

## APPENDIX J

# *Motor Vehicle Industry: Production, Sales, and Employment*

### MARKET SHARE

Michigan is the nation's leading motor vehicle producer, although its share of the total has declined significantly in recent years (see Exhibit 1). The high for Michigan's share of total U.S. production since 1960 is roughly 34 percent, which has occurred three times, most recently in 1982. In 1996, however, Michigan's share was only about 25 percent, down from 28 percent as recently as two years earlier. There are two reasons for the decline.

- In 1996 Michigan had only 18 percent of U.S. truck production but 31 percent of passenger cars, and truck sales have been increasing much faster than car sales.
- Many of the better selling vehicles, such as the Ford Taurus, Saturn, and Ford Explorer, are not produced in Michigan.

Not only has Michigan lost market share in the United States, but the nation has lost share worldwide, reducing Michigan's share of world motor vehicle production. In

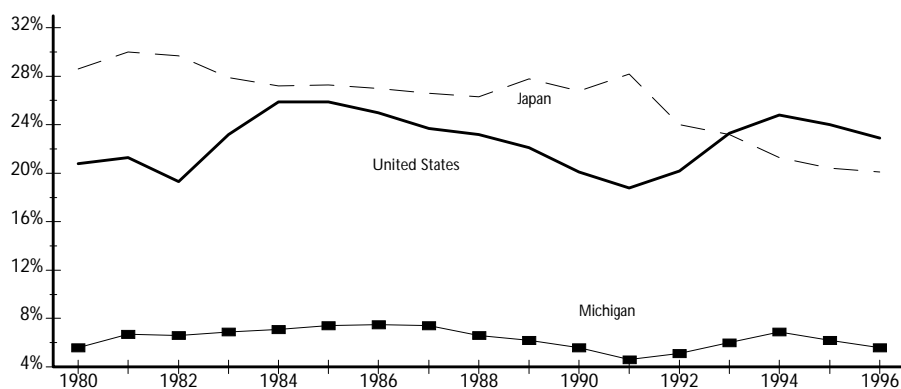
1950 the United States produced more than three-quarters of all vehicles sold worldwide, and Japan produced less than one percent; Michigan's share of world production was about 25 percent. By 1980 Japan had surpassed the U.S. for the first time (see Exhibit 2), manufacturing about 28 percent of world production, while the U.S. share was under 21 percent. It took almost 15 years for the

**EXHIBIT 1. Michigan Motor Vehicle Production, 1960–1996, Selected Years**

Year	Units Produced (thousands)	Percentage of U.S. Production
1960	2,295	29.0%
1965	3,750	33.7
1970	2,553	30.8
1973	4,280	33.7
1978	3,994	31.0
1980	2,175	27.2
1982	2,359	33.7
1984	3,176	28.1
1986	3,373	29.5
1988	3,316	30.0
1990	2,762	27.7
1991	2,533	27.3
1992	2,444	25.0
1993	2,796	26.9
1994	3,434	28.1
1995	3,103	25.8
1996	2,902	24.5

SOURCES: Michigan Statistical Abstract, 1986–87, Wayne State University; Facts and Figures, selected years, American Automobile Manufacturers Association, Detroit.

## EXHIBIT 2. Michigan and Japanese Share of World Vehicle Production, 1980–1996



SOURCES: *Automotive News*, Market Data Book, selected years; American Automobile Manufacturers Association, Motor Vehicle Facts and Figures, 1997.

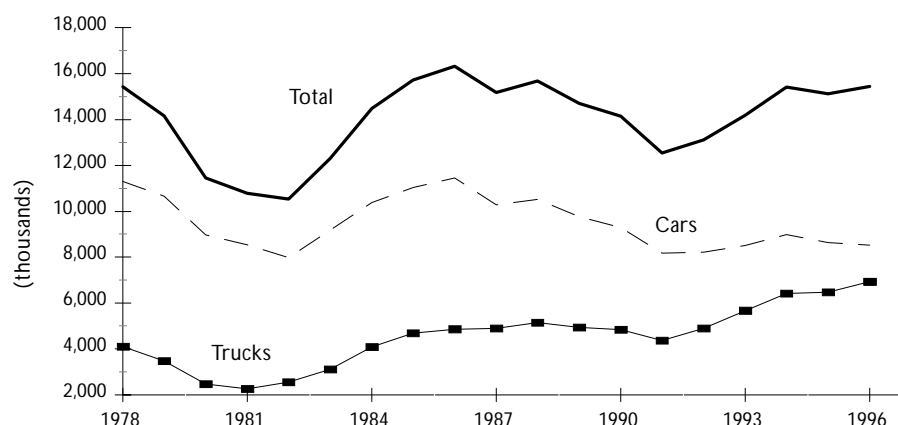
United States to surpass Japan again. In 1996 the U.S. share of worldwide vehicle production was nearly 30 percent, and Japan's was about 20 percent; Michigan's worldwide share was a little under 5 percent, down from just under 7 percent in 1994.

