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Public Sector Reports

ECONOMIC FORECAST

OVERVIEW

Michigan experienced moderate growth in earnings, employment, and production in the first quarter of 1987. Continued moderate growth is expected during the rest of the year.

Earnings gains this year have been only moderate due mostly to changes in the automobile industry. Increased labor productivity and increased outsourcing have reduced labor demand. As a result, the length of the industry workweek has slipped; fewer hours are being worked at premium pay. Because of the importance of the automobile industry in Michigan, the effect is felt in the entire state. Michigan as a whole can expect a continuation of modest earnings growth in most sectors.

Employment in Michigan also grew moderately in the first quarter of 1987 compared to the previous quarter and to the first quarter of 1986. In the first quarter of 1987, employment in Michigan and in the United States grew at an annual rate of 3 percent above the previous quarter. Compared to the year-ago quarter, employment for the first quarter was 4 percent higher in the state, while national employment was only 2.3 percent higher. First-quarter unemployment rates were 8 percent in the state and 6.7 percent in the United States. Although employment in Michigan grew slightly faster than in the United States, employment in vehicle assembly and closely related industries edged down during the first quarter.

Vehicle production schedules have been announced through the third quarter of 1987. If these schedules proceed as currently planned, U.S. production will not be as depressed as estimated three months ago. Current indications are that 10.8 million cars, trucks, and busses will be assembled in the United States during 1987. This is about one-half million fewer than assembled during 1986. Although fewer autos will be produced in the United States this year than last, Michigan's production of automobiles will increase by about 200,000 units. Michigan produced 30 percent of all U.S. automobiles in 1986, and will produce almost 33 percent in 1987. This reflects the favorable production mix in Michigan.

NATIONAL ECONOMY

During the first quarter of 1987, gross national product (GNP) for the United States posted its best overall gain (an annual rate of 4.3 percent) in nearly three years. This compares with a fourth-quarter 1986 growth rate of only 1.1 percent.

Most of the stimulus during the first quarter came from a buildup of inventories (particularly automotive), from liberal infusions of money, and from the large federal deficit. Final sales, that is, GNP less change in business inventories, actually declined by one-half percentage point. Part of the decline in final sales came about as a result of a sizeable drop in nondefense outlays by the federal government. Defense spending, along with increased outlays by state and local governments, failed to make up for the drop in federal nondefense outlays.

Prices rose at a rate of 3.6 percent during the first three months of 1987 compared with 2.7 percent during the final three months of 1986. Changes in real GNP (nominal GNP adjusted for inflation) are depicted in Exhibit 1. Changes in prices (the cost of a fixed market basket of goods and services) are depicted in Exhibit 2.

Monetary Policy and International Trade

Until recently, the Federal Reserve Board was exceptionally expansive in its monetary policy. The result was declining interest rates in spite of the increase in demand for money due to the huge deficit in the federal budget. Low interest rates in the country decrease the demand for and value of the dollar. As a result, the value of the dollar has been sliding compared to other currencies for a number of months, although it is still high by historical standards. This has encouraged consumers to spend heavily on imported goods, overseas travel, services, housing, and so forth.

Central bankers of major countries have also deliberately pushed down the relative value of the dollar. There is some concern in Washington and other world capitals now about the possibility of a collapse in confidence in the dollar. A consistently lower-valued dollar would result in less foreign investment (much of which absorbs our massive debt) in this country.

The good news (especially for Michigan) in the first-quarter GNP data is the sharp decline in imports. The long decline in the value of the dollar (which results in increased relative value of foreign currencies) is having the desired effect of making U.S. producers more competitive with foreigners; the result is fewer imports.

