

The Road Ahead for the U.S. Auto Industry

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Executive Summary

Domestic Market

- ❑ The U.S. market for cars and light trucks fell to 16.6 million units in 2003 – off 1.1%.
- ❑ While sales volume declined, consumer expenditures for new vehicles increased 6.8% to reach a record level of \$266 billion.
- ❑ The 2004 market will likely expand, with some forecasters predicting sales up to 17.1 million units.
- ❑ Market shares for the Big 3 (GM, Ford, and the Chrysler unit of DaimlerChrysler) have fallen yet again to a new low, 60.2% of the 2003 market. Their volume dropped 3.3%.
- ❑ Market shares for the Japanese brands reached a new high, 28.9%. Volume increased 3.2%.
- ❑ German brands sales volume was down 0.2%. However, market share reached a new high, 5.5%.
- ❑ Sale volume of Korean brands decreased 1.9%. Market share was stable at 3.8%.
- ❑ Some industry analysts predict a 50% market share for the Big 3 within 5 years.

Production

- ❑ U.S. production of light vehicles was down 1.7% in 2003 to 11.8 million units. 1999 was the record high, 12.6 million units.
- ❑ Big 3 production decreased 5.6% to 8.7 million units.
- ❑ U.S. production by Japanese affiliates increased 10.3% to 2.9 million vehicles.
- ❑ U.S. production by the German affiliates was up 18.3% to 250,000 units.

- ❑ Some analysts expect Big 3 production to contract further in 2004, their volume replaced by that of the local Japanese and German affiliates, and by imports.

Employment

- ❑ Domestic employment in the auto industry (light vehicle manufacturing) was up in 2003 to an average of 236,200 individuals in 2003, a increase of 1.6% for the year.
- ❑ Auto manufacturing remains one of the economy's best paying industries. Production workers' average hourly earnings reached \$25.31 in 2002, up 5%. Earnings were 65% greater than the national average for all manufacturing industries.
- ❑ The Big 3 held negotiations with the UAW in 2003, setting contracts for the next four years. The results were largely seen as a fair compromise by industry analysts, with gains for the UAW in the areas of wages/bonuses, and acceptable outcomes on job preservation and healthcare.

International Trade

- ❑ The light vehicle trade deficit declined 3.2% in 2003 to \$101.3 billion.
- ❑ Imports increased 0.2% in 2003 to a total of \$128.7 billion.
- ❑ Export growth was outstanding, jumping 9.5% to \$27.4 billion.
- ❑ Inbound shipments from Canada remained the largest, but were down 1.7% to \$38.5 billion.
- ❑ Imports from Mexico fell over 7.6%, dropping to \$18.5 billion.
- ❑ Of the 5 major suppliers of vehicles, imports from Korea grew fastest, up 16% to \$7.9 billion.
- ❑ Japan decreased shipments to the United States by 8%, reaching \$32.2 billion.
- ❑ Most U.S. exports went to Canada, which increased 9% to \$15.1 billion.
- ❑ Exports to Japan increased slightly, up 0.7%, to \$465 million.
- ❑ Shipments to Mexico declined by 16.2% to at \$3.2 billion.
- ❑ Exports to Korea declined by 7.8%, and amounted to just \$83 million.
- ❑ Trend analysis suggests the global light vehicle deficit will continue to grow in 2004, hitting \$114.5 billion – an increase of 13%.

- There is no reason to expect that the light vehicle trade deficit will decline in the near term.

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BOTTOM OF THE HILL....

In 2003, U.S. light vehicle sales experienced a slight decline, dropping just 1.1% to 16.6 million units – nearly identical to the third highest total recorded in 1999.¹ (See Chart 1 and Table 4.) Many manufacturers continued to offer especially low and no-cost financing throughout the year, perpetuating the sales incentives initiated in 2001 with great success, but at high cost to their bottom lines. The change in mix continued as sales of light trucks were up marginally in 2003 with 3.5% growth – having grown 237% over the past 20 years, to reach a record 9.0 million units. Passenger car sales continued to fall, dropping 6% for the year, to 7.6 million units.

While light truck sales volume was up 3.5%, consumers set another record, spending \$168.7 billion on them– a 14% jump over 2002's record total, according to estimates prepared by the Commerce Department's Bureau of Economic Analysis (BEA). On the other hand, consumer expenditures for new cars continued their decline, falling 3.8% to \$97.3 billion.² (Table 5) Production of light vehicles declined in 2003, falling by 1.7% to reach a total of 11.8 million units. (Table 6) Imports from outside of the NAFTA region saw another up-tick, increasing their share of a smaller U.S. market, accounting for 19.9% of total sales. This was their highest level since 1986, when they supplied 26% of the market.³

¹ Automobiles, station wagons, vans with not more than 15 passenger capacity, sport and cross utility vehicles, and pickups. All rated at not more than 10,000 pounds of gross vehicle weight.

² Business purchases of new cars and light trucks both declined in 2002, dropping 4.5% to \$134.5 billion. Business expenditures peaked in 1999 at \$155.3 billion (unadjusted for inflation).

³ The industry includes sales of vehicles made within the North American Free Trade Area [NAFTA] as 'domestic' vehicles. Everything else in industry sales data is an 'import.' The industry defines an 'import brand,' as any line

...AND HEADING UP?

Disposable personal income (DPI) reached \$7.9 trillion in 2003, up 5.2% percent for the year, according to BEA estimates. Per capita DPI averaged \$27,223 – up 4.1% in current dollars, and 2.6% in constant dollars.⁴

other than those of GM, Ford, or the Chrysler Group. Import brands include vehicles their parents produce in the United States. Note, however, that U.S. government trade data counts all vehicles made in Canada and Mexico (including those of GM, Ford, Chrysler, Honda, Nissan, Toyota, and VW) in its import tally ('true imports') for determining the balance of trade with other countries. See also footnote #10 and #33.

⁴ Current BEA data is available at: <http://www.bea.doc.gov/bea/dn/nipaweb/SeclectTable.asp?Selected=N> . Scroll to Section 2 and select Table 2.1 and Table 2.9 for annual and monthly DPI data.

The nation's unemployment rate, in January 2004 stood at 5.6%, little changed from recent months. However, it is significantly below the high of 6.3% in June 2003. Federal Reserve Board data indicates that total consumer nonrevolving debt, which includes auto loans, increased 4% to \$1.3 billion, seasonally adjusted.⁵ At the same time, however, interest rates on consumer motor vehicle loans at banks and auto finance companies continued to drop. BEA monthly data shows that personal outlays for interest payments of all kinds totaled \$193.7 billion in January 2002, but just \$181 billion in January 2003.

The consumer price index for new vehicles has continued to fall. The Labor Department's CPI for new cars averaged 134.7 in 2003, down 1.9% for the year. The index for new trucks was 146.1, down 1.1% for the year.⁶ Most demographic factors also continue to favor the auto industry, particularly the continued strength of the post-World War II 'baby boom' generation, who are now at the peak of their vehicle purchasing power and proclivity. Adding market support are the expected first-time vehicle purchases of the baby boomers' rapidly maturing offspring, 'Gen Y.'⁷

Consumer confidence has been on an upswing, and by early 2004 was reaching its highest level since July of 2003. Consumer expectations about next six months also remain high, offering hope for increasing vehicle sales in the coming year.

While the United States still faces conflict in Iraq and the challenges of the threat of global terrorism, there is a certain level of optimism for the year's auto market. At the beginning of 2004, industry sales forecasts for the domestic market are positive, with forecasts ranging from 16.7 to 17.1 million units for the year. Most estimates clustered around a level of 16.9 million vehicles which would make a sixth consecutive year with sales over 16 million units. This level would be an increase of almost 2% from 2003.

Incentives continued to play a dominating role in the U.S. market in 2003, especially for the Big 3 auto makers. By mid-year, the Big 3 were averaging incentives of \$4,000 per vehicle. Foreign automakers, while offering lower incentives were not immune, offering

⁵ See the Federal Reserve Board's monthly consumer credit report at: <http://www.federalreserve.gov/releases/g19/>. Data showing Big 3 new and used car credit terms is at: <http://www.federalreserve.gov/releases/g20/Current/>.

⁶ Enter the BLS web site for access to the latest adjusted CPI numbers: <http://data.bls.gov/cgi-bin/dsrv?cu/>. On the fourth screen, scroll to "SS45011" to select new cars, and "SS45021" for new trucks.

⁷ The 16-64 year old group is expected to increase by nearly 4 million persons between July 2002 and July 2004. Census Bureau population projections may be viewed at: <http://www.census.gov/population/www/projections/natsum-T3.html>.

average incentives of around \$1,000 for Japanese makers, \$1,400 for Korean brands and \$2,000 for European brands.

BIGGEST TWO BATTLE PLANS

General Motors Corporation and Ford Motor Company are the only remaining U.S.-owned automakers. Chrysler Motor Company and Daimler-Benz surprised the automotive community in 1998, crafting a \$92 billion entity that was at the time the largest acquisition-merger ever undertaken in the industrial world. Chrysler, ranked seventh worldwide on the basis of production volume in 1997, and Daimler's Mercedes Benz unit, ranked fifteenth, created DaimlerChrysler AG (DCX), a German-registered corporation that became the world's fifth largest assembler.⁸

General Motors is still the world's top-selling auto company. Ford, which had long held the number two slot fell to third place in 2003. Toyota continued its long climb to displace Ford by a slim margin of 60,000 vehicles (counting sales by subsidiaries in which the parent company hold a 50% or greater share. If Ford-controlled Mazda is counted in Ford's total, Ford far outpaced Toyota).

GM and Ford are the biggest motor vehicle manufacturers in the United States, with sales of 4.6 and 3.2 million units respectively in 2003. Both have been losing market share at home and globally for several years. GM – which at one time commanded more than 50% of the U.S. market – had fallen to 28.1% of the market in 2000. It managed to squeeze out a small gain in 2002, reaching 28.3% – up two-tenths of a point for the year, but returned to 28.1% in 2003. Each tenth of a point is significant in this industry, as each tiny fraction represents some \$375 million of retail sales to consumers and business customers. Ford's 2003 share of the U.S. market was 19.3%, down 0.7 points from the year before. The company recorded its last peak share of the market in 1995 – 25.9%.

GM saw a decline in revenue from automotive operations of 2.4% in 2003, down to \$156 billion, but managed to generate income of \$995 million dollars - a significant improvement over 2002's loss of \$146 million. While Ford realized an almost 3% increase in revenue from automotive operations, it experienced a loss of \$500 million. Still, this was an improvement over 2002's loss of \$987 million.

Both firms are actively engaged in recovery plans designed to significantly increase sales, to improve product quality, and to slash several billions of dollars from both their production and overhead cost structures, so that they can close the gap enjoyed by their local Japanese competitors.

⁸ In 2001, DCX's global sales trailed GM, Ford, Toyota, and Volkswagen in the overall ranking, ahead of PSA, Honda, and Hyundai.

Both firms also are struggling to contain pension plan and health care expenses for current and retired employees that will add several billion dollars to both firms' obligations and operating expenses this year alone. Their restructuring plans include shutting several non-productive facilities and laying off several thousand salaried and hourly workers. GM closed its Ste. Therese, Quebec, Camaro/Firebird car plant in 2002. Ford will shut the doors on its Oakville, Ontario, pickup truck plant in July of 2004, but may transfer about half of the employees to its Oakville minivan plant.

The ability of the companies to move forward with restructuring plans will be largely determined by the contracts signed with the United Auto Workers last year. In 2003, Ford, GM and the Chrysler group completed negotiations with the UAW on four year contracts. As usual, the general terms of the contracts were the same for both parties, including financial increases for UAW members, an agreement on health care coverage, and terms for job preservation/plant closures. The general terms included a \$3,000 bonus in the first year, a 3% bonus in year two, a 3% raise in year three and a 4% raise in year four. These bonuses and increases are in addition to the cost of living adjustment increases which have been standard in UAW contracts. Health care packages remained largely unchanged, although workers will now pay higher co-payments. The general moratorium on plant closings continues, with notable exceptions on a company-by-company basis.

For Ford Motor Company, the new contract allows the company to continue to follow its restructuring plan announced in 2002. After the contract was signed, Ford confirmed that it will close assembly plants in Loraine, Ohio and Edison, New Jersey, and it will eliminate on shift at St. Louis Assembly. The Vulcan Forge Plant in Dearborn Michigan and the Cleveland Aluminum Casting Plant will also be closed.

Even so, both firms are continuing to invest heavily in new assembly plants and equipment, and for both manufacturing and product technology. For example, GM completed a \$750 million renovation of its Oklahoma City light truck plant in 2002. It launched assembly operations in 2001 in its Lansing Grand River, Michigan plant, built at a cost of \$560 million. A second new Michigan plant, under development since 2000 in the Delta township, is tentatively scheduled to open in 2006 at an estimated cost of \$1 billion. In 2000, GM broke ground for a new light truck assembly plant adjacent to existing facilities in Shreveport, LA in 2000. In August of 2002, GM committed \$500 million for refurbishing its Lordstown, Ohio, assembly plant, which will assemble a new generation of 2004 model year small cars. GM has reported that, as a part of a three year process it is adding 30 new car and car-based models to its lineup.

Ford is investing \$2 billion to renovate its historic Rouge, MI, facility. This plant will begin assembling Ford's crucially important, new to market, F150 pickup truck by mid 2004. Ford also has committed \$140 million to revamp its Avon Lake, OH, light truck plant and will use it for both an existing and a new SUV scheduled for production in 2004. Along with its Mazda joint venture partner, Ford has committed \$644 million to revamp their Flat Rock, MI, car plant to build both Mazda sedans and the Ford Mustang

starting in 2005.

BIG 3 SHARE CONTINUES TO STALL

Vehicles classified as light trucks dominate the U.S. motor vehicle market.⁹ Primarily just ordinary pickups in 1981 when they represented 19% of the entire market, light trucks now rule – totaling 54.2% of all ‘auto’ sales in 2003, with a volume of 8.9 million units. Their market share has increased in each and every year for the past two decades. Over the past 5 years, the light truck share has jumped by an average of 2.7 points every 12 months.

Recently revised data published by BEA indicate that total consumer spending on trucks exceeded that of cars in 2001 by nearly \$16 billion. Light truck expenditures jumped an estimated 19% to \$121.8 billion, while consumer spending on new cars increased by just 0.3% to \$105.9 billion. BEA estimates that consumer expenditures for new light trucks jumped again in 2002, rising 13% while outlays for new cars declined by 3%. (Chart 3 and Table 5)

Manufacturers routinely can generate a profit of \$10,000 or more on their most profitable light trucks, while just as routinely earn just \$1,000 – or less – on small cars. That easily explains the constant rush to market of new truck models from both experienced producers, as well as neophyte firms with little previous experience with these vehicles, and often none at all, outside of the United States. This trend has significant implications for the American Big 3, as they have derived an ever increasing

⁹ Industry sales data categorizes all vans, pickups, sport utility vehicles built on truck platforms, and ‘cross-over’ utilities built on car platforms as light trucks. (Cross-over vehicles are designed to look truck-rugged, but to ride car-soft.) Light truck sales are defined by OAA as being all of those with a gross vehicle weight not exceeding 10,000 pounds (‘Classes 1 and 2’). Note, however, that the Harmonized Tariff Schedule nomenclature adopted by most governments, including the United States, for tracking international trade, places everything listed above – except for pickup trucks – in the passenger vehicle category. See also footnotes #3 and #33.

share of their sales and profits from this sector. In 1986, the Big 3 sold 3.7 million light trucks. That volume represented 79% of the entire light truck market, but just 31% of the Big 3's total sales. Their share of the sector climbed to 86% in 1996 on sales of 5.6 million units – 51% of their total volume. The trend continued in 2003, with Big 3 dependence on the sector growing. 66% of their volume – 6.6 million units – came from light trucks, but their share of the segment fell to 73%.

Over a ten year span, within the truck sector, Big 3 shares have slipped in most segments. In 1993, American brands accounted for 83% of the pickup segment, 93% of the van segment, and 84% of all SUV sales. In 2003, they supplied more of the pickup segment, 89% (their highest share since 1999), but significantly less of the van segment, 74%, and slightly less of the SUV segment, 81%. The latter was subdivided in 2000 to create a new category, Cross Utility Vehicles (CUV), which are, perhaps, best thought of as station wagons with (somewhat limited) off road capabilities, but exhibiting styling cues adopted and adapted from the traditional SUV category. This category has seen increasing competition with multiple new entrants. The American brands supplied 75% of this category in its debut year (2000), 36% the next two years, and 31% in 2003.

American brands also have been losing both sales volume and market share in the passenger car segments. They supplied 72% (8.2 million units) of the passenger car market in 1986. Volume and share have fallen nearly every year since, dropping to a 46% share in 2002, and 45% in 2003 on a volume of 3.4 million cars. The Big 3 have lost share in each of the passenger car segments, save one. American brands accounted for 69% of all small cars in 1986, but just 39% in 2003. Their share of mid-sized cars has slipped from 70% to 49%, while their luxury car share has fallen from 58% to 29%. The only bright spot for the American brands has been the fourth category – large passenger cars – where they retained 100% dominance. Unfortunately, large car sales declined across the period, falling by 68% to 410,300 units.¹⁰

The net effect of declining shares for the American brands in light trucks (even though their volume has increased), combined with declining shares (and declining volume) in the passenger car segments, is a decline in the Big 3's overall share of the U.S. market. (Chart 4) In 1965 their share exceeded 95%. In 1986, their position was 73.6%. In 2003, they accounted for just 60.1% of the overall market – the lowest overall share on record for the American Big 3. The trend shows every indication of continuing, with Big 3 sales expected to fall below the psychologically important threshold of 60% in 2004. Their sales in 2003 fell 2% for the year to 10 million units, after having declined in both of the previous years. Many industry analysts expect that the Big 3 share could slip below 50% within five years. They note the heavy schedule of new models that are

¹⁰ OAA relies upon Ward's Communications for most of our industry sales and production data, and for product classifications. Wards has re-categorized the Mitsubishi Diamante and the Toyota Avalon for 2003, moving both to the large car category based on their pricing and physical size. This will automatically result in diminished shares for the American brands in the future. Had this occurred in 2002, the American brand share would have been 85%.

being introduced by their competitors, not just in the passenger car segments, but especially in light trucks. Even with GM's push for new models, the Big 3 will be hard pressed to match this effort in the short term. They also note that even though the initial product quality of Big 3 vehicles is approaching parity with that of the Japanese brands, the market seems unaware of this fact. Moreover, long-term reliability is not yet on the same level.

