



**Department of
Development**

Policy Research and Strategic Planning Office
A State Affiliate of the U.S. Census Bureau

A large graphic of the state of Ohio, composed of a grid of small, light gray circles. The circles are arranged to form the outline and internal details of the state. A magnifying glass is positioned over the lower right portion of the map, with its lens centered on the word "Ohio".

THE OHIO MOTOR VEHICLE INDUSTRY

February 2009

Ohio

Ted Strickland, Governor of Ohio
Lee Fisher, Lt. Governor of Ohio
Director, Ohio Department of Development



Department of Development

Ted Strickland, Governor
Lee Fisher, Lt. Governor

Mark Barbash, Interim Director

Dear Fellow Ohioan:

The Motor Vehicle Industry is facing an unprecedented global transition -- and Ohio, second in the nation for vehicle production, is directly impacted by these changes. From assembly plants to plastic fasteners, Ohio's manufacturers serve the motor vehicle industry, and a wide variety of business sectors depend upon the industry for their revenues.

This report outlines the size, location, and trends of the motor vehicle facilities located in our state. Three-year trends are provided whenever possible. There are detailed profiles on Honda, General Motors, Ford, and Chrysler, as well as an analysis of national trends that will be impacting the big assemblers and the hundreds of Ohio-based suppliers. An Input-Output model of Ohio's economy suggests that more than 370,000 people depend upon the motor vehicle cluster for their jobs and income.

Ohio's diverse industry base makes our state a global market leader. This diversity is complemented by a business environment that facilitates professional success and a high quality of life that allows for personal fulfillment. Ohio's unique combination of life and work amenities makes our state a place where you can achieve true professional and personal balance.

I invite you to review the attached report to further your understanding of Ohio's large and diverse economy. We welcome your input. If you have any questions or comments, please contact John Magill, our Department's Chief Strategic Officer at (614) 466-2116.

Sincerely,

Mark Barbash
Interim Director
Ohio Department of Development



Department of
Development

THE OHIO MOTOR VEHICLE INDUSTRY

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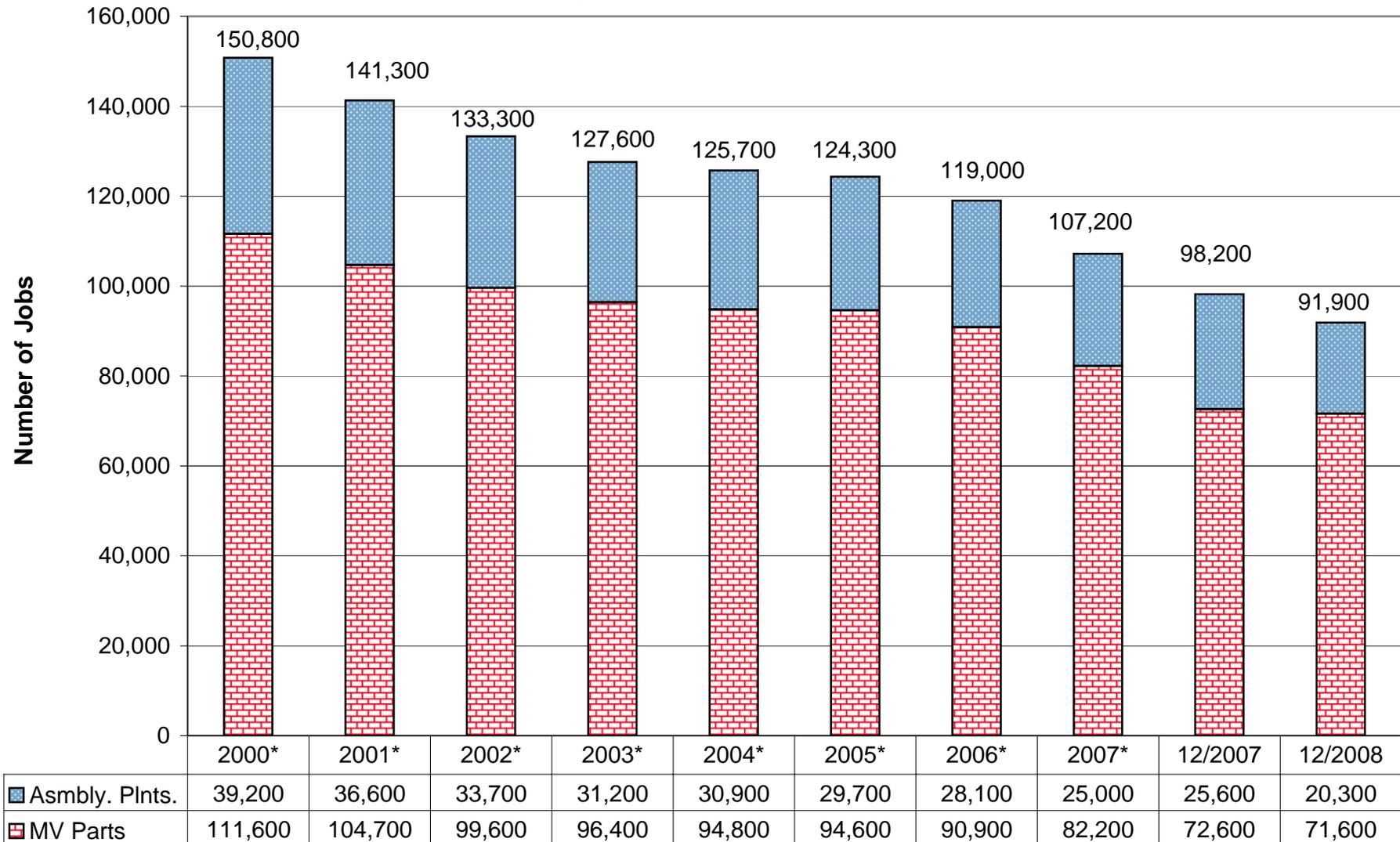


