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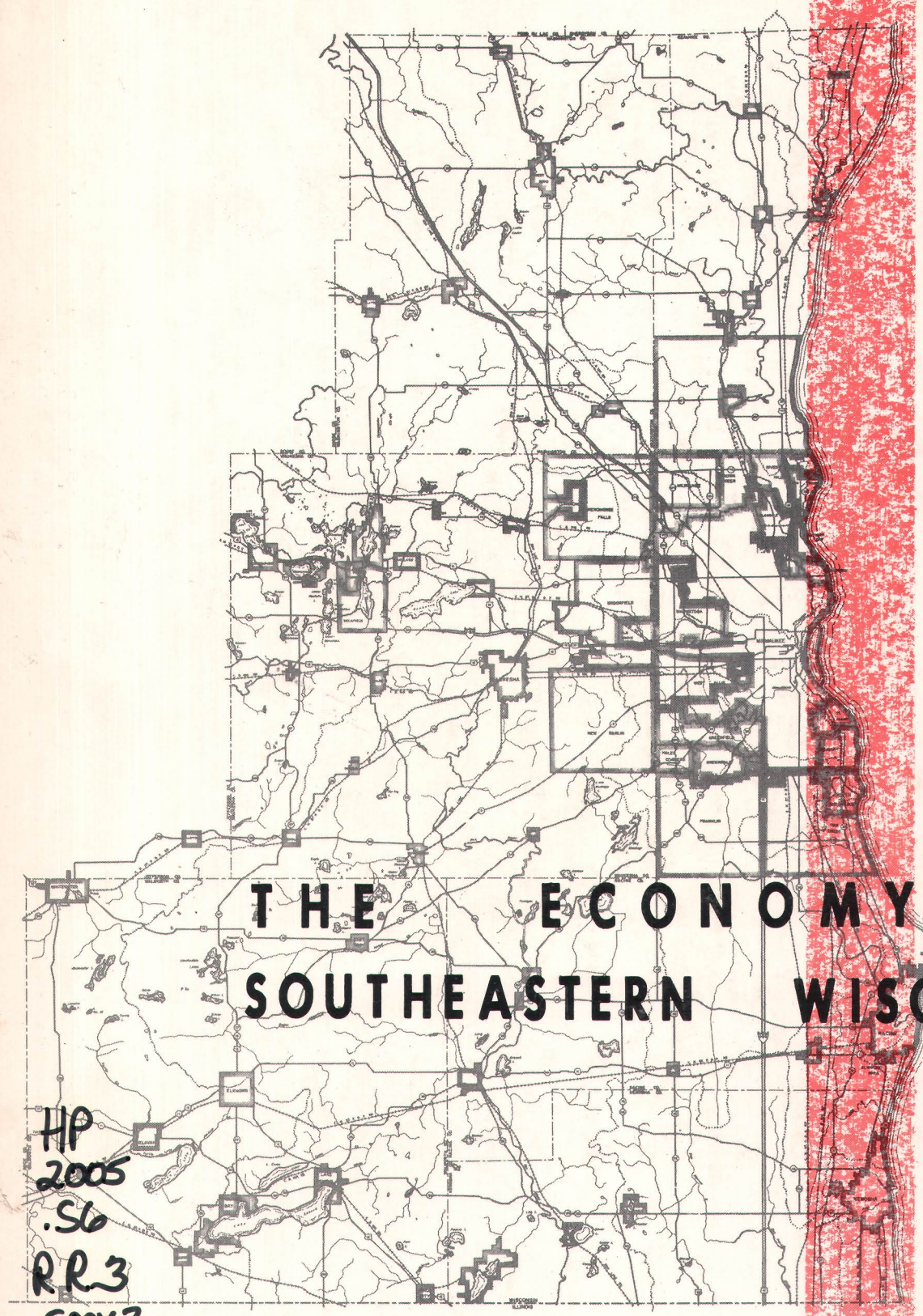

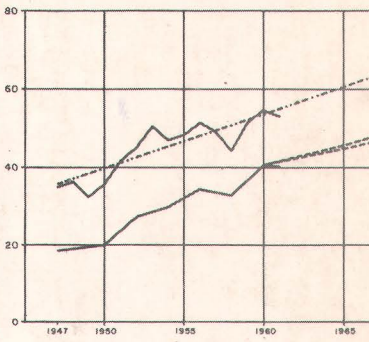

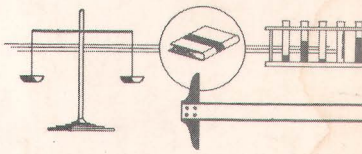

THE ECONOMY OF SOUTHEASTERN WISCONSIN

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The preparation of this report was financed in part through an urban planning grant from the Housing and Home Finance Agency, under the provisions of Section 701 of the Housing Act of 1954, as amended.

June, 1963

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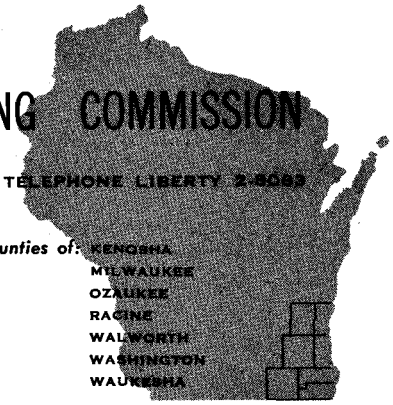

STATEMENT OF THE EXECUTIVE DIRECTOR

This report presents the results of a Regional economic base and structure study conducted under contract by the State Planning Division of the Wisconsin Department of Resource Development for the Southeastern Wisconsin Regional Planning Commission. This study was one of a series performed under Urban Planning Grant No. Wis. P-6 (G) from the Housing and Home Finance Agency. The study began in September of 1962 and was completed in June of 1963.