The Japanese brands' share (including both imports from abroad plus units produced within NAFTA) of the U.S. market rose by 1 point to 27.7% in 2002, on a volume that had increased 1.6% to 4.7 million units. (1986 share: 20.6%.) In 2003, their sales reached 4.8 million vehicles, 28.9% of the total market. Japanese light truck volume showed a large increase in 2003, rising 14% to break 2 million units for the first time. This increased their share to 22.4%, continuing a string of increases that began in 1996, putting increasing pressure on the Big 3 in this key market segment. In 1986, at the height of import penetration, Japanese brands held a 20.9% share of the light truck market.

Japanese shares of the passenger car segments also have increased. In 1986 their overall share was 20.5%. It has risen in almost every year since, growing 1.1 points in 2003 to 36.6%. Both Honda and Toyota outsold Chrysler in the U.S. passenger car market for the first time in 1997, supplying 10% and 9.9% of sales, respectively, compared with 8.9% for Chrysler. In 2003, Toyota ranked third overall with a 13.1% share, narrowly behind Ford's 13.6% share. Honda's 10.8% share was fourth highest. Nissan rose up the ranks to come in fifth, with 6.6%. Chrysler was sixth with a 6.0% share. In light trucks, both Japanese firms still were far behind in 2003, but advancing quickly. Toyota's share was 9.6% (up from 8.8%) and Honda's was 5.9% (up from 4.7%). Chrysler easily remained the market's third largest supplier with a 18.5% (down from 19.3%) share, after peaking in 1996 at 24.8%

Industry data show that the portion of the Japanese brand sales that are supplied from their NAFTA plants rose steadily after 1986 (when they accounted for just 11.8% of their total), until reaching 67.4% in 1996. After that year, however, sales of non-NAFTA manufactured Japanese brands began to increase at a faster rate, resulting in the decline of the NAFTA-sourced share of their sales to 63.8% in 2001, and to 62% share in 2002. This happened even as Japanese producers began adding significantly to their NAFTA capacity and production. In 2003, the NAFTA share was back up, increasing to 63.9%

Sales of German brands are advancing rapidly, rising steadily from their 1993 trough of 206,000 light vehicles and a 1.5% market share. Their sales increased by an average of 92,500 units per year after that, reaching 853,000 in 2000. They added 28,400 vehicles to their annual total in 2001, and followed up with an additional 33,300 in 2002, producing a volume of 915,000 units and yielding their highest market share in over a decade – 5.4%. (1986 share: 3.1%.) In 2003, German brands experienced a setback for the first time since 1993, with a decline of 0.2%. However, their market share

increased in the declining market to 5.5%. The light truck sector is showing the most rapid growth for the German brands, exploding from just under 1,000 units in 1996 to reach 98,900 vehicles in 2001, before slipping slightly to 98,200 sales in 2002. In 2003, German truck sales were up 14.6%, to 112,600 units. German car sales hit bottom in 1993 at 200,000 units, then rose steadily to 783,000 vehicles in 2001 and reached 817,000 units in 2002. In 2003, car sales were down 2.0%, to 800,300 units.

U.S. sales of Korean cars and light truck have increased sharply, bolstered by the lowest prices, the longest warranties, and by several new products with markedly improved capabilities, quality rankings, and safety ratings. Their volume grew by an average of 56,600 units per year after sinking to 109,000 sales in 1992, reaching 618,000 units in 2001. In 2002, sales reached a volume of 650,000 units, generating a 3.9% market share – their highest level ever. However, 2003 saw a decline of 1.9%, to 638,000 vehicles a 3.8% share.¹¹

(1986 share: 1.1%.) Sales of Korean car sales are up dramatically since 1986, increasing from 169,000 units to 439,000 in 2003 - a 5.8% market share. Korean light truck sales totaled just 8,000 units in 1995, their first year on the American market. In 2003, they generated a market share of 2.2% by growing sales 20% to 198,000 units.

THE INDUSTRY CONTINUES TO GO GLOBAL

¹¹ The Korean sales growth rate has not slowed as much as these numbers might suggest. In 2003, after its bankruptcy and GM's purchase of its main assets, Daewoo was not present in the U.S. market in 2003. Sales of Hyundai and Kia models, however, grew by 4.1%. In 2003, both GM and Suzuki began selling vehicles produced in Korea by their new joint venture, created out of the assets once owned by Daewoo.

Market share analysis based on the traditional old-line brand affiliations doesn't adequately convey the changes taking place in the motor vehicle industry. GM now owns Saab and holds significant shares of Isuzu, Subaru and Suzuki. Ford owns 100% of Jaguar, Rover, and Volvo, and a one-third, controlling share of Mazda. Chrysler was acquired by Mercedes, creating DaimlerChrysler, which now owns a controlling 37% share of Mitsubishi Motors, and 10% of Hyundai. On a group affiliated basis, GM's effective share of the 2003 U.S. market would be 30%, compared with 28.1% on its own. (Chart 5)¹² Ford's share increases to 22.2% (vs. 19.3%), while DaimlerChrysler's share jumps to 15.6% (vs 12.8%).

These arrangements are part of a broader, worldwide mosaic of acquisitions, joint ventures, and alliances that have arisen as the major world players attempt to extricate themselves from the glut of excess manufacturing capacity that exists around the world. Estimates of the excess range as high as 20 million units annually – the equivalent of 80 assembly plants. So far, that surplus has proven to be exceedingly elastic, persistently growing along with – or ahead of – every increase in global demand, so that the surplus never subsides. Nor is it likely to do so in the near future. Ward's Automotive Reports cites one study that estimates that by 2010, more than 18 million units of additional global capacity will have been created.¹³ Of that total, 8.3 million units will be located in Asia (in a region that extends from India to Japan and from Korea to Australia). And of that total, almost 60% is expected to be positioned in China. Fortunately, most of China's new capacity is expected to focus on satisfying the local market, estimated at more than 2.2 million units in 2002, expected to reach 3.9 million units this year, and to grow at an annualized rate of 9% for the next several years.¹⁴ Some analysts believe that by 2010, China will be the third largest market in the world, trailing the USA and Japan. One major producer suggests that by 2025, China could be the world's largest market for new motor vehicles.

12 The chart includes only those affiliates controlled by the companies as of 2003. For Ford: Jaguar, Mazda, Rover, Volvo. For GM: Saab, Isuzu. DaimlerChrysler (DCX) controls Chrysler, rather than vice versa (as in the case of GM and Ford). Their group includes Mercedes, Chrysler, and Mitsubishi. (DCX owns 10% of Hyundai, but does not control the company.)

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14 One manufacturer – Honda Motor Company – announced last year that it is building an export-only small car assembly plant in China, focusing on both Asian and European markets. Annual capacity is 50,000 units. Production starts in 2004. Press reports indicate that Tianjin Automotive hopes to begin exporting cars to Mexico soon, followed by shipments to Canada and the USA. GM now ships 100 units per month to the Philippines from China, and reportedly is considering shipments to Japan and Taiwan.

Many of the world's major manufacturers are now active in China, including GM and Ford. Ford's investments include a 30% position in a venture with Jiangling Motors to produce transit/cargo vans, in operation since 1997. It also has a 50-50 venture with Changan Auto Group to produce cars in a new plant with an initial annual capacity of 50,000 units. In October 2003, Ford announced plans to increase investment in China by \$1 billion over several years. This will allow for a second car plant and an engine plant, and will boost Ford's China production capacity to 100,000 units a year. According to recent announcements, Ford appears to be considering placing the new plant in Nanjing, China. The new facility may produce a version of the Ford Focus. The first small car, based on the Indian Ford Ikon, rolled off the line this January. A version of the European Ford Mondeo entered production in May. GM has two 50-50 ventures in China assembling vehicles and parts. Shanghai GM (with government-owned Shanghai Automotive Industry Corporation, SAIC) has been in operation since 1999, building mid-size Buick sedans and minivans, and producing engines, transmissions, and body stampings. Jinbei GM (partnered with FAW Jinbei Automotive) started assembling small Chevy pickups and 4-door SUVs in 2001.¹⁵

Despite all of the massive new investment taking place in China, imports soon may obtain a larger role, in good measure because of the market liberalizing provisions required of China as the price of its admission to the WTO. Import duty rates that were as high as 220% have fallen to 38.8%, and are scheduled to drop to 25% on July 1, 2006. Quota restrictions are being liberalized and are scheduled for elimination on January 1, 2005. GM has indicated that it hopes to ship as many as 10,000 units a year to China from its Australian subsidiary. It may supplement those shipments with additional volume from India and from North America. Exports to China by all U.S. shippers of cars and light trucks reached \$85 million in 2003, up 126% for the year. Volume was 4,677 units, representing a gain of 131% for the year.

BEYOND THE DRAW OF CHINA

In October, 2002, GM completed protracted negotiations to acquire two Daewoo Motor Company assembly plants in Korea (plus one in Vietnam), having outbid both Ford and Hyundai in 2000 for the right to negotiate the acquisition. GM's \$251 million injection bought it 42.1% and control of the new firm, GM Daewoo Auto and Technology (GMDAT). Suzuki Motor Company invested \$89 million to acquire 14.9% of GMDAT. GM's Chinese partner, Shanghai Automotive Industry Corporation, provided \$60 million for a 10% share. The balance is held by the state-owned Korean Development Bank. In 2003, both GM and Suzuki started U.S. sales of vehicles produced in Korea by the new company. GM brought the Chevy Aveo to market, with sales for the partial year of 5,677. Suzuki brought the Forenza and the Verona, with sales of 633 and 1,967

¹⁵ In December 2002, GM announced that it has acquired a 25% share of Yantai Bodyshop, a producer in northeastern China with an annual capacity of 100,000 units. SAIC will own 25% and GM Shanghai will acquire the balance. The acquisition nearly doubles GM's existing local assembly capacity.

respectively.

In 2000, GM purchased 20% of now struggling Fiat Motors, the subsidiary of Fiat S.p.A., and may end up with the whole vehicle operation, less Ferrari. Between January, 2005, and July, 2010 (amended in 2003 from 2004-2009), Fiat's parent retains the option to require that GM purchase the outstanding balance of Fiat Motors at current fair market value. GM and Fiat are currently in discussion over the continuing validity of the contract. GM contends that Fiat's selling of certain assets has made the agreement void, and with it the put option. Fiat contends that the agreement is still enforceable. Discussions are underway as to the best way to address both parties concerns, while continuing the partnership.

The global industry's restructuring has slowed, but is probably not yet over. The major American, European and Japanese manufacturers will continue to scout out new prospects because market growth prospects in the developed world are exceedingly modest. Long term, the mature markets are adding no more than 1% annually to their ability to absorb additional output. Opportunities in the developing world, on the other hand, are excellent – especially in Asia. Unfortunately, trade barriers – both transparent and translucent – are everywhere. Thus the world's major manufacturers will continue to pursue local investments, taking local partners if necessary, both as way to obtain access to a market, and as a way to protect themselves once they are in place. They will also continue to look for outright acquisitions, mergers, and non-equity cooperative ventures that could help them share and reduce development costs, production expenses, and marketing overhead.

When the dust finally settles, it is unlikely that there will have been any significant, negative impact upon the United States. For some other countries, the prospects are not so sanguine. Local independent vehicle assemblers in the emerging markets are not likely to remain economically viable, except with the protection of their host countries; and that portends clashes with other governments seeking to expand international trade.

CHANGING PRODUCTS

Not only is the motor vehicle industry continuing to morph into something different, so too are the products they offer, and for much the same reasons – an imbalance between global capacity and demand, especially in key markets. The major manufacturers realize that if their largest markets aren't going to grow significantly any time soon, the only way to increase profits is to take market share from one's competitors. In fact, the 20-year trend for the U.S. suggests that growth in the United States will average, at best, 1% annually for the next several years. From this comes the strategy of fracturing existing markets into new segments. Being first in a new segment usually results not only in quick sales with higher profit margins, but also results in a higher ongoing market share.

Paradoxically, the drive to differentiate vehicles is helping to eliminate the differences that have existed for years between passenger cars and consumer-oriented trucks. Demand is growing rapidly for more upright, more versatile, more comfortable 'cross-over' vehicles that combine the best attributes of passenger cars with the cargo carrying capacity and ruggedness of sport utility trucks. The new breed of cross-over vehicles first appeared in the offerings of the foreign affiliated manufacturers in 1997-98. Honda's CRV, Mercedes' M-Class, Subaru's Forester, and Toyota's RAV4 are early examples. Additional offerings followed quickly, including Ford Escape, Pontiac Vibe, DaimlerChrysler PT Cruiser, Volvo Cross Country, and Subaru Baja. Ward's Automotive Reports recorded just 195,000 'Cross Utility' sales in 2000, but 1.7 million in 2003. Eventually, it seems, we will all be driving trucks. We just won't know it – or perhaps we will, but it won't really matter.

Another evolutionary force is the steadily growing demand for 'green' vehicles that produce significantly lower emissions and significantly better fuel economy. The public's response to the industry's initial offerings in 1997 – typified by GM's first-to-market all-battery EV-1 and Honda's similarly powered EV Plus – is best described as 'underwhelming.' Just 1,400 units in total were sold or leased during 5 years of effort by both firms. Even so, it is clear that a significant market is emerging for vehicles with reduced environmental impact, so long as they do not compromise operating economy, comfort and performance, driving range, or price. Helping to foster their demand are state (especially California) and federal government efforts to mandate improvements in both emissions and fuel economy. The U.S. Department of Transportation, administrators of the federal corporate average fuel economy (CAFE) regulations, will raise the bar for light trucks from 20.7 mpg for model year 2004 to 21.0 mpg in 2005, and by an additional 0.6 mpg in 2006 and in 2007.¹⁶

The next step in the evolutionary chain was the introduction of 'hybrid' power systems that combine small gasoline or diesel engines with battery packs and electric motors. Honda was the first to bring this new breed to the U.S. market, offering its 'Insight' in late 1999. A small two passenger vehicle reminiscent of Honda's mid-1980s CRX coupe, Insight is capable of impressive acceleration and 70 mile per gallon fuel economy. It was joined by a four passenger version of the Civic in 2002, which sold at a rate of more than 2,000 units per month in 2003. In late 2004, Honda plans to introduce a hybrid version of the Accord. In 2002, Toyota began offering the 'Prius,' a 4-door 5-passenger compact that travels 55 miles on a gallon of fuel. In 2002, sales totaled 20,000 units. In 2003, Toyota released the next generation Prius in the U.S. market, a slightly larger vehicle with even greater fuel efficiency (60 mpg city/51 mpg highway). Sales for 2003 hit almost 25,000 units, up 22% from 2002. Toyota has also announced plans for other hybrids, in the SUV market. By fall 2004, Toyota will introduce a hybrid version of the Lexus RX330 (to be named the RX400h), to be followed in early 2005 by a hybrid version of the Toyota Highlander. These products will

¹⁶ DOT has indicated its interest in harmonizing not only fuel regulations, but also federal safety standards as well, so that all vehicles routinely used by the public for transporting people will be subject to similar requirements.

help Toyota build on its strong position in the hybrid market by expanding into the key market segment of SUVs with their proven technology.

Ford will market a hybrid version of its 'Escape' SUV later this year (this project has been delayed, originally the launch was to have taken place in 2003), neatly bridging the two trends with a green cross-over. The delay of this launch into 2004 has taken away what would have been a one year head start for Ford in the hybrid SUV market - a potentially costly delay given Toyota's momentum and existing track record in hybrid sales. GM expects to have full size hybrid pickups available in 2004, plus sedans, CUVs and SUVs in 2005. Chrysler plans to have a hybrid large pickup on the market by 2005. Interestingly, Ford will be only the second manufacturer to launch a full hybrid (able to run exclusively on either the electric or ICB engine, or both at the same time), but it is licensing Toyota technology to do so.

However, the somewhat distant horizon holds the promise of something beyond gas/electric hybrids. The industry – with the blessing and cooperation of the federal government – has enthusiastically turned its attention toward much more promising 'fuel cell' power systems.¹⁷ Similar in concept to the technology employed by NASA to provide electric power on the space shuttle, fuel cells produce electricity through a chemical reaction involving hydrogen and oxygen. The electricity energizes motors that turn the vehicle's road wheels. The concept is so promising that an earlier joint project (the Partnership for a New Generation of Vehicles, PNGV), begun in 1994 between the American industry and the U.S. government to develop a five passenger, low environmental impact, 80 mpg motor vehicle, was replaced this January with the five-year \$500 million 'FreedomCAR' (CAR = Co-operative Automotive Research) project and the companion five-year \$1.2 billion Hydrogen Fuel Initiative.¹⁸

FreedomCAR is focusing on perfecting fuel cell technology, attempting to drive down the 3-to-1 cost advantage now enjoyed by the conventional gasoline engine-transmission powertrain. The target is a power package no more expensive to produce, no more complicated to service and refuel, and no less powerful – but with significantly better fuel economy (perhaps, 100 miles per gallon equivalent) and much lower emissions. In fact, if pure hydrogen is used, the only byproduct is harmless, potable water vapor. Because fuel cells involve no moving parts, and their companion electric motors just a few – compared with hundreds of components in a conventional engine and transmission – fuel cell vehicles (FCVs) promise both greater reliability and

17 There is another, mostly ignored alternative – compression-ignition internal combustion piston engines, i.e., diesels. The latest European designs, installed in 4 and 5-passenger vehicles, quietly produce 50-70 mpg fuel economy and impressive acceleration, and easily meet current U.S. emission regulations. With access to lower-sulfur diesel fuel, they could meet the more stringent EPA Tier 2 emission regulations being phased-in in 2004.