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TRENDS

Employment Trends in Ohio's Motor Vehicle Industry: 2000-2008

Focusing on Parts & Assembly Plants



Source: ODJFS/LMI

Note: * - Annual Average

EMPLOYMENT

The great deal of attention paid to the extraordinary changes in the motor vehicle industry during the last few years re-quires the most current data available. The chart above shows the history and current levels of employment in the two largest motor vehicle industry groups according to ODJFS/LMI (2008-9). Combined employment fell from 150,800 in 2000 to 107,200 in 2007. The greater share of job losses occurred in the larger parts group (NAICS 3363) – from 111,600 to 82,200, but the smaller assembly group (3361) showed a larger percentage decline (36.2 percent). During the latest 12-month period for which data are available (December, 2007, to December, 2008), employment in the assembly group fell from 25,600 to 20,300, and employment in the parts group slipped from 72,600 to 71,600.

The data from County Business Patterns, while time-delayed, permit a more inclusive and detailed description of industry employment changes. Data in table A8a show employment in Ohio's motor vehicle industry held fairly steady around 156,000 from 1998 through 2000. It dropped to less than 123,000 in 2002, bounced back to 133,000-plus in 2003, but slipped to less than 127,000 in 2005. The job losses were concentrated in the two groups mentioned above. The parts group had the greatest absolute net loss – over 20,200 jobs, and the assembly group had the greatest percentage net loss – 26.9 percent.¹¹ There were fluctuations but little net change in the summary figures for the smaller groups: bodies and trailers (3362) and the related industries.

