

The Central Wisconsin Forest Products Industry: Impact and Outlook  
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## **Introduction**

Forest products is Wisconsin's second leading manufacturing industry. It ranks first among Wisconsin manufacturers in investment in machinery; second in employment, payroll, value added, number of production workers, and wages paid; and third in value of shipments. The forest products industry is the leading manufacturing employer in 28 Wisconsin counties, including Marathon, Portage, and Wood (Figure 1). Wisconsin produces more paper than any state in the nation.

We all remember stories of logging the pine forests a hundred years ago. The motto was "cut out and get out." Forests were cleared to make way for farms and wood was needed to build cities and towns in the growing Midwest. In 1900, Wisconsin led the nation in lumber production.

The lumber boom didn't last, and as it moved west and south it left behind blackened forests, stump pastures, and broken dreams. .But the "seed" for the forests of the future remained, along with people and capital to build a new forest products industry for the state.

In Europe during the middle of the 19th century scientists developed methods for chemically treating wood to remove lignin, making possible the manufacture of quality papers from wood rather than rag. In 1905 the first kraft paper mill in this part of the country was built in Mosinee. It signaled the beginning of a new forest products industry during the era when lumber was still "king."

While the new pulp and paper industry was entering the state, remnants of the lumber industry remained to harvest the valuable hardwoods left behind. Hardwoods are specialty woods. Highly prized value-added industries associated with the use of these woods; furniture, millwork, veneer and other products, continued to profitably employ thousands of workers at hundreds of locations across the state.

## **Today's Industry**

In 1985 the Wisconsin forest products industry employed 72,000 workers with an annual payroll of \$1.75 billion. That equates to an average of over \$24,000 per employee (Table 1). The paper industry is the largest employer accounting for about 58070 of the industry's employees, 69% of the industry's payroll, and the



**Table 1**

**Wisconsin Forest Products Industry  
Annual Payroll and Number of Employees  
1985**

	<b>Lumber and Wood Products</b>	<b>Furniture and Fixtures</b>	<b>Paper and Allied Products</b>	<b>Total</b>
Number of Employees	19,757	10,721	41,513	71,991
Payroll (thousands)	\$339,472	\$194,281	\$1,209,925	\$1,743,678
Payroll per Employee	\$17,182	\$18,122	\$29,146	\$24,221

While Central Wisconsin residents often think of the forest products industry in terms of the large local paper companies, the industry is in reality largely made up of small businesses. Over half (51.6%) of the 1340 forest products establishments in the state employ fewer than 10 people.

Two-thirds of the business establishments in the forest products industry are lumber and wood products firms. They employ an average of 25 persons per firm. Only three companies employ more than 500, while 90% of the lumber establishments have fewer than 50 employees, and 62% employ less than 10 persons (Table 2).

The furniture industry, while also predominantly small business, has an estimated average of 59 employees per firm. Seventy-eight percent of the firms employ less than 50. About one-sixth of the total number of forest products establishments are found in this segment of the industry.

The paper industry has 25 firms employing more than 500. Only 44% of the industry's 235 firms employ fewer than 50. Paper and allied products has the highest estimated average number of employees per firm, 151.

**Table 2****Wisconsin Forest Products Industry  
Number of Establishments by Employment-Size Class  
1985**

<b>Number of Employees</b>	<b>Lumber and Wood Products</b>	<b>Furniture and Fixtures</b>	<b>Paper and Allied Products</b>	<b>Total</b>
	(Number of Firms)			
1-9	548	113	30	691
10-19	154	26	29	209
20-49	96	32	44	172
50-99	44	23	37	104
100-249	30	14	47	91
250-499	10	10	23	43
500-999	3	2	20	25
1000+	0	0	5	5
Total	885	220	235	1340