The study utilizes a somewhat different technique of economic analysis than the more usual economic studies prepared for planning purposes. It also serves as an advanced point of departure for the regional activity model data collection program of the Commission's Regional Land Use-Transportation Study.

The study provides the basic information necessary to understand the forces at work in the Region's economy. It describes the types of work performed by the people of the Region, the income or wages earned, and the amounts spent on goods and services.

The study also presents estimates of future Regional employment levels by major industrial classifications. Future population levels based upon these estimated future employment levels are also presented. It should be noted that these future population levels as derived from the results of the economic study are considerably lower than the future population levels derived from a population study being prepared by the Commission. This difference does not represent any inconsistency in results, but indicates that the population within the region is presently growing faster than the economy's ability to provide employment opportunity for this population growth. The apparent lag between these two growth rates indicates a potential problem which should receive careful public consideration.

Kurt W. Bauer

K.W. Bauer
Executive Director

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STATE OF WISCONSIN

DEPARTMENT OF RESOURCE DEVELOPMENT

MADISON 2

DIVISION OF PLANNING

June, 1963

Southeastern Wisconsin Regional Planning Commission:

In September, 1962 you engaged the services of the State Planning Division to prepare an economic base and structure study of the Region. This study involved an extensive amount of specialized primary research and a considerable amount of data gathering from secondary sources. There were 125 interviews held with leading citizens, industrialists, and government officials. Data and opinions obtained in these interviews have been incorporated in this report.

The analysis of Southeastern Wisconsin's economy was augmented by:

1. An analytical appraisal of the trends and tendencies of the corresponding industrial activity throughout the nation,

2. A comparative analysis of the Region's economy with that of the state,

3. A series of employment and population projections for future points in time.

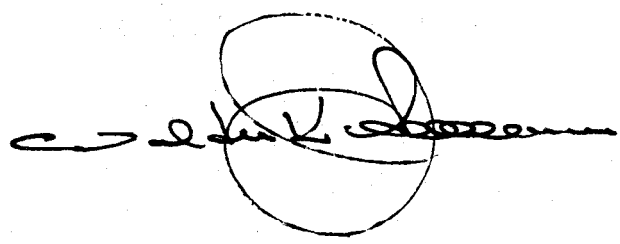
The findings portrayed in this report are intended to describe the basic relationships of parts of the economy to each other, and to provide the framework for an understanding of the economy in general; now and in the future. The data in this report has been objectively evaluated and thoroughly documented.

It is with great pleasure that I transmit this analysis of The Economy of Southeastern Wisconsin to you.

Sincerely yours,

Walter K. Johnson
State Planning Director

WKJ:mew



ERRATA

The corrections which should be made to this report are:

1. All figures in Table 3 are in thousands of dollars.

2. Page 15, paragraph 2, last sentence should read: These geographic areas are shown on page 20.

3. Page 15, paragraph 8 should read: New capital expenditure data are .....

4. Page 17, Table 8; New England distribution percentage in 1961 is 0.9, not 10.9.

5. Page 41, footnote to line 3 should read: 1. 1962 United States Statistical Abstract.

6. Page 74, paragraph 2, line 4 should read: .....classified as dairy farms in 1959. Second in number were miscellaneous.....

STATEMENT OF THE ECONOMIC STUDIES COORDINATING COMMITTEE

The State of Wisconsin, the Southeastern Wisconsin Regional Planning Commission, Waukesha County, and the Cities of Milwaukee and Kenosha have all decided to examine the forces that shape their economies.

In order to assure that these studies are fully coordinated, complementing and supplementing each other, an Economic Studies Coordinating Committee was formed at the request of the Southeastern Wisconsin Regional Planning Commission. This committee included representation from the State Department of Resource Development, the planning agencies of Waukesha County and the Cities of Milwaukee, Racine and Kenosha, the University of Wisconsin-Milwaukee and the Commission itself.

The objectives of the various economic studies currently being undertaken by the various governmental agencies within the Region are as follows:

> The objectives of the State economic studies are: (1) to identify and analyze the basic economic structure of the State; (2) to project state employment and population; (3) to identify problem areas and suggest corrective economic and physical resource development programs; and (4) to interpret the implications of these development programs.
>
> The objectives of the Regional economic studies are: (1) to identify the Region's basic sources of employment and income; (2) to describe and examine the Region's economic structure; (3) to prepare Regional employment projections and forecasts, using traditional techniques; and (4) to develop a series of long term conditional forecasts of Regional employment and population, using a computer simulation model as an analytical tool. The model approach is unique in that it allows for the quantitative testing of the economic effects of a wide variety of public and private decisions.

Waukesha County's Economic Base Study is one of a series of county planning projects designed to explore in detail the economic and demographic foundations of the County. These studies will be used to provide both basic and refined information to be used in making informed decisions for the better development of the County.

The City of Milwaukee's Community Renewal Program includes a study of land absorption in order to estimate the market for land which may be made available through urban renewal over the next ten years. The projected land utilization rates are based on general economic trends, population projections and selected interviews.

A detailed study of the Kenosha area's economy will be prepared in conjunction with, and in addition to, the studies programmed by the State and Regional planning agencies. Emphasis will be placed on particular economic problems indigenous to the Kenosha area.

As additional economic studies are proposed in the Region, this Committee will attempt to provide the necessary coordination so that unnecessary duplication of effort may be avoided.

Economic Studies Coordinating Committee

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LIST OF TABLES

Chapter I
INTRODUCTION

The Southeastern Wisconsin Regional Planing Commission was created in August, 1960 under the provision of Section 66.945 of the Wisconsin Statutes. Its principal objective is to serve and assist local units of government in planning for the orderly and economic development of the Southeastern Wisconsin Region.[1] The Region consists of the counties of: Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha.