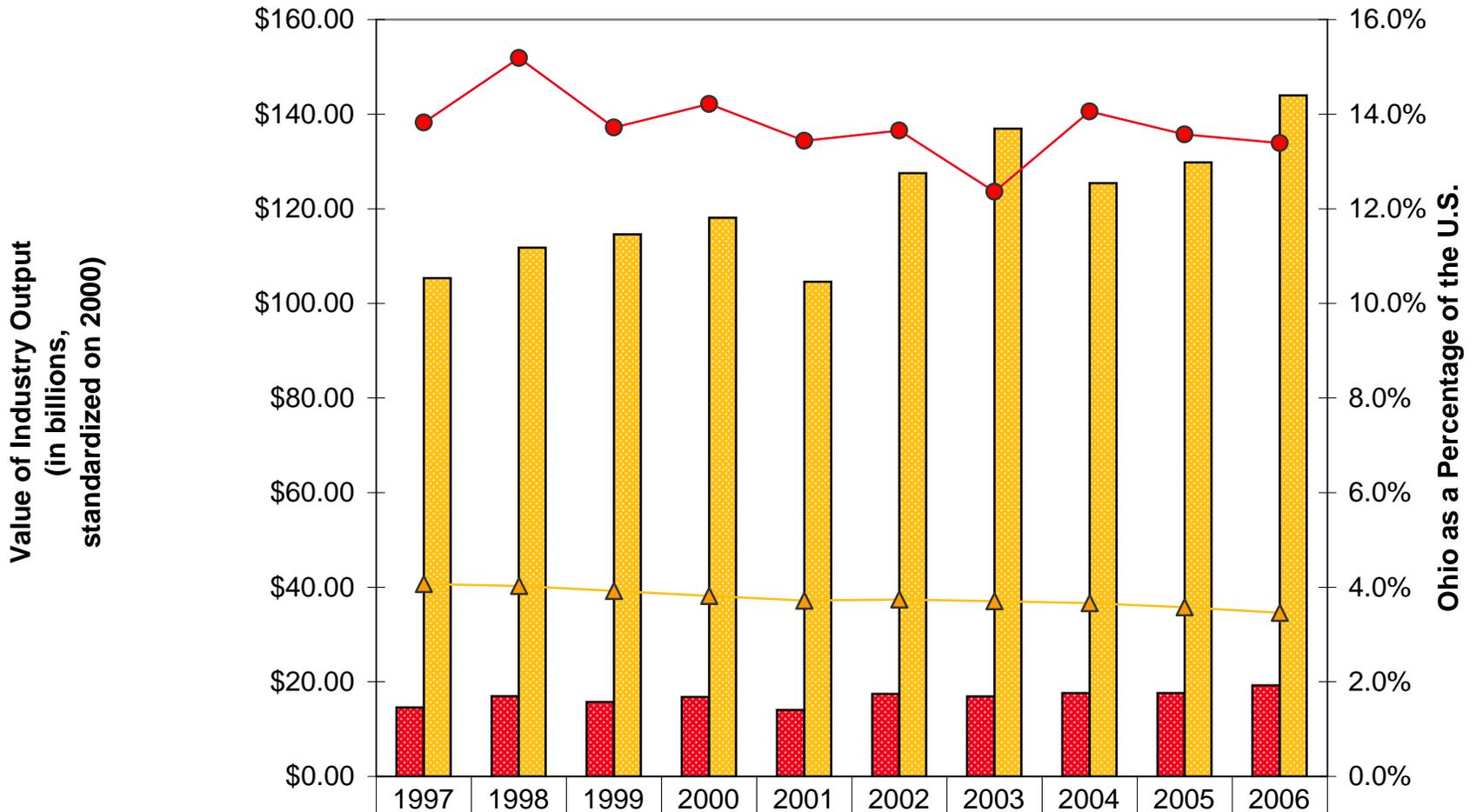
There were exceptions. Most notably, two parts industries saw net gains: employment in seating and interior trim (33636) grew by 55.5 percent, and over 900 jobs were added in transmission and power train parts (33635). A few hundred jobs also were added in truck trailers (336212).

Table A8b shows that the recent history of employment in Ohio is roughly similar to what was happening across the U.S. The industry employment declines were worst in the parts and assembly groups, and jobs were added in seating and in-terior trim. National trends diverged from Ohio in that jobs were added in assembling light trucks (336112) – this follows the shift of increasing light truck sales – and in body and trailer production, particularly motor homes, travel trailers and campers (336213 and 336214). Also unlike Ohio, national employment in the related industries declined.

On the whole, the net loss of jobs in Ohio's motor vehicle industry from 1998 through 2006 was worse than the national average: 19.2 vs. 13.7 percent. However, these losses are no greater than what happened in Ohio's manufacturing sector overall – about 20 percent.

See Tables A8a & A8b

Motor Vehicle Industry (NAICS 3361-3363) Output and Its Concentration in Ohio, 1997-2006



Ohio: MV Output	\$14.56	\$16.98	\$15.72	\$16.79	\$14.06	\$17.41	\$16.93	\$17.63	\$17.61	\$19.28
U.S. MV Output	\$105.3	\$111.7	\$114.6	\$118.1	\$104.6	\$127.5	\$136.9	\$125.4	\$129.7	\$143.9
Ohio Total GSP--Percent of U.S.	4.1%	4.0%	3.9%	3.8%	3.7%	3.7%	3.7%	3.7%	3.6%	3.5%
Ohio MV GSP--Percent of U.S.	13.8%	15.2%	13.7%	14.2%	13.4%	13.7%	12.4%	14.1%	13.6%	13.4%