18 For a detailed analysis of the fuel cell's potential for the auto industry, see the Commerce Departments' report prepared by the Technology Administration's Office of Technology Policy, entitled "Fuel Cell Vehicles: Race To A New Automotive Future." Published in January 2003, PDF copies are available at: <http://www.ta.doc.gov/reports.htm>. See also, "The U.S. Competitive Position in Advanced Automotive Technologies," available on the same site, for an assessment of U.S. industry's patented accomplishments in this and related fields.

longevity, as well as greatly reduced manufacturing complexity. Heavy foundry work (as well as their emissions) and complex machining operations will be greatly reduced, and the industry's consumption of steel and cast iron should contract significantly.

Proof-of-concept FCVs already have been assembled not only in America, but also in Europe and Japan. A small number are now on public roads, being used for validation and demonstration purposes. These could be followed by a few thousand more over the next decade, each placed in the hands of fleet operators who can arrange their own refueling service. Volume production for the mass market won't happen for some time, perhaps not before 2020. Yet to be solved are issues involving range of travel, ease and safety of refueling, onboard packaging of the hydrogen, production costs, and high volume manufacturing processes.

An especially major issue to be resolved by the Hydrogen Fuel Initiative is the creation of a viable infrastructure to manufacture hydrogen fuel in volume, and to deliver it safely and economically to a nationwide refueling network. Without the fueling infrastructure, there will be no large scale adoption of the fuel cell powered vehicles by the public – no matter how attractive they may be, no matter how little they may cost, and no matter how well they may perform. With the proper hydrogen infrastructure, however, U.S. consumption of petroleum could be reduced by over 11 million barrels per day by 2040. That's an amount that exceeds America's current daily imports – and an amount that equals more than half of our nation's total daily oil consumption.

General Motors provided the first glimpse of the potential offered by the FCV concept during the January 2002 North American International Auto Show, unveiling its 'AUTonomy' to a stunned Detroit audience. Resembling nothing so much as a four-seat Le Mans race car perched atop an overgrown skateboard, AUTonomy demonstrated the freedom of design that is possible when conventional propulsion systems no longer dictate vehicle architecture. The skateboard platform contained the entire fuel-cell electric-power generator in a plate just six inches thick. Each corner of the platform was supported by a wheel driven by an electric motor. Control of the brakes, suspension, steering, electric motors, and the power generator, was accomplished entirely with 'drive-by-wire' electronics, rather than by mechanical and hydraulic linkages. The passenger capsule – its shape totally unconstrained by mechanical necessity – sat on the platform, easily removed and quickly replaced for maintenance or whim. In fact, GM showed an entirely new and elegant 'one-box' interpretation at the Paris Auto show in September 2002. The five-passenger 'Hy-Wire' sits on an 11-inch thick platform and requires just one electric motor driving the front wheels. GM predicts that it will have fully functional FCVs like the Hy-Wire ready for limited sales in 2010, and ready for high volume production by 2020.

PRODUCTION DIPS, BUT EVERYONE KEEPS ON TRUCKING

Eleven manufacturers produced cars and light trucks in the United States in 2003 – BMW, DaimlerChrysler, Ford, General Motors, Honda, Isuzu, Mazda, Mitsubishi, Nissan, Subaru, and Toyota. In 1999 production reached an all time high of 12.6 million

vehicles. Volume dipped to 12.4 million vehicles in 2000, before skidding to 11.2 million units in 2001 on the heels of the terrorist strike and industry efforts to control inventory. In 2002, production gains were sufficient to generate the third highest volume on record – 12 million units, an increase of over 7% for the year. However, 2003 saw another decline. (Table 6)

In 2003, cumulative car and light truck production declined to 11.8 million units; however, light trucks continued their rise by 4.3% while cars continued a long-term decline - down 10.1%. Overall output in the Big 3 plants declined nearly 6%, while Japanese and German output rose 10.3% and 18.3%, respectively. Significantly, the Big-3's share of U.S. passenger car production fell below 60% for the first time, accounting for only 57%. (In 1986, U.S. producers accounted for nearly 95% of car production.) Conversely, the Japanese broke 40% for the first time, accounting for 41.8% of the total car production market. (In 1986, Japanese producers accounted for only 4.1% of the car market.) Moreover, while the U.S. producers remained dominant in light truck production with nearly 84%, the Japanese are making inroads even in this segment, by holding 13.5% of the market (up 28% from the previous year).

This shift towards trucks is better understood when viewed historically. For example, in 1986, the Big 3 produced 7.4 million cars in the United States, but just over 3 million light trucks. In 1994, the mix was nearly equal, but by 2002 the Big 3's light truck volume was nearly twice as large as their car production, reaching 6 million units. Some industry analysts believe that total Big 3 production will continue to decline modestly throughout 2004-05, as they slow line speeds, eliminate shifts, and close plants in order to balance their output with both a slowing market and their likely reduced shares of it.

The most recent data from the Census Bureau's Annual Survey of Manufacturers (Table 7) shows that the ex-factory value of light vehicle production was \$240.4 billion in 1999, but dropped to \$201.1 billion in 2001.¹⁹

TRANSPLANTS CONTINUE TO GEAR UP

While the U.S. manufacturers carry out their plans (see Biggest 2 Battle Plans), foreign manufacturers continue to implement their own strategies and their investments in the United States continue to grow and change.

U.S. production by the seven Japanese affiliated producers was spread among 10 plants in 8 states in 2003. Production in these plants reached a record high of nearly 2.9 million units, exceeding the previous year's peak of 2.6 million units. Since 1986 – when their output totaled 425,600 units – production has increased by an average of

¹⁹ Most current data available at time of publication. For update numbers, check the Bureau's web page at: <http://www.census.gov/econ/www/ma0300.html>.

24,000 units per year, accounting for most of the growth in total U.S. production. As a result, the Japanese share of domestic production has grown significantly, rising from nearly 4% of the total in 1986 to over 24% last year.

The Japanese affiliated plants in the United States, plus three in Canada and two in Mexico, supplied 12% of all Japanese brand vehicles sold in the United States in 1986. By 1996 these plants accounted for 67% of their sales. That share declined to 62% in 2002, but was back up slightly in 2003, to 64%. Ward's Automotive Reports estimates that Japanese operating capacity in the U.S. was approximately 3.4 million vehicles in 2002 and will reach 4.3 million units during 2004.

Recent Japanese expansion projects include projects by each of the major manufacturers: Nissan, Honda, Toyota and Mitsubishi.

Nissan's \$1.5 billion plant in Canton, MS, became operational in May 2003, and has achieved the production of four models since that time: the Quest minivan, the Titan fullsize pickup, the Pathfinder Armada fullsize SUV, and most recently in January 2004, the QX56: the first Infiniti vehicle ever built outside of Japan.²⁰ Production of a fifth vehicle, the Altima midsize sedan, is expected to get underway by June 2004. When the plant is fully operational, annual capacity will be 400,000 units, and is expected to employ 5,300. Nissan also committed \$1 billion over the next 3 years to expand two plants in Tennessee. The Smyrna vehicle plant gained nearly 100,000 units of capacity and will reach a total of 500,000 plus capacity of cars and light trucks annually by mid-2004. Smyrna will be Nissan's highest-volume plant worldwide, and has taken over supply of all Maxima models previously imported from Japan. (Altima production had been exclusive to the Smyrna plant; it will now be added to the line-up at the Canton facility, to complement production of this model.) Smyrna is also slated to absorb Pathfinder SUV and continue production of the Frontier compact pickup and Xterra SUV into the next generation, starting in 2004. The Decherd engine plant will gear up to produce all of Nissan's U.S. requirements. With these investments, Nissan is expected to add 2,000 more jobs to Tennessee, bringing Nissan employment in Tennessee to 8,000.

Honda opened a new plant in Lincoln, AL, in November, 2001, with the capacity to build 120,000 Odyssey minivans, as well as the 120,000 V-6 engines that power them, per year. Initial plant cost was \$580 million, and employment was 1,100. (This increased to 1,500 workers by the end of 2002.) During 2002, Honda added 30,000 units of capacity and committed an additional \$425 million to extend the plant's annual capability to 300,000 vehicles and a like number of V6 engines by 2004. With the shift of Odyssey production from Honda's Canada plant, the Alabama plant is dedicated to Odyssey vehicle production. Honda is also spending \$20 million to improve its Anna, Ohio,

²⁰ Renault, SA owns 44% of Nissan and provides its senior executive management in Japan. Renault also owns 100% of the U.S. heavy truck maker, Mack, and 100% of Korean car maker, Samsung. Nissan has a non-voting 15% position in Renault. The French government owns 44% of Renault.

engine factory, and will use it to supply up to 90,000 engines per year to General Motors, starting later this year.

In 2001, Toyota began assembling Tundra pickups, Sequoia SUVs, and Sienna minivans in its \$1.6 billion Princeton, IN, plant. During 2002 it doubled this plant's capacity to 300,000 units to keep pace with demand. During 2004, Toyota will begin construction on another North American plant, (which will be its sixth upon completion in 2006), located near San Antonio, TX - a move seen by many analysts as a direct challenge by Toyota to a traditional Big 3 stronghold. Cost is a reported \$800 million with an initial capacity of 150,000 next-generation Tundra fullsize pickup trucks beginning in 2006. This investment is expected to create 2,000 direct jobs; however, estimates indicate the plants' supplier base could generate an additional 14,000 jobs. In March 2003, Toyota announced it was investing \$124 million to build an aluminum engine block casting plant in Tennessee with an initial capacity of 200,000 units and plans to expand to 1 million units within 6 years. The plant is expected to be operational during 2005 and will initially employ 200 workers, with a start-up capacity of 200,000 units, with plans to expand to 1 million units within 6 years. In addition, in July 2003, Toyota announced an expansion of its two-month old Huntsville, AL, \$220 million engine plant. The additional \$20 million investment increased the plant's employment by 150 jobs, now reaching 500 workers. The plant makes V-6 engines for Tacoma and Tundra pickups, with a capacity of 130,000 units.²¹

In March 2003, Mitsubishi announced it had committed \$200 million to raise the capacity of its Normal, IL, car plant by 25% to a total of 300,000 units by the fall of 2004, creating approximately 300 new jobs. When completed, it will be the only factory in the United States capable of building 6 different models in the same assembly plant, to include the Eclipse, Sebring, Spyder, Stratus, Endeavor and next-generation Galant. (However, as of this writing, there has been a delay in the implementation of these plans reportedly due to weak U.S. sales.) Mitsubishi plans to further expand its North American capacity by adding a midsize pickup to its U.S. and Canadian product line in 2005 via its equity alliance with DaimlerChrysler AG. The truck is expected to be produced at the Chrysler Group's Warren, MI assembly plant, and will be based on the redesigned Dodge Dakota.

On the other hand, this past January Isuzu sold its 49% share of the Subaru Isuzu Automotive (SIA) joint venture in Indiana to its partner. It will source all of its SUV needs from the renamed Subaru of Indiana Automotive (SIA) plant, and all of its small pickups from General Motors. Total capacity in the Subaru plant is not expected to contract.²²

21 Toyota's fifth plant will open in 2005. It's the firm's first Mexican vehicle plant, under construction near their Tijuana pickup bed factory. Reported cost is \$140 million. Annual capacity is 20,000 small pickups; all destined to remain south of the U.S. border. Toyota also has one plant in Canada, and a 50-50 venture in California with General Motors.

22 Last year, GM reduced its 49% share of Isuzu to 12%, but still controls its operations. GM also maintains a 10% share of Subaru's parent, Fuji Heavy Industries.

Production in the two U.S. plants of German manufacturers has been growing rapidly, increasing by an average of 25,000 units a year since 1997. In 2003, BMW and Mercedes assembled over 250,000 light vehicles in the United States, up 18% from the previous year. BMW began assembling small sport sedans in Greenville, SC, in late 1994, investing \$300 million for a capacity of 60,000 units. It doubled that investment in 2000, increased capacity to 110,000 units, and switched production to SUVs and sports cars, becoming the firm's sole global source for these vehicles. In 2002, BMW committed an additional \$400 million, bringing capacity up to 150,000 units per year. Mercedes-Benz (now DaimlerChrysler) began assembling SUVs in Alabama in 1997, investing \$300 million to build a plant near Tuscaloosa with an annual capacity of 60,000 vehicles. In 2000, the firm invested \$600 million more, bringing the plant's capacity to 160,000 units. Production of a newly designed sportwagon is scheduled to be added to the line in 2004.

The latest manufacturer to undertake U.S. production is the Korean producer, Hyundai. The firm began construction of a \$1 billion assembly plant near Montgomery, AL, in April of 2002, with a target date for completion of 2005. The plant also has its own engine manufacturing and stamping facilities, and will create 2,000 direct jobs. Initial capacity will be 235,000 units, with the potential to increase to 300,000 sedans and SUVs.²³ A few months after Hyundai's April announcement, senior representatives of its Kia subsidiary indicated that when sales in North America reach 300,000 units annually, it will consider building a North American plant. In January 2004, Kia officials predicted this would come in the next 12-24 months. Kia sold 237,471 vehicles in North America in 2003.

PLANT CAPACITY INCREASES AND UTILIZATION IMPROVES

Industry data show that U.S. light vehicle manufacturing capacity – the number of units that can be built annually – has grown steadily during the past several years, rising from 12.6 million units in 1993 to 13.4 million units in 2002, due primarily to expansion by the Japanese affiliates. The Federal Reserve Board (FRB) reports its capacity index for car and light truck production rose from 123.6 in January, 1999, to 145.5 in December, 2003, and reached 146.3 in January, 2004.²⁴ The Census Bureau's Annual Survey of Manufacturers confirms this trend. (Table 8) From 1997 through 2001, car and light truck manufacturers reported investing \$23.6 billion in the United States for new industrial machinery, equipment, and the structures to house them. Some of this

²³ In its first foray into North America, Hyundai operated a Canadian assembly plant from 1989 until late 1993. Annual capacity was 100,000 units. Volume peaked at 28,000 units in 1991 before falling to 14,600 units in their final nine months of operation.

²⁴ See the FRB's Series G-17 Report, Industrial Production and Capacity Utilization, on the web at: <http://www.federalreserve.gov/releases/G17/ipdisk/cap.sa>. The FRB Board defines capacity as 'sustainable potential output,' expressed as a percentage of actual output in 1997. It has seldom declined in the period under review. For details see: http://www.federalreserve.gov/releases/G17/cap_notes.htm.

investment was used to replace obsolete facilities, but most was used to create additional and more efficient capacity.²⁵

Industry data show that average straight time vehicle assembly plant capacity utilization rates²⁶

²⁵ Most recent data available at time of writing. Check <http://www.census.gov> for updates.

²⁶ A ratio expressing the volume of vehicles actually produced in a year, relative to a plant's designed capability and staffing levels actually available to assemble them.

in the United States have routinely exceeded 80% – the level that many industry observers believe to be optimal. Data in the annual Harbour Reports show that as light vehicle production was peaking in 1999, the average car plant utilization rate exceeded 87% and light truck plants approached a rate of 105%. In 2000, the industry's rate was 90% in the car plants and 99% for light truck plants. Harbour reports that utilization rates then declined in 2001 – cars dropped to 80%; trucks to 87%. However, in 2002, rates were back up, with car plants at 87% and light trucks at 93%. These mathematical averages hide large differences among individual plants. Some facilities are grossly underutilized, while others run at herculean rates that are neither sustainable, nor conducive to maintaining product quality or employee morale. Harbour reports significant variances among productivity levels in the American, Japanese, and German manufacturers' car and light truck plants in the United States.²⁷ (Chart 7)

The FRB also measures plant capacity utilization. By FRB measures, plant capacity utilization reached a peak of 99 in May of 2000, followed by a general decline. After reaching 75.2 in January of 2001, utilization increased and has remained in a range of the mid 80s to the low 90's since. January 2004 was reported as 85.5.

EMPLOYMENT UP SLIGHTLY

Direct employment in the domestic motor vehicle assembly industry (NAICS 33611) was up slightly in 2003 to 236,200 employees (up 1.6% from 2002), though this number has slipped considerably from its most recent highwater mark of 251,300 persons in 1995. (Table 9)²⁸ The American Big 3 have been selling their parts operations, accounting for some of the decline.²⁹ In addition, the American vehicle assemblers are cutting their

27 Two points to bear in mind: The capacity estimate is a product of each factory's engineered hourly line rate in December of each year multiplied by 16 hours (two 8-hour shifts) multiplied by 235 (assumed annual days of operation). There is no prorating to account for actual days of operation. Consequently, plants that open late in a calendar year will appear to be underutilized. Secondly, plants are built with a specific initial line rate (units per hour that physically can be accommodated), which perforce can result in apparent underutilization during the first year of operation. In 2001 these factors conspired to imply that only the German plants managed to generate improvements in their utilization rates. In fact, individual Japanese and American plants also recorded significant increases.