The Commission is charged by statute with the duty of "making and adopting a master plan for the physical development of the Region." This plan is intended to serve as a basis for the extension of assistance and advice to the local units of government.

One of the first steps in the preparation of a comprehensive or "master" plan is to gain an understanding of the structure of the economy of the planning area. This report is intended to provide information essential to such an understanding.

The economic base of an area may be defined as those activities which provide the basic employment and income on which the rest of the area's economy depends. The economic structure of an area may be defined as the manner in which this basic employment is distributed among the major industrial categories. Two principal objectives of this study then, are: (1) to identify the Region's basic sources of employment and income and, (2) to identify the Region's economic structure. To the degree that this study meets these two objectives, it will contribute toward a better understanding of the Region's economy.

Estimates of how many people will reside in any planning area in the future are essential to any long range planning effort. One method of obtaining such future population estimates is by demographic projection. Such projection entails analyses in depth of such population characteristics as age and sex composition, migration rates, birth rates, and death rates.

An estimate of future population levels can also be obtained by relating an employment forecast to the number of people this employment level can support. Since an economic study for planning purposes includes employment forecasts, population estimates can be made from such studies. A population projection obtained by this technique will provide a realistic check on a projection derived from pure demographic analyses. A third principal objective of this study, therefore, is to provide employment forecasts for future points in time so that these forecasts can be used in the preparation of a Regional plan.

The data and information collected in this study will in addition be useful for many other purposes. For example: the study can be used to identify certain problem areas in the economy which may need attention; and it provides the kinds of data many businesses, governments, and citizens need to make better decisions concerning their activities. In this study, some of the data collected will provide important inputs for the economic activity model being developed as a part of the Commission's Regional Land Use-Transportation Study.

It should be emphasized that any economic study has limitations. Unless periodic re-evaluations of the study are made, based upon techniques which will continually maintain the data and projections current, any such study quickly loses its value. This is true because the economic picture presented is taken at one point in time, while economic conditions are constantly changing. Therefore, the value of an economic study is limited unless provision is made to maintain the data current. The Southeastern Wisconsin Regional Planning Commission plans to maintain this data current and thereby provide the framework for such continuous surveillance of economic activity in the Region.

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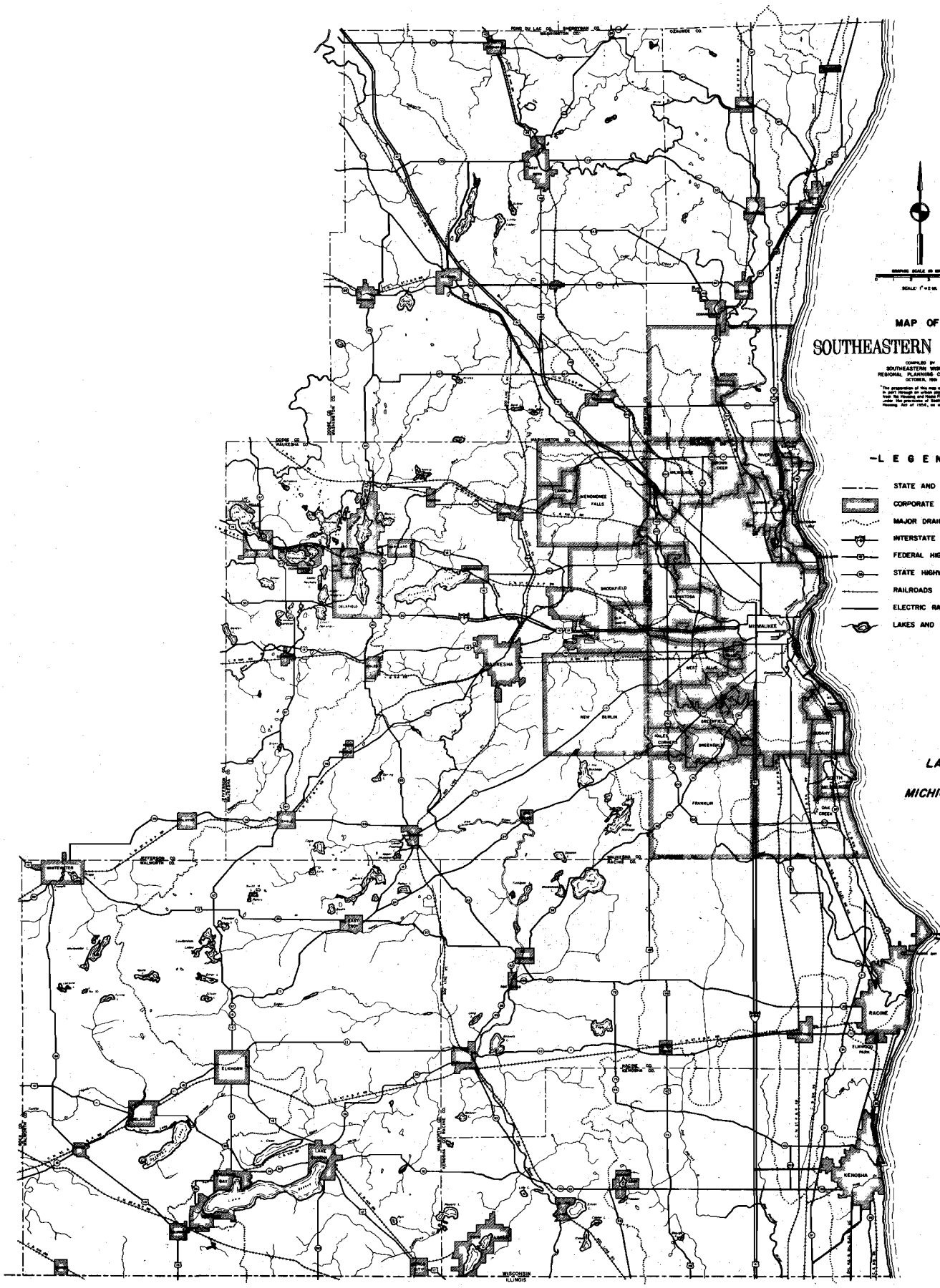
1. In the interest of clarity and simplicity, the term: Southeastern Wisconsin Region is referred to as simply: Region in this report.



SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION

"The preparation of this map was financed in part through an urban planning grant from the Housing & Home Finance Agency, under the provisions of Section 701 of the Housing Act of 1954, as amended."

SOUTHEASTERN WISCONSIN REGION

DRAWN: R. S. Humphrey DATE: 30 Oct. 61
CHECKED:
SCALE:
REVISED: 15 Feb. 62 Del R. Bolmke

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Chapter II
STUDY METHODOLOGY

The basic concept on which the system of economic analysis here employed[1] rests, is that an understanding of the economy of an area can best be gained by means of analysis in depth over time of the largest industry groups of that area. Examination of all sectors of a regional or sub-regional economy to the extent necessary for meaningful understanding is virtually impossible, not only from a financial, but also from a procedural point of view. This is particularly true if the analytical method is a continuing one; as is the method employed here. Continuity is mandatory for effective results in economic analysis because of the very large number of variables at work at all times in our culture. The most fundamental and unpredictable of these variables for economic analysis are: technological, business behavioral, consumer behavioral, and institutional change. Constant examination of the interplay and effect of such variables on the economy is requisite to an understanding of that economy, its changing composition, its direction and force of movement, and its probable impacts on things and people.

Behind the selection of leading industries as the point of departure in economic area analysis, is the belief (1) that the economic welfare of an area is the principal social concern of the area; (2) that the economic welfare of an area is primarily dependent on its leading economic activities; and (3) that if a selection of industries is to be made for analytical purposes, the largest are the most logical since the involve the greatest concentrations of job opportunities.

The selection of leading industries in the Region has been made on this basis. Industrial "dominants" have been selected which, in 1960, had 4 percent or more of the employment of the Region. These industrial dominants are identified according to the Standard Industrial Classification System established by the United States Bureau of the Budget. By way of example, manufacturing is broken down by this system into many specialized operations such as food processing, labeled by the Bureau "Food and Kindred Products." This industry has what is called a two-digit identification which is 20. Subclassifications of the food and kindred products industry group are then made with an expansion of digits; thus, meat products has three digits, 201, which is in turn broken down to the four digit level, sausages and prepared meats, 2013, and so on down to a highly specialized level of seven digits. The present analysis is made principally at the two digit level.

A few exceptions to the above system have been made in this report. One of these exceptions is agriculture. Employment in this industry is not broken down into product specialties. This study treats agriculture, therefore, in a gross, undifferentiated form with some explanatory background refinements concerning types of products drawn from the Census of Argiculture. Other exceptions which had to be made because of data limitations were in medical and other professional services, retail trade, construction, finance, insurance, real estate and government services. They were analyzed as combinations of several two digit industries.

The dominant industries, once identified, were subjected, in most cases, to two levels of analysis. The first was at the national, regional, and state level. Data and opinions concerning trends and problems in each industry were gathered from many secondary sources. This material was analyzed to determine past locational trends, employment trends, market changes, and competitive influences.

The second was at the firm level. There were 125 interviews of firms in the Region to obtain data concerning market orientation, wage rates, and employment trends, and to elicit opinions and suggestions relative to the problems which confront individual firms, industries, and the Region's economy as a whole. A wide variety of secondary data sources was consulted in order to supplement the information obtained in the interviews.

The analysis study technique also devotes attention to those industry groups which were sub-dominant in the economy of the Region. Such groups were selected from the 2 to 3.9

percent employment range. The purpose in establishing a sub-dominant sector in the analysis is to identify those industry groups which may be moving toward dominance in the Region. Development encouragement programs may be suggested by the occurrence of such situations as well as by conditions in which sub-dominant groups are regressing.

In this study, certain "other" groups have also been analyzed in order to gain a better understanding of the economic structure. These "other" industries are neither dominant nor sub-dominant in status. They are considered significant to the Region's export base, and are, therefore, examined in some detail.

An employment projection was prepared for each of the dominant and for other selected industry groups in the Region. Employment projections for each industry used straight-line extrapolations of Wisconsin employment in these industries from 1947 to 1961 as a benchmark. Adjustments of these extrapolations were made based on judgments stemming from the two levels of economic analysis.

Yet another step in the analytic process involved the tabulation of income, consumption and labor force data of the Region. National, State and Regional comparisons of these data reveal changing relative positions in terms of economic welfare over time. In addition, the general economic background provided by these indicators provides a type of testing device which will record the reaction of the Region's economy to critical long term shifts of employment, remuneration, and productivity in the leading industry groups.

Finally, a total Regional employment and population projection was prepared for the years 1965, 1970, 1975, 1980, and 1985. Total employment projections were derived by converting the aggregated industry projections to total employment. Total population was estimated by converting total employment projections to total population. These conversions are made by observing the trend of the appropriate ratios and subsequently estimating their future magnitudes.

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1. Conceived and tested by Professor Richard B. Andrews of the University of Wisconsin for the Wisconsin State Plan, 1962. Attention is directed to the August, 1961 Journal of Land Economics which contains the lead article of a series on this method.

Chapter III
BACKGROUND

The Southeastern Wisconsin Region includes Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha counties (see Map 1). It lies in the extreme southeastern corner of the state bordered by Lake Michigan to the east and the State of Illinois to the south. The Region has a land area of 2,628 square miles or 4.8 percent of the land area of the state. In 1960, however, the Region contained 1,573,614 people or 39.8 percent of the state's population.