Source: U.S. Bureau of Economic Analysis

GROSS DOMESTIC PRODUCT

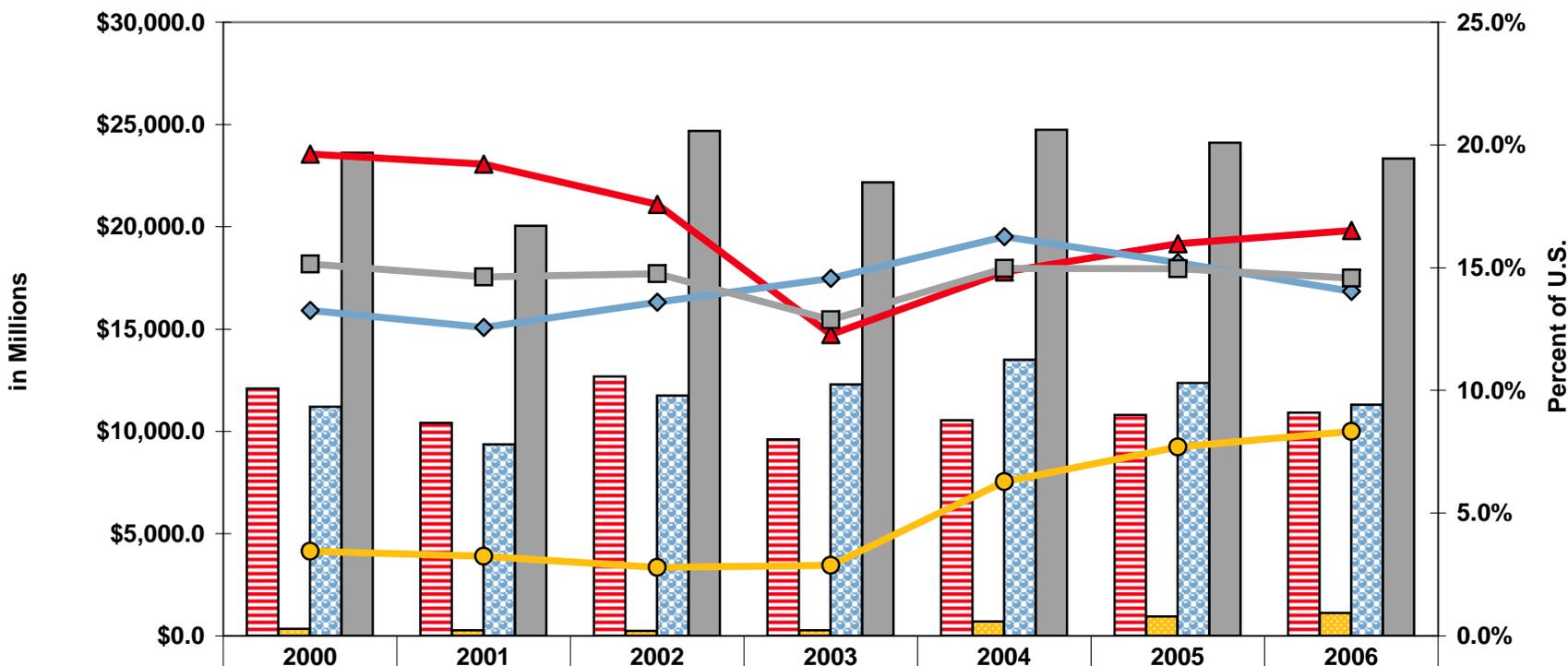
Gross domestic product (GDP) data are summary figures for the net value of goods and services added by the people working in a state and using the capital therein. They are calculated for each industry in every state, including, of course, the motor vehicle industry in Ohio. The chart above illustrates both the concentration of the industry in the state and its cyclical nature. While economic activity in Ohio comprised roughly 3.5 to 4.1 percent of total domestic output from 1997 through 2006, typically 13 to 15 percent of U.S. motor vehicle industry goods (NAICS 3361-3) originated here. Ohio has been second only to Michigan in the output of motor vehicles and equipment (U.S. Bureau of Economic Analysis, 2008a).

After adjusting for inflation, the volume of motor vehicle industry production in Ohio rose 15.3 percent from \$14.56 billion (B) in 1997 to \$16.79B in 2000, fell 16.3 percent to \$14.06B the following year – the lowest level of output in this period – before rebounding 23.9 percent to \$17.41B in 2002. Output stayed around \$17B until rising to \$19.28B in 2006. This pattern of rise, fall, and recovery also is seen in the figures for the national industry, and, combined with the relatively consistent portion of goods from Ohio, indicates that trends in Ohio's motor vehicle industry largely reflect what was happening throughout the nation. The pronounced swings in output such as these are principally due to consumers' desires to feel comfortable before spending so much money. Sales typically rise during periods of sustained economic growth because jobs are plentiful, and customers feel sufficiently confident making large expenditures. Conversely, sales fall when the economy contracts and the unemployment rate is high. The cost of gasoline and changes in style, engineering, safety and quality are secondary factors affecting sales (Levy, 2008: 15). The availability of credit also is a factor.

The net change in the volume of industry production during this time was an increase of 32.4 percent – slightly less than the industry across the country, but a far faster growth rate than for the state as a whole. This means that the industry remains concentrated here, and has become a slightly larger part of the state's economy during this time. However, this change may be only the consequence of the time period covered, and may not indicate any long-term trend.