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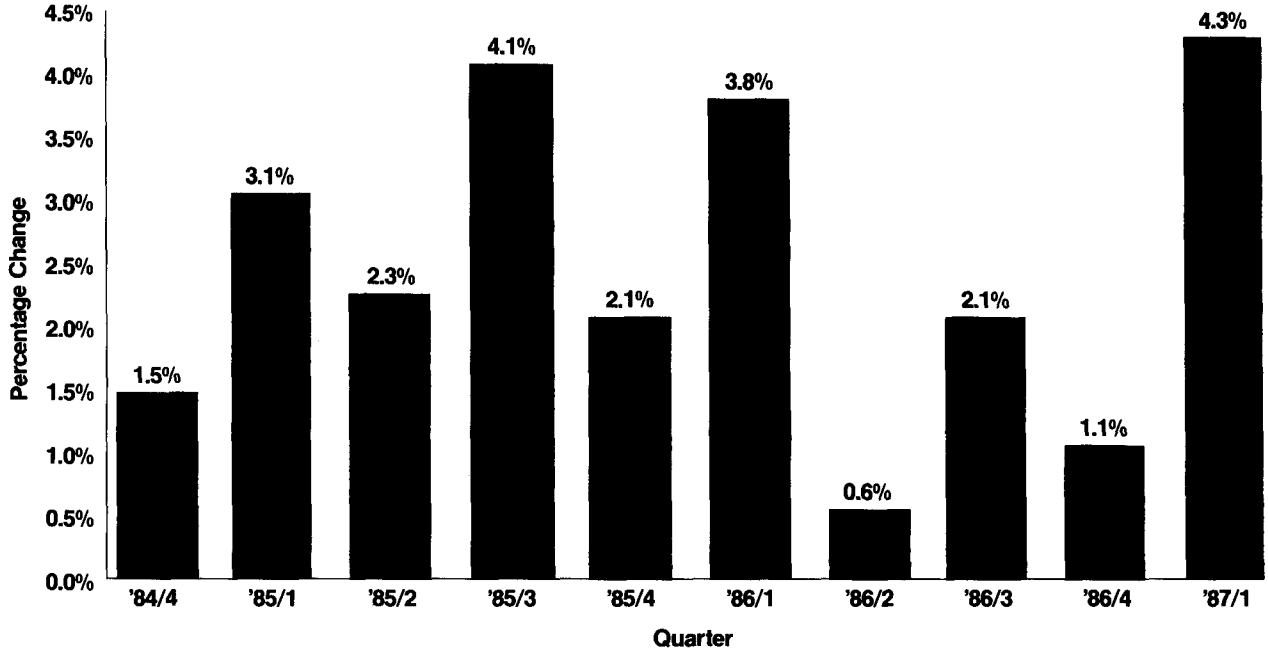
EXHIBIT 1

Percentage Change in Real GNP from the Preceding Quarter: Fourth Quarter 1984 to First Quarter 1987 (annual rates)



Imports declined by 11 percent (annual rate) between the last quarter of 1986 and the first of 1987, improving the U.S. trade balance.

Exports of goods and services also declined, but by less than 2 percent. This may reflect weaknesses in the economies of a number of our important trading partners. Our federal reserve board has been urging central bankers in other countries to ease their monetary policies in the interest of promoting faster economic growth, which would reduce pressure for trade restrictions. Foreign countries have resisted this pressure out of fear of inflation.

The improvement of our balance of trade gives our monetary authorities greater leeway to pursue restrictive measures that may raise interest rates. The money supply grew slowly during the early months of 1987 compared with 1986. Interest rates have risen sharply since early March, although they still are well below year-ago levels. The most likely outlook is for some additional rise in interest rates generally, then a leveling by summer. The most likely outlook for the U.S. dollar is continued downward drift until late summer.