### INDUSTRY VOLATILITY

Vehicle sales historically have been volatile, as may be seen in the steep peaks and valleys shown in Exhibit 3. 1978's national high deteriorated in only four years to 1982's low, followed in another four years by 1986's record high, which, five years later, had declined 23 percent, to 1991's low. The sales trend since 1991 generally has been upward, except for a small dip in 1995. In 1997 a little more than 15 million motor vehicles were sold, up about 23 percent from 1991, when the current upward swing began.

### CARS VERSUS LIGHT TRUCKS

Sales increased consistently in the 1980s; on average about 600,000 more motor vehicles were sold annually than in the 1970s. Although this increase parallels income and population growth, the entire increase was in light truck sales. The passenger-car market contracted, with 360,000 fewer cars sold annually than in the 1970s. The market share taken by trucks increased from 25 percent in 1979 to almost 34 percent in 1989, and this trend continues in the 1990s, with sales averaging about 500,000 units higher annually than in the 1980s. The move from passenger cars to trucks has accelerated in the 1990s. Passenger-car sales are averaging more than one million units less annually than in the 1980s, and truck sales are averaging almost 2 million units more. Trucks accounted for about 45 percent of total vehicle sales in 1997. Many of these units, however, were minivans—which are classified as light trucks—that replaced station wagons for family transportation.

**EXHIBIT 3. U.S. Motor Vehicle Sales, 1978–1997 (thousands)**

SOURCES: *Automotive News*, Market Data Book, selected years; American Automobile Manufacturers Association, Motor Vehicle Facts and Figures, 1997.

**IMPORTS AND TRANSPLANTS**

A significant development in the motor vehicle industry obviously has been growth in the foreign presence. *Import* sales in the United States rose from 15 percent in 1978 to 26 percent in 1986, the peak year for import sales, at more than 4 million units. Since 1986 imports have declined every year, and in 1997 they accounted for 11 percent of U.S. sales. However, the reduction in imports has been more than offset by the increase of production in the United States by *transplants* (foreign-owned plants). Transplant production has increased from 300,000 units in 1984 to more than 2 million in 1996.

Production by U.S. companies peaked at almost 13 million units in 1978; the drop since then may be attributed in part to market inroads by imports and transplants. By 1986 U.S. production had dropped to fewer than 11 million units. By 1996 the U.S. production figure was under 10 million vehicles, and the import/transplant share of U.S. motor vehicle sales was 28 percent (38 percent of passenger cars).

**EMPLOYMENT**

From 1985 to 1991 Michigan motor vehicle–related manufacturing employment (includes manufacturers and suppliers) fell more than 17 percent as automakers downsized operations (see Exhibit 4). In 1991 a modest recovery began, amounting to about an 11 percent increase by 1995. But 1996 saw a dip of about 2 percent, and it appears that in 1997 there was another slight dip (final data are not in). Today, about 11 percent of the Michigan work force holds a job related to vehicle manufacturing.

In 1978 motor vehicles accounted for about 55 percent of all Michigan manufacturing employment, but since then the trend has been downward, and in

### EXHIBIT 4. Motor Vehicle–Related Employment in Michigan, 1978–1996 (thousands of employees)

Year	Total Manufacturing Employment	Total Wage & Salary Employment	Motor Vehicle–Related Manufacturing Employment		
			Number	As % of Total Manufacturing Employment	As % of Total Wage and Salary Employment
1978	1,179.6	3,609	647.2	54.9%	17.9%
1979	1,160.2	3,637	621.6	53.6	17.1
1980	998.9	3,443	507.3	50.8	14.7
1981	979.0	3,365	498.6	50.9	14.8
1982	876.9	3,193	437.4	49.9	13.7
1983	880.5	3,223	451.6	51.3	14.0
1984	962.9	3,381	497.5	51.7	14.7
1985	1,002.4	3,561	521.4	52.0	14.6
1986	1,000.4	3,657	517.0	51.7	14.1
1987	972.5	3,736	491.0	50.5	13.1
1988	955.4	3,819	470.0	49.2	12.3
1989	967.6	3,922	468.4	48.4	11.9
1990	940.2	3,969	455.7	48.5	11.5
1991	897.0	3,892	431.2	48.1	11.1
1992	901.0	3,927	439.0	48.7	11.2
1993	902.0	3,982	438.0	48.6	11.0
1994	949.4	4,142	463.3	48.8	11.2
1995	979.7	4,274	480.1	49.0	11.2
1996	966.9	4,245	470.9	48.7	11.1

