting Equipment Mfg
336322	Other Motor Vehicle Electrical & Electronic Equipment Mfg
336330	Motor Vehicle Steering & Suspension Component
336340	Motor Vehicle Brake System Mfg
336350	Motor Vehicle Transmission & Power Train Parts Mfg
336360	Motor Vehicle Seating & Interior Trim Mfg
336370	Motor Vehicle Metal Stamping
336391	Motor Vehicle Air-Conditioning Mfg
336399	All Other Motor Vehicle Parts Mfg

Table 1

Statistics for All U.S. Manufacturing Establishments												
	2002	Chg*	2003	Chg*	2004	Chg*	2005	Chg*	2006	Chg*	2007	Chg*
All Employees	14,664,385	-7.5%	13,872,958	-5.4%	13,394,079	-3.5%	13,161,880	-1.7%	12,990,344	-1.3%	13,330,780	2.6%
Empoyee Payroll ($1,000)	575,165,127	-2.8%	567,602,408	-1.3%	569,703,575	0.4%	580,358,985	1.9%	592,342,060	2.1%	608,806,166	2.8%
Production Workers	10,319,528	-8.0%	9,796,581	-5.1%	9,365,130	-4.4%	9,235,635	-1.4%	9,179,071	-0.6%	9,328,991	1.6%
Production Worker Hours (1,000)	20,431,721	-8.7%	19,853,892	-2.8%	19,283,817	-2.9%	19,055,800	-1.2%	18,786,191	-1.4%	18,803,820	0.1%
Production Worker Wages ($1,000)	336,540,063	-1.7%	330,480,113	-1.8%	332,873,474	0.7%	337,980,878	1.5%	344,285,109	1.9%	350,395,122	1.8%
Value of Industry Shipments ($1,000)**	3,914,719,163	-1.4%	4,015,387,243	2.6%	4,308,970,620	7.3%	4,742,076,879	10.1%	5,019,963,474	5.9%	5,298,309,698	5.5%

Source: *Annual Survey of Manufacturers and Census of Manufacturers,* U.S. Department of Commerce, Bureau of the Census. * = From Previous Year

** = Industry Shipments are products shipped by industry establishments.

Table 2

Statistics for U.S. Motor Vehicle Parts Manufacturing, NAICS 336211 and 3363												
	2002	Chg*	2003	Chg*	2004	Chg*	2005	Chg*	2006	Chg*	2007	Chg*
All Employees	763,105	-1.9%	712,864	-6.6%	688,627	-3.4%	661,268	-4.0%	628,430	-5.0%	623,895	-0.7%
Empoyee Payroll ($1,000)	33,562,404	2.2%	33,189,602	-1.1%	33,192,112	0.0%	31,847,957	-4.0%	30,632,238	-3.8%	29,735,431	-2.9%
Production Workers	605,016	-1.7%	557,259	-7.9%	538,579	-3.4%	515,023	-4.4%	489,027	-5.0%	475,019	-2.9%
Production Worker Hours (1,000)	1,200,273	-2.3%	1,157,384	-3.6%	1,121,885	-3.1%	1,060,590	-5.5%	1,012,752	-4.5%	964,036	-4.8%
Production Worker Wages ($1,000)	24,593,055	3.8%	24,022,454	-2.3%	24,011,281	0.0%	22,751,447	-5.2%	21,991,146	-3.3%	20,500,431	-6.8%
Value of Industry Shipments ($1,000)**	212,537,954	11.4%	210,941,156	-0.8%	212,079,070	0.5%	216,902,592	2.3%	214,023,641	-1.3%	213,074,185	-0.4%
Value of Product Shipments ($1,000)***	203,595,011	8.0%	202,394,646	-0.6%	204,813,969	1.2%	208,448,296	1.8%	206,000,093	-1.2%	207,345,704	0.7%

Source: *Annual Survey of Manufacturers and Census of Manufacturers,* U.S. Department of Commerce, Bureau of the Census. * = From Previous Year

** = Industry Shipments are products shipped by industry establishments. *** = Product Shipments are all products regardless of industry establishment.

Table 3

U.S. Exports of All Export Commodities and of Automotive Parts ($millions)															
	2002	%Chg	2003	%Chg	2004	%Chg	2005	%Chg	2006	%Chg	2007	%Chg	2008	%Chg	2009	%Chg
Parts Exports	50,087	0.6%	48,501	-3.2%	52,628	8.5%	55,054	4.6%	58,864	6.9%	61,954	5.2%	57,476	-7.2%	42,692	-25.7%
All Export Commodities	629,599		651,424	3.5%	727,183	11.6%	803,992	10.6%	929,486	15.6%	1,046,358	12.6%	1,169,821	11.8%	936,745	-19.9%
% Share	8.0%		7.4%	-6.4%	7.2%	-2.8%	6.8%	-5.4%	6.3%	-7.5%	5.9%	-6.5%	4.9%	-17.0%	4.6%	-7.2%

Source: U.S. Census Bureau

Table 4

Total World Original Equipment Parts Market						
	2007	% Change	2008	% Change	2009	% Change
OE Parts Market ($millions)	843,200	#REF!	806,000	-4.4%	695,000	-13.8%
Total OE Parts per Vehicle ($)	12,400	#REF!	12,400	0.0%	12,192	-1.7%

Source: OESA Industry Review

Table 5

U.S. Original Equipment and Aftermarket Parts Market

	2000	2001	2002	2003	2004	2005	2006	2007	2008***	% Change	2009^	% Change
Size of U.S OE and Aftermarket Parts Market ($US Billions)	235.8	223.4	229.4	254.4	258.8	262.8	266.5	260.4	220.8	-15.2%	169.2	-23.4%
Size of U.S OE Parts Market ($US Billions)	178.1	164.8	168.5	191.1	193.1	194.4	196.0	188.6	149.9	-20.5%	97.0	-35.3%
Size of U.S. Aftermarket Parts Market ($US Billions)^^	57.7	58.6	60.9	63.3	65.7	68.4	70.5	71.8	70.9	-1.2%	72.2	1.8%
U.S. Light Vehicle Production (Units)**	12,380,628	11,168,423	11,997,699	11,788,437	11,567,272	11,495,997	10,782,814	10,459,563	8,449,402	-19.2%	5,562	-99.9%
Content per Vehicle ($US)	13,714	14,103	13,450	15,456	15,912	16,281	17,276	16,558.0	16,371.0	-1.1%		-100.0%
OE & Aftermarket Parts Sourced from U.S. owned Suppliers ($US Billions)	135.4	126.7	120.8	128.4	119.0	108.3	105.8	89.8	73.0	-18.7%		-100.0%
% of Total Parts Market	57.4%	56.7%	52.7%	50.5%	46.0%	41.2%	39.7%	34.5%	33.1%			
OE & Aftermarket Parts Sourced from U.S. transplant Suppliers ($US Billions)	47.6	46.9	51.8	63.3	69.9	78.4	83.2	76.5	67.4	-11.9%		-100.0%
% of Total Parts Market	20.2%	21.0%	22.6%	24.9%	27.0%	29.8%	31.2%	29.4%	30.5%			
Imports of Parts ($US Billions)	51.7	48.3	53.7	58.0	65.0	71.1	72.8	77.4	69.6	-10.1%		-100.0%
% of Total Parts Market	21.9%	21.6%	23.4%	22.8%	25.1%	27.1%	27.3%	29.7%	31.5%			
Imports from Canada	14.7	13.1	14.5	15.7	17.0	18.1	16.9	17.2	13.5	-21.5%		-100.0%
% of Parts Imports	28.4%	27.1%	27.0%	27.1%	26.2%	25.5%	23.2%	22.2%	19.4%		#DIV/0!	
% of Total Parts Market	6.2%	5.9%	6.3%	6.2%	6.6%	6.9%	6.3%	6.6%	6.1%		0.0%	
Imports from Mexico	13.8	13.2	15.2	16.0	17.9	19.4	20.8	22.2	20.9	-5.9%		-100.0%
% of Parts Imports	26.7%	27.3%	28.3%	27.6%	27.5%	27.3%	28.6%	28.7%	30.0%		#DIV/0!	
% of Total Parts Market	5.9%	5.9%	6.6%	6.3%	6.9%	7.4%	7.8%	8.5%	9.5%		0.0%	
Imports from Japan	12.0	11.1	11.3	11.4	13.1	13.8	12.8	12.5	11.3	-9.6%		-100.0%
% of Parts Imports	23.2%	23.0%	21.0%	19.7%	20.2%	19.4%	17.6%	16.1%	16.2%		#DIV/0!	
% of Total Parts Market	5.1%	5.0%	4.9%	4.5%	5.1%	5.3%	4.8%	4.8%	5.1%		0.0%	
Imports from China	0.8	1.0	1.3	1.7	2.4	3.2	4.3	5.3	5.5	3.8%		-100.0%
% of Parts Imports	1.5%	2.1%	2.4%	2.9%	3.7%	4.5%	5.9%	6.8%	7.9%		#DIV/0!	
% of Total Parts Market	0.3%	0.4%	0.6%	0.7%	0.9%	1.2%	1.6%	2.0%	2.5%		0.0%	
Imports from all other countries	10.4	9.9	11.4	13.2	14.6	16.6	18.0	20.2	18.4	-8.9%		-100.0%
% of Parts Imports	20.1%	20.5%	21.2%	22.8%	22.5%	23.3%	24.7%	26.1%	26.4%		#DIV/0!	
% of Total Parts Market	4.4%	4.4%	5.0%	5.2%	5.6%	6.3%	6.8%	7.8%	8.3%		0.0%	

**U.S. Suppliers include U.S. Affiliates of Foreign Manufacturers. **Source: Wards Automotive ***Estimated ^Forecast ^^in Wholesale dollars*

Source: DesRosiers, Denis. "Observations," in DesRosiers Automotive Reports, 10/15/09.

Table 6

U.S. Light Vehicle Aftermarket Dollar Volume ($Millions)														
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008f	2009f	% Change
Survey Cost Method	152,981	152,620	154,922	153,123	156,019	160,154	164,806	169,876	177,069	185,224	188,638	193,793		-100.0%
Joint Industry Channel Forecasting Model	144,073	148,228	153,289	159,873	161,456	163,038	162,078	167,643	174,282	179,207	186,686	187,290		-100.0%

Source: *AASA 2008-2009 Automotive Aftermarket Status Report* published in August 2008 f=Forecast

includes automotive aftermarket service sector

Table 7

Top 10 Global OEM Suppliers

	2001	Global OEM Sales	2002	Global OEM Sales	2003	Global OEM Sales	2004	Global OEM Sales	2005	Global OEM Sales	2006	Global OEM Sales	2007	Global OEM Sales	2008	Global OEM Sales
	Company	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)
1	Delphi Corp.	24,188	Delphi Corp.	25,527	Delphi Corp.	26,200	Robert Bosch GmbH	26,800	Robert Bosch Gmbh	28,418	Robert Bosch Gmbh	29,687	Robert Bosch Gmbh	36,160	Robert Bosch Gmbh	33,901
2	Robert Bosch GmbH	18,000	Robert Bosch GmbH	19,085	Robert Bosch GmbH	23,200	Delphi Corp.	24,104	Delphi Corp.	26,900	Denso Corp.	28,530	Denso Corp.	35,700	Denso Corp.	27,762
3	Visteon Corp.	16,945	Visteon Corp.	16,900	Denso Corp.	16,856	Magna International Inc.	20,653	Denso Corp.	22,871	Magna International Inc.	23,883	Magna International Inc.	25,645	Continental AG	25,012
4	Denso Corp.	16,250	Denso Corp.	15,348	Visteon Corp.	16,513	Denso Corp.	19,927	Magna International Inc.	22,800	Delphi Corp.	22,737	Continental AG	25,000	Magna International Inc.	23,295
5	Lear Corp.	13,625	Lear Corp.	14,400	Lear Corp.	15,747	Johnson Controls Inc.	19,300	Johnson Controls Inc.	19,400	Johnson Controls Inc.	19,500	Delphi Corp.	22,283	Aisin Seiki Co.	20,796
6	Johnson Controls In.	13,620	Johnson Controls In.	13,653	Magna Int'l Inc.	15,345	Visteon Corp.	17,700	Aisin Seiki Co.	17,909	Aisin Seiki Co.	19,367	Aisin Seiki Co.	21,705	Johnson Controls Inc.	19,100
7	Magna Int'l Inc.	10,500	Magna Int'l Inc.	12,188	Johnson Controls Inc.	15,192	Lear Corp.	17,000	Lear Corp.	17,089	Lear Corp.	17,839	Johnson Controls Inc.	18,500	Delphi Corp.	18,060
8	TRW Automotive	9,600	Aisin Seiki Co. Ltd.	10,716	Aisin Seiki Co. Ltd.	13,534	Aisin Seiki Co. Ltd	15,508	Visteon Corp.	15,876	Faurecia	15,000	Faurecia	17,400	Faurecia	17,656
9	Faurecia	8,600	Faurecia	10,000	Faurecia	12,700	Faurecia	13,327	Faurecia	14,000	Valeo SA	12,700	Lear Corp.	15,995	ZF Friedrichshafen AG	16,891
10	Aisin Seiki Co. Ltd.	8,460	TRW Automotive	9,900	TRW Automotive	11,300	Siemens VDO Automotive	11,600	TRW Automotive Inc.	11,726	TRW Automotive Inc.	12,162	ZF Friedrichshafen AG	15,100	TRW Automotive	15,000
op 10 Tota		139,788		147,717		166,587		185,919		196,989		201,405		233,488		217,473
op 100 Tot		347,900		353,385		401,545		501,807		475,490		533,000		611,923		588,043

Source: Automotive News. *calculated estimate. **American Axle and Manufacturing Holdings Inc.