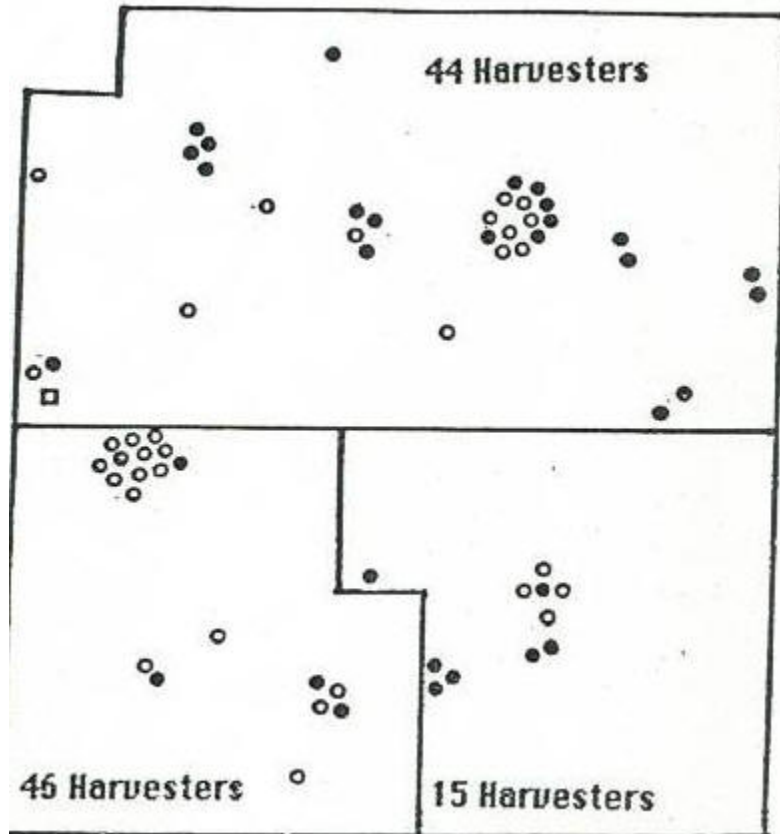
The geographic impact of the forest products industry can be seen in Figure 2. Pulp mills are concentrated along the Fox and Wisconsin rivers. Large saw mills, those having an annual production of five million board feet or more, are concentrated in the northeastern counties. Medium-size sawmills, with a capacity of one to five million board feet per year, are more heavily concentrated in the west and west central part of the state.

There are far too many small sawmills and secondary wood using plants to be able to show all of them on a state map. Figure 3 indicates firms located in Central Wisconsin. Note in particular the concentration of establishments in the cities of Wausau and Marshfield. The forest products industry is not exclusively raw materials oriented. For example, the 1982 Wisconsin Secondary Wood Using Industry Directory lists 70 establishments in Milwaukee County, more firms than any other county in the state. The second largest county in number of establishments is Waukesha with 43, followed by Dane with 40. The secondary directory lists a total of 583 firms. Twenty six percent are located in these three metropolitan counties. The urban location of some secondary forest products manufacturers is characteristic of both Central Wisconsin and the state.