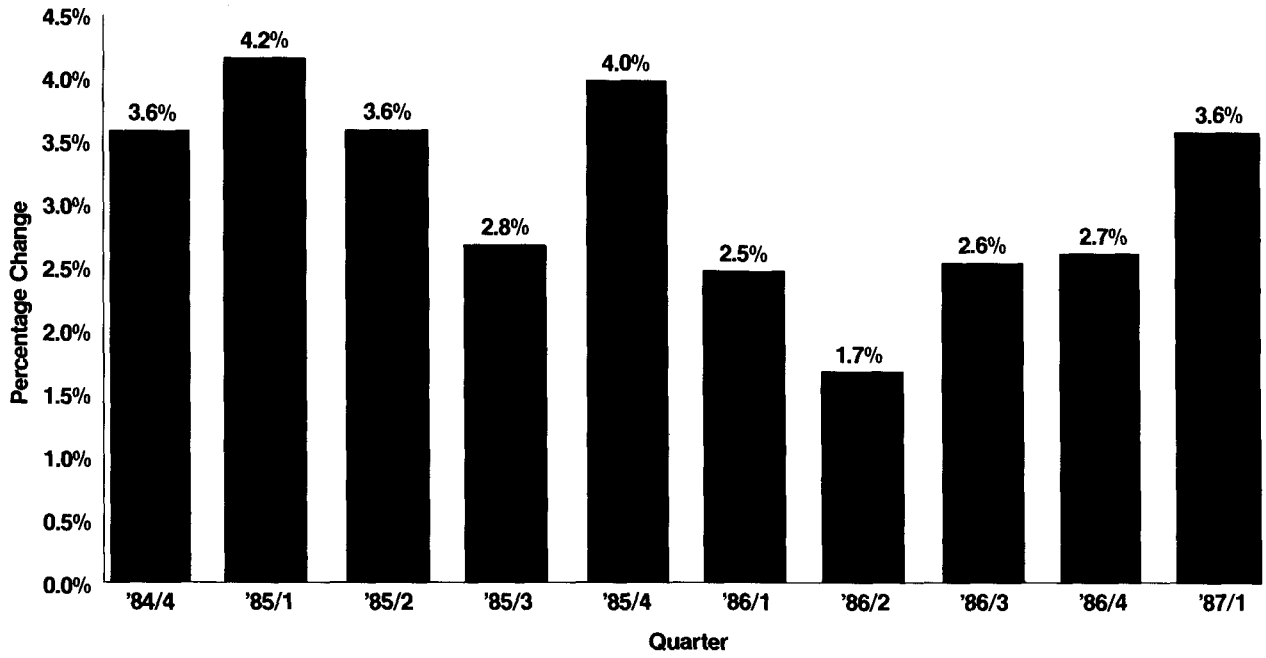
Investment and Consumption

Investment is falling. Residential construction, which has been strong since the last quarter of 1984, declined at an annual rate of 7.2 percent in the first quarter. Nonresidential fixed investment (machinery and equipment), which peaked in the last quarter of 1985, tumbled by 12.8 percent in the first quarter (annual rate). Inventory investment was the major factor in the GNP rise last quarter, but rising interest rates, inventory liquidation, and slack capacity make it unlikely that second-quarter inventory investment will provide any stimulus to the GNP.

Business spending will be mixed in 1987. According to the most recent survey of intentions conducted by the U.S. Bureau of Economic Analysis (conducted in the first quarter of 1987), businesses plan to increase

EXHIBIT 2

Percentage Change in GNP Price Deflator from Preceding Quarter: Fourth Quarter 1984 to First Quarter 1987 (annual rates)



spending for new plant and equipment during 1987. Durable goods (goods designed to last more than three years) manufacturers plan to increase their real capital spending by 1.3 percent above the 1986 level. Nondurable goods manufacturers are planning a 0.9 percent decrease. Among nonmanufacturing industries, commercial businesses plan a 5.6 percent increase, but the mining, transportation, and public utilities sectors are cutting their 1987 spending compared with 1986.

Consumer spending declined for the second consecutive quarter. (Consumers had provided the major impetus to the long recovery, with four years of increases in real outlays for goods and services.) All of the decline took place in durable goods. Consumer outlays for durable goods dropped by 17.5 percent (annual rate) between the last quarter of 1986 and the first of 1987. The previous quarter's decline was 11 percent. Evidently, consumers still are recovering from the durable goods buying binge that took place during the third quarter of 1986. Consumer purchase of durables tends to be more unstable than other sectors of the economy and appears to be getting more so. Outlays for nondurable goods increased by 1.2 percent; outlays for services increased by 4.3 percent (annual rates).

Real disposable personal income increased 3.4 percent in the first quarter of 1987 (the first such increase since the second quarter of 1986), but is still below the level attained during the second quarter of 1986. This suggests that consumers are not likely to go on a spending spree in the immediate future.

Leading Indicators

The February figure for the government's composite index of eleven leading indicators rose by 0.7 percent. In January, the index had declined by 0.5 percent. During the last quarter of 1986, the index was relatively strong, posting a gain for the three months of 2.1 percent over the third-quarter 1986 figure.

February data are available for nine of the eleven individual indicators. Positive contributors were length of workweek of production workers in factories, new orders for consumer goods, building permits issued, and the prices of 500 common stocks. An increase in unemployment claims, a reduction in length of time between orders and deliveries of goods from vendors, a decline in the index of raw materials prices, and a decline in the money supply made negative contributions to the index. There was no change in new orders for plants and equipment. Data on inventories were not available at the time of the compilation. That figure, no doubt, will be a positive contributor. Also unavailable are data on credit—business and consumer borrowing—which likely will have a negative effect, as borrowing has been declining.

Overall so far this year, the leading indicators signal continued economic growth, but the signal is not strong.

Consumer Confidence

According to the latest survey from The Conference Board, consumer confidence continued its recovery in March from the very depressed January reading. The index of general buying plans still is below the January figure and well below levels reached last spring. Home buying plans also improved somewhat from February, but still are weak by historical standards. Although the March level is the best it has been since December 1985, car buying plans are exceptionally weak.

Domestic vacation plans have improved, with a sizeable increase in the number of consumers that expect to take holidays in their home state. This is good news for Michigan's tourism industry. A relatively high proportion of people plan to travel by car. Foreign travel intentions have declined sharply.

MICHIGAN ECONOMY

Personal Income

Labor and proprietors' earnings in Michigan grew by 1.2 percent between the third and fourth quarters of 1986 (latest data available). The national figure was 1.5 percent. (See Exhibit 3.) The annual rates of change were 4.6 percent for Michigan and 6.1 percent nationally. After adjustment for inflation, Michigan's rate of gain in earnings was 3.9 percent (annual rate), compared with 5.6 percent nationally. Revised third-quarter data put Michigan's real earnings decline at 6.1 percent compared with a 1.8 percent dip nationally. Since the last quarter of 1984, Michigan's real earnings have grown by 8 percent; national earnings growth was 13 percent.