ECONOMIC HISTORY

The modern history of the Region dates from 1743 when the Milwaukee Indians, a group of renegades from neighboring tribes, used a spot near Milwaukee as a trading center. Most other cities in the Region trace their origins to trading posts established during the early 1800's. The first permanent white settlement was established in Milwaukee by Jacques Vieau in 1795.

The movement of settlers into the Region was well underway by the 1830's. A wagon road from Chicago was opened in 1835 as far as Milwaukee, and from there another road was cut through the timber westward toward the Rock River. From Milwaukee northward, still another trail led near the lakeshore, as far as Sauk Creek. This afforded access to many of the favorable locations in Ozaukee County.

An important event in the history of the lakeshore counties, which led to their rapid growth, was the sale of government lands in Milwaukee in 1839. Settlers, mainly from New England, poured into the Region. These people were primarily interested in farming. The easterners were followed in large numbers by the Irish, Scandinavians, Hollanders, Bohemians, and Austrians, but in the period from 1844 to 1878 the German immigration outnumbered all other nationalities. During the latter part of this period the Polish immigration began to increase. Each of these groups exercised their influence on the overall development of the Region.

Until 1850, the best trade route that Milwaukee had with the outside world was via the Great Lakes. The city hoped for commercial prosperity to develop by means of trade during this time, and depended on its rich hinterland for the agricultural supplies that were to be exported. After 1841, and until 1875, wheat was the principal export crop. This trade eventually won for Milwaukee the distinction of being the greatest primary wheat market in the world.

The lead mining area of southwestern Wisconsin at first presented a considerable market for agricultural produce. At that time the area had a larger population than Milwaukee. The citizens of Milwaukee also saw the significance of the Rock River Valley as an outlet for further trade and devised plans to build a Milwaukee and Rock River canal. These plans failed to materialize but they, nevertheless, influenced the settlement of the southeastern counties.

As in the rest of the settled areas in Wisconsin, farmers began to turn to dairying and diversified farming when exclusive wheat culture had exhausted the soil and the ravages of rust, chinch bugs, and weevils, in addition to low prices made wheat raising highly unprofitable. These dairying operations began in the 1870's and cheese factories and creameries sprang up in the Region. In addition, rye, oats, and barley were grown in large quantities to supply the breweries in Milwaukee. Sheep raising, wool production, pure-bred livestock raising, and fruit growing, notably apples, were major agricultural products in the latter 1800's.

No historical sketch of the Southeastern Wisconsin Region would be complete without a short resume of Milwaukee's development into a major urban center. More than any other people that settled in the city, the German immigrants most shaped Milwaukee's destiny. They were skilled artisans and mechanics, not only in beermaking but especially in metal working. Nearly all of the city's major industrial plants can trace their beginnings to the small backyard shops of these immigrants.

The rapidly expanding manufacturers had their foundations in the raw materials supplied by the farms and forests of the state and its neighbors. This was especially true of flour milling, meat packing, tanning, and brewing, and even of the iron and steel industry, which relied upon a supply of iron mined in Wisconsin augmented by ore from Lake Superior mines. The Region also had a favorable location for serving the growing eastern and western markets.

TRANSPORTATION FACILITIES

A great forward movement in industrial development occurred after the improvement of rail service. The year 1855, especially, was an epoch-making period in the history of Milwaukee. In the early months of that year, the Chicago & Milwaukee Railroad was completed and connected these two cities. This line later became a part of the Chicago & North Western Railway System. The railroad has played a most important part in the progress of the Region, and has aided in a remarkable manner its industrial and commercial growth.

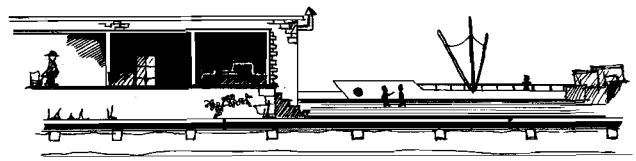
Railways of importance that enter the Region today include The Chicago, Milwaukee, St. Paul & Pacific Railroad (The Milwaukee Road), The Chicago & North Western, and the Minneapolis, St. Paul & Sault Ste. Marie Railroad (The Soo Line). Car ferry service (freight and passenger) is available across Lake Michigan from the Chesapeake & Ohio Railroad, and the Wisconsin & Michigan S.S. Co.

The backbone of the highway system in a north-south direction is U.S. 41 extending from Chicago through Milwaukee to the Wisconsin north country. Other major routes converging on Milwaukee are U.S. 141, the lakeshore route from the north, and U.S. 45 from Chicago. Major westerly routes include U.S. 16 and 18, and State Trunk 30. Interstate 94 now complete between Milwaukee and Chicago will follow the right-of-way of State 30 westerly. Highway connections to the southwest are State Trunks 11, 15, 36, and 59. At present there are nearly 8,000 miles of roads in the Region.

Forty-one interstate truck lines operate throughout the Region, mainly in Milwaukee and the counties south of it.

Airport facilities include one major airport in Milwaukee and several other general aviation airports scattered throughout the Region.

Major harbor facilities, dockage, and heavy cargo handling equipment are concentrated in the Port of Milwaukee. Facilities of lesser scale are available in the ports of Racine and Kenosha. Port Washington in Ozaukee County is principally a fishing and pleasure craft port, but coal is also delivered there for local utility use.



LABOR FORCE

Changes in the Region's labor force reflect in part the changes which have taken place within the Regional economy. Table 1 shows the Regional labor force trends from 1950 to 1960. It may be noted that the Regional population increased faster than the labor force during the period. As a result, the labor force as a percent of total population declined. This ratio is called the participation rate. This is consistent with national trends. The national participation rate declined from 39.3 in 1950 to 38.0 in 1960. This lowering of the rate is the result of the growth of the population over 65 years of age, and the fact that younger people are entering the labor force at an older age because of the need and desire for a college training today as well as military service commitments.