The forest products industry in Central Wisconsin accounted for 13% of the

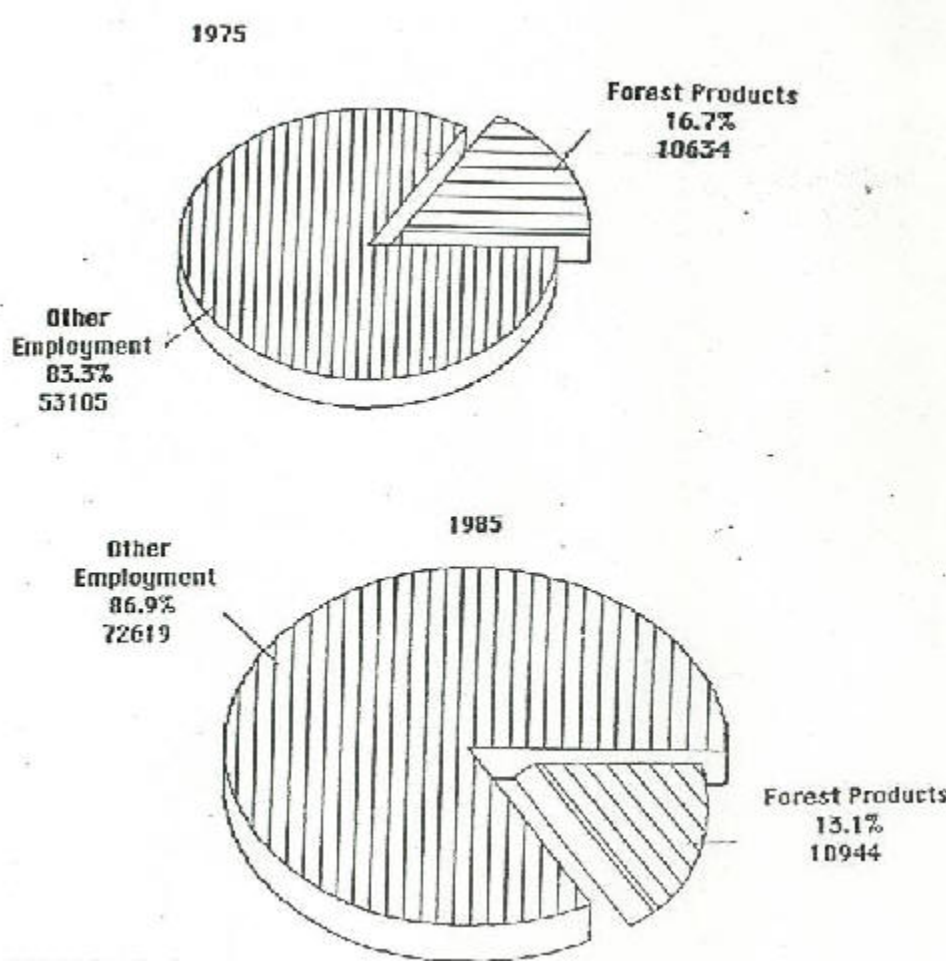


**Figure 3**  
**Central Wisconsin**  
**Secondary and Small Primary Wood Users**



Source: Wisconsin Department of Natural Resources, Directories Wood Using Industry, Primary 1986, Secondary 1982.

**Figure 4**  
**Forest Products Employment as a Proportion of Total Employment**  
**Central Wisconsin**



Source: U.S. Census County Business Patterns 1975-1985

If paper makes Wisconsin great, paper also makes Central Wisconsin great. Total pulping capacity in the state, including chemical, mechanical, and secondary fibre pulping is estimated at 6200 tons per day. Central Wisconsin mills produce about 2000 tons per day or nearly 32% of the state total. All of the Central Wisconsin capacity is primary fibre recovery. The region produces 39.2% of the groundwood, 47.4% of the sulfite and 81.7% of the kraft pulp made in Wisconsin.

Wisconsin's estimated paper production is about 12,000 tons per day. Central Wisconsin mills produce about 4650 tons per day or nearly 39% of all the paper produced.

If Lincoln County is included in Central Wisconsin's figures, the region would

account for over half the total pulping capacity and 48.8% of the paper made in "the paper state." The Wisconsin paper industry is definitely not a Fox River Valley phenomenon.

## **Outlook**

Demand for forest products is highly cyclical in nature. Much of the demand for both primary and secondary wood products, particularly lumber and furniture, fluctuates with the demand for housing. Individual firms are almost all price takers and concentrations are less than 30% in all segments of the industry, including paper.

The short term outlook for both lumber and paper appears vigorous. The Wisconsin lumber market is upbeat according to University of Wisconsin-Extension Forester Ted Peterson. He reports strong demand for 4/4 and 5/4 red oak, 4/4 ash, basswood, cherry, and hard maple and 4/4 and 8/4 pine. Many lumber mills are having difficulty meeting demand. In addition, sales of most grades of paper have also been vigorous.