EXHIBIT 3

Labor and Proprietors' Earnings in Michigan and the United States, By Broad Economic Sector: Third and Fourth Quarters, 1986 (dollars in millions)

Sector	Michigan			United States		
	Third Quarter	Fourth Quarter	Percentage Change	Third Quarter	Fourth Quarter	Percentage Change
Agriculture	$ 330	$ 371	12.4%	$ 28,708	$ 32,132	11.9%
Agricultural services, forestry, and fisheries	227	279	0.7	13,214	13,215	—
Mining	432	428	-0.9	32,197	31,690	-1.6
Construction	4,229	4,235	0.1	170,421	171,936	0.9
Nondurable goods manufacturing	6,026	6,177	2.5	198,358	200,838	1.3
Durable goods	29,870	30,049	0.6	344,698	348,451	1.1
Transportation and public utilities	5,012	5,046	0.7	180,178	182,511	1.3
Wholesale trade	5,016	5,051	0.7	162,986	164,573	1.0
Retail trade	8,158	8,187	0.4	251,203	253,606	1.1
Finance, insurance, and real estate	4,106	4,183	1.9	189,453	193,980	2.4
Services	17,642	17,952	1.8	582,974	593,474	1.8
Federal civilian payrolls	1,642	1,633	0.6	87,582	88,225	0.7
Federal military payrolls	352	357	1.4	40,491	41,201	1.8
State and local government payrolls	10,811	11,029	2.0	284,520	289,929	1.9
TOTAL EARNINGS	$93,886	$94,977	1.2%	$2,567,392	$2,606,143	1.5%

SOURCE: U.S. Bureau of Economic Analysis, Regional Economic Information System.

Durable goods manufacturing, which is very important here in terms of its proportionate weight in our economy, is growing slowly both in Michigan and nationally. However, during the most recent quarter, Michigan's durable goods manufacturing growth stood at about half the national rate of gain in earnings.

Michigan farmers experienced better times in the fourth quarter, but fared only slightly better than farmers nationally. Our mining industry is not as depressed as is the nation's. Both farming and mining weigh far less heavily in the total economy here than in the nation, however.

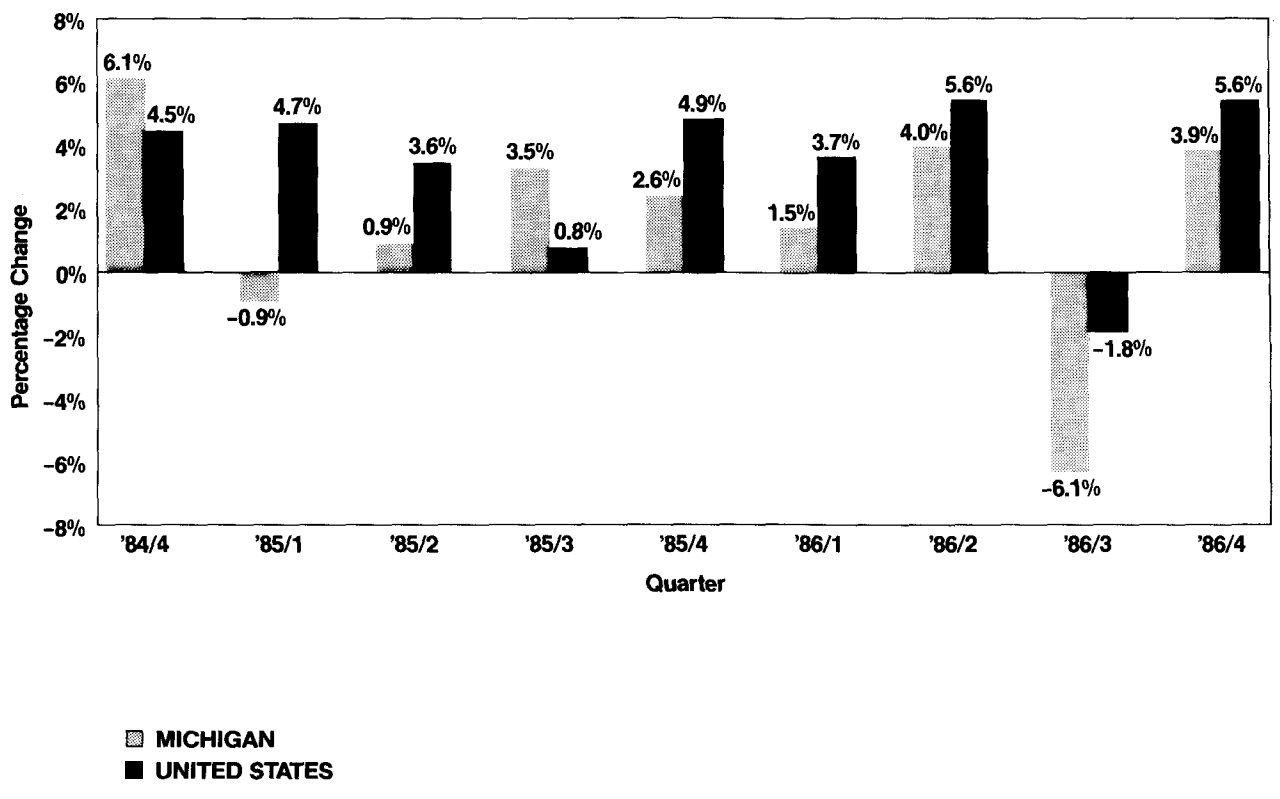
Michigan's stellar performer is the construction industry, with an earnings gain of 2.5 percent (10 percent annual rate, not adjusted for inflation) compared with 1.3 percent for the United States.