Table 8

Top 10 OE Suppliers for North America

	2001	NA Sales	2002	NA Sales	2003	NA Sales	2004	NA Sales	2005	NA Sales	2006	NA Sales	2007	NA Sales	2008	NA Sales
	Company	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)	**Company**	($Millions)
1	Delphi Corp.	18,867	Delphi Corp	19,656	Delphi Corp	19,450	Delphi Corp	17,596	Delphi Corp.	18,292	Delphi Corp.	13,870	Magna International Inc.	13,592	Magna International Inc.	11,415
2	Visteon Corp	11,736	Visteon Corp.	12,168	Visteon Corp.	11,080	Visteon Corp.	11,328	Magna International Inc.	12,768	Magna International Inc.	12,897	Delphi Corp.	11,810	Delphi Corp.	7,585
3	Lear Corp	8,858	Lear Corp.	9,504	Lear Corp.	9,448	Magna Int'l Inc.	10,326	Visteon Corp.	9,684	Lear Corp.	9,811	Johnson Controls Inc.	7,585	Johnson Controls Inc.	7,067
4	Johnson Controls Inc	7,353	Johnson Controls Inc.	7,687	Magna Int'l Inc.	8,736	Johnson Controls Inc.	9,650	Lear Corp.	9,228	Johnson Controls Inc.	8,580	Lear Corp.	7,198	Lear Corp.	4,896
5	Magna Intl Inc	7,140	Magna Int'l Inc.	7,650	Johnson Controls Inc.	8,021	Lear Corp.	9,350	Johnson Controls Inc.	8,924	Dana Corp.	5,187	Robert Bosch Corp.	6,460	TRW Automotive Inc.	4,515
6	Dana Corp	5,250	Dana Corp.	5,340	Dana Corp.	5,543	Dana Corp.	5,209	Dana Corp.	5,425	Denso Int'l America Inc.	4,558	Denso Int'l America Inc.	5,805	Robert Bosch Corp.	4,407
7	TRW Automotive	4,992	TRW Automotive	4,950	Robert Bosch Corp.	5,336	Robert Bosch Corp.	4,556	Robert Bosch Corp.	4,831	Robert Bosch Corp.	4,453	Continental AG	5,250	Continental AG	4,202
8	Robert Bosch Corp.	4,120	Robert Bosch Corp.	4,390	TRW Automotive	4,633	Denso Int'l America Inc.	4,384	Denso Int'l America Inc.	4,803	TRW Automotive Inc.	4,135	Dana Corp.	4,797	Dana Corp.	3,886
9	Denso Intl America Inc.	3,689	Denso Int'l America Inc.	3,769	ThyssenKrupp***	4,401	TRW Automotive	4,235	ArvinMeritor	4,499	ArvinMeritor	4,598	TRW Automotive Inc.	4,067	ThyssenKrupp USA Inc.	3,508
10	ArvinMeritor Inc	2,045	American Axle & Manu.**	3,341	Denso Int'l America Inc.	3,894	ThyssenKrupp***	4,021	TRW Automotive Inc.	4,456	Visteon Corp.	4,068	ThyssenKrupp USA Inc.	3,876	Denso Int'l America Inc.	3,331
op 10 Tota		74,050		78,455		80,542		80,655		82,910		72,157		70,440		54,812
op 150 Tota		166,400		182,100		186,714		197,577		203,106		195,987		198,668		162,208

Source: Automotive News. *calculated estimate. **American Axle and Manufacturing Holdings Inc. ***ThyssenKrupp Automotive AG

Table 9

World Shipments of the 20 Largest Exporters of Auto Parts ($US Millions)

Reporting Country	$US Millions						% Share					
	2003	2004	2005	2006	2007	2008	2003	2004	2005	2006	2007	2008
Reporting Total	**531,721**	**648,190**	**735,411**	**833,645**	**734,137**	**766,494**	**100**	**100**	**100**	**100**	**100**	**100**
Germany	76,796	96,535	102,737	110,801	110,399	115,474	14.44%	14.89%	13.97%	13.29%	15.04%	15.07%
USA	63,922	70,561	74,218	80,173	74,809	71,213	12.02%	10.89%	10.09%	9.62%	10.19%	9.29%
Japan	48,461	56,127	58,635	59,117	60,760	65,094	9.11%	8.66%	7.97%	7.09%	8.28%	8.49%
China	20,112	34,390	48,680	68,871	43,202	52,455	3.78%	5.31%	6.62%	8.26%	5.88%	6.84%
France	35,193	41,168	40,901	46,149	43,903	45,242	6.62%	6.35%	5.56%	5.54%	5.98%	5.90%
Italy	22,873	28,502	30,426	32,946	34,880	37,278	4.30%	4.40%	4.14%	3.95%	4.75%	4.86%
Mexico	26,831	31,415	35,014	40,117	38,131	32,125	5.05%	4.85%	4.76%	4.81%	5.19%	4.19%
South Korea	22,144	30,349	34,306	34,654	20,121	23,054	4.16%	4.68%	4.66%	4.16%	2.74%	3.01%
Czech Republic	9,599	13,046	14,510	16,668	19,656	22,970	1.81%	2.01%	1.97%	2.00%	2.68%	3.00%
Poland	8,578	11,631	13,568	16,728	20,498	22,950	1.61%	1.79%	1.84%	2.01%	2.79%	2.99%
Canada	25,144	27,676	30,155	30,480	27,644	22,834	4.73%	4.27%	4.10%	3.66%	3.77%	2.98%
Spain	16,742	19,518	20,273	21,915	22,892	22,697	3.15%	3.01%	2.76%	2.63%	3.12%	2.96%
United Kingdom	24,491	23,881	36,007	62,123	20,975	20,501	4.61%	3.68%	4.90%	7.45%	2.86%	2.67%
Belgium	11,142	13,641	14,179	14,992	17,379	18,015	2.10%	2.10%	1.93%	1.80%	2.37%	2.35%
Hungary	6,328	13,733	16,551	20,370	16,824	17,525	1.19%	2.12%	2.25%	2.44%	2.29%	2.29%
Austria	12,502	12,925	13,764	14,203	15,409	16,380	2.35%	1.99%	1.87%	1.70%	2.10%	2.14%
Netherlands	7,753	10,172	13,030	12,538	11,939	13,399	1.46%	1.57%	1.77%	1.50%	1.63%	1.75%
Thailand	4,267	5,736	7,454	9,007	11,769	13,220	0.80%	0.88%	1.01%	1.08%	1.60%	1.72%
Sweden	11,051	12,978	13,588	13,995	12,095	12,397	2.08%	2.00%	1.85%	1.68%	1.65%	1.62%
Taiwan				9,595	10,087	11,243				1.15%	1.37%	1.47%

Source: Global Trade Atlas, using OTM HTS-6 product list. Sorted by 2008 ranking.

Table 10

Employment in the U.S. Automotive Parts Industry, Thousands

NAICS	Description	2000	% Change	2001	% Change	2002	% Change	2003	% Change	2004	% Change	2005	% Change	2006	% Change	2007	% Change	2008	% Change	2009	% Change
336211	Motor Vehicle Bodies	81.8	1.7%	75.8	-7.3%	68.3	-9.9%	61.9	-9.4%	64.5	4.2%	65.9	2.2%	67.9	3.0%	64.8	-4.6%	60.1	-7.3%	51.3	-14.6%
3363	Motor Vehicle Parts	839.5	0.3%	774.7	-7.7%	733.6	-5.3%	707.8	-3.5%	692.1	-2.2%	678.1	-2.0%	654.7	-3.5%	607.9	-7.1%	543.7	-10.6%	418.7	-23.0%
33631	MV Gasoline Engine and Parts	104.2	-0.1%	96.7	-7.2%	93.0	-3.8%	85.5	-8.1%	80.2	-6.2%	76.3	-4.9%	73.2	-4.1%	68.0	-7.1%	61.7	-9.3%	46.6	-24.5%
336311	Carburators, Pistons, Rings, and Valves	23.2	-0.9%	21.3	-8.2%	19.9	-6.6%	17.7	-11.1%	16.1	-9.0%	14.9	-7.5%	13.2	-11.4%						
336312	Gasoline Engine and Engine Parts	81.0	0.1%	75.5	-6.8%	73.1	-3.2%	67.8	-7.3%	64.1	-5.5%	61.5	-4.1%	58.2	-5.4%						
33632	MV Electric Equipment	133.6	0.0%	120.1	-10.1%	110.1	-8.3%	104.0	-5.5%	100.5	-3.4%	95.8	-4.7%	90.8	-5.2%	79.9	-12.0%	70.8	-11.4%	55.7	-21.3%
336321	Vehicular Lighting Equipment	19.1	0.5%	17.8	-6.8%	17.2	-3.4%	17.2	0.0%	16.6	-3.5%	16.8	1.2%	16.2	-3.6%	13.5	-16.7%	12.7	-5.9%	11.2	-11.8%
336322	Other MV Electric Equipment	114.5	0.0%	102.3	-10.7%	92.9	-9.2%	86.9	-6.5%	83.8	-3.6%	79.0	-5.7%	74.6	-5.6%	66.3	-11.1%	58.1	-12.4%	44.5	-23.4%
33633	MV Steering and Suspension Parts	55.7	0.2%	51.5	-7.5%	47.4	-8.0%	44.6	-5.9%	43.4	-2.7%	43.5	0.2%	42.4	-2.5%	38.0	-10.4%	33.8	-11.1%	27.7	-18.0%
33634	MV Brake Systems	50.1	0.0%	46.6	-7.0%	45.3	-2.8%	45.9	1.3%	45.1	-1.7%	42.9	-4.9%	40.3	-6.1%	36.1	-10.4%	31.3	-13.3%	23.4	-25.2%
33635	MV Power Train Components	104.3	0.1%	95.7	-8.2%	91.7	-4.2%	91.2	-0.5%	85.7	-6.0%	85.0	-0.8%	81.2	-4.5%	76.3	-6.0%	69.9	-8.4%	52.8	-24.5%
33636	MV Seating and Interior Trim	68.9	1.2%	64.9	-5.8%	62.0	-4.5%	62.2	0.3%	66.1	6.3%	64.3	-2.7%	62.7	-2.5%	61.4	-2.1%	56.5	-8.0%	44.2	-21.8%
33637	MV Metal Stamping	121.3	0.6%	111.6	-8.0%	105.5	-5.5%	101.9	-3.4%	99.0	-2.8%	98.6	-0.4%	95.6	-3.0%	89.8	-6.1%	77.9	-13.3%	52.8	-32.2%
33639	Other MV Parts	201.5	0.4%	187.5	-6.9%	178.5	-4.8%	172.4	-3.4%	172.1	-0.2%	171.7	-0.2%	168.5	-1.9%	158.4	-6.0%	141.8	-10.5%	115.6	-18.5%
Total	**336211+3363**	**921.3**	**0.4%**	**850.5**	**-7.7%**	**801.9**	**-5.7%**	**769.7**	**-4.0%**	**756.6**	**-1.7%**	**744.0**	**-1.7%**	**722.6**	**-2.9%**	**672.7**	**-6.9%**	**603.8**	**-10.2%**	**470.0**	**-22.2%**