28 See: <http://www.bls.gov/data/home.htm> .

29 Table 9 points out that employment in the parts industry also is declining. The NAICS codes represent them (3363, 336211) have slipped from 850,800 employees in 2001 to 768,100 in 2003. Collectively, auto industry employment has dropped by 8.3% since 2001.

remaining employment rosters to reflect their declining share of the domestic market. General Motors and Ford are both in the midst of restructuring plans, including plant closures. Even though they are building new plants and expanding some of their existing NAFTA plants, Big 3 employment will shrink as these facilities become more efficient. The U.S. plants of the Japanese and German manufacturers are continuing to add to their U.S. employment rosters, but their additions may not be sufficient to offset the Big 3's reductions.

Accompanying the decline in the industry's employment has been the steady improvement in efficiency on their production lines, but not in the 'back office' of management, marketing, and engineering. Productivity gains – measured as the number of vehicles assembled per production worker– have increased sharply, rising from an average of 44.1 in 1990 to 60.4 in 2003, a gain of 37%. When measured only against salaried worker employment, however, the trend is in the opposite direction – dropping from 415.6 units to 286.8 units, a 31% reduction. The net effect has been to limit the overall, corporate productivity gain to an increase of 25.2% spread over 13 years, growing from 39.9 units per employee to 49.9 units. Put more directly, while production employment has declined by 9.6% from 215,900 workers in 1990 to 195,100 in 2003, salaried employment has increased by 79.5%, growing from 22,900 in 1990 to 46,100 in 2003. Had it been possible to reduce salaried employment at the same rate as for production workers, the net result would have been an increase in corporate productivity to 54.6 units for each individual on the payroll. However, this does not appear to be the case. After declining to 9,000 salaried employees in 1997, the numbers began to rise - hitting 46,100 in 2003.

The Census Bureau's 2001 Annual Survey of Manufacturers confirms that the auto industry, despite its recent drop in employment, continues to pay well. (Table 10) Wages alone were worth \$11.4 billion in 2001, while fringe benefits added an additional \$4.9 billion to the total earned by all employees in the car and light truck assembly industry.³⁰ BLS data also indicate that motor vehicle production workers (SIC 3711) remain among the highest paid in the U.S. economy. Their average hourly rate (excluding benefits) was \$25.53 in 2003. In 2002, their wages were 65% above the national average for production workers in all of the nation's manufacturing industries.

TRADE OVERVIEW

From the very beginning of the automobile industry, the vastness of the American market and the profits that can be generated from it have provided little incentive for domestic manufacturers to focus upon exporting in any significant way. Moreover, the vehicles they have become accustomed to designing to compliment the wide open spaces and low energy expenses of the American market hold only limited appeal for buyers in most other countries. On the other hand, the vastness of the American

³⁰Most recent data available at time of writing. For updates, check <http://www.census.gov>

market and the profits that can be generated from it, provide a great deal of incentive for foreign manufacturers to enter the American market.

The result should not surprise – the United States suffers the world’s largest imbalance in light vehicle trade. It is the natural result of the world’s most profitable market serving as a magnet for shippers in more than 50 countries (so far) who face no non-tariff barriers in the United States, and duty rates that have only limited impact upon pricing in the American market, magnified by foreign government practices that have encouraged and entrenched local manufacturing operations, while discouraging large volumes of vehicle imports. Consequently, and despite ongoing U.S. government efforts to break down trade barriers around the world, it is unlikely that the United States will generate a surplus in its light motor vehicle trade in either the near or the medium term.

The U.S. light motor vehicle trade deficit has climbed relentlessly since 1989, reaching an all-time high of \$103.4 billion in 2002. In 2003, the deficit was down slightly (2%) to \$101.4 billion. (Chart 8) Between 1989 and 2001, U.S. imports rose and fell in close harmony with the domestic market’s pace of expansion and contraction. That relationship was broken in 2002, however, when imports advanced even though the market fell. In 2003 imports were up again (0.2%) in another declining market. (Chart 9) The 2003 deficit was twice as large as the 1986 deficit, when ‘true imports’ (i.e., all vehicles from abroad, including those received from Canada and Mexico) reached their all-time peak share of the light vehicle market of 44%. (Chart 10) In 2003, true imports were the equivalent of 41% of the market.³¹ Trade with our NAFTA partners, Canada and Mexico, accounted for 38% of the 2003 deficit. Trade with just three more countries – Japan, Korea, and Germany – represented all but 7% of the remainder. (Chart 11) The deficit with Japan continued to dominate, even with a decrease of 8% in 2003 to \$32.1 billion – the equivalent of one-third of the total deficit in light vehicle trade.

OAA’s trend analysis suggests that light vehicle import unit values and volume will grow smartly during 2004, producing a total for the year of \$142 billion. Exports probably will show a slight volume growth, but little or no value growth. The result could be an 13% increase in the deficit to \$114.5 billion – another record.

EXPORTS WERE UP. . .

The USA is the world’s fourth largest exporter, mostly because of shipments across the borders to Canada and Mexico. Shipments of new passenger vehicles and of light trucks from the United States grew by 65% between 1989 and 2003, reaching a volume of 1.6 million units. (Chart 12) As a share of light vehicle production, exports increased from 9% in 1989 to their highest level of 14.6% in 2003. If shipments to Canada and

³¹ True imports as a share of the total market is only an approximation of import penetration, necessitated by manufacturers not identifying in their sales data the actual source of their NAFTA produced ‘domestic’ vehicles. (Some models are produced in two countries.) Vehicles reported in official trade data may have been imported in one year, but sold in another. Some may not be sold on the new retail market. Also see footnote #3 and #10.

Mexico are excluded, the gains are more impressive (though working from a smaller base) – growth in shipments to the rest of the world was 112% between 1989 and 2003, reaching 531,000 units. This equals 4.5% of production – their third highest share during the period under review.³²

U.S. exports reached 171 countries in 2003, producing a total of \$27.4 billion – a healthy 9.5% gain for the year, and more than twice the volume of shipments in 1989. Volume in 2003 exceeded the previous peak of 1,596,150 units set in 1997, and their value by more than \$31 billion. The 2003 top five markets – Canada, Mexico, Germany, Saudi Arabia and the UK – absorbed 87% of all U.S. outbound shipments, repeating a long standing pattern. (Table 11).

³² In comparison, the U.S. imported 4.9 million passenger vehicles and light trucks from the world in 1989, equal to 46% of U.S. domestic production. In 2003, imports totaled 6.8 million, the equivalent of 58% of production. Excluding Canadian and Mexican imports from the equation (1.7 million in 1989 and 3.6 million in 2003), yields a 30% import/production ratio in 1989, and 31% in 2003; i.e., one import for every 3.3 units of local production in 1989, and one import for 3.2 units of production in 2003.

Canada remains the top destination for U.S. light vehicle exports, up 9.7% in 2003 to \$15.1 billion. Mexico (down 16.2%) dropped to the number three slot behind strong export growth to Germany (up 41%). Exports to Germany stood at \$3.9 billion, while those to Mexico were \$3.2 billion. Still, Mexico is far above its pre-NAFTA levels, when it was not even in the top 15 export destinations.³³

Shipments to the UK continued to grow strongly, up 37% to \$879 million. While exports to Saudi Arabia were down 26.4% to \$661 million, they were still above Japan's absorption of \$465, keeping Japan out of the top five destinations.

...BUT IMPORTS STILL DOMINATE

Passenger vehicle and light truck imports reached \$128.8 billion in 2003, climbing 0.2% over 2002, reaching another new record high (2002 was the previous high, a total that was 5% higher than the previous record set in 2000). (Table 12) The United States imports more vehicles by volume and value than any other nation, primarily because of shipments from plants in Canada and Mexico. Along with Germany, Japan, and Korea, these five countries account for over 90% of all U.S. light vehicle imports. The first four have been our primary suppliers for well over a decade. Korea has moved in and out of the top five group, first breaking into the ranks in 1989, with the help of 'captive imports' from GM and Ford. Korea regained 5th place in 1999, this time without GM and Ford, and has held that position ever since. Korea could rise in the rankings in the next few years, as both GM and Suzuki began in 2003 to source vehicles from their new joint venture there, while Hyundai and its Kia subsidiary continue to develop a strong presence here.

Germany was the primary source of U.S. light vehicle imports in 1965, while Canada was distant third behind the UK. Canada rose to the top in 1970 on the strength of Big 3 plants in that country. In 1976, Japan – aided by the first 'oil shock' in 1974 – had moved well ahead of everyone else. It didn't relinquish first place until 1993 when Canada again became, and remains, our primary import supplier. Big 3 plants have been joined by Toyota and Honda, and by a joint venture between GM and Suzuki. In 2003, Germany displaced Mexico, moving up to the number three slot.

Imports from Canada were down 1.7%, to \$38.5 billion. Imports from Japan and Mexico were also down - Japan down 8.1% to \$32.3 billion and Mexico down 7.6% to \$18.3 billion. Imports from Germany were up (10.8% to \$19.7 billion), as were imports from Korean (up 16.7% to \$7.9 billion).

The greatest gain among the major suppliers in 2003 was posted by the UK, which increased exports to the United States by 25 % to nearly \$5 billion. Ford has been successfully marketing its captive British imports, while Honda has increased shipments

³³ See also the NAFTA discussion in this report.

here from its British plant, and BMW has reintroduced the Mini Cooper to U.S. enthusiasts. South Africa increased shipments to the United States from nothing in 1987 to \$23.3 million in 2000. It posted an 11-fold increase in 2001, and added 4% more to its U.S.-bound exports in 2002. In 2003, its shipments were up another 40%, to \$373 million. This accomplishment is primarily the result of a decision by BMW to reassign production of its small sedan from its South Carolina factory to its South African facility to make room for U.S. built SUVs. 2003 also saw a large increase in imports from Austria, with levels up 70% to \$521 million. Australia will also figure more prominently in the immediate future. In 2003, the United States and Australia concluded negotiations on a free trade agreement, which includes the removal of the U.S. truck tariff. When that agreement goes into effect, it will likely lead to an increase in imports from Australia. Imports from Australia totaled \$521 million in 2003.

NAFTA AT TEN

In 1994, the United States, Canada, and Mexico entered into an historic undertaking to liberalize trade among the three nations. In the years following implementation of the North American Free Trade Agreement (NAFTA), shipments of new passenger vehicles and light trucks between the United States and its two partners have grown tremendously. U.S. exports and imports involving both countries reached a peak of \$78.6 billion in 2000 before declining to \$74.5 billion in 2001. In 2002, cross-border trade was \$76.5 billion. In 2003, it fell slightly to \$75 billion. In the year before NAFTA, two-way shipments were \$36.5 billion. Most of the growth in trade during this period was the result of increased imports by the United States, which rose from \$28.4 billion in 1993 to 2000's peak of \$61.7 billion. U.S. imports in 2003 from both countries totaled \$56.7 billion, almost twice the size of 1993's sum. U.S. exports also have more than doubled, growing from \$8 billion in 1993 to \$18.3 billion last year. The United States continues to experience deficits with both countries. However, their combined share of the U.S. global deficit in these products has declined steadily, dropping from a high of 54% in 1996 to 38% in 2003. (Chart 13)

Most trade in automotive products between Canada and the United States was liberalized by two bilateral agreements enacted well before the NAFTA agreement was implemented.³⁴ Therefore, little of the growth in trade between the two countries can be attributed directly to the NAFTA agreement. Bilateral trade with Canada in these products, \$32.8 billion in 1993, reached \$53.4 billion in 2003. U.S. exports have increased by 90% to \$15.1 billion, while imports from Canada grew 55% above 1993's total to \$38.5 billion.

Before NAFTA was enacted, exports to Mexico from the USA were artificially constrained by a host of measures enacted by the Mexican government to force firms to produce in Mexico, if they wished to export there. In 1993, our shipments of new

³⁴ The Canada-U.S. Automotive Products Trade Agreement (APTA) in 1965, and the Canada-U.S. Free Trade Agreement (CFTA) in 1989.

passenger vehicles and light trucks totaled less than \$95 million. They jumped 500 percent in 1994, the first year of the agreement, reaching \$580 million. By the end of 2003, U.S. exports to Mexico totaled \$3.2 billion, 34 times greater than shipments in 1993. Mexico displaced Japan as our second most important international market in 1997 (though it fell to number three [behind Germany] in 2003). Those increases came about because U.S. firms were able to rationalize and relocate some of their Mexican production to U.S. plants, and because they could export more models to Mexico from the U.S. without being subject to artificial import and local production constraints.

Imports from Mexico have grown rapidly since the agreement was signed, climbing more than 400% from 1993 to a total of \$18.2 billion in 2003. Because the U.S. border was already open to Mexican imports before the trade pact was signed, it would be a mistake to attribute this surge to the NAFTA agreement. In fact, of the two, only the growth in U.S. exports can be directly credited to the agreement, since the only change in cross border market access has been the removal of Mexican restrictions that constrained U.S. shippers. For example, a Mexican requirement that producers assemble vehicles in Mexico and export a certain percentage of them in order to import vehicles into Mexico, was immediately phased out for commercial vehicles and reduced for passenger vehicles. On January 1, 2004, the remaining restrictions were entirely eliminated. Strict quotas, high tariffs, and minuscule import market share allocations that applied to motor vehicle imports from the United States have been eliminated. Mexican content requirements were substantially curtailed and were eliminated entirely by January 1, 2004. Import duty rates for U.S. products, which reached as high as 20%, were voluntarily eliminated by Mexico on January 1, 2003, one year ahead of schedule.

The point bears repeating: NAFTA is responsible for a significant surge in U.S. automotive exports to Mexico. Conversely, our imports from Mexico would have risen even in the absence of the agreement, since the U.S. motor vehicle market has experienced an unprecedented period of strong sales that happens to coincide with implementation of the agreement. The strength of the U.S. domestic market, not the agreement, is the primary factor 'responsible' for drawing in imports of motor vehicles not only from Mexico, but from all over the world.

Before the accord was signed, many observers expressed reservations, believing that the lower wage rates in Mexico would result in the immediate and significant relocation of U.S. light vehicle manufacturing capacity to sites south of the border. Instead, data produced by Harbour and Associates indicates that light vehicle assembly capacity has increased in all three countries since 1993, rising from a total of 16.7 million units to 18.3 million vehicles in 2002. (Chart 14) Capacity has grown the fastest in Mexico, rising by 26.8%, but that increase has been from a relatively smaller base. U.S. capacity in 2002 was 6% greater than in 1993, but the absolute increase of 795,000 additional units was 101% greater than Mexico's 379,000 unit increase.³⁵

³⁵ Canadian capacity grew 18% on an absolute gain of 481,000 units.

Plant capacity is not static, however, and its measure depends upon a combination of factors which can change from year to year, and even from day to day. Variables include the level of investment in physical plant, the efficiency of the processes employed, complexity of the vehicles being assembled, the number of employees on the assembly line, and the number of hours of operation. Measured capacity in all three countries actually declined in the first year of the agreement, dropping the most in Mexico – 1%. (Chart 15) By the end of the second year, capacity had increased the most in Mexico – 15% – despite the economic crisis that the country was then experiencing.

Plant capacity utilization – dividing the number of units actually produced in a year by estimated annual production capability – is another useful tool for measuring changes in the industry. Harbour's data shows that in 1993, Mexico produced one million vehicles in plants with a capacity to assemble 1.4 million, yielding a 72% utilization rate. During Mexico's 1995 'peso crash,' light vehicle production in the country's plants dropped 16% to 925,000 units, while capacity had risen that year by nearly 15% to 1.6 million units. The net result was a 27% decline in utilization for the year to a rate of 58%. (Chart 16) By the end of 2000, Mexico's utilization rate had hit 100%, the highest of any of the three countries. It fell the next two years, and stood at 96.8 for 2002. The U.S. rate, 84% in 1993, was 89.9 in 2002. Between 1993 and 2002, the overall utilization rate averaged 90% in U.S. plants, and 87% in Canadian plants.

Most light vehicle production in each of the three countries is accomplished in the plants of the American Big 3. (Chart 17) In 1993 they accounted for 81% of all NAFTA production. Their share has declined in every year since, except for one, falling to 75% in 2002. Big 3 production in Canada and Mexico has been relatively stable – drifting slightly higher in Canada (although their share of total production in Canada has dropped from 84% to 75%), while rising steadily in Mexico (yet holding about the same share, slipping slightly from 62% to 60%). Big 3 production in the USA has shown a much greater degree of fluctuation, rising from 8.8 million in 1993 (an 83% share of local production) to a peak of 10 million units in 1999 (80%), falling to a low of 8.5 million units in 2001 (76%). 2002 saw a recovery to 9.2 million units (77% share). However, 2003 Big 3 production was back down, to 8.7 million units, for a share of 74%.

SUMMARY

U.S. sales of new light vehicles in 2003 declined for the third consecutive year, continuing to retreat from 2000's record high of 17.3 million units. Sales fell by 1.1% to a total of 16.6 million units. Nonetheless, the result was the fifth highest sum on record. Moreover, a new record was set for consumer expenditures for cars and light trucks, which totaled \$266 billion. Many analysts are forecasting an upward swing for 2004, in the range of 16.7 - 17.1 million units.

The Big 3's combined share of the light vehicle market dropped again, to 60.2% in 2003, their lowest ever. They probably will continue to lose ground in 2004. Some analysts suggest it could slip below 50% within five years. U.S. light vehicle production decreased 1.7% in 2003, and may decline again in 2004. Anticipated reductions by GM, Ford, and Chrysler could be replaced not just by the increasing volumes of the foreign affiliated producers, but also by imports – which could jump by 11% during the year. U.S. exports also are expected to increase, but not by enough to reduce the trade deficit, which could reach \$114.5 billion – 13% larger than last year's record.