It is also apparent from Table 1 that the female labor force in the Region is increasing much faster than the male labor force. As a result, the percentage of females in the labor force increased from 28.7 percent in 1950 to 32.2 percent in 1960. This is also consistent with national trends. The percentage of females in the United States' labor force increased from 27.9 percent in 1950 to 32.8 percent in 1960. The need for more clerical and sales help is in part responsible for this increase.

Table 1

LABOR FORCE TRENDS IN THE SOUTHEASTERN WISCONSIN REGION: 1950 TO 1960*

	1950	1960	% Change
Population	1,240,618	1,573,614	26.8%
Labor Force	538,716	636,901	18.2
Females	155,068	206,300	33.0
Males	383,990	431,611	12.4
Percent Females in Labor Force	28.8%	32.3%	
Percent Males in Labor Force	71.2	67.7	
Percent Labor Force of Population	43.4	40.5	

*See also Tables 3 and 4 in Appendix B

Source: United States Census of Population, 1950 and 1960

The Region's labor force has increased slower than the national rate. The comparison is 28 percent nationally to 18 percent in the Region. The employed labor force has increased in both cases in proportion to the labor force increase, although growth has been interrupted by periodic national recessions. Recessions in our national economy have a great impact on Regional employment. This is apparent from employment trends for a recent series of years, prepared by the Wisconsin Industrial Commission.

As shown in Table 2, from the 1958 recession low, Regional employment moved upward in 1959 (slowed by the steel strike) and reached its peak in 1960.

Table 2

EMPLOYMENT TRENDS IN THE SOUTHEASTERN WISCONSIN REGION: 1958 TO 1962

	1958	1959	1960*	1961	1962
Employed	602,200	633,700	647,500	632,400	642,400
Unemployed	39,100	21,000	25,300	37,200	24,900
Rate of Unemployment	6.1%	3.2%	3.8%	5.6%	3.7%

*Discrepancies between U.S. Census employment figures and the Industrial Commission figures exist because of the different data collection techniques used by these agencies.

Source: Wisconsin Industrial Commission

Table 3

DISPOSABLE INCOME TRENDS IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1949 TO 1961

	1949	1952	1955	1958	1961	% Change 1949 To 1961
Region	$1,889,444 (2,276,402)*	$2,326,976 (2,515,694)	$2,635,959 (2,825,221)	$2,986,599 (2,965,836)	$3,677,680 (3,529,440)	94.6% (55.0)
Milwaukee	1,417,197 (1,707,439)	1,665,011 (1,800,043)	1,913,081 (2,050,440)	2,096,201 (2,081,628)	2,478,815 (2,378,899)	74.9 (39.3)
Kenosha	100,098 (120,598)	135,113 (146,071)	148,362 (159,014)	185,656 (184,365)	227,072 (217,919)	126.8 (80.7)
Ozaukee	24,017 (28,936)	41,754 (45,140)	45,369 (48,626)	59,430 (59,016)	88,817 (85,237)	269.8 (194.6)
Racine	153,154 (184,520)	210,617 (227,698)	228,644 (245,061)	258,277 (256,481)	318,030 (305,210)	107.7 (65.4)
Walworth	49,718 (59,900)	60,663 (65,583)	71,759 (76,911)	83,161 (82,582)	94,440 (90,633)	90.0 (51.3)
Washington	40,566 (48,874)	54,388 (58,799)	55,484 (59,468)	66,761 (66,297)	89,799 (86,179)	121.4 (76.3)
Waukesha	104,694 (126,135)	159,430 (172,360)	173,260 (185,722)	237,113 (235,464)	375,707 (360,563)	258.9 (185.9)
Wisconsin	4,377,612 (5,274,147)	5,255,489 (5,681,709)	5,802,022 (6,218,607)	6,592,296 (6,546,466)	7,673,159 (7,363,869)	75.3 (39.6)
United States	191,683,662 (230,940,476)	232,114,643 (250,939,141)	265,601,325 (284,671,500)	307,567,728 (305,429,519)	362,844,222 (348,218,695)	89.2 (50.8)

*Figures in parenthesis are adjusted to the 1957 - 1959 = 100 Consumer Price Index

Source: Survey of Buying Power, Sales Management

Monthly figures would show a turning down of national and Regional employment in the latter part of 1960 and on into 1961 in response to the 1960-1961 recession. The effects of this recession are reflected in the dip in the 1961 average annual employment. The recovery from this recession is reflected in the 1962 figure.

It should be noted that unemployment moves in the opposite direction of employment in these recessions. As a result these short-run business lags create temporary hardships for a substantial number of workers. For example, the 1961 recession created hardships for nearly 12,000 workers as the number of unemployed rose from 25,300 to 37,200.

Also, it appears that the series of post-war recessions may be causing a gradual increase in the absolute number of chronically unemployed in the Region. For example, in the recovery year of 1959, there was a yearly average of only 21,000 unemployed workers, in spite of a prolonged steel strike, whereas in 1962 there were nearly 25,000 unemployed and no major national strike occurred.

In all, the mature nature of many of the Region's industries, and the heavy concentration in the production of capital goods, appear to be responsible for the slower than national labor force growth and short-run employment fluctuations in the Regional economy.

INCOME

The income measure used here is disposable personal income. This is defined as income from wages, salaries, interest, dividends, rent, profits from unincorporated businesses, social security benefits, and unemployment compensation, minus personal income taxes. Income earned by corporations is not considered personal income unless received as a dividend.

Disposable income is one of the better indicators of economic change. Its trend parallels the movement of the economy in an area. Expressed in per capita terms, it is useful as an indicator of whether or not the economy of an area provides high, low, or average returns to the resident population. In examining disposable income figures over a series of years, perhaps the most important thing to note is the rate of change.