Source: Bureau of Labor Statistics

Table 11

Employment in the U.S. Automotive Parts Industry

NAICS		2002	% Change	2003	% Change	2004	% Change	2005	% Change	2006	% Change	2007	% Change
Bodies and Body Parts													
336211	MV Body Manufacturing	41,450	-0.8%	40,874	-1.4%	43,779	7.1%	48,396	10.5%	50,702	4.8%	48,217	-4.9%
336360	MV Seating and Interior	53,957	2.4%	53,120	-1.6%	50,029	-5.8%	47,106	-5.8%	47,321	0.5%	52,866	11.7%
336370	MV Metal Stamping	126,137	12.1%	109,023	-13.6%	107,372	-1.5%	99,365	-7.5%	95,398	-4.0%	98,546	3.3%
Total		221,544	7.1%	203,017	-8.4%	201,180	-0.9%	194,867	-3.1%	193,421	-0.7%	199,629	3.2%
Chassis and Drivetrain Parts													
336330	MV Steering and Suspension	41,783	-11.1%	39,696	-5.0%	38,223	-3.7%	37,399	-2.2%	35,341	-5.5%	35,511	0.5%
336340	MV Brake System	42,356	9.3%	41,097	-3.0%	39,738	-3.3%	37,198	-6.4%	32,923	-11.5%	29,145	-11.5%
336350	MV Transmission	101,828	3.1%	90,998	-10.6%	91,232	0.3%	80,494	-11.8%	76,874	-4.5%	73,045	-5.0%
Total		185,967	0.8%	171,791	-7.6%	169,193	-1.5%	155,091	-8.3%	145,138	-6.4%	137,701	-5.1%
Electrical and Electronic Parts													
336321	Vehicle Lighting											13,659	
336322	Other Electric Equipment											58,922	
33632	MV Electrical Equipment	97,111	-11.3%	90,843	-6.5%	77,532	-14.7%	80,892	4.3%	72,620	-10.2%	72,581	-0.1%
336391	MV Air-Conditioning	18,870	-3.7%	19,229	1.9%	19,423	1.0%	17,011	-12.4%	15,825	-7.0%	17,509	10.6%
Total		115,981	-10.1%	110,072	-5.1%	96,955	-11.9%	97,903	1.0%	88,445	-9.7%	90,090	1.9%
Engines and Engine Parts													
336311	Carburetor, piston, Piston Ring											9,693	
336312	Gasoline Engine and Parts											54,460	
33631	Engines and Parts	94,092	6.2%	87,729	-6.8%	81,341	-7.3%	73,016	-10.2%	69,087	-5.4%	64,153	-7.1%
Total		94,092	6.2%	87,729	-6.8%	81,341	-7.3%	73,016	-10.2%	69,087	-5.4%	64,153	-7.1%
Miscellaneous Automotive Parts													
336399		145,521	-13.7%	140,255	-3.6%	139,957	-0.2%	140,392	0.3%	132,339	-5.7%	132,282	0.0%
Total		145,521	-13.7%	140,255	-3.6%	139,957	-0.2%	140,392	0.3%	132,339	-5.7%	132,282	0.0%
Total		**763,105**	**-1.9%**	**712,864**	**-6.6%**	**688,626**	**-3.4%**	**661,269**	**-4.0%**	**628,430**	**-5.0%**	**623,855**	**-0.7%**

Source: U.S. Department of Commerce, Census of Manufacturers and *Annual Survey of Manufacturers*. http://www.census.gov/mcd/asmhome.html

Table 12

Acquisitions of U.S. Automotive Parts Companies (SIC 3714)	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Number of all Deals*	47	59	52	33	38	30	37	26	32				
Value of all Deals* ($Millions)	3,766.4	11,570.7	18,620.0	6,395.3	1,117.5	12129.5	7516.2	2102.7	789.5				

Source: Thomson Financial IBCM in AAIA *Aftermarket Factbook 2006/2007.*

*Includes deals with and without reported values.

Automotive Aftermarket Mergers and Acquisitions	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Number of all Deals		85	82	52	50	43	50	35	59	62	50	44	
Value of all Deals ($Billions)		12.7	19.1	7.1	2.0	12.1	8.2	2.2	1.2	3.4	2.6	3.3	

Source: Thomson Financial IBCM in Aftermarket Business, 9/2009, p. 12.

U.S. AUTOMOTIVE PARTS EXPORTS, 2000 - 2009

Table 13

In millions of dollars

Region/Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	% Chg
WORLD	**53,720**	**49,794**	**50,087**	**48,501**	**52,628**	**55,054**	**58,864**	**61,954**	**57,476**	**42,692**	**-25.7%**
FT900 World*	**54,229**	**50,133**	**49,882**	**48,383**	**52,649**	**54,662**	**58,214**	**61,221**	**57,129**	**42,834**	**-25.0%**
ASIA and the PACIFIC											
Select ASEAN											
Indonesia	34	21	22	23	34	33	34	45	35	41	19.1%
Philippines	53	29	59	88	71	110	116	117	62	59	-4.8%
Singapore	135	143	141	142	149	157	239	256	355	252	-28.9%
Thailand	143	85	86	96	96	97	79	110	116	88	-24.0%
Total **ASEAN** (1)	**402**	**309**	**343**	**385**	**381**	**433**	**499**	**568**	**611**	**478**	**-21.7%**
Chinese Economic Area											
China	225	258	344	510	636	623	815	1,130	893	937	4.9%
Hong Kong	91	82	75	75	88	82	103	100	117	121	3.2%
Taiwan	79	75	77	133	111	96	124	119	78	54	-31.2%
Total **Chinese Economic Are**	**395**	**415**	**495**	**718**	**835**	**802**	**1,042**	**1,350**	**1,088**	**1,112**	**2.2%**
Select Other Asia and the Pacific											
Australia	700	577	615	656	768	779	875	926	923	686	-25.7%
India	41	38	39	42	65	73	96	131	196	131	-33.3%
Japan	**2,217**	**2,008**	**2,285**	**2,051**	**1,534**	**1,449**	**1,748**	**1,740**	**1,546**	**832**	**-46.2%**
Korea	454	369	332	309	466	562	570	593	416	303	-27.3%
EUROPE											
Select European Union											
Austria	1,056	1,117	944	556	487	814	888	623	333	114	-65.7%
Belgium	385	348	393	383	347	297	395	411	407	318	-21.9%
France	366	407	355	446	599	633	657	750	718	462	-35.6%
Germany	974	1,116	941	1,019	1,256	1,379	1,591	1,586	1,711	1,244	-27.3%
Italy	135	158	122	140	132	130	139	157	169	139	-17.5%
Netherlands	322	326	317	297	309	364	356	349	277	195	-29.5%
Spain	121	93	102	134	134	272	278	266	219	113	-48.2%
Sweden	143	127	154	208	241	198	198	223	225	111	-50.8%
United Kingdom	1,241	1,236	1,072	1,061	994	844	872	999	1,024	597	-41.7%
Total **European Union** (2)	**4,848**	**5,048**	**4,492**	**4,345**	**4,615**	**5,071**	**5,501**	**5,517**	**5,324**	**3,393**	**-36.3%**
Select Other Europe											
Czech Republic	14	8	11	9	8	18	21	25	31	23	-26.7%
Hungary	33	20	52	67	55	53	73	75	83	44	-46.5%
Poland	13	14	15	17	20	33	47	61	86	56	-34.8%
Russia	15	27	17	25	31	46	116	125	245	53	-78.4%
Total **Other Europe**	**75**	**69**	**95**	**118**	**114**	**150**	**258**	**287**	**445**	**176**	**-60.4%**
WESTERN HEMISPHERE											
Select Andean Community											
Colombia	81	76	69	68	103	108	121	130	169	160	-5.4%
Peru	24	33	31	37	38	57	62	88	111	96	-13.0%
Venezuela**	537	595	310	168	392	622	763	746	882	672	-23.8%
Total **Andean Community** (3)	**675**	**778**	**461**	**326**	**592**	**869**	**1,003**	**1,023**	**1,247**	**1,013**	**-18.8%**
Select Central America											
Honduras	37	32	34	34	86	117	164	175	124	48	-61.0%
Panama	25	18	17	15	17	20	28	42	41	39	-3.4%
Total **Central America** (4)	**160**	**142**	**151**	**143**	**202**	**246**	**328**	**399**	**346**	**259**	**-25.3%**
Select MERCOSUR											
Argentina	225	112	37	93	132	154	189	228	248	173	-30.1%
Brazil**	401	444	454	480	565	551	601	722	842	553	-34.4%
Chile	92	79	102	103	123	154	207	259	334	287	-14.1%
Total **MERCOSUR** (5)	**736**	**647**	**598**	**685**	**830**	**872**	**1,015**	**1,234**	**1,470**	**1,042**	**-29.1%**
NAFTA											
Canada	29,601	26,372	27,968	27,474	29,914	31,239	31,900	32,665	28,003	19,434	-30.6%
Mexico*	12,559	12,010	11,326	10,343	11,304	11,407	12,796	13,896	13,890	12,064	-13.1%
Total **NAFTA**	**42,161**	**38,381**	**39,293**	**37,817**	**41,219**	**42,646**	**44,695**	**46,561**	**41,893**	**31,498**	**-24.8%**
ALL OTHERS	**858**	**1,012**	**887**	**907**	**1,009**	**1,103**	**1,234**	**1,627**	**1,972**	**1,772**	**-10.1%**

Exports, f.a.s.
Source: U.S. Census Bureau
Prepared by: Office of Transportation and Machinery, U.S. Department of Commerce, 202-482-1418. 16 February 2010

Notes:
*Foreign Trade Statistics, FT900: U.S. International Trade In Goods and Services, Exhibit 18: Motor Vehicles and Parts, U.S. Census Burea
**1998 and 1999 data include transshipments to Brazil and Venezuela through St. Vincent and Grenadines
1) The ASEAN region comrpises Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnai
2) The selected European Union countries are Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the Unite Kingdom, Austria, Finland, and Sweden
3) The Andean Community comprises Bolivia, Colombia, Ecuador, Peru, and Venezuela
4) Central America comprises Costa Rica, El Salvador, Guatemala, Honduras, and Panama
5) The MERCOSUR countries are Argentina, Brazil, Chile, Paraguay, and Uruguay