See Table A9

Value-Added in Ohio's Motor Vehicle Industry (NAICS 3361-3363) 2000-2006



	2000	2001	2002	2003	2004	2005	2006
3361: Assembly	\$12,092.3	\$10,408.9	\$12,686.7	\$9,606.0	\$10,541.7	\$10,800.6	\$10,908.5
3362: Bodies & Trailers	\$339.9	\$273.1	\$244.0	\$272.5	\$703.1	\$945.8	\$1,122.4
3363: Parts	\$11,197.9	\$9,362.9	\$11,753.1	\$12,292.3	\$13,504.4	\$12,361.1	\$11,298.8
Total	\$23,630.2	\$20,044.9	\$24,683.9	\$22,170.8	\$24,749.2	\$24,107.5	\$23,329.8
3361: Assembly	19.6%	19.2%	17.6%	12.3%	14.8%	16.0%	16.5%
3362: Bodies & Trailers	3.4%	3.2%	2.8%	2.9%	6.3%	7.7%	8.3%
3363: Parts	13.3%	12.6%	13.6%	14.6%	16.3%	15.2%	14.0%
Overall Percentage	15.1%	14.6%	14.8%	12.9%	15.0%	15.0%	14.6%

Source: U.S. Census Bureau



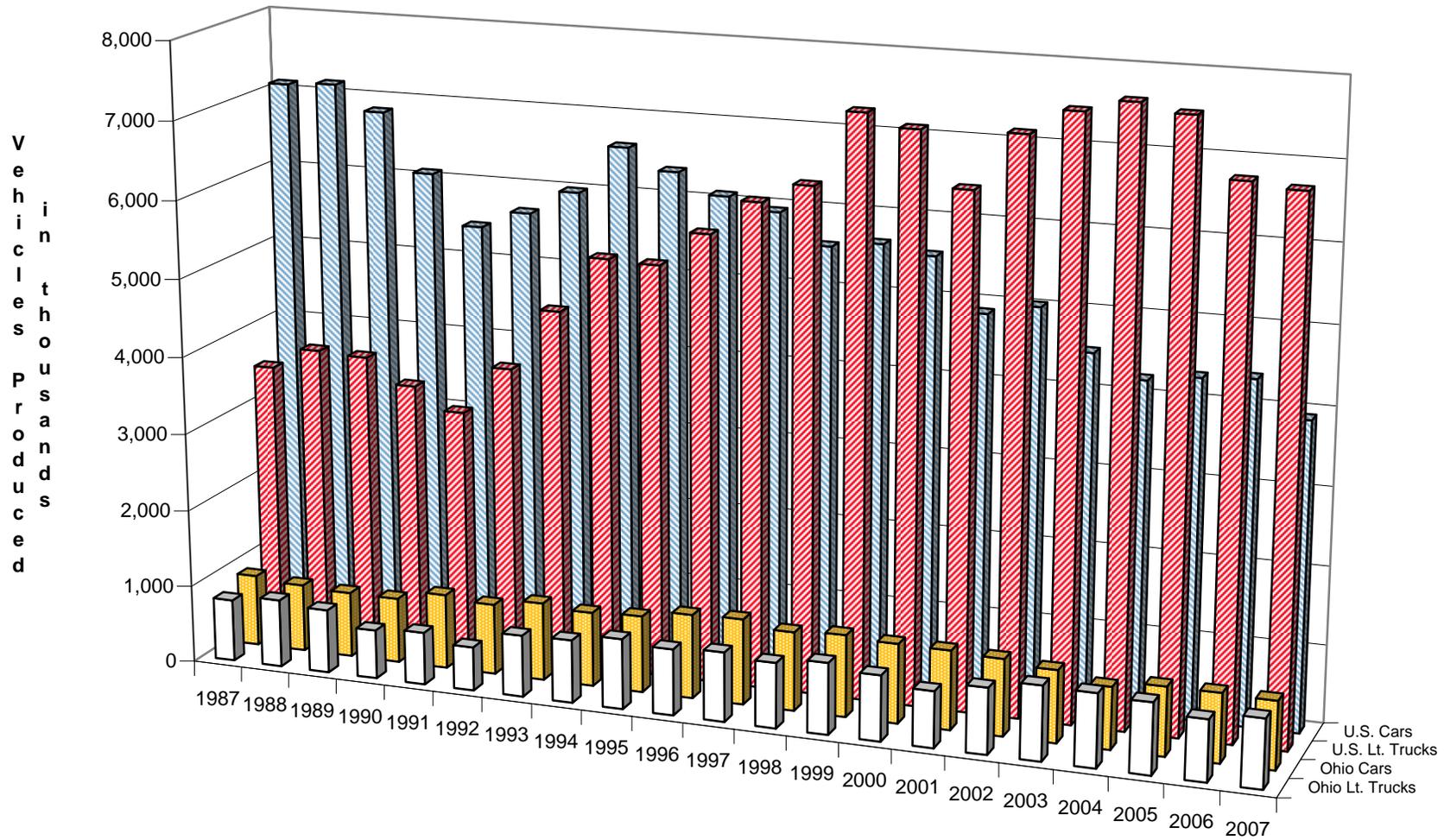
VALUE-ADDED BY OHIO'S MOTOR VEHICLE INDUSTRY

Value-added data provide additional insight because they are available at the group level.¹² The chart and data table above illustrate a number of characteristics of the industry:

- The industry in Ohio is overwhelmingly comprised motor vehicle assembly and parts operations. In the aggregate, both are multibillion-dollar endeavors. However, neither group dominates the industry. Value-added in assembly operations was \$10.9 billion (B) in 2006 – less than value-added in 2000, but above the low point of 2003. Value-added in parts production was almost \$11.3B in 2006 – slightly greater than in 2000 and about the middle of the range for the time period shown. (There is no adjustment for inflation, and table A10 shows data back to 1997.) These amounts contrast with the bodies and trailers group, which plays a much smaller role in the industry here.¹³
- Assembly and parts operations are directly dependent on one another, but they do not necessarily change in the same direction from one year to the next; note that value-added at parts plants decreased after 2004, while value-added at assembly plants increased from 2003. This reflects the facts that parts made here may or may not be used in vehicles assembled here, and parts made outside of Ohio may be used by assembly plants here. Parts also are made for the replacement market as well as original equipment.
- The overall concentration of the motor vehicle industry in Ohio reflects the concentration of the two largest groups: assembly and parts operations. The percentage of value-added by assembly operations in Ohio ranged from 12.3 to 19.6 percent of the national total, while parts operations ranged from 12.6 to 16.3 percent of the corresponding total. The corresponding 10-year averages from table A10 are 16.7 and 14.3 percent, both of which are greater than the industry GDP average of 13.9 percent. The 10-year average for bodies and trailers was 4.9 percent.¹⁴

See Tables A9 & A10

Light Vehicle Production in Ohio and the U.S., 1987-2007



	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
□ Ohio Lt. Trucks	803	878	822	631	678	565	796	813	907	855	893	840	918	842	723	848	957	944	912	785	878
■ Ohio Cars	924	874	846	843	967	915	1,006	960	989	1,085	1,105	1,016	1,056	1,022	1,016	990	928	797	882	885	870
▨ U.S. Lt. Trucks	3,528	3,810	3,781	3,464	3,177	3,808	4,608	5,332	5,306	5,749	6,197	6,448	7,387	7,228	6,546	7,261	7,577	7,731	7,625	6,893	6,828
▨ U.S. Cars	7,100	7,137	6,825	6,078	5,440	5,667	5,982	6,601	6,340	6,083	5,934	5,554	5,638	5,542	4,879	5,019	4,510	4,230	4,321	4,367	3,924

Source: Ward's Communications

LIGHT VEHICLE PRODUCTION IN OHIO AND THE U.S.

Light vehicle production is the core of the motor vehicle industry, comprising the vast majority of all motor vehicles made. The chart above illustrates the ups and downs of production in Ohio and the U.S. from 1987 through 2007. These fluctuations reflect various influences, including economic expansion and contraction, the opening and closing of plants, and changes in companies' product-mixes. In Ohio, the majority of production shifted from light trucks to cars during the mid-1980s as Honda increased production in Marysville and E. Liberty. Cars were the majority of light vehicles produced in Ohio from 1989 through 2002. 2003 was the first year since 1988 in which more light trucks than cars rolled off assembly lines in Ohio. With the exception of 2006, light trucks have been the majority of production since then. This will change with the closure of GM's Moraine plant.