Prepared by: Scott Kennedy/Motor Vehicle Division/Office of Automotive Affairs

– INDUSTRY TABLES –

Table 1

Total U.S. Motor Vehicle Registrations (Millions)			
	Cars	Trucks	All Vehicles
1997	129.7	77.3	207.8
1998	131.8	79.1	211.6
1999	132.4	83.1	216.3
2000	133.6	87.1	221.5
2001	137.6	92.0	230.4
2002	135.9	92.9	229.6
Source: U.S. Department of Transportation			

Table 2

U.S. Cars and Trucks Registrations per:						
	1997	1998	1999	2000	2001	2002
1,000 Residents	774	780	791	784	819	796
1,000 Driving Age (16yrs & older)	1,006	1,013	1,024	1,017	1,061	1,027
1,000 Licensed Drivers	1,133	1,140	1,152	1,158	1,205	1,182
Derived from U.S. Department of Transportation data by U.S. Department of Commerce/Office of Automotive Affairs						

Table 3

Median Age of U.S. Operating Fleet (Years)						
	1996	1997	1998	1999	2000	2001
All Cars	7.9	8.1	8.3	8.3	8.3	8.1
All Trucks	7.7	7.8	7.6	7.2	6.9	6.8

Source: The Polk Company via Ward's Automotive Yearbook

Table 4

U.S. Motor Vehicle Sales (Millions)							
	1997	1998	1999	2000	2001	2002	2003
Cars	8.3	8.1	8.7	8.8	8.4	8.2	7.6
Light Trucks	6.8	7.4	8.2	8.5	8.7	8.7	9.0
Total LV	15.1	15.5	16.9	17.3	17.1	16.9	16.6
Med/Heavy Trucks	0.4	0.4	0.5	0.5	0.4	0.3	0.3
Total All	15.5	16.0	17.4	17.8	17.5	17.2	16.9

Source: Ward's Automotive Reports

Table 5

Consumers' Expenditures (PCE) (Billions of Current Dollars)							
	1997	1998	1999	2000	2001	2002	2003
Cars, New	82.5	87.9	98.4	105.5	105.9	103.2	97.3
Light Trucks, New	73.1	86.8	97.8	102.6	121.8	137.8	168.7
Total, New	155.6	174.7	196.2	208.1	227.7	241.0	266.0
Net, Used Autos	53.1	54.9	57.7	59.4	60.6	58.6	48.3
Total	208.7	229.6	253.9	267.5	288.3	299.6	314.3

Source: U.S. Bureau of Economic Analysis

Table 6

U.S. Motor Vehicle Production (Millions)							
	1997	1998	1999	2000	2001	2002	2003
Cars	5.9	5.6	5.6	5.5	4.8	5.0	4.5

Light Trucks	5.8	6.0	7.0	6.8	6.3	7.0	7.3
Total LV	11.8	11.6	12.6	12.4	11.2	12.0	11.8
Med/Heavy Trucks	0.337	0.374	0.432	0.391	0.256	0.258	0.251
Total All	12.1	12.0	13.0	12.8	11.4	12.3	12.1
Source: Ward's Automotive Reports							

Table 7

Value of Manufacturers' Product Shipments (Billions of Dollars)					
	1997	1998	1999	2000	2001
Cars	93.2	92.0	98.6	95.6	84.6
Light Trucks	107.2	113.4	141.7	121.6	116.5
Total LV	200.4	205.4	240.4	217.2	201.1
Med/Heavy Trucks	16.9	21.5	24.1	20.1	13.0
Total All	217.2	226.8	264.5	237.3	214.1
Source: U.S. Census Bureau 2001 Annual Survey of Manufacturers					

Table 8

Capital Expenditures for Plant and Equipment (Billions of Dollars)					
	1997	1998	1999	2000	2001
Car Plants	3.5	3.2	1.8	2.0	2.3
Light Truck Plants	1.8	2.1	2.8	2.5	1.7
Total LV Plants	5.3	5.3	4.5	4.5	4.0
Med/Heavy Truck Plants	0.1	0.1	0.2	0.3	0.5
Total All Plants	5.4	5.4	4.8	4.8	4.5
Source: U.S. Census Bureau 2001 Annual Survey of Manufacturers					

Table 9

U.S. Automotive Industry Average Annual Employment (1,000s)			
	Parts & Accessories SICs 3465, 3592, 3691, 3694, 3714		Total
(NAICS Based)	2001	2002	2003p
Automobiles (336111)	168.6	158.7	156.8
Light Trucks and utility vehicles (336112)	67.8	73.8	79.4
Total Light Vehicles	236.4	232.5	236.2
Heavy Duty Trucks (33612)	42.3	32.9	31.3
Total vehicles	278.7	265.4	267.5
Motor Vehicle Parts (3362)	774.7	733.6	707.4
Motor Vehicle Bodies (336211)	75.8	68.3	60.7
Total	1,129.2	1,067.3	1,035.6
Source: U.S. Department of Labor/Bureau of Labor Statistics			

Table 10

Total Employee Wages and Benefits (Billions of Dollars)					
	1997	1998	1999	2000	2001

Car Plants	9.0	8.1	7.7	8.0	7.6
Light Truck Plants	7.6	7.1	9.1	9.4	8.7
Total LV Plants	16.6	15.2	16.8	17.5	16.3
Med/Heavy Truck Plants	1.7	1.9	2.3	2.2	1.7
Total All Plants	18.2	17.1	19.1	19.7	18.0
Source: U.S. Census Bureau 2001 Annual Survey of Manufacturers					

Table 11

U.S. Exports of Passenger Vehicles & Light Trucks – Top 5 Markets Billions of Dollars, FAS						
	1998	1999	2000	2001	2002	2003
World	21.246	20.606	21.646	21.748	25.011	27.375
Canada	11.569	12.363	12.648	11.492	13.781	15.112
Mexico	2.211	2.387	3.462	3.758	3.805	3.190
Germany	1.322	1.175	1.177	1.771	2.788	3.940
S. Arabia	0.584	0.403	0.569	0.771	0.792	0.521
UK	0.481	0.476	0.272	0.488	0.593	0.836
Source: U.S. Census Bureau, using OAA HTS Selections						

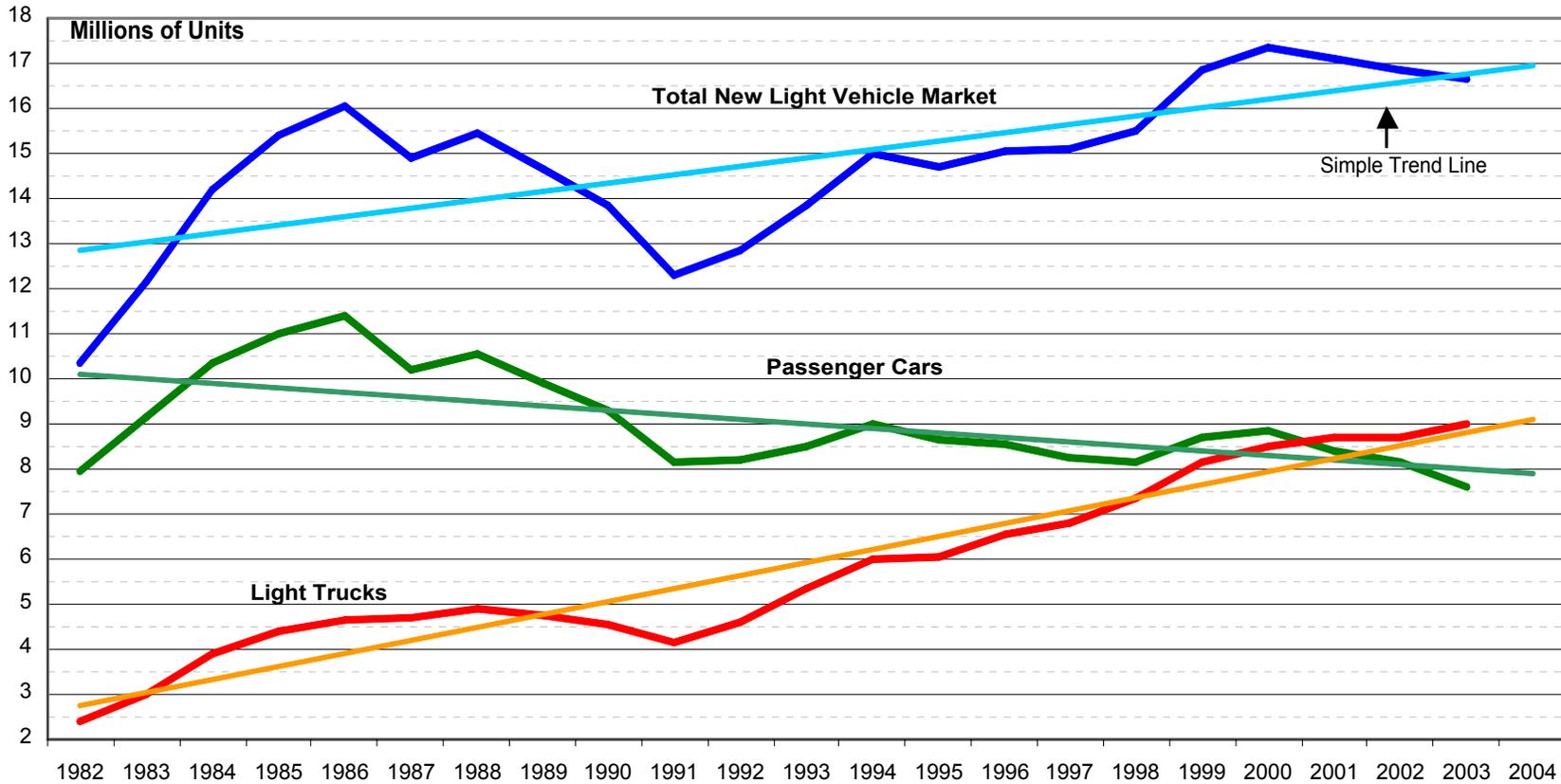
Table 12

U.S. Imports of Passenger Vehicles & Light Trucks – Top 5 Sources Billions of Dollars, Customs Value						
	1998	1999	2000	2001	2002	2003
World	89.708	108.521	122.035	121.005	128.445	128.765
Canada	34.235	42.264	42.246	38.491	39.136	38.478
Japan	24.726	29.191	32.092	31.117	35.045	32.197
Mexico	12.420	13.816	20.211	20.727	19.773	18.261
Germany	11.081	13.459	14.649	15.004	17.796	19.711
Korea	1.696	2.879	4.839	6.344	6.802	7.937
Source: U.S. Census Bureau, using OAA HTS Selections						

– INDUSTRY CHARTS –

In 2003, U.S. sales of light trucks were 277% above 1982, but passenger car sales were 4% lower. Over all, the market was 61% larger than it was 20 years ago.

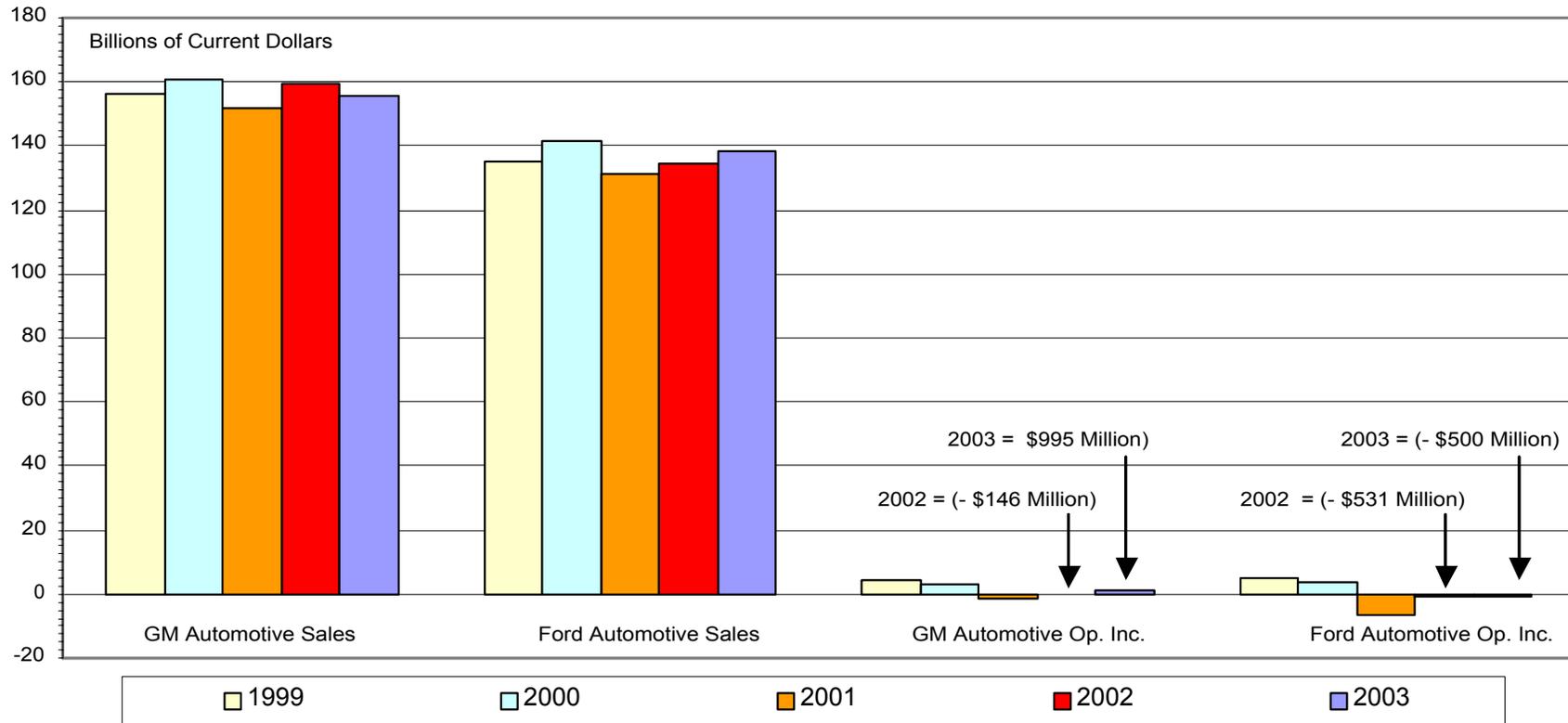
Chart 1



Source: Derived from the Automotive News 100-Year Almanac, 1996 ; and Ward's AutoInfoBank by USDOD/Office of Automotive Affairs

GM's and Ford's recovery plans are rebuilding sales revenue. GM may have turned the corner, but Ford failed to generate positive income.