*1995 data revised to reflect $698 million in exports underreported by Census

U.S. AUTOMOTIVE PARTS IMPORTS, 2000 - 2009

Table 14

In millions of dollars

Region/Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	%Chg
WORLD	**66,959**	**62,726**	**69,089**	**74,469**	**83,444**	**92,154**	**95,179**	**100,231**	**90,618**	**63,008**	**-30.5%**
FT900 World	**69,309**	**64,852**	**69,998**	**74,087**	**82,694**	**90,831**	**94,002**	**88,607**	**91,329**	**65,757**	**-28.0%**
ASIA and the PACIFIC											
Select ASEAN											
Indonesia	269	282	320	298	362	396	490	570	518	473	-8.8%
Philippines	408	360	349	386	399	441	517	588	568	388	-31.8%
Singapore	156	147	134	100	106	104	97	92	60	39	-35.8%
Thailand	415	411	546	529	582	660	892	1,140	1,192	914	-23.4%
Total **ASEAN** (1)	**1,535**	**1,444**	**1,619**	**1,586**	**1,747**	**1,860**	**2,264**	**2,821**	**2,811**	**2,174**	**-22.7%**
Chinese Economic Area											
China	1,635	1,758	2,242	2,788	3,884	5,408	6,928	8,628	9,042	7,433	-17.8%
Hong Kong	57	41	51	80	89	102	121	78	67	59	-12.1%
Taiwan	1,033	1,085	1,294	1,366	1,604	1,731	1,801	2,003	1,966	1,647	-16.2%
Total **Chinese Economic Area**	**2,725**	**2,885**	**3,587**	**4,234**	**5,577**	**7,240**	**8,850**	**10,709**	**11,075**	**9,139**	**-17.5%**
Select Other Asia and the Pacific											
Australia	251	186	198	205	220	227	192	201	150	92	-38.9%
India	190	179	202	234	333	463	578	663	738	498	-32.5%
Japan	**14,535**	**13,150**	**13,498**	**13,745**	**15,494**	**16,448**	**15,377**	**14,757**	**13,486**	**8,774**	**-34.9%**
Korea	1,082	1,122	1,383	1,546	1,866	2,713	3,740	3,965	3,891	2,621	-32.6%
EUROPE											
Select European Union											
Austria	230	201	222	281	240	373	358	542	404	469	16.1%
Belgium	97	82	89	100	95	134	168	168	160	78	-51.3%
France	1,133	1,165	1,197	1,302	1,478	1,449	1,320	1,263	1,160	820	-29.3%
Germany	3,874	3,746	4,336	5,426	6,147	6,709	7,132	8,352	7,426	4,793	-35.5%
Italy	474	525	652	751	874	958	844	961	973	543	-44.2%
Netherlands	60	66	71	70	81	86	95	111	131	112	-14.3%
Spain	301	269	349	420	464	537	546	478	359	232	-35.5%
Sweden	241	188	212	229	345	446	551	256	259	164	-36.8%
United Kingdom	1,190	976	1,106	1,068	1,045	1,126	1,047	994	884	580	-34.4%
Total **European Union** (2)	**7,716**	**7,375**	**8,425**	**9,858**	**11,009**	**12,099**	**12,339**	**13,357**	**12,008**	**7,957**	**-33.7%**
Select Other Europe											
Czech Republic	60	86	125	150	156	236	238	333	387	280	-27.6%
Hungary	97	100	180	315	219	213	225	202	214	157	-26.6%
Poland	42	43	57	95	103	97	109	138	124	81	-34.2%
Russia	4	2	2	3	5	4	4	11	18	17	-7.4%
Total **Other Europe**	**203**	**230**	**364**	**564**	**483**	**550**	**576**	**684**	**742**	**535**	**-27.9%**
WESTERN HEMISPHERE											
Select Andean Community											
Colombia	8	10	13	16	14	19	26	27	25	19	-22.8%
Peru	4	10	12	8	12	9	13	9	10	5	-47.7%
Venezuela	235	159	172	191	190	211	196	86	35	9	-75.8%
Total **Andean Community** (3)	**249**	**179**	**199**	**216**	**217**	**240**	**236**	**124**	**72**	**34**	**-52.0%**
Select Central America											
Honduras	70	52	75	99	173	270	385	395	338	275	-18.7%
Panama	1	0	1	0	2	0	1	0	0	1	48.9%
Total Central America (4)	**91**	**69**	**105**	**181**	**345**	**510**	**633**	**704**	**665**	**550**	**-17.4%**
Select MERCOSUR											
Argentina	177	233	223	185	178	168	187	187	146	84	-42.8%
Brazil	1,248	955	1,275	1,474	1,711	2,022	2,224	1,767	1,735	953	-45.1%
Chile	42	33	33	46	64	66	60	65	49	9	-81.8%
Total **MERCOSUR** (5)	**1,473**	**1,225**	**1,538**	**1,708**	**1,956**	**2,261**	**2,481**	**2,029**	**1,933**	**1,047**	**-45.9%**
NAFTA											
Canada	17,634	15,787	17,217	18,569	20,164	21,581	20,424	20,539	16,524	10,458	-36.7%
Mexico	18,663	18,180	20,069	21,039	23,104	24,910	26,368	28,416	25,281	18,294	-27.6%
Total **NAFTA**	**36,297**	**33,967**	**37,286**	**39,607**	**43,268**	**46,490**	**46,792**	**48,955**	**41,805**	**28,752**	**-31.2%**
ALL OTHERS	**613**	**714**	**686**	**783**	**927**	**1,051**	**1,120**	**1,262**	**1,242**	**836**	**-32.7%**

Imports, customs value
Source: U.S. Census Bureau
Prepared by: Office of Transportation and Machinery, U.S. Department of Commerce, 202-482-1418. 16 February 2010

Notes:
*Foreign Trade Statistics, FT900: U.S. International Trade In Goods and Services, Exhibit 18: Motor Vehicles and Parts, U.S. Census Burea
1) The ASEAN region comrpises Brunei, Burma (Myanmar), Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnai
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United Kingdom, Austria, Finland, and Sweden
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5) The MERCOSUR countries are Argentina, Brazil, Chile, Paraguay, and Uruguay

U.S. AUTOMOTIVE PARTS TRADE BALANCE, 2000 - 2009

Table 15

In millions of dollars

Region/Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	%Chg
WORLD	**-11,719**	**-13,239**	**-12,932**	**-19,002**	**-25,968**	**-30,816**	**-37,100**	**-36,315**	**-38,277**	**-33,142**	**-20,316**	**-38.7%**
FT900 World	**-14,543**	**-15,080**	**-14,719**	**-20,116**	**-25,704**	**-30,045**	**-36,169**	**-35,788**	**-27,386**	**-34,200**	**-22,923**	**-33.0%**
ASIA and the PACIFIC												
Select ASEAN												
Indonesia	-237	-236	-261	-298	-274	-328	-363	-457	-525	-484	-432	-10.8%
Philippines	-268	-355	-331	-290	-298	-328	-332	-401	-471	-506	-329	-35.1%
Singapore	-28	-21	-4	8	42	43	53	142	164	295	214	-27.5%
Thailand	-294	-272	-326	-460	-433	-485	-563	-814	-1,030	-1,077	-826	-23.3%
Total **ASEAN** (1)	**-1,043**	**-1,133**	**-1,135**	**-1,276**	**-1,201**	**-1,367**	**-1,428**	**-1,766**	**-2,253**	**-2,200**	**-1,695**	**-22.9%**
Chinese Economic Area												
China	-1,033	-1,410	-1,501	-1,898	-2,278	-3,249	-4,784	-6,112	-7,498	-8,150	-6,496	-20.3%
Hong Kong	53	35	41	23	-5	0	-20	-18	22	50	62	23.7%
Taiwan	-978	-954	-1,010	-1,217	-1,233	-1,493	-1,634	-1,677	-1,884	-1,887	-1,593	-15.6%
Total **Chinese Economic Are**	**-1,958**	**-2,330**	**-2,470**	**-3,092**	**-3,516**	**-4,742**	**-6,439**	**-7,808**	**-9,360**	**-9,987**	**-8,028**	**-19.6%**
Select Other Asia and the Pacific												
Australia	316	449	391	416	451	548	551	683	725	773	594	-23.1%
India	-115	-149	-142	-163	-192	-268	-390	-481	-533	-542	-368	-32.2%
Japan	**-10,883**	**-12,318**	**-11,141**	**-11,213**	**-11,695**	**-13,961**	**-14,999**	**-13,629**	**-13,017**	**-11,940**	**-7,942**	**-33.5%**
Korea	-322	-628	-753	-1,051	-1,238	-1,400	-2,152	-3,170	-3,371	-3,474	-2,318	-33.3%
EUROPE												
Select European Union												
Austria	953	826	916	722	275	247	441	530	81	-71	-355	400.3%
Belgium	258	288	266	304	283	252	163	226	242	246	240	-2.7%
France	-1,022	-767	-759	-843	-856	-879	-815	-663	-512	-442	-358	-19.0%
Germany	-2,502	-2,900	-2,630	-3,395	-4,407	-4,891	-5,330	-5,541	-6,766	-5,715	-3,548	-37.9%
Italy	-336	-338	-367	-530	-611	-741	-828	-704	-805	-804	-403	-49.9%
Netherlands	141	262	260	246	227	228	277	262	238	146	83	-43.0%
Spain	-258	-180	-176	-246	-286	-331	-264	-268	-211	-141	-118	-15.8%
Sweden	-88	-98	-61	-58	-21	-105	-248	-353	-34	-35	-53	53.4%
United Kingdom	72	51	260	-34	-6	-51	-282	-175	5	140	17	-88.1%
Total **European Union** (2)	**-2,843**	**-2,868**	**-2,327**	**-3,932**	**-5,513**	**-6,394**	**-7,028**	**-6,838**	**-7,840**	**-6,684**	**-4,565**	**-31.7%**
Select Other Europe												
Czech Republic	-33	-46	-78	-114	-141	-149	-218	-218	-308	-356	-257	-27.7%
Hungary	-36	-64	-80	-128	-249	-164	-160	-152	-127	-131	-113	-14.1%
Poland	4	-29	-29	-42	-78	-82	-64	-62	-78	-38	-25	-33.0%
Russia	12	11	25	15	22	26	43	113	115	227	36	-84.0%
Total **Other Europe**	**-53**	**-128**	**-161**	**-269**	**-446**	**-369**	**-400**	**-318**	**-398**	**-297**	**-359**	**20.6%**
WESTERN HEMISPHERE												
Select Andean Community												
Colombia	63	73	66	56	52	89	89	95	104	144	141	-2.4%
Peru	33	19	23	19	29	26	48	49	79	101	91	-9.6%
Venezuela	183	302	436	138	-23	202	412	567	660	847	663	-21.7%
Total **Andean Community** (3)	**300**	**426**	**598**	**262**	**109**	**375**	**629**	**767**	**899**	**1,175**	**978**	**-16.8%**
Select Central America												
Honduras	-5	-34	-20	-41	-64	-87	-153	-222	-220	-214	-227	5.7%
Panama	31	24	17	16	14	14	19	27	41	40	39	-4.0%
Total **Central America** (4)	**120**	**69**	**73**	**46**	**-38**	**-144**	**-264**	**-305**	**-306**	**-319**	**-291**	**-8.9%**
Select MERCOSUR												
Argentina	57	49	-120	-186	-92	-46	-14	2	40	102	90	-12.0%
Brazil	-905	-847	-510	-821	-995	-1,145	-1,471	-1,622	-1,045	-893	-401	-55.1%
Chile	58	50	46	69	57	59	87	147	193	286	278	-2.6%
Total **MERCOSUR** (5)	**-763**	**-737**	**-578**	**-939**	**-1,023**	**-1,126**	**-1,388**	**-1,466**	**-795**	**-463**	**-5**	**-98.9%**
NAFTA												
Canada	12,709	11,967	10,585	10,751	8,906	9,751	9,659	11,475	12,125	11,479	8,976	-21.8%
Mexico	-7,496	-6,104	-6,170	-8,744	-10,696	-11,800	-13,503	-13,572	-14,520	-11,391	-6,229	-45.3%
Total **NAFTA**	**5,213**	**5,864**	**4,415**	**2,007**	**-1,790**	**-2,049**	**-3,844**	**-2,097**	**-2,394**	**88**	**2,746**	**3029.1%**
ALL OTHERS	**311**	**244**	**298**	**202**	**124**	**82**	**51**	**113**	**365**	**730**	**936**	**28.3%**

Source: U.S. Census Bureau
Prepared by: Office of Transportation and Machinery, U.S. Department of Commerce, 202-482-1418. 16 February 2010

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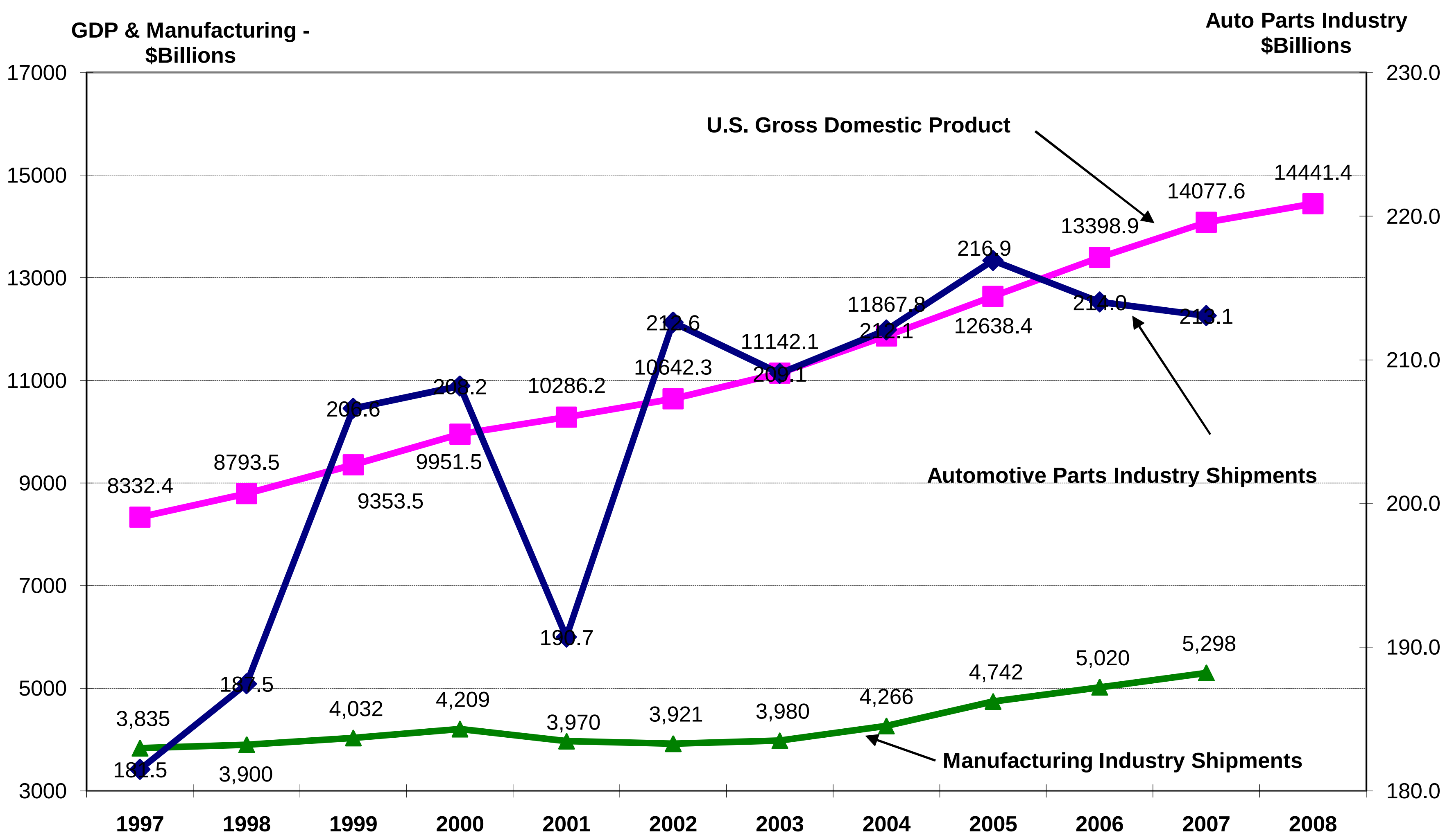
5) The MERCOSUR countries are Argentina, Brazil, Chile, Paraguay, and Uruguay