In the Region, total disposable income has increased rapidly in the past. From 1949 to 1961 the increase was 94.6 percent in actual dollars and 55 percent in constant dollars.[1] This was higher than both the Wisconsin and United States' rates of increase. Within the Region, Waukesha and Ozaukee Counties showed the highest total disposable income increases. (See Table 3.)

Disposable income per capita, however, grew more slowly in the Region than in either Wisconsin or the United States during the 1949-1961 period. The percentage change for the Region was 43.7 percent in actual dollars and 14.5 percent in constant dollars. Wisconsin and the United States increases were 46.2 percent and 53 percent in actual dollars and 16.5 percent and 21.9 percent in constant dollars, respectively (see Table 4). Ozaukee County also had the highest rate of increase in per capita income.

It is significant to note that though the Regional per capita increase may have been smaller than that of the state or the United States in absolute amounts, per capita income in constant dollars is $342.00 higher than the state figure and $273.00 higher that the national figure. Translated into terms of average family size, this means Regional families on the average have between $900.00 and $1,129.00 more annual disposable income than the average United States or Wisconsin family.

Income distribution figures in Table 5 show that Kenosha, Milwaukee, Ozaukee, and Waukesha Counties all have over 20 percent of their households earning $10,000.00 or more. This is substantially above Wisconsin (14.9 percent) and United States (16.4 percent) averages. At the other extreme, only Walworth County with 24.8 percent of its household income between $0-$2,499.00 approaches the Wisconsin (22.0 percent) and United States (25.8 percent) figures. The remaining counties in the Region range between 11.3 percent and 17.4 percent of their households in this low income group. The largest share of families in the Region, state, and nation have an annual income between $4,000.00- $6,000.00. In general, these income distribution patterns reflect higher disposable incomes in the Region than in the state or nation as a whole.

1. The 1957 - 1959 = 100 Consumer Price Index was used to deflate actual dollar figures to constant dollars. Looking at constant dollars allows a comparison free of price distortion.

Table 4

PER CAPITA DISPOSABLE INCOME TRENDS IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1949 TO 1961

	1949	1952	1955	1958	1961	Absolute Change 1949 To 1961	% Change 1949 To 1961
Region	$1,567	$1,802	$1,908	$1,945	$2,252	$685	43.7%
	(1,888)*	(1,948)	(2,045)	(1,931)	(2,161)	(273)	(14.5)
Milwaukee	1,638	1,848	1,981	2,014	2,328	690	42.1
	(1,973)	(1,998)	(2,123)	(2,000)	(2,234)	(261)	(13.2)
Kenosha	1,345	1,712	1,785	1,847	2,152	807	60.0
	(1,620)	(1,851)	(1,913)	(1,834)	(2,065)	(445)	(27.5)
Ozaukee	1,189	1,697	1,738	1,801	2,161	972	81.7
	(1,432)	(1,835)	(1,863)	(1,788)	(2,074)	(642)	(44.8)
Racine	1,457	1,848	1,915	1,955	2,146	689	47.3
	(1,755)	(1,998)	(2,052)	(1,941)	(2,060)	(305)	(17.4)
Walworth	1,416	1,382	1,530	1,627	1,835	419	29.6
	(1,706)	(1,494)	(1,640)	(1,616)	(1,761)	(55)	(3.2)
Washington	1,330	1,532	1,480	1,590	1,844	514	38.6
	(1,602)	(1,656)	(1,586)	(1,579)	(1,770)	(168)	(10.5)
Waukesha	1,387	1,712	1,685	1,743	2,202	815	58.8
	(1,671)	(1,851)	(1,806)	(1,731)	(2,113)	(442)	(26.5)
Wisconsin	1,296	1,480	1,582	1,689	1,895	599	46.2
	(1,561)	(1,611)	(1,696)	(1,677)	(1,819)	(258)	(16.5)
United States	1,286	1,477	1,602	1,758	1,967	681	53.0
	(1,549)	(1,597)	(1,717)	(1,746)	(1,888)	(339)	(21.9)

*Figures in parenthesis are adjusted to the 1957 - 1959 = 100 Consumer Price Index

Source: Survey of Buying Power, Sales Management

CONSUMPTION

Current consumption expenditures in any period can normally be broken down into six main categories: food, shelter, clothing, transportation, services, and durable goods consumed during the period. The remaining income not spent for these things is considered savings. Savings may be held in the form of cash, bank deposits, investments, durable goods, or housing. Consumption plus savings must equal income.

It is extremely difficult to obtain data on expenditures in each of these six categories for the Region. A reasonably accurate measure of food, transportation, services, clothing, and durable goods consumed during the year has been constructed for 1954 and 1958. These figures were obtained by utilizing Sales Management retail sales data and the Census of Business service expenditures data which are compiled by county. Retail sales figures were adjusted by subtracting new durable goods sales, which are considered investments made out of family savings. What remains are non-durable expenditures which are a large part of current consumption. Service expenditures were adjusted by subtracting all business service expenses. Durable goods consumption that could rightly be called current consumption was obtained by taking a six year average of durable goods sales. The result is a close approximation of Regional current consumption in five of the six major categories (e.g. food, clothing, transportation, services, and durable goods consumed during the period). No reliable data on shelter (housing) was available. (See Table 6.)

A recent Philadelphia study indicated that on the average 21.9 percent of disposable income was spent for shelter (rent) and household operations (utilities)[1]. These would be considered current consumption expenditures. It should be pointed out that monthly payments for mortgages, taxes, and insurance on homes are considered investments which come out of savings. These are not, therefore, current consumption expenditures.

Using the Philadelphia experience, which showed that 21.9 percent of the disposable income was spent for shelter and utilities, a rough estimate can be made of the current Regional expenditure for these same items. Twenty-two percent of the 1958 Regional income amounts to $654 million. If this were added to the Regional volume of current consumption already obtained of $2.1 billion, (Table 6), the total Regional current consumption for 1958 in all six categories would approximate $2.8 billion. This is approximately 93.7 percent of Regional income, and is slightly higher than the normal average propensity to consume.