SOURCE: Michigan Employment Security Commission.

recent years the share has been 48–49 percent. The decline in motor vehicle–related manufacturing jobs as a share of total Michigan wage and salary employment has been even sharper, from nearly 18 percent in 1978 to 11 percent in 1996.

### CONSUMER TRENDS

There are several trends and changes in consumer behavior that will affect future car sales. First, consumers are keeping their vehicles longer. One reason is that improved quality means that vehicles last longer. Another is that the period for which one may take an automobile loan has been extended considerably.

- For passenger cars, the average age of a car in 1970 was 5.6 years; in 1996 it was 8.5 years. For light trucks, the 1970 average age was 7.3 years; in 1996 it was 9.4 years.
- From 1980 to 1991, the average motor-vehicle loan maturity increased from 45 to 55 months. The 1996 figure was down to 52 months, due largely to increasing use of leases, which generally are for two or three years.

Second, leasing has become a common way to obtain a motor vehicle. In ten years (1986 to 1996) the number of cars leased has grown from less than 8 to 27

percent, and the number of trucks leased from 2 to 21 percent. Leasing is most widely used for luxury vehicles: 64 percent of these models currently are obtained this way. Because leases are relatively short term, one recent consequence has been a large supply of late-model used cars coming to market after leases have expired; this is depressing used car prices and negatively affecting new car sales, because buyers are receiving less than before for trade-ins, and many are opting to buy a used rather than new car.

Third, the average monthly car payment has gone up sharply in recent years. From 1980 to 1990 the average payment increased from \$184 to \$291 a month (adjusted for inflation, actually a slight decline). But by 1996 the amount had outstripped inflation, and the average monthly payment was \$405 (adjusted for inflation, an annual average increase of 2.5 percent since 1990). This recent acceleration in car payments has been partly responsible for the slow sales growth in the last four years.

Fourth, demographic trends will present a major challenge for U.S. automakers. A survey reported in *Business Week* (December 1, 1997) shows that among the major buying groups, the preference for Big Three vehicles is diminishing by age: Favoring Big Three vehicles are 60 percent of buyers aged 54 and older, 44 percent of buyers aged 33–53 (babyboomers), and only 41 percent of those aged 18–32 (generation X). The over-54 age group currently accounts for one-third of all vehicle purchases, but by 2010 it will account for only 12 percent, which could mean real problems for domestic car companies.

There are other warning signs for the industry. Autofacts Unit of Coopers and Lybrand Consulting projects that over the next five years worldwide auto-making capacity will rise 13 percent, to nearly 80 million vehicles annually, from last year's 70 million. That will bring excess capacity, based on projected demand, to more than 20 million units a year in 2002, up from an estimated 18.5 million units in 1997. To put these numbers in perspective, the Big Three together produced 18.3 million cars and trucks in 1997.

Automakers worldwide could be forced to make asset write-downs of \$15 billion or more over the next few years; Morgan Stanley Dean Witter, which makes this estimate, attributes it to excess capacity. The president of Autofacts says the key issue "is that overcapacity is a destabilizing force. Good companies will do crazy things." Ruinous price wars are one, he says.

Others are less concerned. Merlis Automotive International, another consulting group, projects that world-wide vehicle production in 2000 will average 81.7 percent of straight-time capacity compared with 82.7 percent in 1995. In the automobile industry, capacity-utilization rates of 80–90 percent are considered healthy.

## OUTLOOK

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The trends suggest that the long-term outlook for the motor vehicle industry is not promising. Nationally, motor vehicle sales are expected to grow slowly over the next decade. This slow-growth trend could be offset partially by an increase in exports. From 1986 to 1996, while U.S. sales at home were falling about 5 percent, U.S. motor vehicle exports jumped almost 44 percent—but the number exported still was fewer than one million units (of which about two-thirds go to Canada), and they account for only about 8 percent of U.S. production. An encouraging note may be the eventual potential for increased exports to such emerging markets as Russia and China.