The long term prognosis for the industry may depend more on the attitude of state and federal agencies toward the industry than ever before. We have seen that 1975-1985 was a decade of no-growth for the forest products industry both regionally and state-wide. The decade was also marked by an increase in public concern over environmental quality. The paper industry spent much of its capital, previously invested in mill expansion, on pollution abatement facilities. Future concerns of paper industry leaders are not so much with a need to comply with environmental regulations but, rather, with bureaucratic processes associated with regulation compliance. Obtaining necessary permits often requires enormous amounts of management and staff time.

Wisconsin pulp and paper mills are old by industry standards. Compliance with continually increasing state and federal water quality standards could force our sulfite mills, in particular, to cease pulp manufacture in the future. How far in the future will depend on the rate with which we increase the stringency of our environmental standards. Meanwhile, our pulp mills desperately need scientists to develop an economical method for separating lignin from cellulose which does not result in air or water quality degradation.

Our paper mills benefit from few economies of scale. They have managed to survive because they compete in segments of the industry where quality and responsiveness to changing customer needs are the hallmarks of success. In the spring 1987 mid-year report, Paper News quotes five industry leaders regarding their views of the industry and its future. Their comments were:

"There aren't great big markets, sitting out there, waiting for us to jump in and

displace someone else. The real nature of the game is to learn to 'grow' new markets and 'grow' the products appropriate for them. That's a very, very expensive-and risky process."

Joseph Bergomi, President  
Thilmany Pulp and Paper  
Kaukauna

"Our product goes to box board plants and their demands for quality have increased through the use of computerized quality controls. Some suppliers have been in favor of those who can meet these requirements."

William Buedingen, Mill Manager  
Nekoosa Packaging  
Tomahawk

"We'll continue ... putting as much capital into the business as is necessary to maintain our status as a low-cost producer."

Harold Ellsworth, President  
Fox River Paper Company  
Appleton

"Above all, we have to be efficient; that's all there is to it."

George Mead, Chair  
Consolidated Papers, Inc.  
Wisconsin Rapids

"We work aggressively, day-after-day, year after-year, to keep our product line up-to-date, and at the same time on cost control and productivity, and where appropriate we keep our equipment up-to-date with capital investments."

George Mueller, President  
Wisconsin Tissue Mills, Inc.  
Menasha

The Wisconsin paper industry lives in a very competitive environment. No company controls the market in which it competes. All respond to market demands. Finally, the industry is capital intensive. Demands for capital expenditures not equally required of competing mills in other states can put our companies at a genuine competitive disadvantage. Included in this category are expenditures for state and local taxes, environmental projects, raw materials, and labor, among others. Wisconsin lumber and furniture industries have similar concerns with one additional problem; these segments of the industry are almost exclusively composed of small

businesses, independently owned and operated and price takers.

While the paper industry has been able to afford, nationally, to endow the Institute of Paper Chemistry and, locally, to support the undergraduate program in Paper Science at UW-Stevens Point, the solid wood-using industry has nothing similar. The U.S. Forest Products Laboratory does basic utilization research in wood and paper chemistry and physics, but its work is of a national nature and the laboratory lacks funds to provide extensive local technology transfer. The forest products industry itself spends comparatively little on research and development. Tombaugh reported in 1982 that the forest products industry nationally spent the second lowest of all economic sectors when research is compared to percent of sales. Lowest was the stone, clay, glass, and concrete products industry. Ron Giese at UW-Madison will state in one of the spring issues of the Journal of Forestry that expenditures on research and development by the forest products industry are also decreasing at a steady and alarming rate.

**Table 3**

**Forestry Research Attributes of Four Firms<sup>a</sup>  
in the Forest Products Industry<sup>b</sup>**

<b>Year</b>	<b>R&amp;D as a % of Sales</b>	<b>Expenditures<sup>c</sup> for R&amp;D (millions)</b>
1977	1.09	159.58
1978	1.01	156.92
1979	0.81	131.04
1980	0.85	134.66
1981	0.87	127.55
1982	0.83	108
1983	0.82	114.15
1984	0.76	111.14
1985	0.76	106.65
1986	0.68	97.63

<sup>a</sup>Boise Cascade, Owens-Illinois, Scott Paper, Weyerhaeuser

<sup>b</sup>All dollars are expressed in constant, 1982 value

<sup>c</sup>From Giese. 1988.