Chart 1

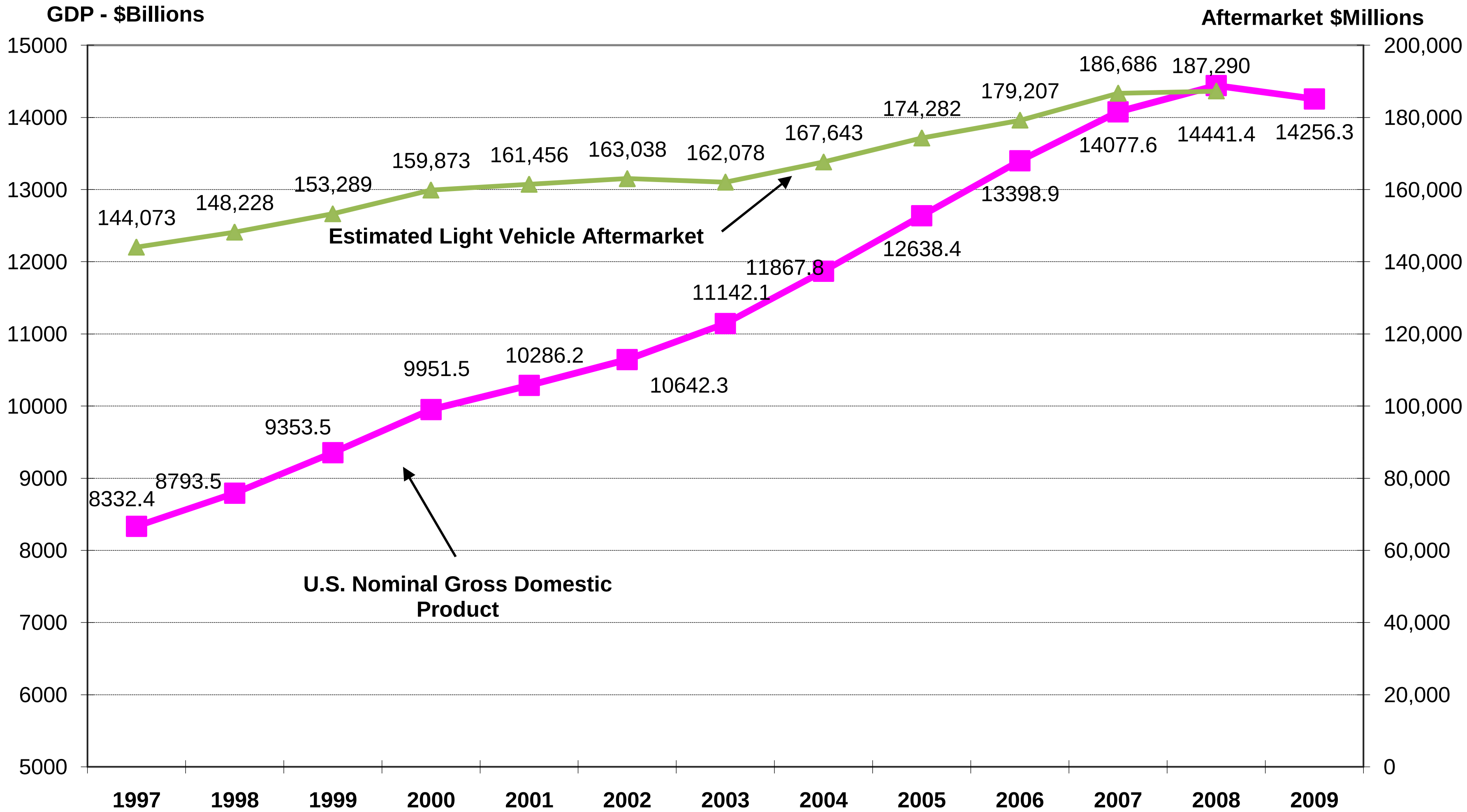
Gross Domestic Product, Manufacturing Industry Shipments, and Automotive Parts Industry Shipments, 1997-2009.



Source: U.S. Department of Commerce.

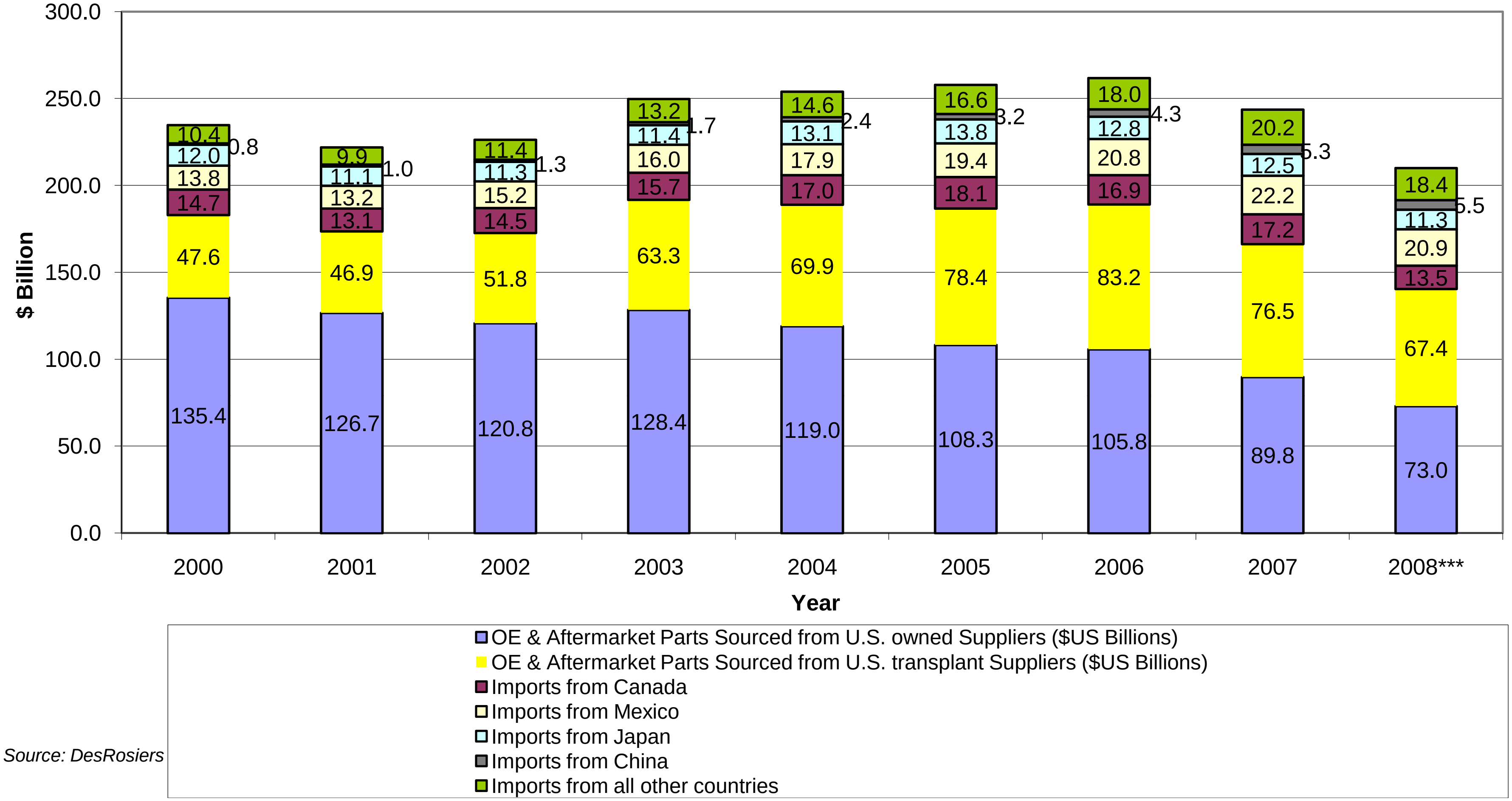
Chart 2

Aftermarket sales track the economy. The aftermarket accounted for 1.7% of the 1997 GDP and an estimated 1.3% in 2008.



Source: U.S. Department of Commerce and Motor and Equipment Manufacturers Association aftermarket model.

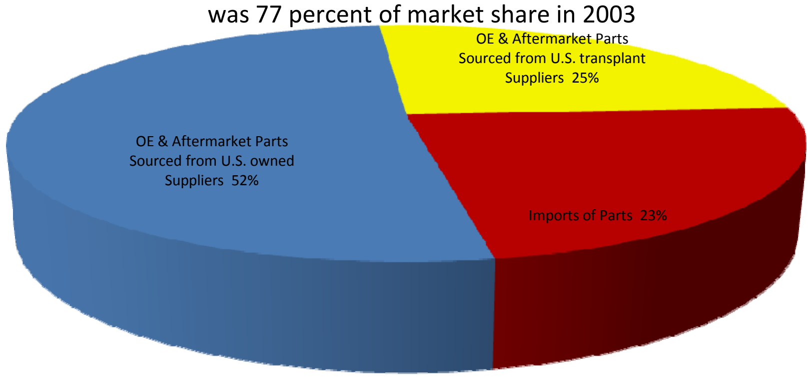
Chart 3
U.S. OE and Aftermarket Parts Market, 1997-2008
The U.S. Supplier Share has been declining since 2003.