Growth in nondurable goods production was sluggish here, as was wholesale trade, retail trade, transportation and public utilities, and federal civilian payrolls. Finance, insurance, and real estate posted a good gain; a result, no doubt, of the brisk pace of home sales and real estate development activity in the state. Services and state and local government were expansive both here and nationally.

Exhibit 4 shows quarter-by-quarter real growth in earnings since the third quarter of 1984 both in Michigan and the United States. Particularly striking is the number of quarters in which Michigan fared more poorly than the nation. **Since the third quarter of 1984, Michigan's real growth, as measured by inflation-adjusted earnings, has proceeded at one-half the national rate.** Weakness in manufacturing, particularly automotive, contributed heavily to this poor performance. Unlike in the 1960s, when the motor vehicles Michigan produced closely paralleled the types of automobiles demanded by the American

EXHIBIT 4

Percentage Change in Labor and Proprietors' Real Earnings from Previous Quarter, Michigan and the United States: Fourth Quarter 1984 to Fourth Quarter 1986



public, we now have excess vehicle capacity. Being the pioneer in mass production was once an advantage; now it is an impediment because we have an unusually large proportion of the older factories in the industry.

In total personal income, which encompasses earnings as well as dividends, interest, rent, and transfer payments received by households, Michigan's 0.8 percent gain during the fourth quarter was slightly below the 0.9 percent national figure. In comparison with other midwest states, we did not grow as rapidly as Indiana and Ohio, matched Illinois, and exceeded Wisconsin. In comparison with some other areas of the country, we grew more slowly than Virginia, Tennessee, North Carolina, Georgia, and Oklahoma, but faster than Alabama, Arkansas, Florida, West Virginia, Texas, Kentucky, and Louisiana.

Employment

First-quarter statistics on wage and salary employment show a greater rate of growth in this state than nationally (see Exhibit 5). This is a result of increases in sectors other than durable goods manufacturing. For durable goods, Michigan posted a decline of 0.4 percent in wage and salary employment compared with no change at the national level. Government employment also declined here during the first quarter of 1987 in the face of a slight increase for the nation. In the service sectors, employment grew at slightly less than the national rate. (The above discussion is based on quarterly, seasonally adjusted data.) Exhibit 6 shows 1986 Michigan employment by industry group as a share of national employment and the increase in Michigan and U.S. employment by industry group between February 1986 and February 1987.

The most important piece of durable goods employment news is the accelerating decline in automotive employment in Michigan and the decline in automotive employment nationally. This, of course, is our dominant industry; it affects virtually every other sector of the state economy. Michigan machinery makers are also experiencing a worsening situation, while the rate of decline is slackening somewhat nationally. The fabricated metals group is more depressed here than in the rest of the nation, but the rate of descent has slowed in both. Basic steel is exceptionally depressed, but less so in Michigan than nationally. In contrast to the industry groups just discussed, lumber and wood products makers are increasing their work forces both here and nationally.

Among nondurable goods manufacturers, growth in both plastics and textiles and apparel employment have been exceptionally rapid in this state. Food and kindred products establishments also have posted good gains in recent months. Overall, nondurable goods production in Michigan is growing much more rapidly than in the nation.

EXHIBIT 5

Michigan and United States Wage and Salary Employment, Third and Fourth Quarter Averages: 1986 (employment figures in thousands of jobs)

	Michigan			United States		
Industry Group	Third Quarter	Fourth Quarter	Percentage Change	Third Quarter	Fourth Quarter	Percentage Change
Mining	10.0	10.7	7.0%	742	733	-1.2%
Construction	117.3	126.0	7.4	4,997	5,083	1.7
Nondurable goods	220.5	224.3	1.7	7,873	7,909	0.5
Durable goods manufacturing	770.2	767.2	-0.4	11,282	11,282	—
Motor vehicles and equipment	332.0	328.6	-1.0	832	828	-0.5
Other durable goods	438.2	438.6	0.1	10,450	10,454	—
Transportation, communication, and public utilities	149.2	151.2	1.3	5,342	5,394	1.0
Wholesale trade	178.1	180.2	1.2	5,861	5,873	0.2
Retail trade	645.3	660.0	2.3	18,182	18,359	1.0
Finance, insurance, and real estate	172.9	176.2	1.9	6,437	6,522	1.3
Services	797.7	806.0	1.0	23,463	23,754	1.2
Government	596.7	591.8	-0.8	16,896	16,929	0.2
TOTAL	3,657.9	3,693.6	1.0%	101,972	101,838	0.8%

SOURCE: Bureau of Economic Analysis, Regional Economic Information System.