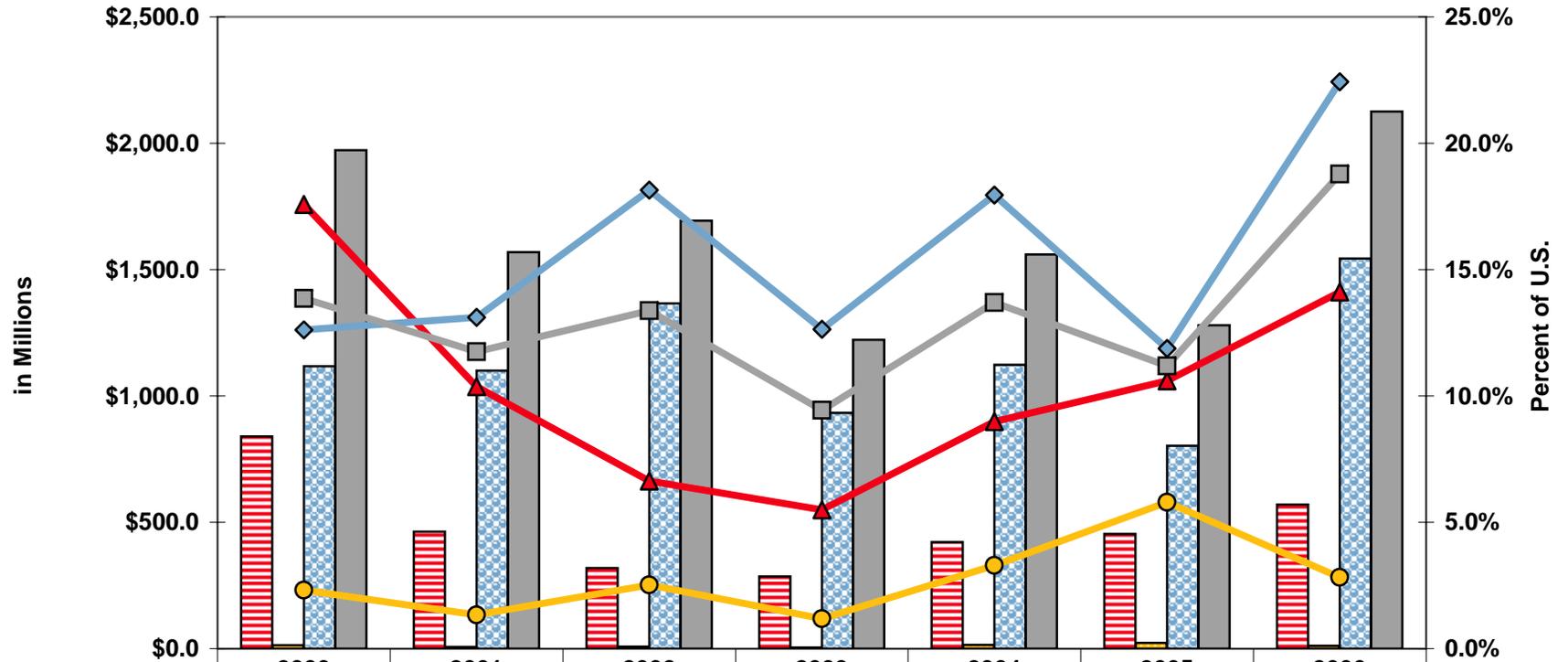
This differs from the national trend. Data in table A11, as well as the chart above, show production shifting from cars to light trucks. Car production comprised 66.8 percent of U.S. light vehicle production in 1987. By 1997, car production was 48.9 percent of the same, and the percentage continued to fall through 2004. It has varied little since then. Explanations for the growth of light truck sales include the relatively low gasoline prices of the time, and light trucks substituting for large cars and station wagons. The car-like amenities and handling characteristics of the light trucks facilitated the substitution. Indeed, many minivans are now based on car platforms. While these reasons explain the greater demand for light trucks, assemblers have been motivated by the higher profit such vehicle sales provide. The substitution of light trucks for large cars was also encouraged by the lower corporate average fuel economy (CAFE) requirements for light trucks (Gott, *et.al.*, 1999). However, the recent rise in gasoline prices is prompting a shift back to car production.

These contrasting shifts of production-mixes mean that Ohio has become a relatively more important source for cars, rising from 13 percent of U.S. output in 1987 to 22.2 percent in 2007. At the same time, the state became a relatively less important source for light trucks. Factories in Ohio produced 23 percent of the nation's light trucks in 1988, but only about 12 percent since 1999. Ohio moved up from third to second rank in car production (after Michigan), but fell from first and second rankings in light truck production to second and third (after Michigan and Missouri).

Throughout this transition, Ohio has typically been the source of one-seventh to one-sixth of light vehicles made in the U.S. The high combined numbers of cars and light trucks easily make Ohio the second-ranked source for light vehicles in the U.S.