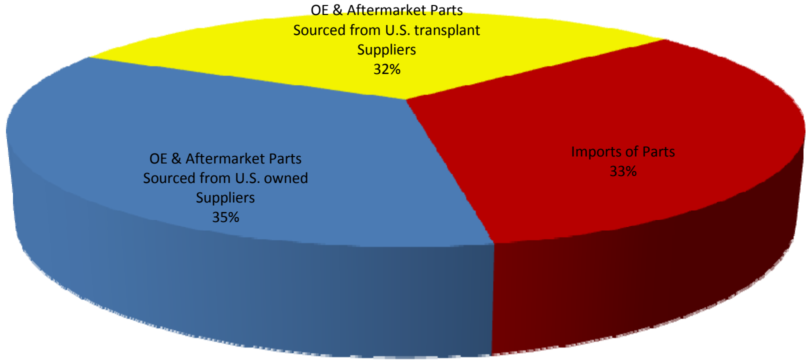
Source: DesRosiers

Chart 4

U. S. OE and Aftermarket Parts, 2003
$249.7 Billion
OE and Aftermarket parts sourced from suppliers in the United States was 77 percent of market share in 2003



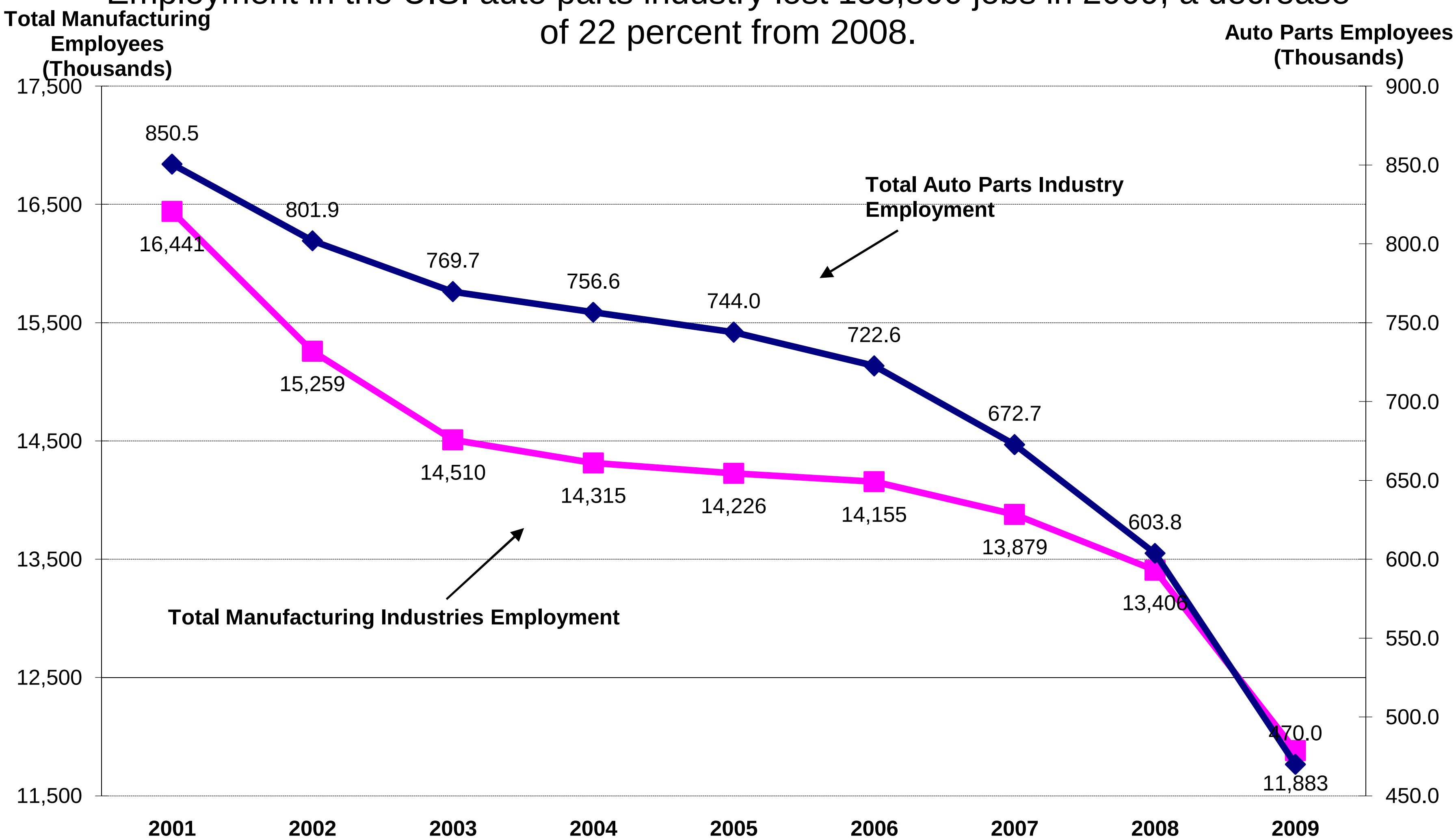
U.S. OE and Aftermarket Parts, 2008
$210 Billion
OE and Aftermarket parts sourced from suppliers in the United States was 67 percent of market share in 2008



Source: DesRoisers.

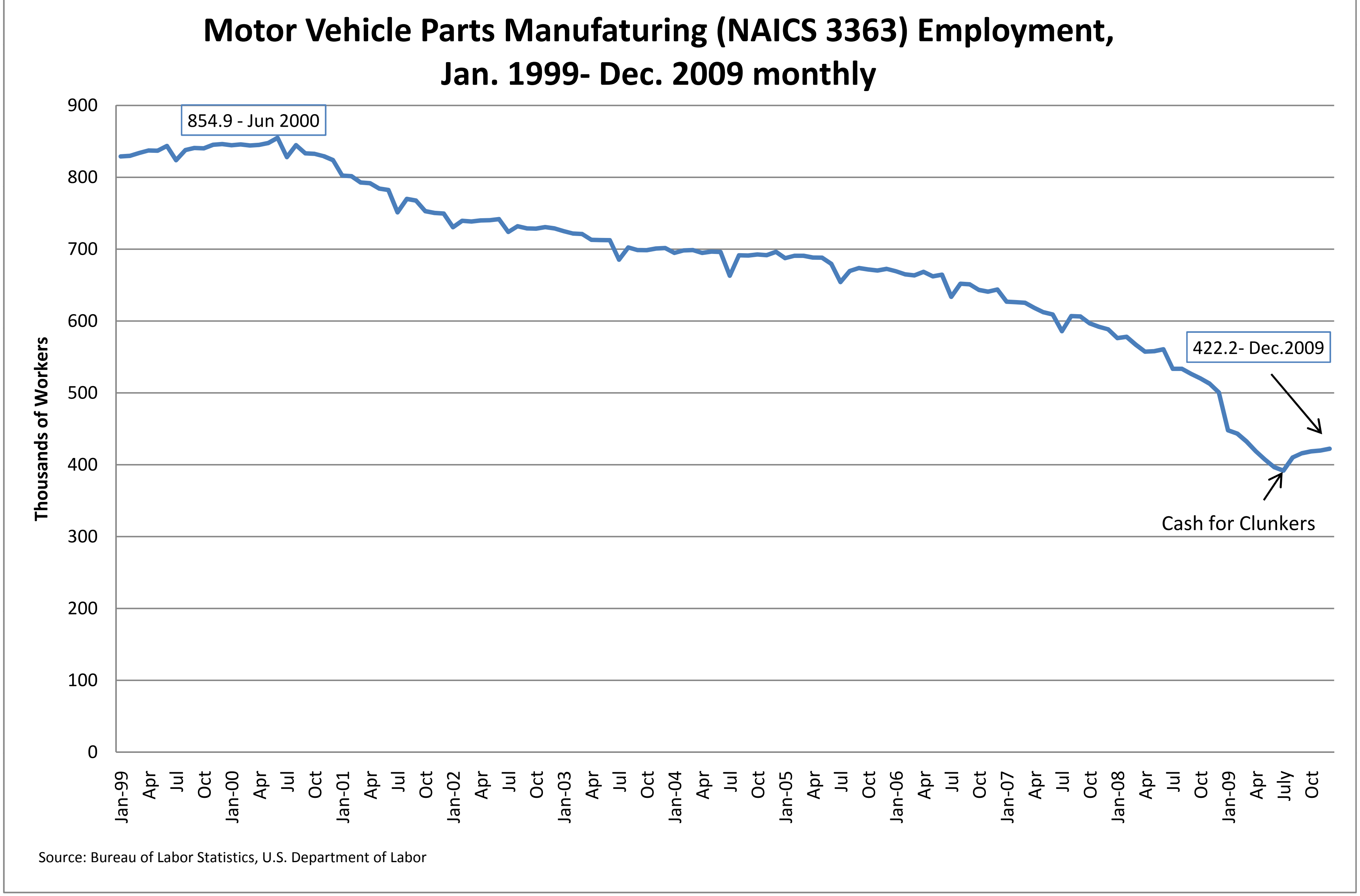
Chart 5

Employment in the U.S. auto parts industry lost 133,800 jobs in 2009, a decrease of 22 percent from 2008.



Source: U.S. Bureau of the Census. and U.S. Bureau of Labor Statistics.

Chart 6


Motor Vehicle Parts Manufaturing (NAICS 3363) Employment,
Jan. 1999- Dec. 2009 monthly
Thousands of Workers
900
800
700
600
500
400
300
200
100
0
854.9 - Jun 2000
422.2- Dec.2009
Cash for Clunkers
Jan-99
Apr
Jul
Oct
Jan-00
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
July
Source: Bureau of Labor Statistics, U.S. Department of Labor

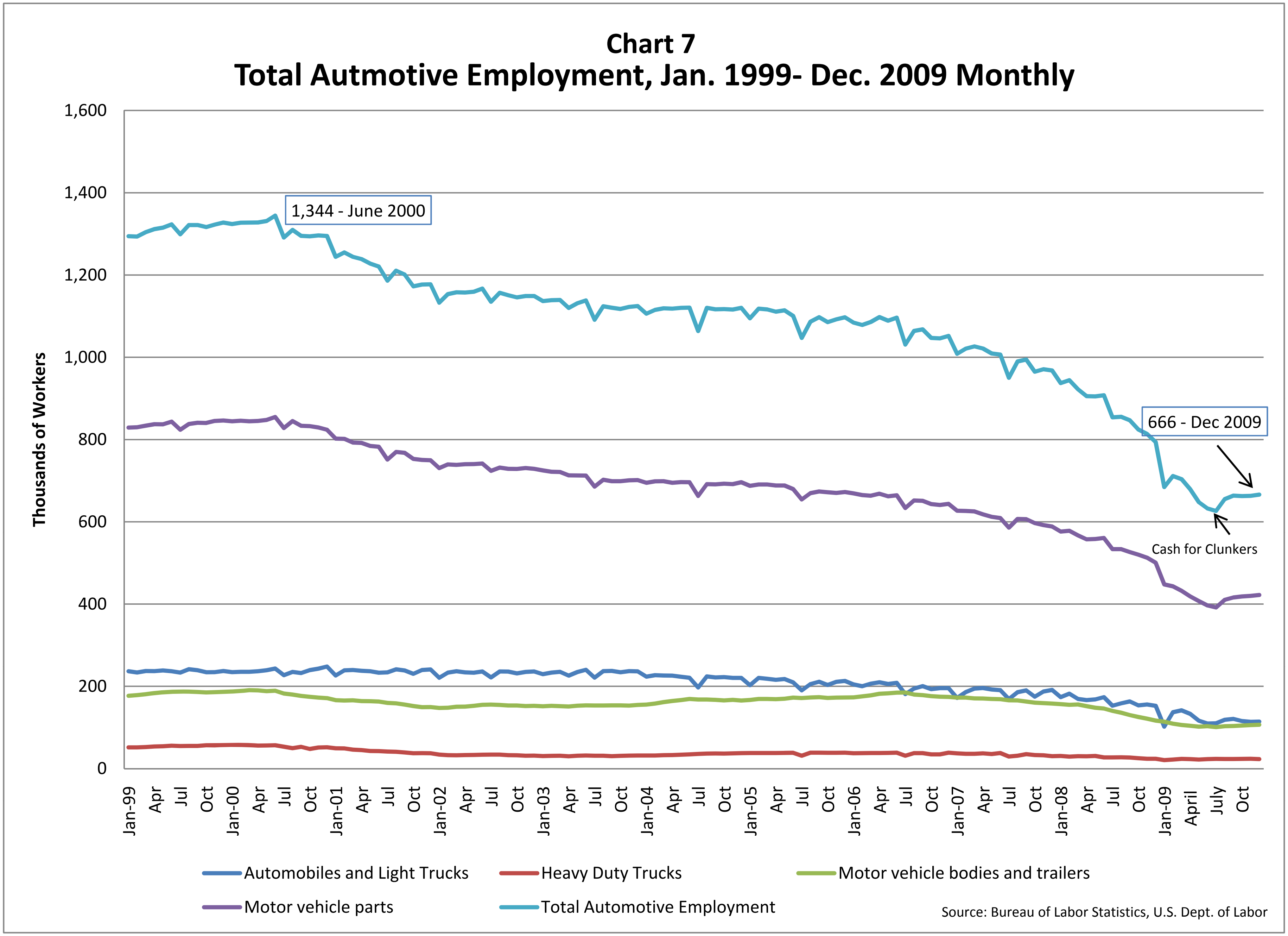
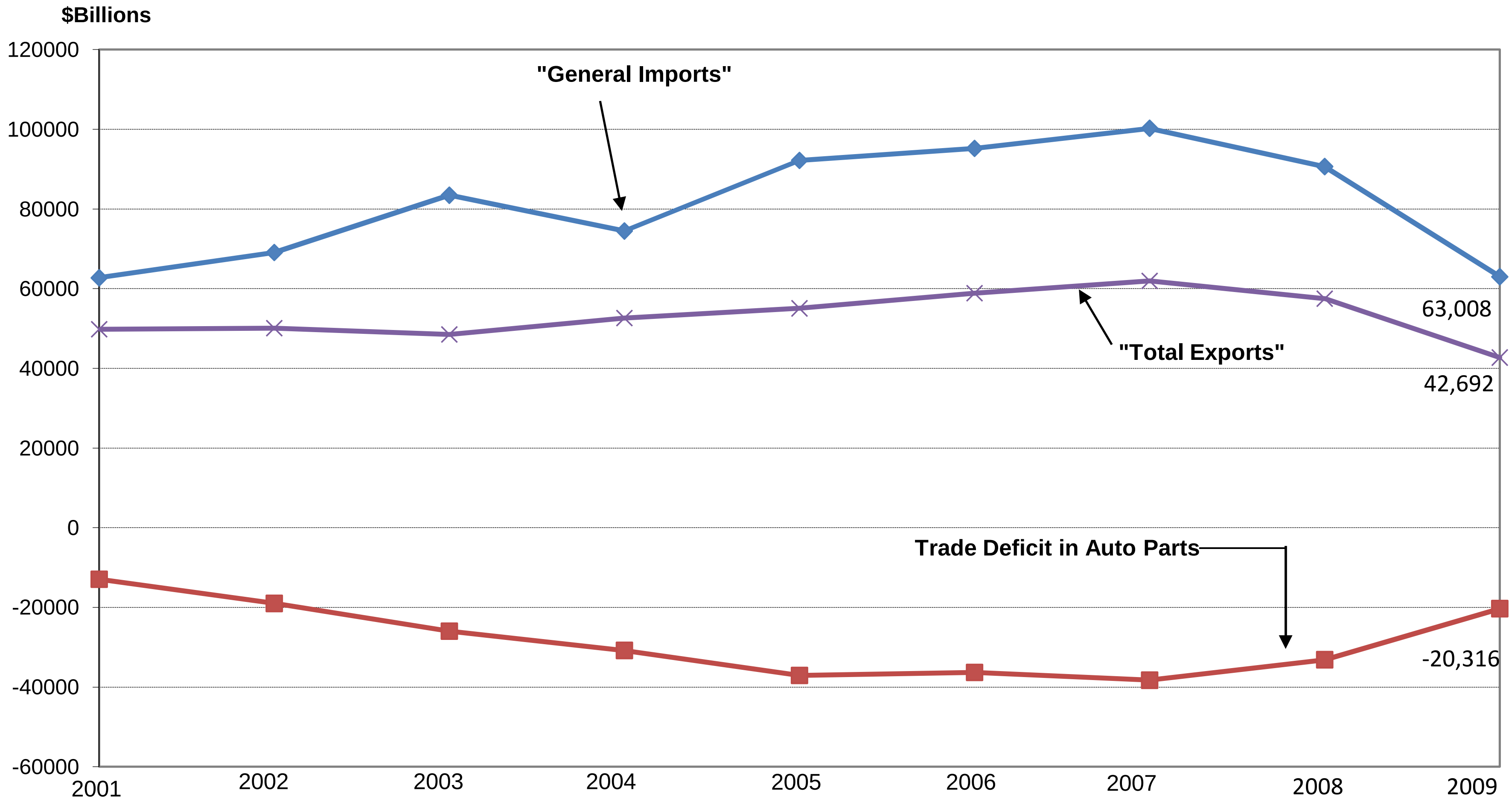