EXHIBIT 6

Michigan's Share of Wage and Salary Employment by Industry Group and Employment Growth, February 1986-87

Industry Group	1986 Annual Employment			Percentage Growth, February 1986-87	
	Michigan (thousands)	United States (thousands)	Michigan as % of United States	Michigan	United States
Mining	10.1	792	1.3	3.1	-17.4
Construction	115.3	4,960	2.3	8.4	5.1
Manufacturing					
Nondurable goods	218.2	7,841	2.8	3.6	0.9
Durable goods	780.0	11,345	6.9	-3.1	-1.2
Transportation and public utilities, excluding U.S. Post Office	147.8	5,286	2.8	2.6	2.0
Wholesale trade	176.6	5,853	3.0	2.7	0.6
Retail trade					
Building materials and garden supplies	23.6	692	3.4	5.5	2.1[a]
Department stores	84.5	1,983	4.3	4.1	1.5[a]
Other general merchandise stores	9.6	367	2.6	6.5	0.9[a]
Food stores	89.2	2,932	3.0	2.2	4.1
Auto dealers and service stations	72.5	1,954	3.7	4.4	3.0
Apparel and accessory stores	37.4	1,084	3.5	4.2	3.9[a]
Furniture and home furnishings stores	25.6	787	3.3	2.4	5.2[a]
Eating and drinking places	219.2	5,921	3.7	6.1	4.0
Miscellaneous retail	75.4	2,258	3.3	4.7	2.2[a]
TOTAL RETAIL TRADE	637.0	17,978	3.5	4.6	3.7
Finance, insurance and real estate					
Finance	79.2	3,159	2.5	4.4	5.4
Insurance	57.7	1,934	3.0	5.7	6.2
Real estate	27.7	1,211	2.3	7.3	6.1
TOTAL	170.6	6,305	2.7	5.3	5.8
Services					
Hotels and other lodgings places	26.7	1,372	1.9	0	3.6[a]
Laundry, cleaning, and garment services	13.5	398	3.4	0.8	3.9[a]
Other personal services	22.6	721	3.1	4.7	4.1[a]
Business services	166.8	4,809	3.5	6.2	7.4
Auto repair, services, and garages	28.0	763	3.7	7.5	4.8[a]
Miscellaneous repair services	11.5	330	3.5	0.9	0.1[a]
Amusement and recreation services	26.4	913	2.9	12.7	14.6[a]
Private hospitals	132.2	3,043	4.3	2.1	2.7[a]
Other health services excl. hospitals	132.0	3,543	3.7	2.6	6.7[a]
Legal services	22.2	734	3.0	6.0	7.2[a]
Private educational services	34.9	1,376	2.5	1.8	0.1[a]
Museums and membership organizations	65.3	1,555	4.2	0.3	0.5[a]
Other services	99.5	2,940	3.4	1.0	4.5[a]
TOTAL SERVICES	786.9	23,072	3.4	3.3	5.0
Government					
Federal	60.1	2,899	2.1	0.8	—
State	147.1	3,937	3.7	-0.8	1.3
Local	389.4	9,899	3.9	0.4	1.9
TOTAL NONAGRICULTURAL EMPLOYMENT	3,639.2	100,167	3.6	1.8	2.5

SOURCES: Michigan Employment Commission special release; Bureau of Labor Statistics, *Supplement to Employment Earnings* (Washington, D.C.: June 1986).

[a]January 1986 to January 1987.

EXHIBIT 7

Retail Sales Growth: 1986
(percentages)

	Detroit		Michigan		United States	
	Year	Dec.	Year	Dec.	Year	Dec.
Durable goods	N.A.	N.A.	9.0	12.7	9.5	20.30
Nondurable goods	9.2	6.9	6.1	3.3	2.6	3.50
Department stores	8.3	7.2	8.1	9.6	5.3	5.36
TOTAL	17.5	14.1	23.2	25.6	17.4	29.16

SOURCE: Bureau of the Census, *Monthly Retail Trade,* December 1986.
N.A. = Data not available.

Retail Sales

Preliminary data for 1986 indicate that Michigan retailers enjoyed a 7.2 percent sales gain over 1985, compared with a 5.2 percent increase nationally. Retail growth was propelled by durable goods merchants (see Exhibit 7). Nondurable goods retailers posted slow gains nationally and exceptional growth in the Detroit area.

Among 19 large states for which retail sales data are prepared by the U.S. Bureau of the Census, Michigan was seventh in growth in 1986. Among 23 large metropolitan areas, Detroit was fifth.

Michigan sales tax data for October and November of 1985 and 1986 suggest that furniture, building materials dealers, car dealers, jewelers, and apparel stores did well in 1986. There also was a surge in receipts from hotel and motel operators toward the end of 1986.

Construction

Construction employment growth in Michigan's already booming building industry has accelerated in recent months. In the first two months of 1987, the value of new home building permits issued increased 3.3 percent over the like period of 1986. The value of permits issued for factories and mercantile buildings to be built here nearly doubled. However, permits for new offices were off 35 percent, lodgings were off 62 percent, and nonresidential rehabilitation permits issued were off 18 percent.