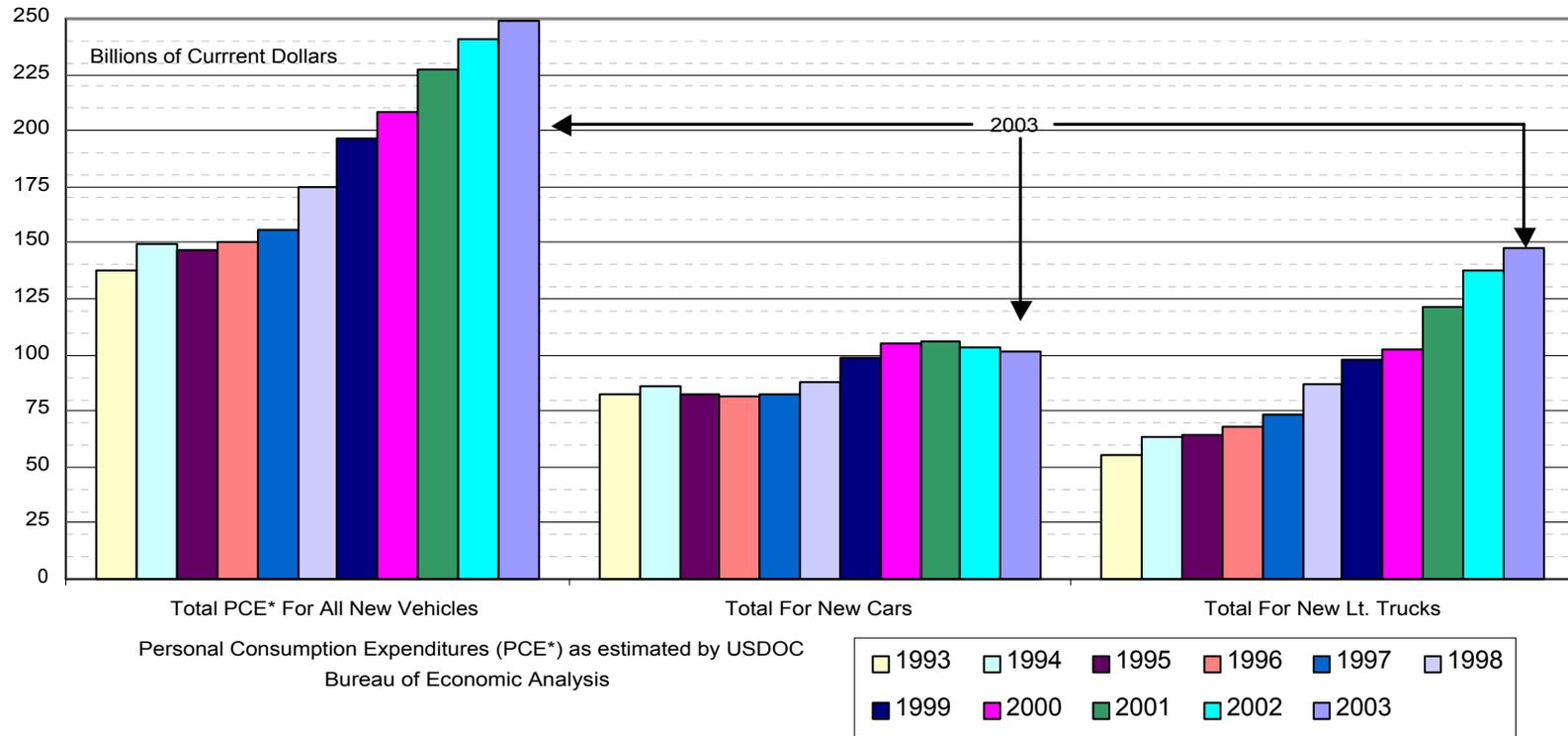
Chart 2



Source: Corporate Annual and Quarterly Reports

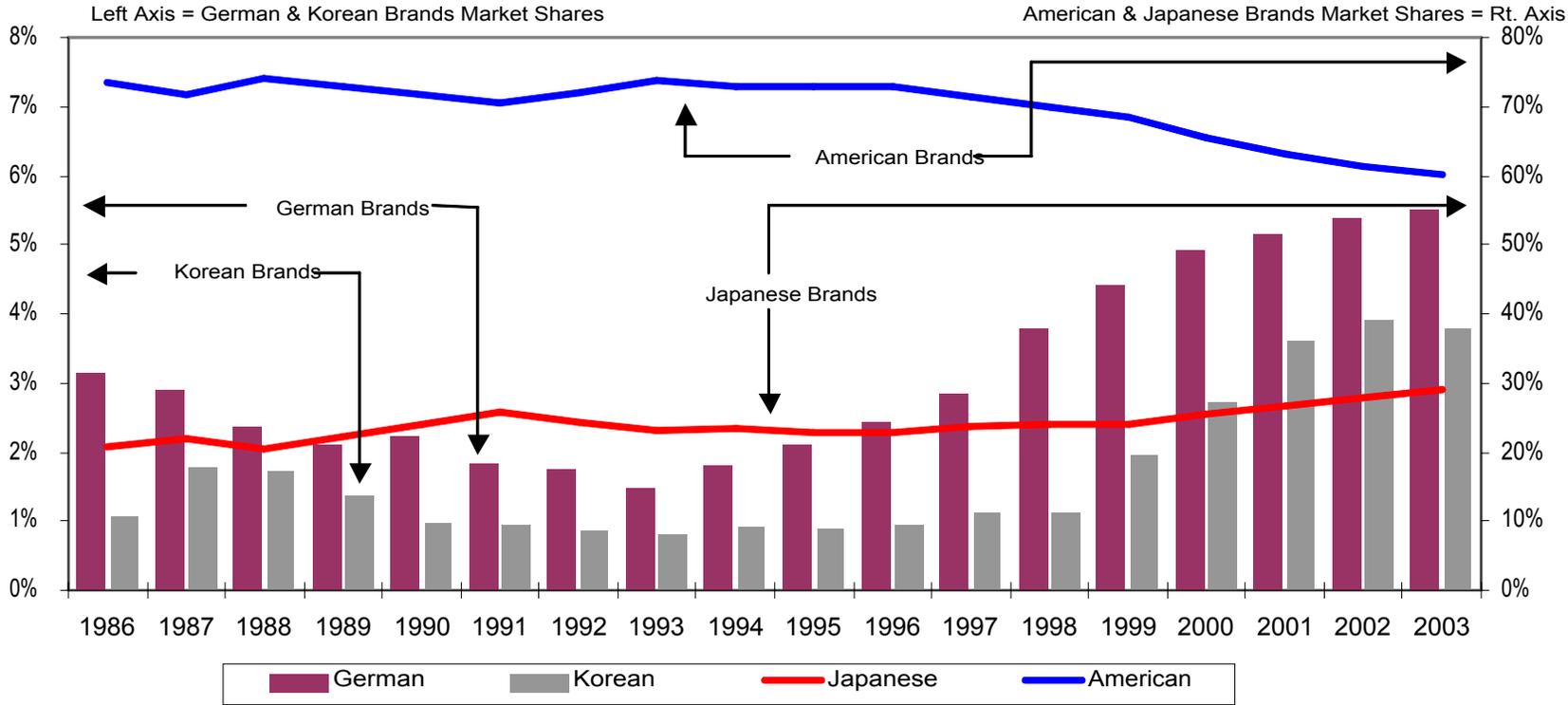
Total consumer expenditures for new light trucks surpassed the new car total in 2001. Moreover, the average expenditure for each new light truck is higher than for cars - and averaged of \$3,125 per vehicle in 2003.

Chart 3



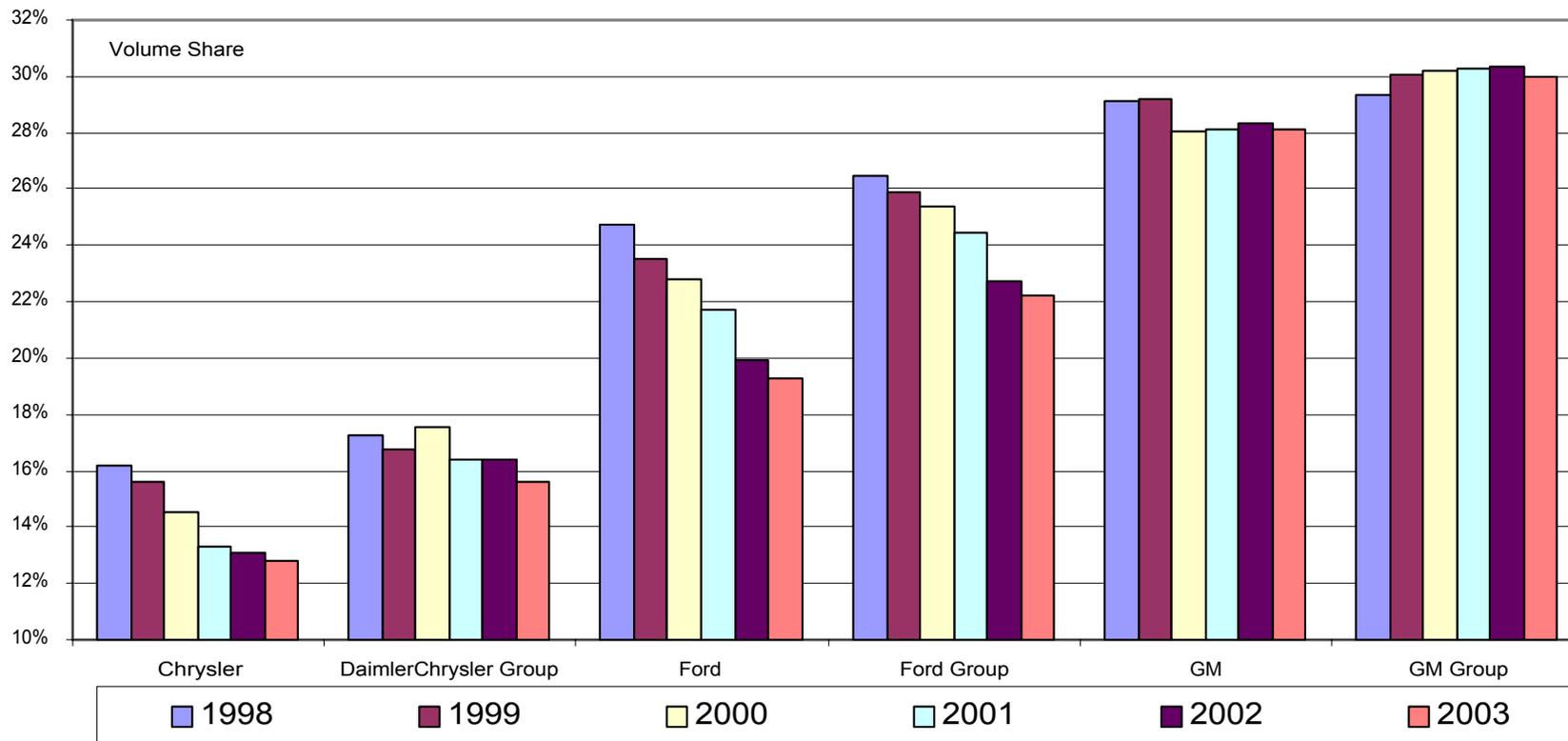
The American brands' share of the domestic market continues to slip, while Korean and German brands are gaining share rapidly.

Chart 4



Source: Ward's AutoInfoBank, Adjusted by USDOC Office of Automotive Affairs

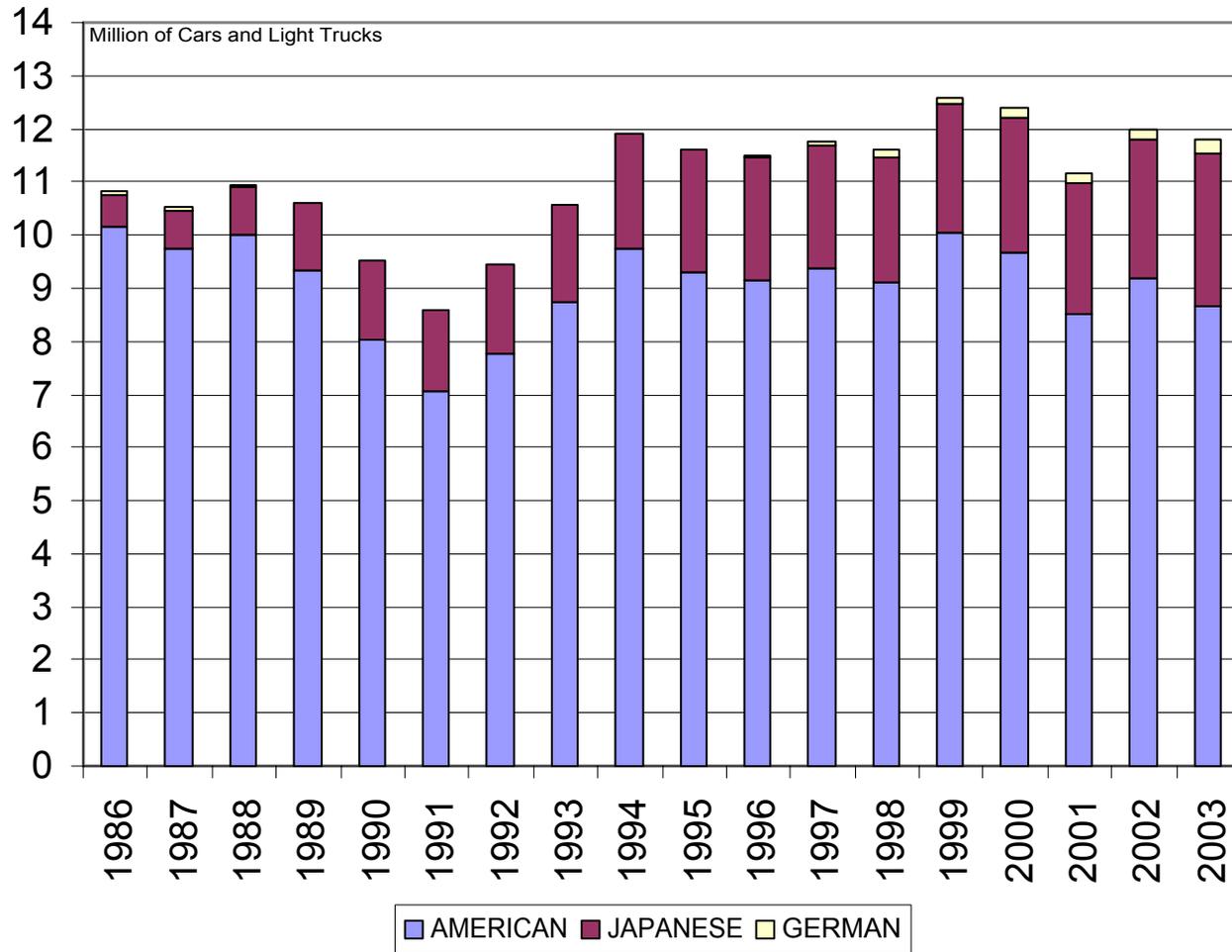
Corporate alliances have helped to prop up effective U.S. market shares



Source: Derived from Ward's AutoInfoBank by USDOC/Office of Automotive Affairs

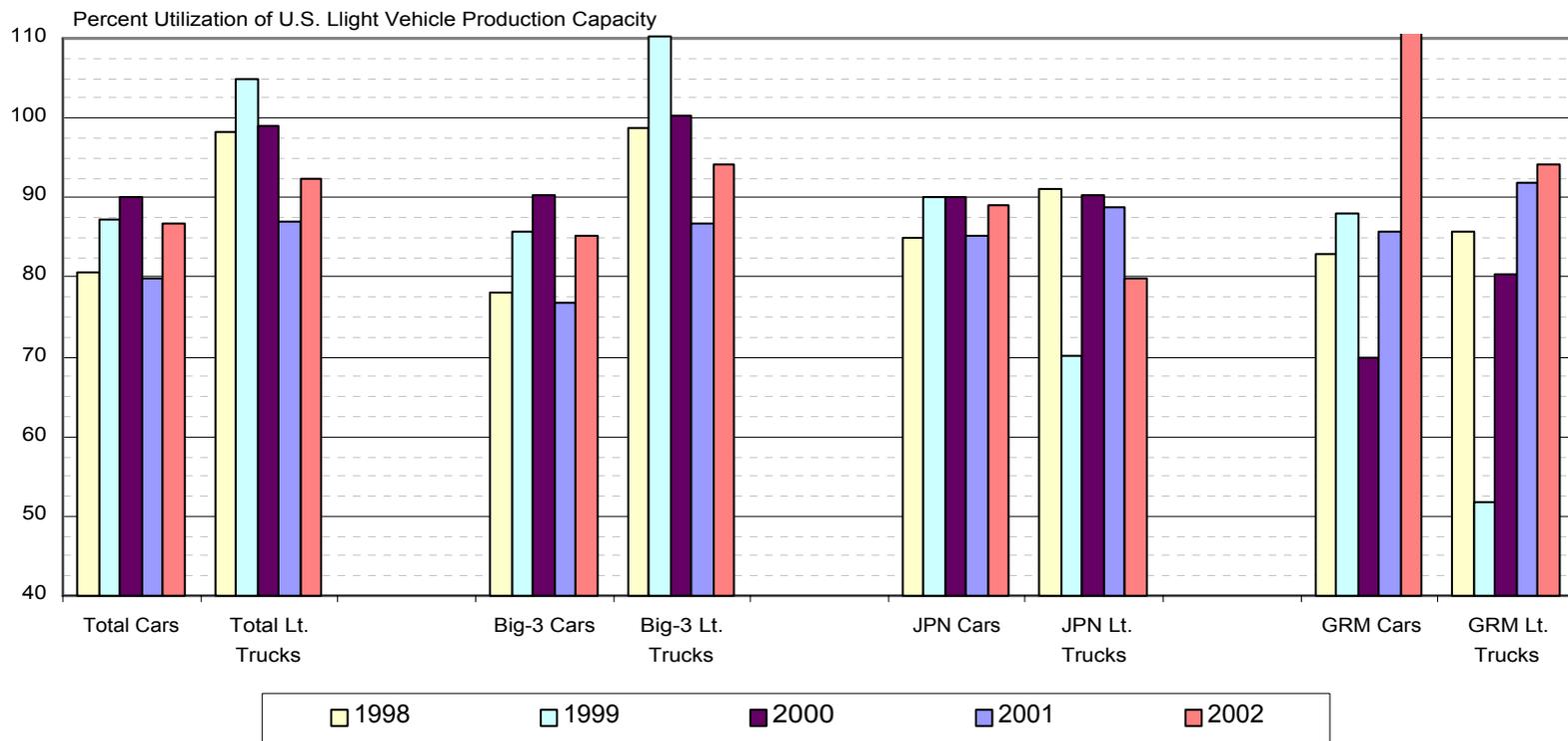
U.S. production by the affiliates of Japanese manufacturers has grown by an average of 124,000 units per year since 1986. They account for virtually all U.S. growth in this period.