Chart 7
Total Autmotive Employment, Jan. 1999- Dec. 2009 Monthly
Thousands of Workers
1,600
1,400
1,200
1,000
800
600
400
200
0
1,344 - June 2000
666 - Dec 2009
Cash for Clunkers
Jan-99
Apr
Jul
Oct
Jan-00
Apr
Jul
Oct
Jan-01
Apr
Jul
Oct
Jan-02
Apr
Jul
Oct
Jan-03
Apr
Jul
Oct
Jan-04
Apr
Jul
Oct
Jan-05
Apr
Jul
Oct
Jan-06
Apr
Jul
Oct
Jan-07
Apr
Jul
Oct
Jan-08
Apr
Jul
Oct
Jan-09
April
July
Oct
Automobiles and Light Trucks
Heavy Duty Trucks
Motor vehicle bodies and trailers
Motor vehicle parts
Total Automotive Employment
Source: Bureau of Labor Statistics, U.S. Dept. of Labor

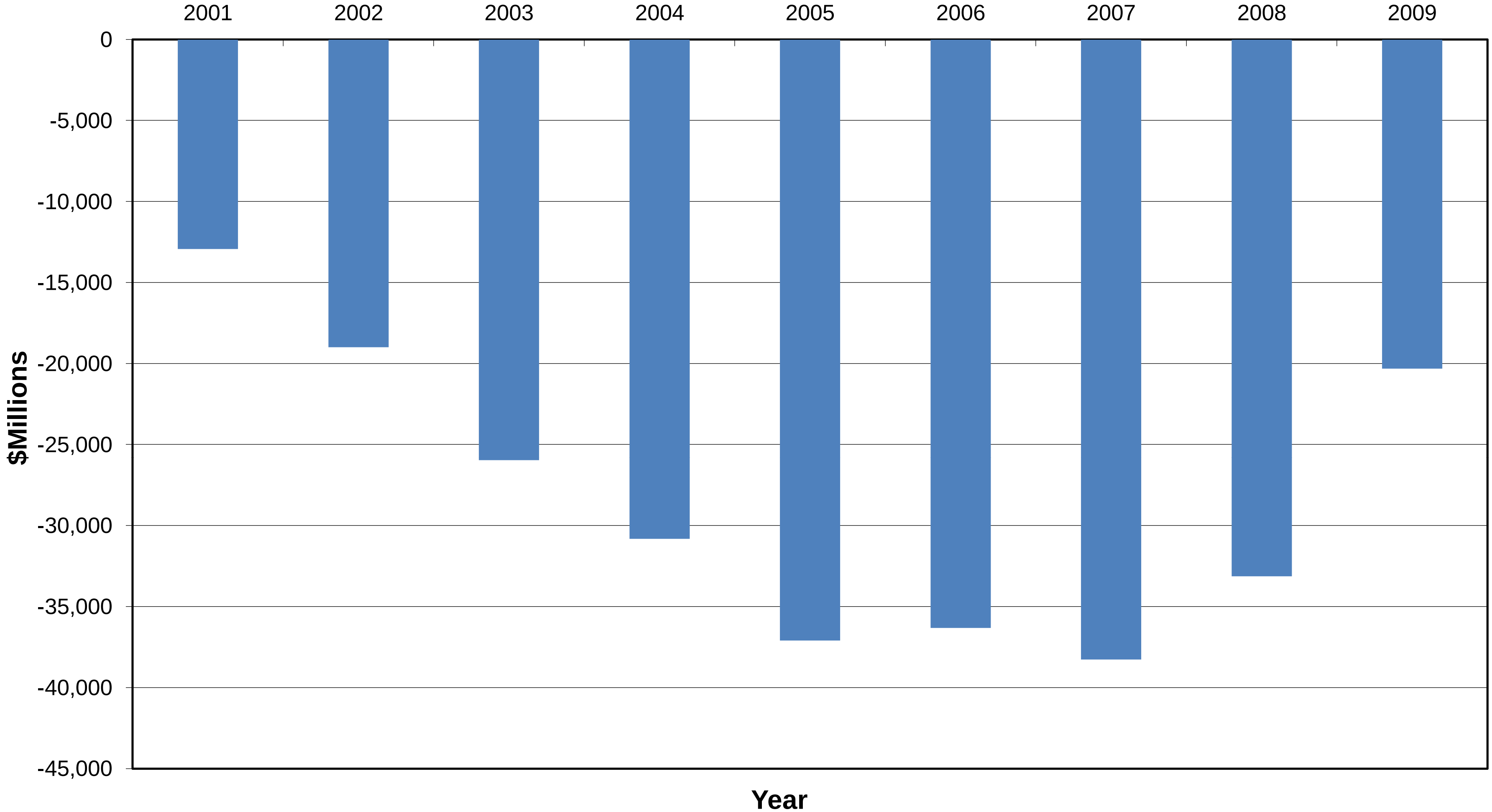
Chart 8

U.S. auto parts exports fell 7.2% in 2008 and imports fell 9.6%. The result was a decline of the parts trade deficit with the world by 13.4 percent.



Source: U.S. Bureau of the Census, U.S. Department of Commerce.

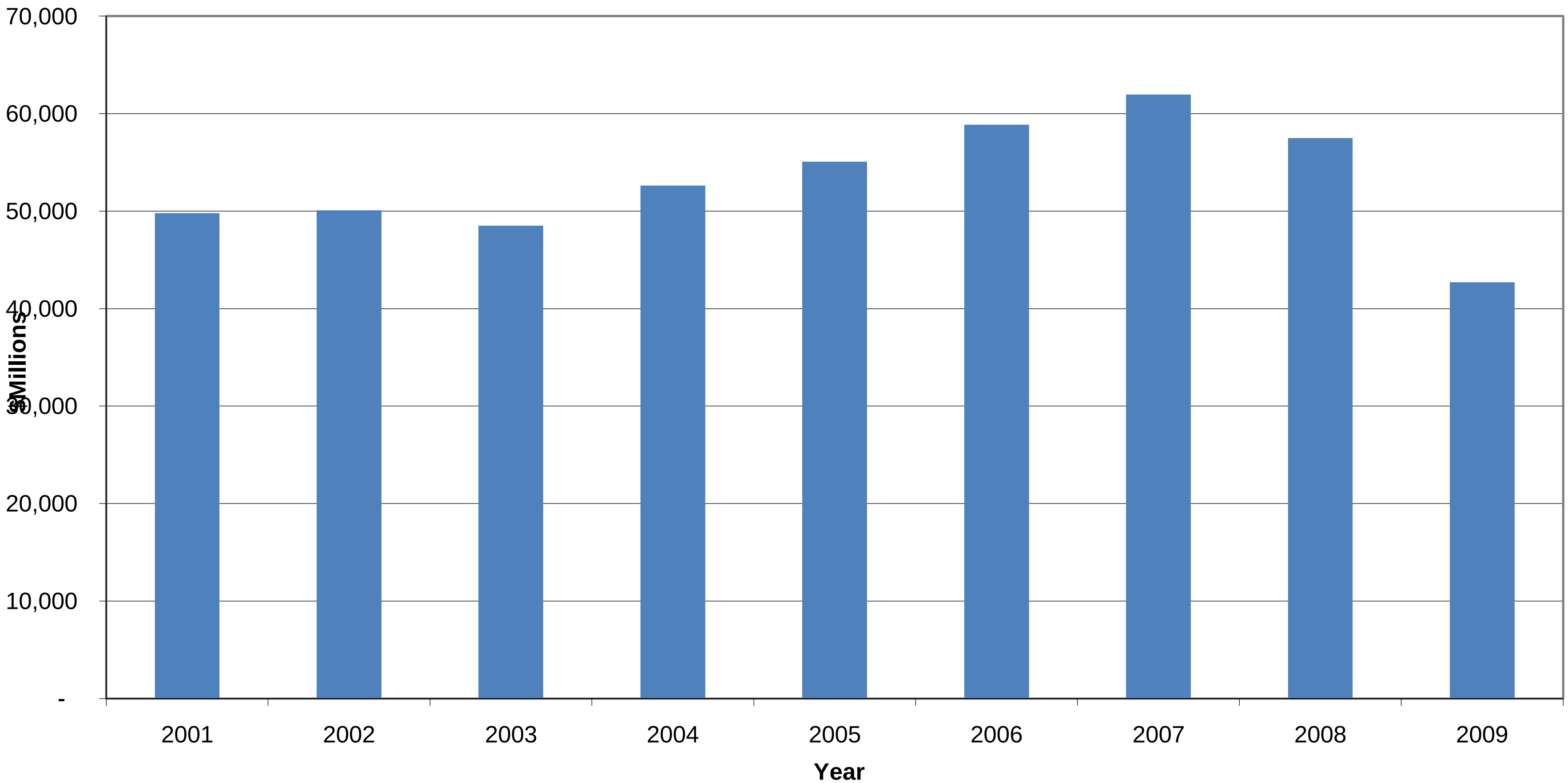
Chart 9
A 13.4 decrease in U.S. automotive parts trade deficit in 2008 was the result of ...
U.S. Automotive Parts Trade Balance, 2000-2008



Source: U.S. Department of Commerce, Bureau of the Census.