The bulk of the new construction permits were issued in southeast Michigan; Oakland County was the leader in all major categories. About one-third of the valuation of mercantile, office, and nonresidential, about 40 percent of factory, and about one-quarter of residential building permits were granted in Oakland County. Wayne, Macomb, and Kent counties were the other big hitters in all categories. In Muskegon County, permits were granted to build two large factories, and in Washtenaw County, five large office buildings. Genesee County had sizeable activity in nonresidential rehabilitation.

Joel Feldman of The Hayman Company, an expert in commercial real estate, has this to say,

> As we enter the second quarter of 1987, the office market in greater metropolitan Detroit remains strong and active, as several leases have recently been consummated with major tenants (Allnet, Delta Dental, Cellular One, Michigan National Bank, and others) and previous soft pockets begin to fill in. On the other hand, the pendulum is starting to swing towards more of a tenant's market and the possibility of supply outweighing demand still lurks in the background.[1]

Considerable renovation and construction of office buildings, apartments, mercantile businesses, and convention facilities are taking place along the river in downtown and east of downtown Detroit. Nearby, the Eastern Market area is growing. On the far east side, Chrysler is starting its new production complex to replace, or perhaps to supplement, its existing Jefferson Avenue assembly plant. Uptown, the St. Regis Hotel is doubling its capacity. Old buildings are coming down; new ones are planned. In the foreseeable future, Grand Boulevard from the Lodge Expressway to General Motors' new Detroit/Hamtramck assembly plant will be bustling with new activity. And, of course, there is the Cobo Hall expansion, which will put Detroit in the big leagues for conventions and trade shows, provided that the downtown area can attract new convention hotels. The city itself is taking aim at its problem of too few first-class, full-line accommodations by sponsoring the development of new hotels and the expansion of the Ponchartrain next to Cobo Hall. Ultimately, the downtown airport will also have additional capacity, creating new business opportunities on the east side.

[1]Joel I. Feldman, Ph.D., *Metropolitan Detroit Office Market Survey* (Southfield: The Hayman Company, April 1987).

Being underdeveloped in its downtown area makes Detroit a city of inexpensive real estate and extensive opportunity. The growth potential for service jobs there is very favorable.

Michigan Industry

Plastics: Last winter, industries that fabricate plastics products were the subject of a special study released by the Greater Detroit Chamber of Commerce. Since plastics is a growth industry, especially in this state, some of the findings of the chamber study are reported here.

Southeast Michigan has a comparative advantage in fabricating plastic for vehicle components because of the skills available there and because of the size of the market. Sixty percent of a sample of 100 plastics fabricators rated Michigan as a superior location for those reasons. Southeast Michigan, with about one-third of the nation's vehicle assembly capacity, is one of the best markets for specialty plastics with automotive applications.

Technical support for plastics fabricators is extensive in Michigan. Polymer Technologies, a wholly owned subsidiary of the University of Detroit, views its mission as offering a cost-effective source of research and development work for both large and small organizations. Michigan State University's Composite Materials and Structures Center is a multidisciplinary research facility. The Michigan Molecular Institute of Midland is a nonprofit corporation with educational and research missions. Ferris State College and Eastern Michigan University are active in the training area, offering degrees in plastics technology. Eastern also hosts the Coatings Research Institute. The incipient Michigan Materials Processing Institute will be another technical support agency of the industry.

Several large corporations interested in promoting the use of plastics have applications research or development facilities in southeast Michigan. Among these are Sterling Engineered Products (formerly LOF Plastics); The Budd Plastics Research and Development Center in Troy; DuPont's automotive headquarters for the development of plastics use in motor vehicles, also in Troy; BASF's Inmont Division in Southfield; and Rockwell's Troy Technical Center. Celanese is building a technical center in Auburn Hills to supply engineering supports and to develop plastics for the automotive industry. The General Electric Plastic Applications Development Center in Southfield provides engineering and product development services to promote use of engineered thermoplastics in the automotive industry. Division Rubber Company has design and sales offices in Walled Lake. Johnson Controls (formerly Hoover International) has research facilities in the Ann Arbor area to develop machinery for extrusion molding, injection blow molding, and injection stretch blow molding. Ann Arbor Plastics develops and produces laboratory equipment for polymer laboratories.

In plastics, Michigan's greatest comparative advantage is research firms that tend to locate close to each other and to automotive administration and development centers in order to exchange ideas on new uses for plastic. Michigan plastics producers, compounders, fabricators, and researchers also can count on the support of organizations such as the Society of Manufacturing Engineers, Engineering Society of Detroit, Robot Institute of America, and the Motor Vehicle Manufacturers Association of the United States, all in southeast Michigan. Help in designing tooling and machinery is available from Mount Clemens, a major center of the tool and die industry.