His study includes four large firms which have all spent enough money on research and development in each of the last ten years to require them to file a federal tax form 10K. Many forest product companies have IOKs on file for some, but not all, of

the ten years included in his study.

One can conclude that the forest products industry is investing in the future in the form of improving environmental quality, new machinery and equipment; but that industry is not research and development oriented.

Wisconsin citizens have reason to be concerned about the future of the state's forest products industry. Wisconsin's image as a good place in which to do business and as a national leader in the manufacture of paper and wood products has suffered through the loss of Kimberly-Clark's, and Fort Howard Paper's executive offices to other states, and the recent announcement that the Institute of Paper Chemistry will soon move to Georgia. Since 1975, while employment in our forest industry remained constant, six new board manufacturing mills have located in Minnesota making that state the nation's leading producer of waferboard and oriented strandboard. Champion International's hardwood pulp mill, completed in 1985, is located on the Menominee River in Quinnesec, Michigan. It was built at a cost of \$600 million and employs Michigan citizens almost exclusively. Louisiana-Pacific's new mill in Newberry, Michigan announced expansion plans this year, almost as quickly as construction was completed.

Jack Noblit, Louisiana-Pacific's director of raw materials said his company intends to build more new plants, "but not in Wisconsin." He said that all things being equal, Louisiana-Pacific was going where they are wanted and appreciated. Dan Dilworth, Louisiana-Pacific's Operations Manager said it has cost his company tens of thousands of dollars each year in legal fees in order to continue to operate in Hayward. State regulation and permitting are the principal reason. Louisiana-Pacific does not have similar costs in Michigan and Minnesota.

Wisconsin has experienced forest products industry managers, vast vigorous forests capable of providing adequate raw materials for present and future industry needs, a work force second to none, and a quality environment. Yet, Michigan and Minnesota have attracted major investment while Wisconsin appears to be losing important industry components.

Recent forest survey data indicate that we are cutting only 58% of the annual growth on the 14.8 million acres of commercial forest land in the state. Yet, employment in the industry has not grown. Why aren't Wisconsin companies encouraged to grow? Why aren't new companies attracted to our state? The industry needs more public support; a new partnership between university, government, and industry to create more jobs in the forest products industry using improved technology while maintaining the high quality of the state's environment. With that partnership perhaps the next report on this industry will show that employment in our forest products industry has increased faster than the overall state and regional averages.