Chart 6



American = GM, Ford, and Chrysler plants of DaimlerChrysler
 Source: Ward's AutoInfoBank, adjusted by USDOC Office of Automotive Affairs

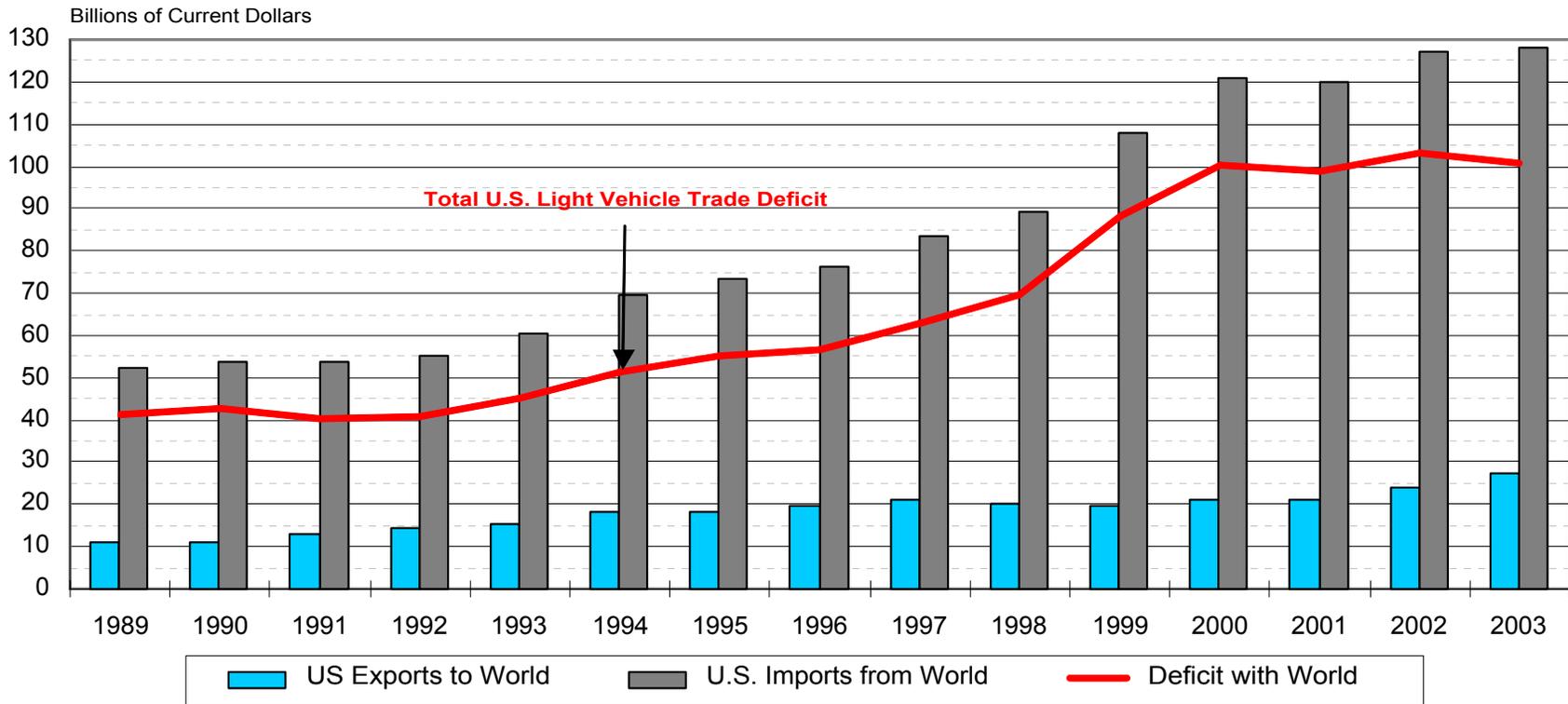
Overtime and extra shifts enable plant capacity utilization to exceed "straight time" annual rates. In 2001, only the German affiliates improved their utilization rates. Chart 7



Source: Derived from The Harbour Report Annuals, 1998-200 by USDOC Office of Automotive Affairs

In 2003 imports and exports were up, with the deficit declining slightly.

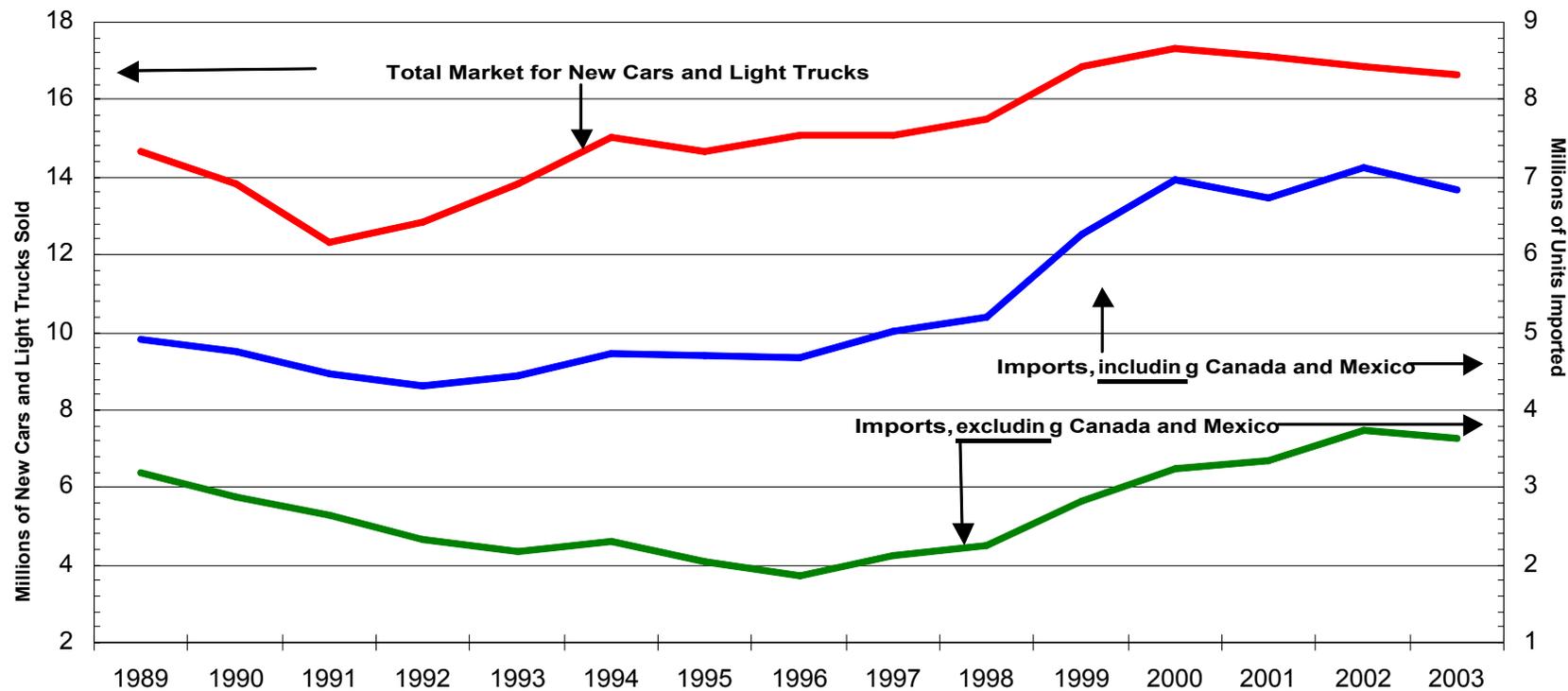
Chart 8



Source: US Census Bureau using USDOC Office of Automotive Affairs Industry Definition

From 1989 through 2003, U.S. imports of light vehicles have tracked changes in the domestic market (except for 2002, when the pattern was off)

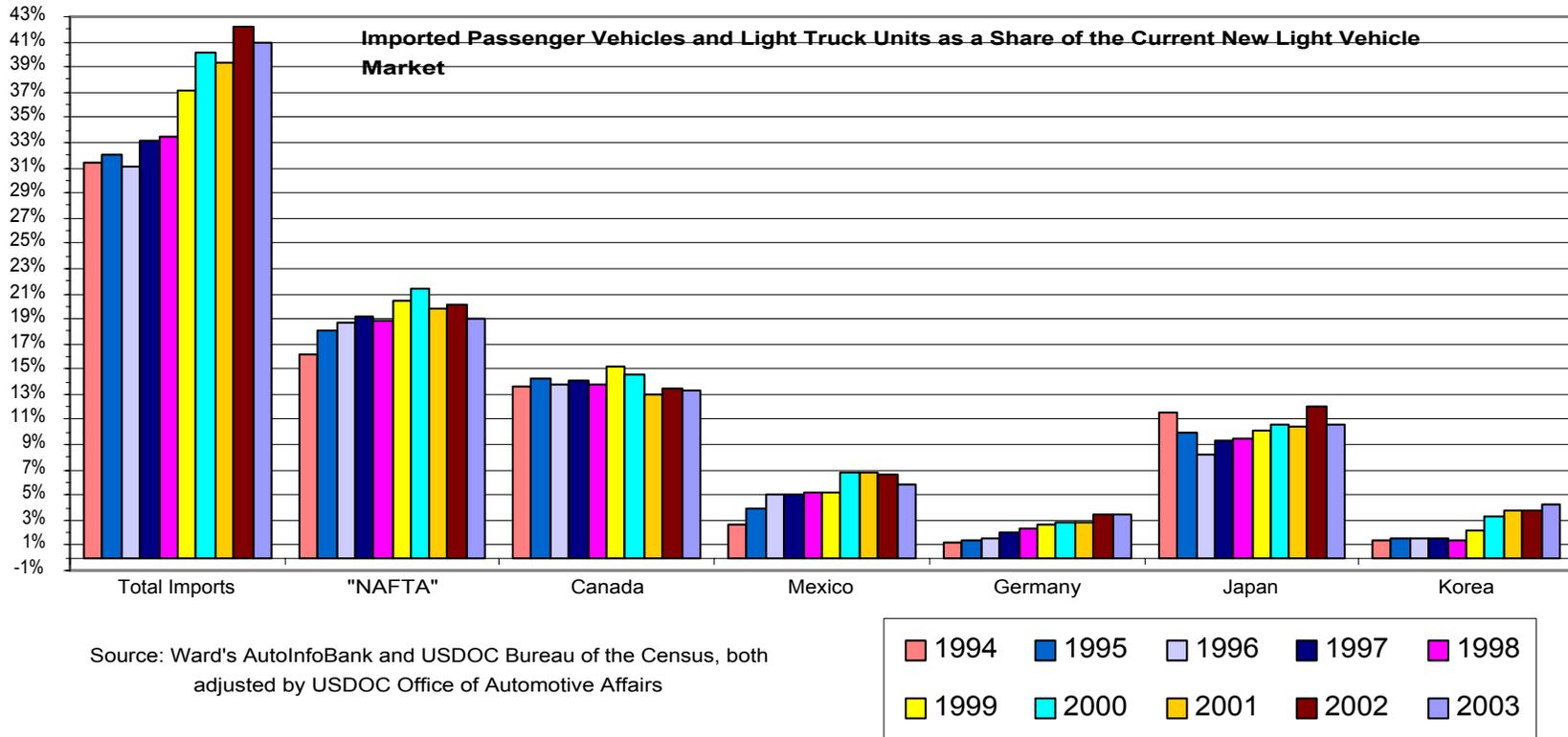
Chart 9



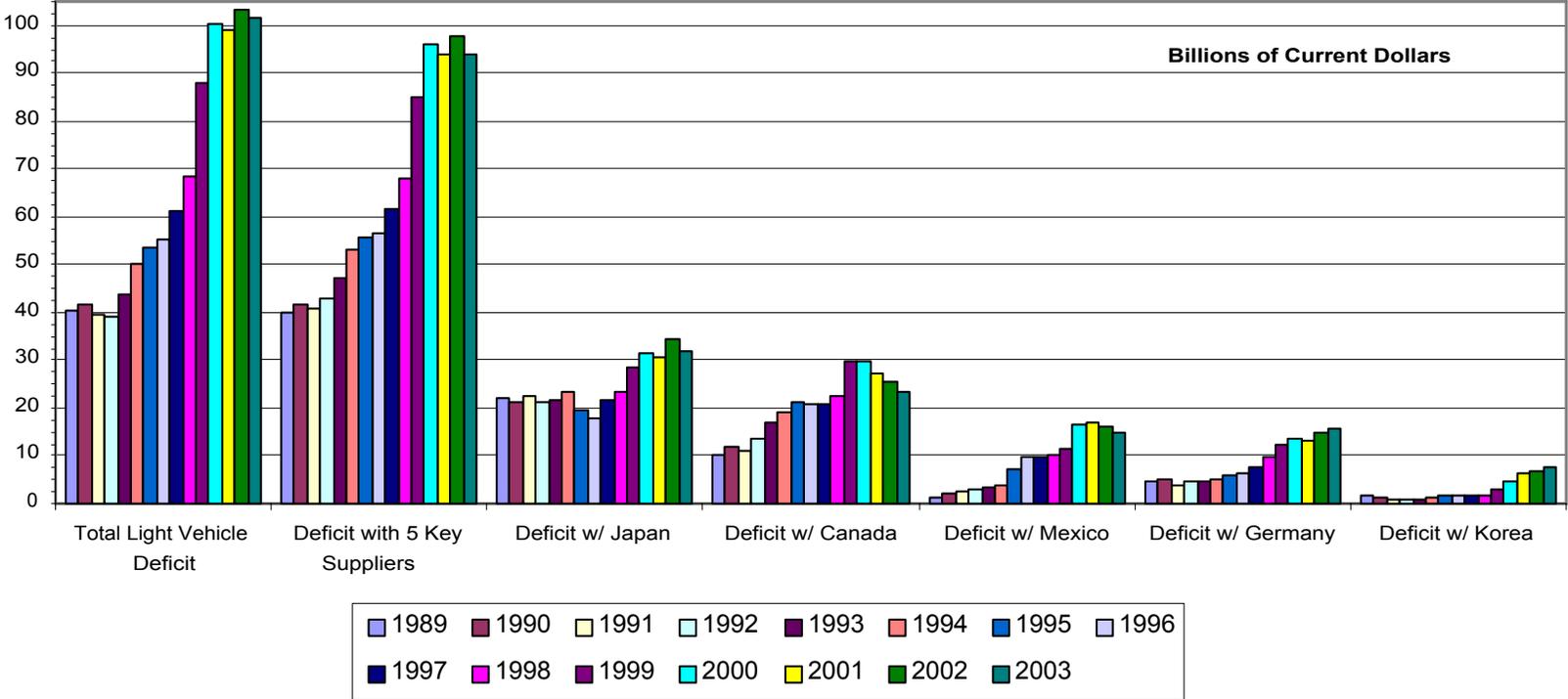
Source: Ward's AutoInfoBank and US Census Bureau, adjusted by USDOC/Office of Automotive Affairs

In 2003, true Imports (i.e., including those from Canada and Mexico) represented 41% of the U.S. light vehicle market, the second highest level since reaching 44% in 1986.

Chart 10



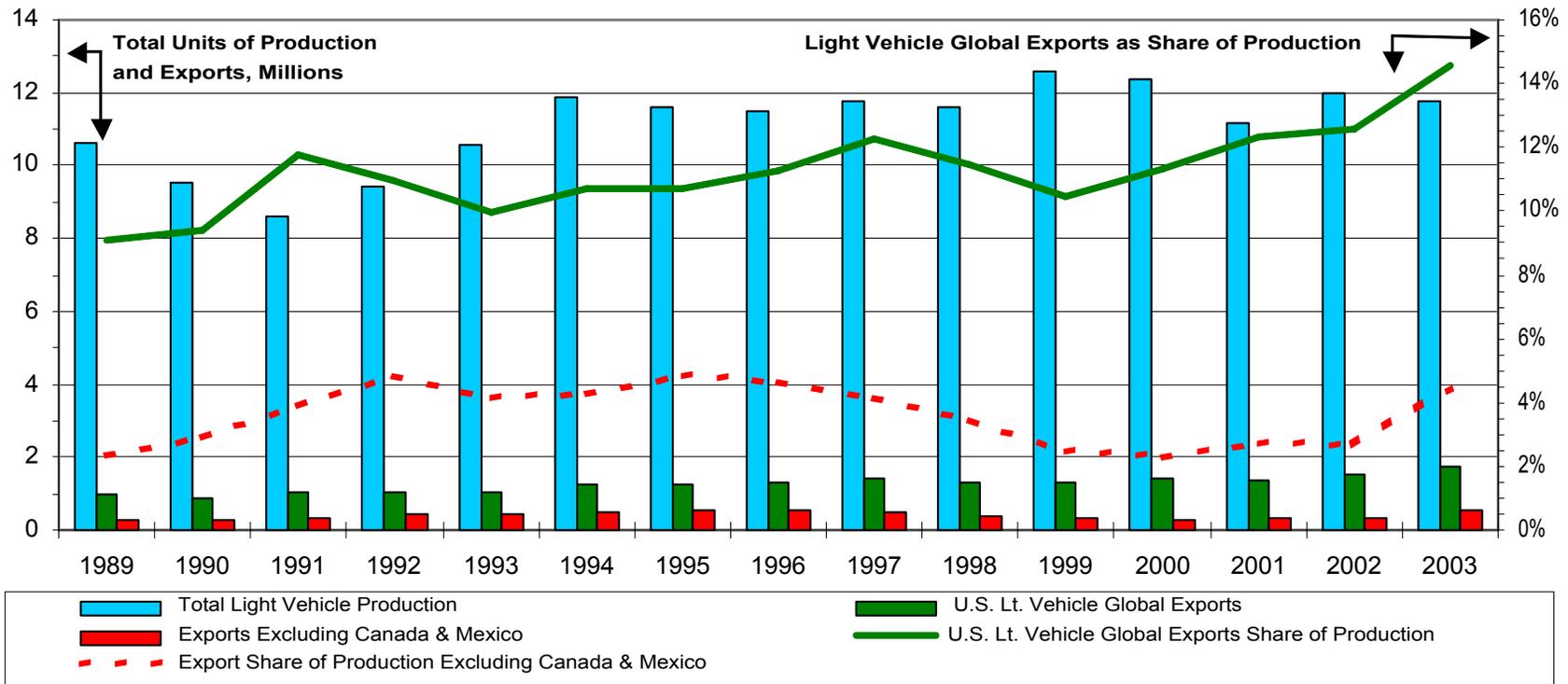
In 2003, the overall U.S. light vehicle trade deficit decreased by 2%, but was up 5% with Germany and up 15% with Korea.