See Table A11

Capital Expenditures in Ohio's Motor Vehicle Industry (NAICS 3361-3363) 2000-2006



	2000	2001	2002	2003	2004	2005	2006
3361: Assembly	\$840.2	\$462.6	\$318.6	\$285.3	\$421.3	\$453.8	\$570.5
3362: Bodies & Trailers	\$13.6	\$6.7	\$8.3	\$4.6	\$14.6	\$22.7	\$11.1
3363: Parts	\$1,118.0	\$1,099.9	\$1,366.9	\$932.7	\$1,123.6	\$803.2	\$1,543.9
Total	\$1,971.8	\$1,569.2	\$1,693.8	\$1,222.6	\$1,559.5	\$1,279.7	\$2,125.4
3361: Assembly	17.6%	10.4%	6.6%	5.5%	9.0%	10.6%	14.1%
3362: Bodies & Trailers	2.3%	1.3%	2.5%	1.2%	3.3%	5.8%	2.8%
3363: Parts	12.6%	13.1%	18.1%	12.6%	18.0%	11.9%	22.4%
Overall Percentage	13.9%	11.8%	13.4%	9.4%	13.7%	11.2%	18.8%

Source: U.S. Census Bureau

CAPITAL EXPENDITURES FOR OHIO'S MOTOR VEHICLE INDUSTRY

The chart above shows how much money companies have spent purchasing land, buildings, and equipment for production in Ohio, both in dollars and as a percentage of all such industry expenditures in the nation. Total expenditures fluctuated during the years shown, ranging from about \$1.2 billion (B) in 2003 to \$2.1B in 2006. (Again, there is no adjustment for inflation.) These represent anywhere from 9.4 to 18.8 percent of the industry's annual investments in Ohio. The 10-year average was 13.5 percent (data in table A12 extend back to 1997). Capital expenditures for body and trailer production in Ohio also vary widely, but seldom exceed \$20 million a year.

Most capital expenditures in Ohio – in an average year, about \$72 of every \$100 spent – are made for parts production; an additional \$27 goes into assembly operations, with the remaining \$1 for bodies and parts. The actual amounts spent, though, vary from year to year.

Levy (2004) offers an explanation of the up-and-down character of industry investment at the local level. He notes that large capital expenditures are required for product development and launching new models. Companies do this all the time, but models typically are made at just one plant. Consequently, capital expenditures at the local level may be highly variable over the course of the years. This applies not only to assembly plants, but to powertrain and stamping plants as well. Based on the chart above, this certainly appears true for Ohio.¹⁵

Apart from some notable exceptions, it is hard to argue that companies are abandoning their facilities in Ohio – at least in a relative sense. Short time periods make it difficult to distinguish fluctuations and volatility from genuine trends. Consequently, averages may be more useful. In this regard, the figures are fairly close. On average, 14.7 percent of the industry's value-added from 1997-2006 originated in Ohio, while industry establishments in Ohio absorbed a comparable 13.5 percent of capital expenditures, and had 12.4 percent of comparable employment in 2006. These varied by group: the figures for assembly plants were 16.7 percent of value-added, 10.3 percent of capital expenditures, and 12.9 percent of jobs, but the corresponding figures for parts plants were 14.3 percent, 15.9 percent, and 14.2 percent.

See Tables A8a, A10 & A12

ESTABLISHMENTS

Despite recent headlines, the motor vehicle industry is not abandoning all production in Ohio. The chart above shows that the number of industry establishments in Ohio changes over time. It declined from 641 in 1998 to 606 in 2002, and then jumped to 653 by 2004 and has stayed in that neighborhood. While this change is the aggregate result of all the changes in the constituent industries, the chart above shows that it was principally due to a rebound in the number of parts plants (NAICS 3363) as well as a longer-term rise in the number of body and trailer plants (3362). These increases were partially offset by a decline in related industry plants. While the total number of assembly plants has risen, the number of high-volume assembly plants fell by one; Ford's Lorain plant closed at the end of 2005. (The data will eventually reflect the fact that GM's Moraine plant closed in December 2008.)

Details in table A13a do not point to any specific industry as the sole mover of changes in the parts group; the number of establishments rose in some and fell in others. However, the most notable change has been the rebound of stamping plants (33637) since 2002. The decreasing number of related industry plants is due to a drop in the number of tire retreading plants (326212).

By comparison, the total number of motor vehicle industry establishments in the nation fell almost 600, a net decrease of 6.3 percent. The most notable portions of this decline happened in other motor vehicle electrical and electronic equipment (336322) and tire retreading (326212), down 334 and 189 establishments, respectively. Other specific industries losing notable numbers include light vehicles (33611), carburetors-pistons-rings-valves (336311), and brake systems (33634). On the other hand, the number of establishments producing parts for steering and suspension (33633) and seating and interior trim (33636) substantially increased – just not enough to offset the losses.

It is also worth noting that motor vehicle industry establishments, whether in Ohio or across the nation, have fared better than manufacturing establishments in general. The total number of manufacturing establishments in Ohio fell by 9.6 percent from 1998 through 2006, only slightly more than the 9.1 percent decline across America.

See Tables A13a & A13b