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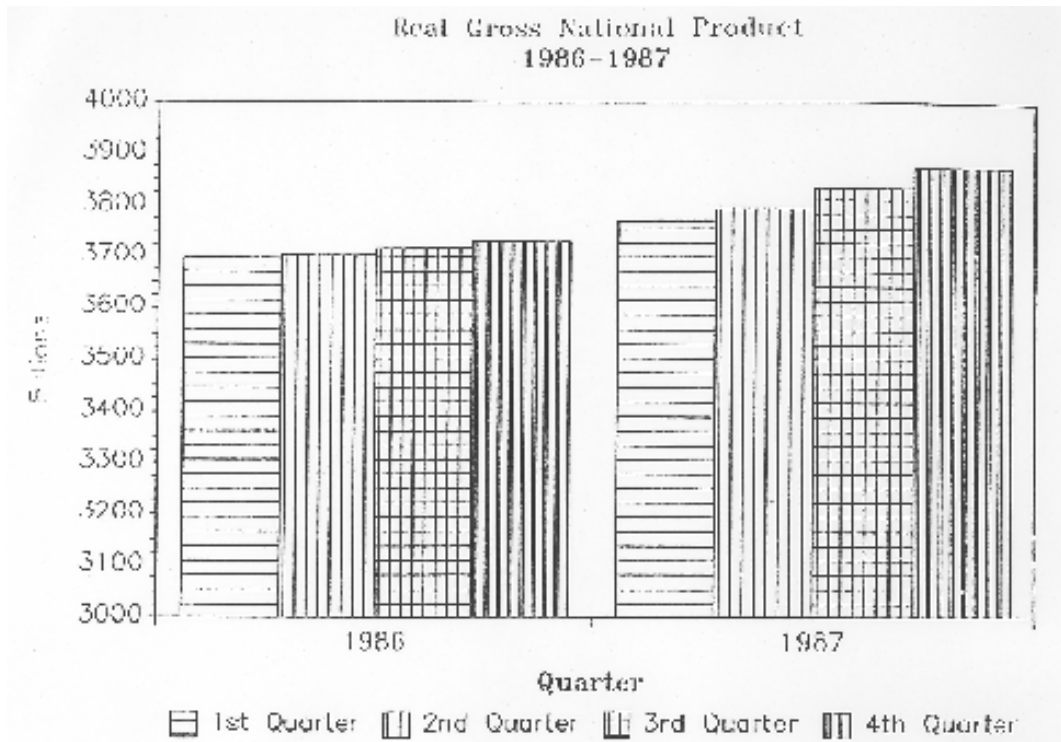
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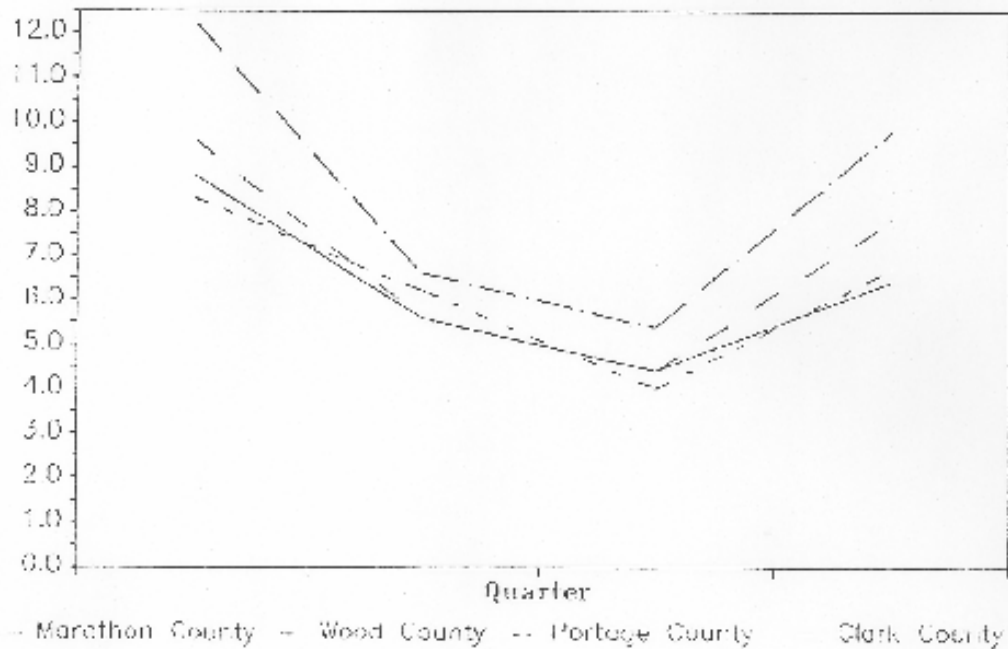
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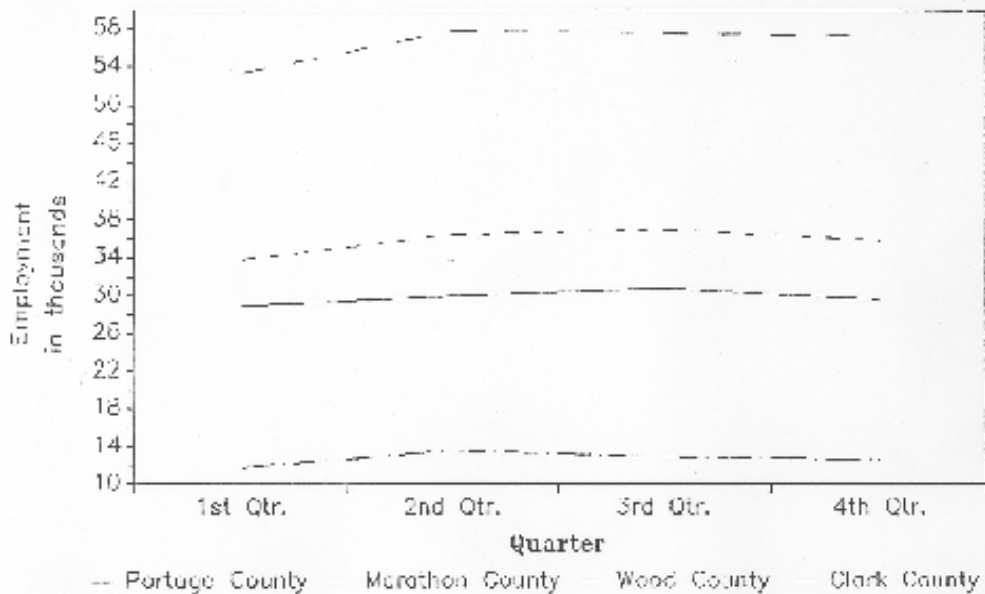
## Supplementary Graphs