Source: US Census Bureau using USDOC Office of Automotive Affairs Product Selections

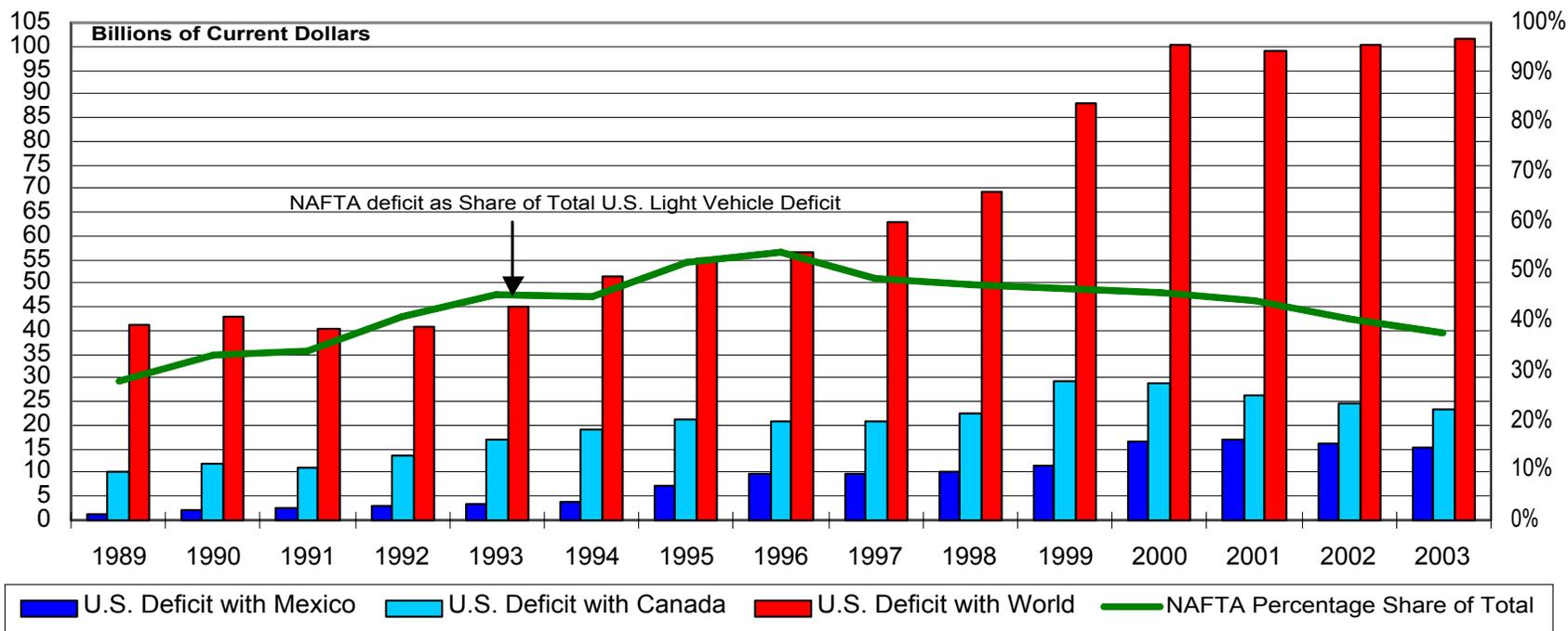
Total U.S. light vehicle exports again are approaching a 15% share of domestic production. When shipments to Canada and Mexico are excluded, however, their share is ten percent lower.

Chart 12



Source: Ward's AutoInfoBank and U.S. Census Bureau, both adjusted by USDOC Office of Automotive Affairs

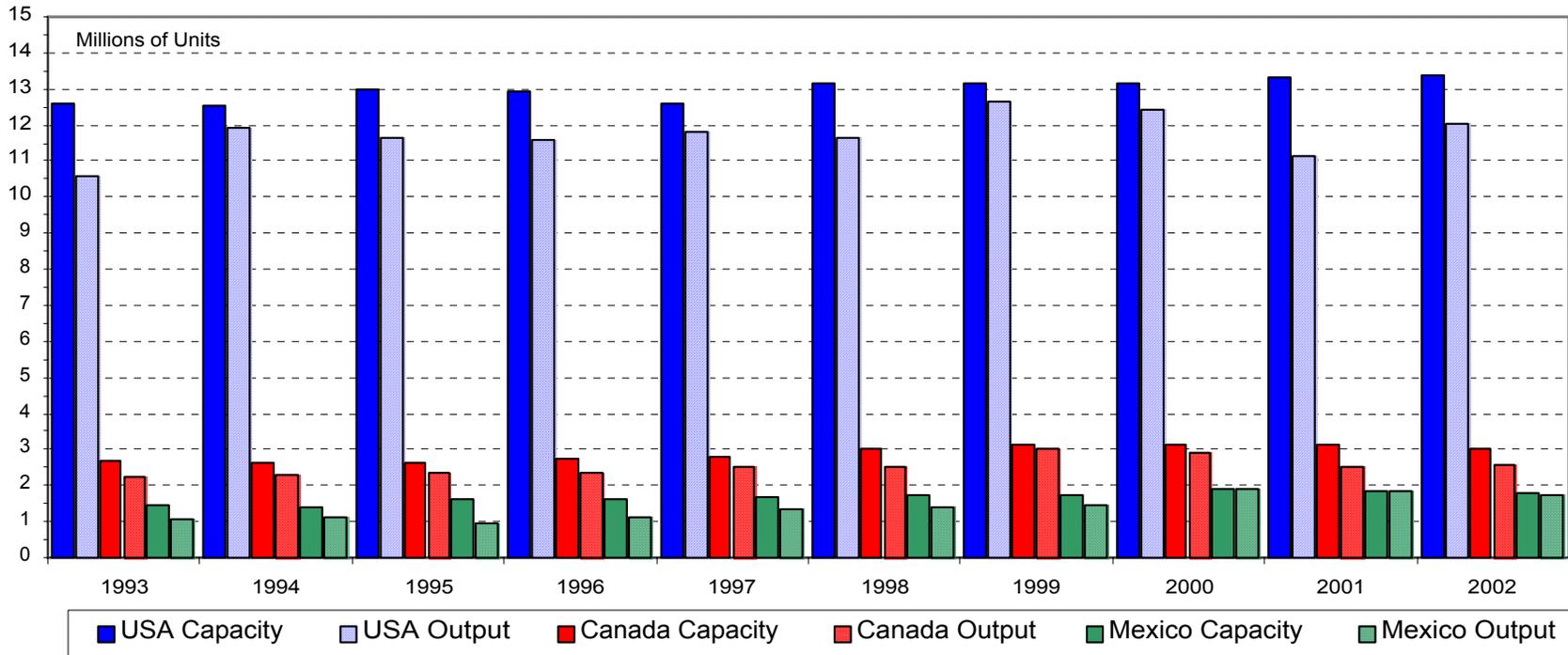
The bilateral trade deficit has been shrinking with Canada for the past three years, and with Mexico for the last two years. Their combined share of the total U.S. light vehicle deficit has declined since 1996.



Source: US Census Bureau using USDOC Office of Automotive Affairs Industry Definition

Since 1993, light vehicle assembly capacity has increased in all three countries, growing the fastest in Mexico (27%). The absolute increase in U.S. capacity (795,000 units) was 101% larger than Mexico's 379,000 unit increase.

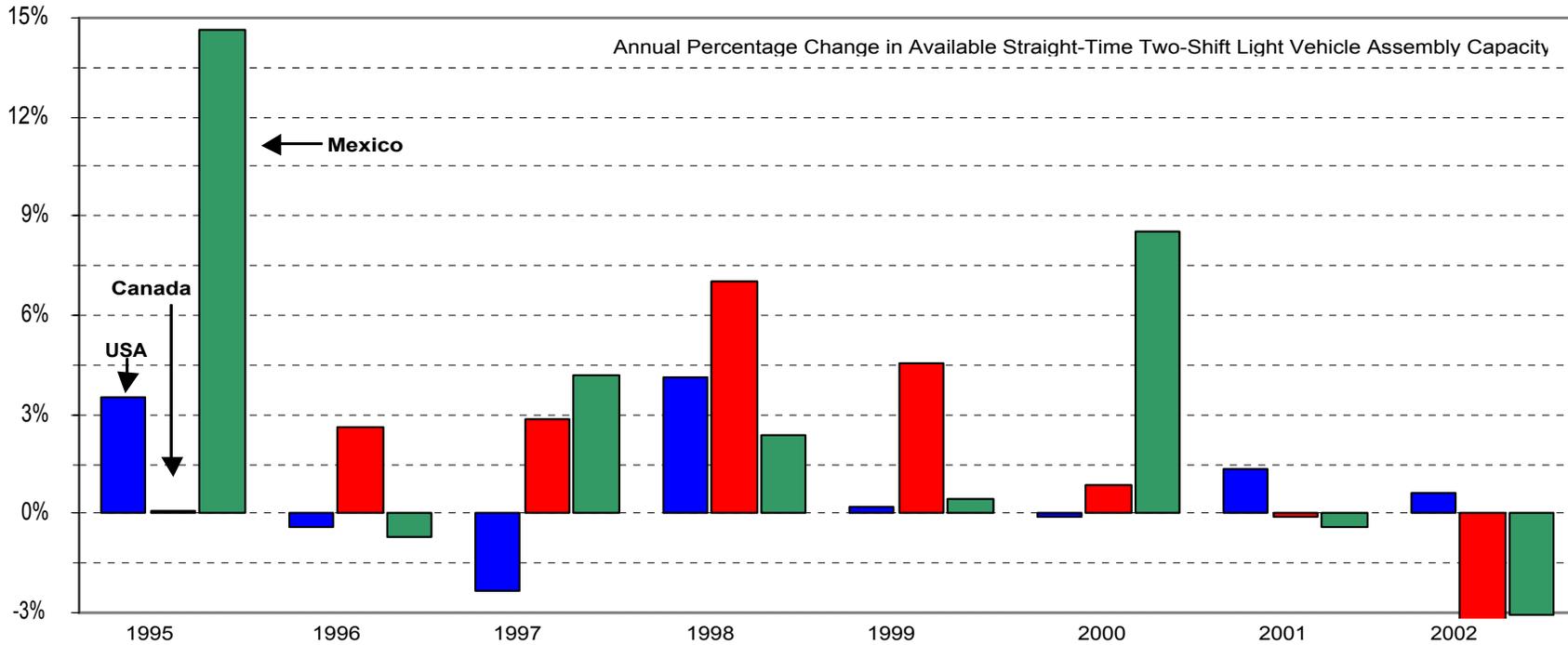
Chart 14



Source: Derived from 1994-2002 Annual Issues of "The Harbour Report" by USDOC Office of Automotive Affairs

Annual available vehicle assembly capacity is a factor of new plants added, old plants closed, crews added, crews eliminated, extra hours, reduced hours, vehicle complexity, plus increases and decreases in assembly line efficiency.

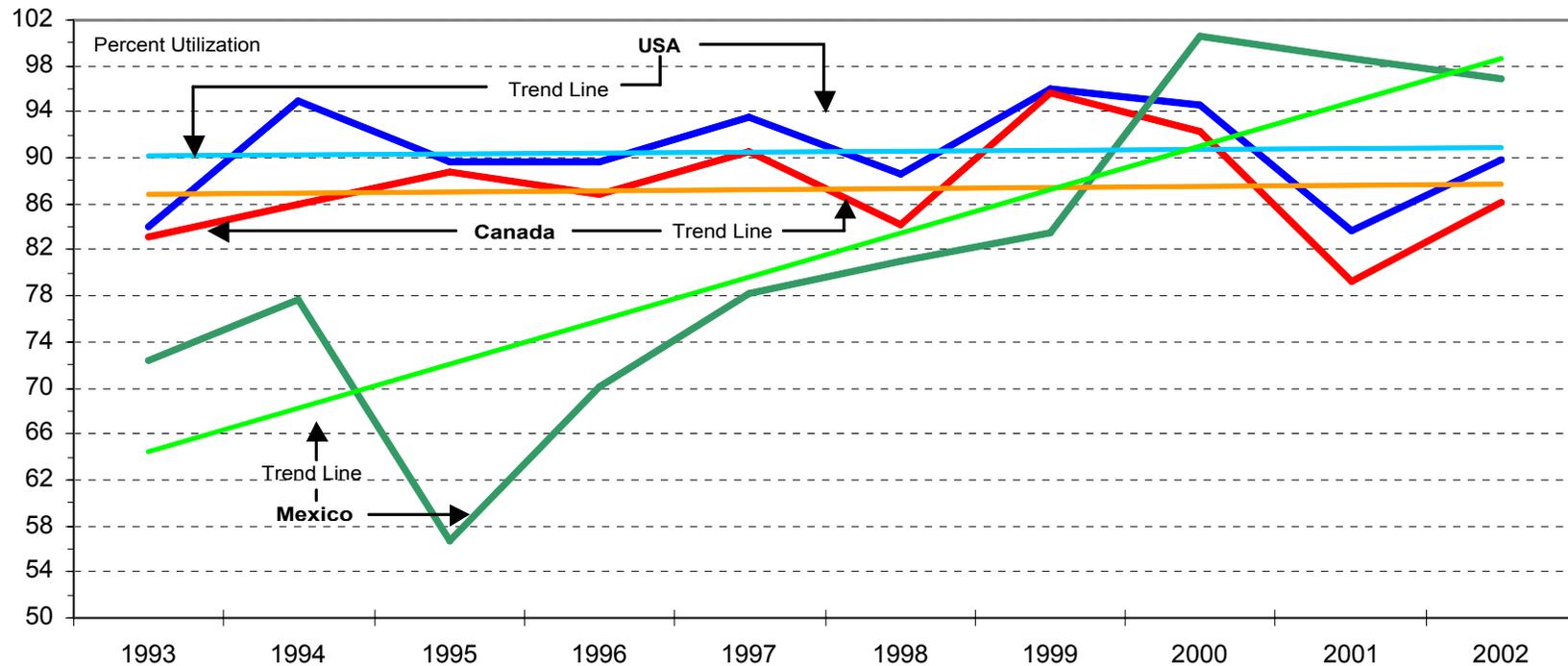
Chart 15



Source: Derived from 1994-2003 Annual Issues of "The Harbour Report" by USDOC Office of Automotive Affairs

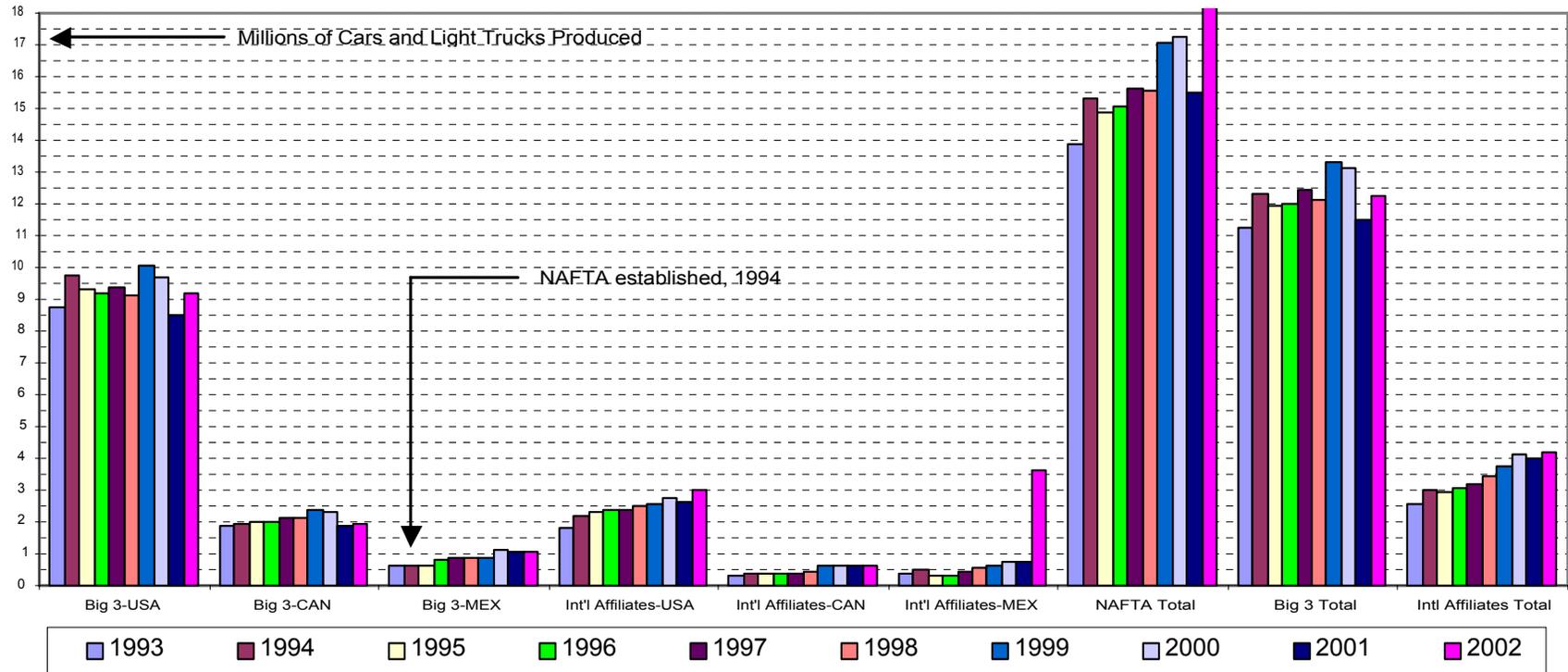
Light vehicle production-capacity utilization has risen sharply for Mexico following the "peso crash" in 1995. Utilization has grown slowly for the United States and Canada during this period, greatly influenced by plant additions and by the 2001 terrorist strikes.

Chart 16



Source: Derived from 1994-2002 Annual Issues of "The Harbour Report" by USDOC Office of Automotive Affairs

In 2002, U.S. production by the American Big 3 was 5% larger than it was in 1993. Big 3 production in Mexico has averaged 9% of their U.S. production since 1994, was 13% in 2001, 11% in 2002. Chart 17



Source: Derived from "The Harbour Report", Ward's AutoInfoBank, and Automotive News by USDOC Office of Automotive Affairs