Chart 10
Exports decreasing 7.2 percent in 2008 ...

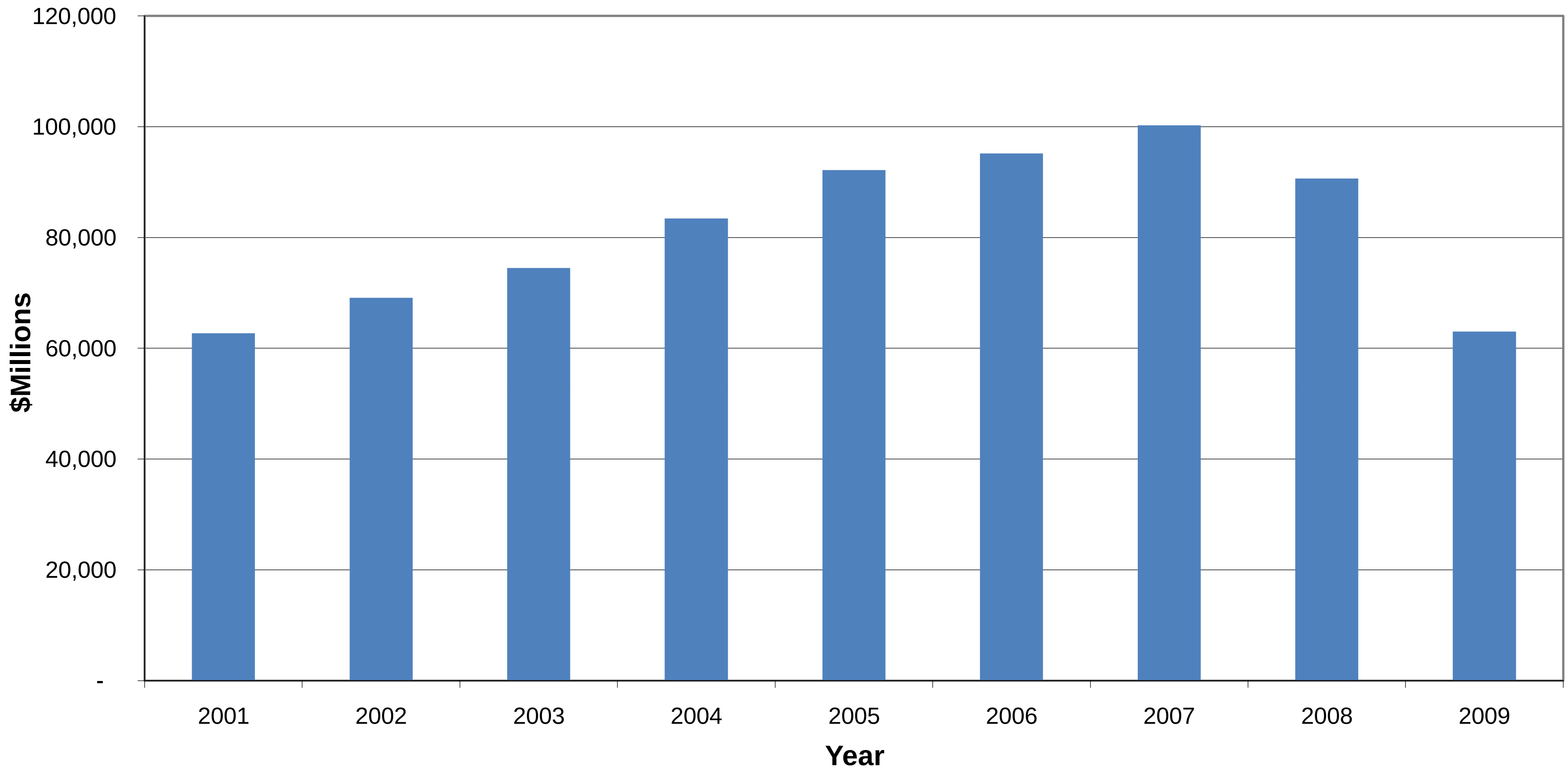
U.S. Automotive Parts Exports, 2000-2008



Source: U.S. Department of Commerce, Bureau of the Census.

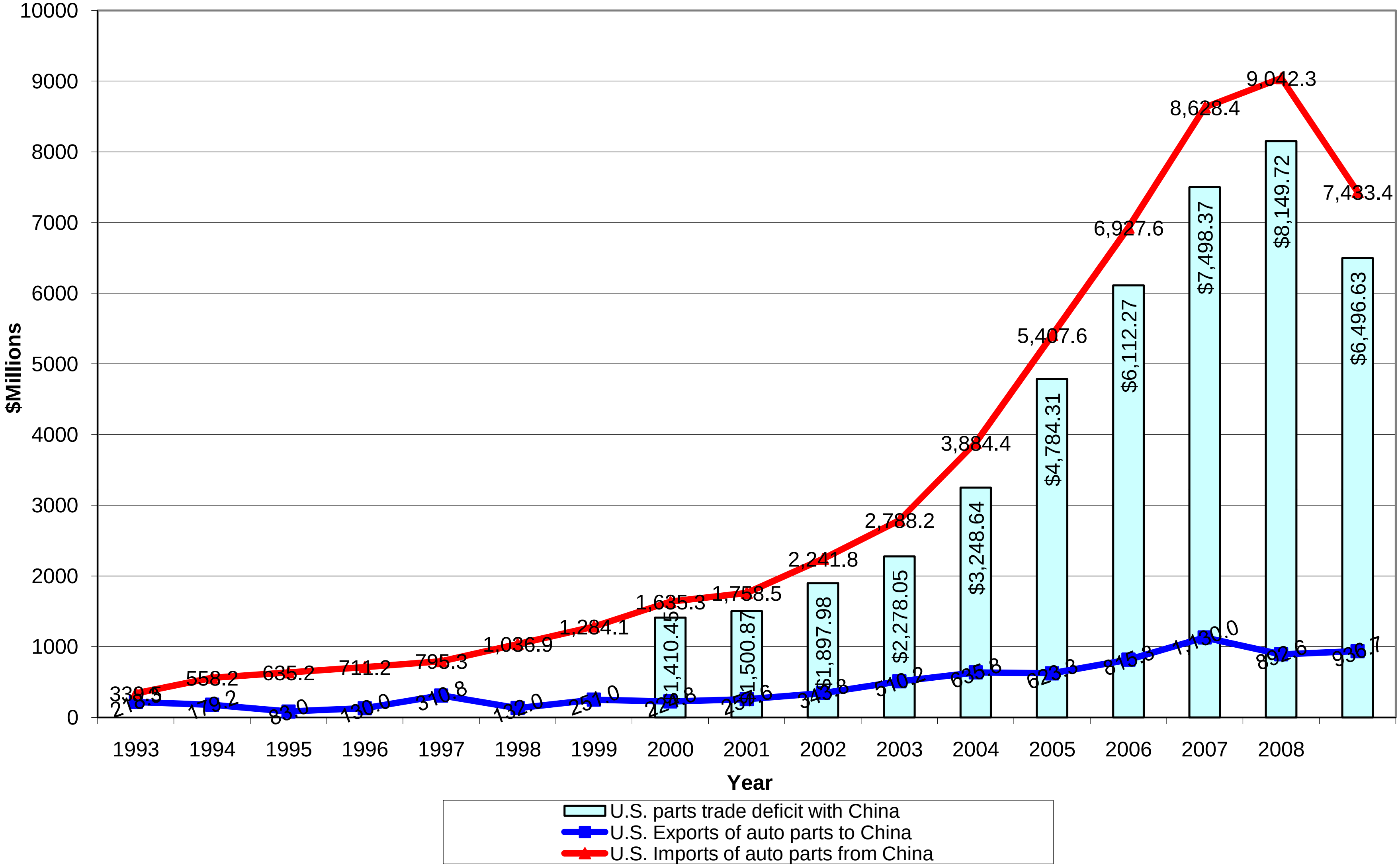
Chart 11
while Imports decreased 9.6 percent in 2008.

U.S. Automotive Parts Imports, 2000-2008



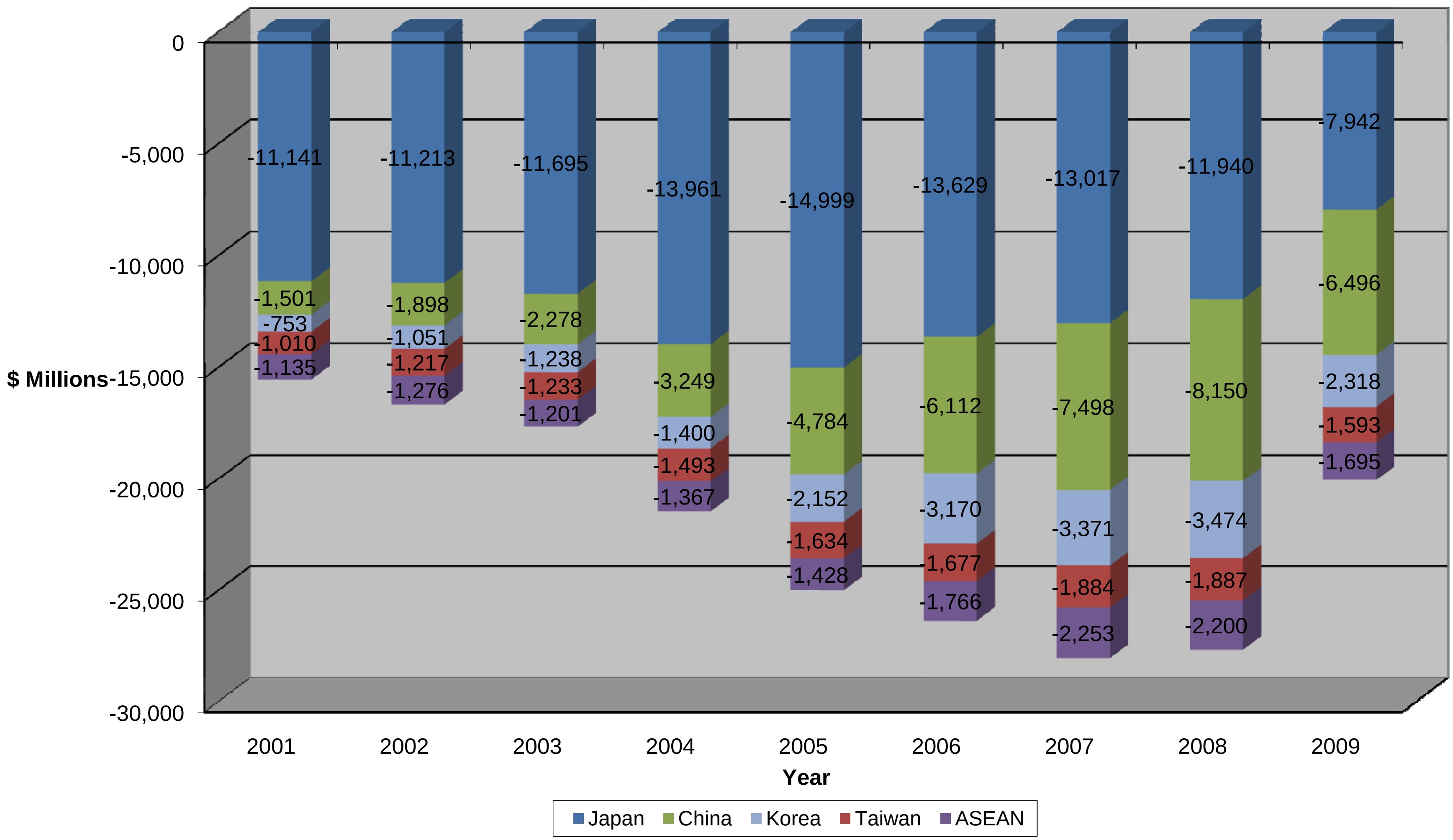
Source: U.S. Department of Commerce, Bureau of the Census.

Chart 12
U.S. - China Auto Parts Trade, 1993-2008
In 2008, the parts trade deficit with China increased 8.7 percent over 2007 levels



Source: U.S. Department of Commerce, Bureau of the Census.

Chart 13
The U.S. auto parts trade deficit with Asian countries continues to increase.



Source: U.S. Bureau of Census