High Technology: Southeast Michigan is the quintessential automotive culture. The bulk of automotive research and development (R&D) takes place in technology centers located there. According to a recent issue of *Occupational Outlook Quarterly* (winter 1986), published by the U.S. Bureau of Labor Statistics, 13.5 percent of the nation's mechanical engineers, 17.7 percent of the nation's tool and die makers, and 11.6 percent of the nation's metal and plastic working machine operators work in Michigan. We are the nation's leader in those categories of skills. In other words, we provide the markets, the skills, the infrastructure, and the network for the increasingly high-technology motor vehicle industry. Our reputation is international:

> The fastest growing high-tech corridor in the United States today is no longer Silicon Valley south of San Francisco, nor Route 129 around Boston, but a 40-mile strip in Michigan stretching west from Detroit to the leafy campus town of Ann Arbor. Locals call it Automation Alley, because two-thirds of all the robots and clever manufacturing tools made in America come from little firms along its length. How it was born again contains lessons for old industrial areas everywhere.
>
> Five years ago, the region was written off as "Rust Bowl America." Today, spurred by the modernization of its car industry (with its nine graduate engineering schools, 500 R & D centres, 2,000 machining shops and $18 billion a year of local business in precision parts alone), southeast Michigan boasts the world's largest concentration of engineering manufacturers as well as the world's biggest cluster of car factories.[2]

Michigan's problem is that its rapid growth industries are not located near its declining ones. Steel and other heavy metal industries are giving way to plastics, but steel mills are located in the older industrial centers, while the plastics industry favors the newer centers of higher education.

[2] *The Economist,* April 11, 1987, p. 15.

Michigan also has a problem because the labor force discarded from its declining industries is often not geographically near industries that are growing. This is especially noticeable in southeast Michigan where jobs are opening up in Oakland, Macomb, Washtenaw, and western Wayne counties but declining in eastern Wayne County. The Upper Peninsula and several northern locales, as well as Flint, Saginaw, Jackson, Allegan, and several other southern industrial centers, have similar problems.

OUTLOOK

The market for motor vehicles is bearish, but this year the importers as well as the domestic carmakers are taking their lumps. One positive note is that there has been a decided shift in North American vehicle production away from Canada to the United States; this is the primary reason why U.S. and Michigan production is not as depressed as it was expected to be earlier this year. However, dislocations in supplier plants are depressing the Michigan automotive industry.

Equally important to the outlook is productivity. According to the latest figures from the U.S. Bureau of Labor Statistics, output per employee hour for production workers in the automotive industry rose at an annual average of 5.1 percent between 1980 and 1985. The increase over the same period for nonproduction workers in this industry was 11.9 percent. Increases must continue through the rest of this decade if Detroit is to overcome its cost disadvantages and keep up with productivity gains of Asian countries. Put somewhat differently, earnings of workers in the automotive industry in this country continue to outpace those of workers in most other industries. These wage discrepancies have to be offset by productivity gains that are better-than-average if the industry is to survive. The outcome will be better wages and working conditions for those who remain in the industry, but there will be fewer people in the industry because of productivity gains.

Michigan's automotive centers are caught in a predicament. Productivity takes its job toll, but because of the wage pattern already set, other employers are reluctant to expand there. When other manufacturing industries, such as the plastics industry, do expand, the jobs that materialize are lower paying than were the lost automotive jobs. That is why real earnings in Michigan have grown at about half the national rate since the third quarter of 1984, even though our employment gain nearly matched the U.S. figure. Everything considered, in 1987, we can look forward to another year of respectable employment growth compared with the nation, but rather pallid earnings growth. (See Exhibit 8 for 1987 forecast for key economic indicators.)

EXHIBIT 8

Broad Economic Indicators, Michigan and the United States, Actual and Projections, 1985-87

Indicator	1985	1986	1987	Percentage Change 1985-86	Percentage Change 1986-87
Earnings (current $ in millions)					
Michigan	$90,263	$94,132	$98,500	4.3	4.6
United States	$2,412,650	$2,560,000	$2,735,000	6.1	6.2
Earnings (1985 $ in millions)					
Michigan	$90,263	$91,657	$92,850	1.5	1.3
United States	$2,412,650	$2,492,684	$2,565,000	3.3	2.9
Civilian employment (thousands)					
Michigan	3,920	4,002	4,100	2.2	2.3
United States	107,150	109,600	112,500	2.3	2.6
Vehicle production (thousands)					
Michigan	3,400	3,400	3,600	—	5.9
United States	11,700	11,300	10,800	-3.4	-4.4
Unemployment rate (% of civilian work force)					
Michigan	9.9%	8.8%	7.8%	—	—
United States	7.2%	7.0%	6.8%	—	—

SOURCE: The 1985 data on earnings are from *Regional Economic Analysis*, U.S. Department of Commerce, Washington, D.C.; on civilian employment rate from special release, Bureau of Labor Statistics, Department of Labor, Washington, D.C.; on vehicle production from special release, Motor Vehicle Association, Detroit.

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