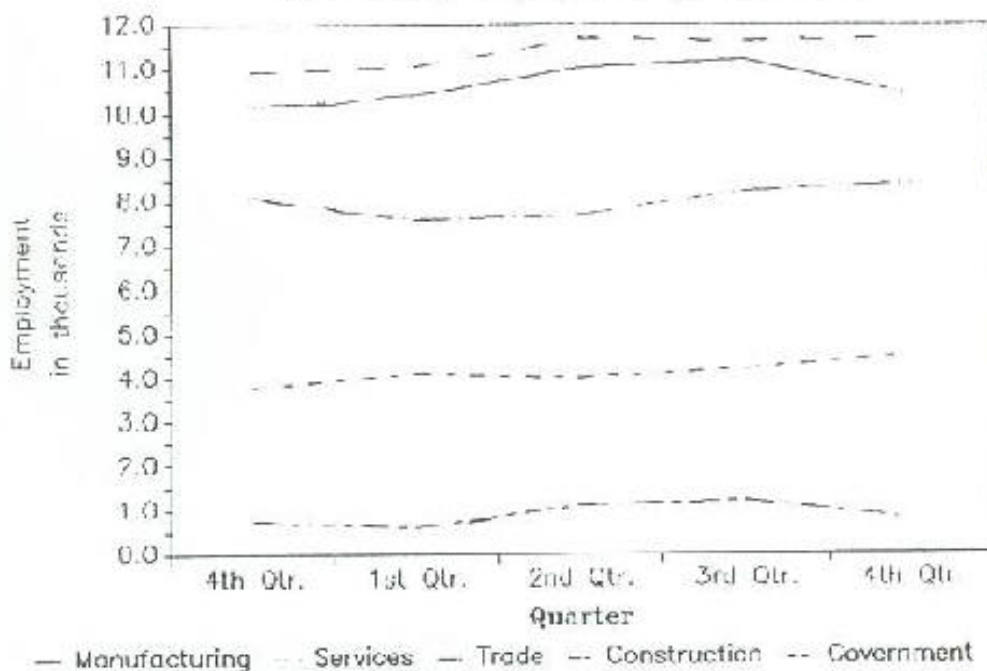
Unemployment Rate in Central Wisconsin  
1987



Total Employment in Central Wisconsin  
1987



Wood County Employment by Sector 1987



Residential Construction Marshfield Area  
Estimated Value of New Homes  
1985-1987