The table which accounts for five of six current consumption categories, shows per capita expenditures in many of the counties varying a good deal from the Regional per capita average. This is because Milwaukee County accounts for a disproportionately large share of total current consumption expenditures. Perhaps the most meaningful figure is the Regional average which shows a slight $75.00 per capita increase in current consumption from 1954 to 1958.

1. Bureau of Labor Statistics Report 237-8.

Table 5

DISTRIBUTION OF INCOME INTO MAJOR INCOME GROUPS AND PERCENT OF HOUSEHOLDS IN EACH GROUP FOR THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1960

	$0 - $2,499		$2,500 - $3,999		$4,000 - $6,999		$7,000 - $9,999		$10,000 - Over	
	% of Households	% of All Income	% of Households	% of All Income	% of Households	% of All Income	% of Households	% of All Income	% of Households	% of All Income
Milwaukee	12.8%	2.6%	11.1%	4.9%	37.4%	27.8%	17.8%	20.1%	20.9%	44.6%
Kenosha	13.0	2.8	10.4	4.7	39.1	20.0	16.8	19.6	20.7	42.9
Ozaukee	12.0	2.4	11.2	4.7	36.0	25.5	18.3	19.8	22.5	47.6
Racine	13.8	3.0	11.8	5.4	38.4	29.3	17.2	20.1	18.8	42.2
Walworth	24.8	6.6	16.5	9.3	33.1	31.0	12.3	17.7	13.3	35.4
Washington	17.4	4.1	15.2	7.6	37.4	31.3	14.5	18.6	15.5	38.4
Waukesha	11.3	2.2	9.7	4.0	37.8	26.2	18.0	19.1	23.2	48.5
Wisconsin	22.0	5.4	15.7	8.3	34.2	30.3	13.2	17.9	14.9	38.1
United States	25.8	6.4	16.8	8.9	30.1	26.6	10.9	14.7	16.4	43.4

Source: Survey of Buying Power, Sales Management

Table 6

TOTAL AND PER CAPITA CURRENT CONSUMPTION EXPENDITURES FOR FOOD, CLOTHING, TRANSPORTATION, SERVICES, AND DURABLE GOODS CONSUMED IN THE SOUTHEASTERN WISCONSIN REGION: 1954 AND 1958 (ALL FIGURES EXCEPT PER CAPITA IN 1,000'S)

	1954[1] Service Expenditures	1954[2] Retail Sales	1954[3] Durable Goods Consumption	1954 Total	Per Capita 1954	1958[1] Service Expenditures	1958[2] Retail Sales	1958[3] Durable Goods Consumption	1958 Total	Per Capita 1958
Kenosha	$ 5,852	$ 75,768	$ 24,148	$ 105,768	$1,244.00	$ 8,701	$ 82,166	$ 31,214	$ 122,081	$1,286.00
Ozaukee	1,275	21,670	8,532	31,477	1,085.00	2,457	21,218	15,885	39,560	1,130.00
Milwaukee	117,740	907,566	292,193	1,317,499	1,403.00	128,358	1,063,400	316,503	1,508,261	1,500.00
Racine	9,200	110,019	38,490	157,709	1,303.00	11,641	122,620	51,491	185,752	1,386.00
Walworth	5,069	45,445	17,025	67,539	1,501.00	7,536	45,662	25,911	79,109	1,615.00
Washington	2,527	33,754	9,956	46,237	1,851.00	3,035	31,350	15,244	49,629	1,129.00
Waukesha	8,520	71,328	25,782	105,630	918.00	12,280	80,943	47,000	140,223	967.00
Region	150,183	1,265,550	416,126	1,831,859	1,334.00	174,008	1,447,359	503,248	2,124,615	1,409.00

1. Service expenditures were adjusted by subtracting out all business service expenses.
2. Retail sales expenditures were adjusted by subtracting out all new durable goods expenditures which are considered investment out of savings and not current consumption.
3. Durable goods consumption during the period was obtained by taking a six year average of durable goods sales.

Source: Sales Management, Census of Business, Census of Population

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Chapter IV
INDUSTRIAL ANALYSIS

In this chapter, seven dominant, eight sub-dominant,[1] and four other industries which are less significant in employment terms, are analyzed. These industries are shown in Table 7.

In the analysis of the manufacturing industries, various types of data are presented and discussed. The value added by manufacture by each industry is derived by subtracting the cost of raw materials, supplies, containers, fuel, purchased electricity, and contract work from the value of shipments for products manufactured and adding in receipts for services rendered. This value measure is considered to be the best available for comparing the relative economic importance of manufacturing among industries and geographic areas. Value added data are used here to show the changing importance of the respective industries among national geographic areas between 1947 and 1961. These geographic areas are shown in Figure 2.

Employment data are examined to show comparative trends of national, East North Central States (ENC States)[2], Wisconsin, and Regional industry group employment. Regional, Wisconsin, and United States employment figures were compiled from Wisconsin Industrial Commission data; ENC States industry employment figures were obtained from the Department of Commerce Annual Survey of Manufacturers.

The Industrial Production Index, which is incorporated into several of the industry analyses, is compiled by the Board of Governors of the Federal Reserve System, Division of Research and Statistics. This index uses 1957 as a base year. That is, production in 1957 is assigned the number 100 and all years for which data is needed can have an index number computed. This is accomplished by dividing a given year's production by 1957 production; the quotient being that year's production index. This index was used to measure national output trends in several of the industries. Accurate measures of industry output trends are not readily available for smaller geographic areas.

It should be noted that the production index measures increases in total physical output for each industry and not productivity; consequently, comparisons between increases in the production index and increases in wages in each industry are not meaningful. A comparison of the change in the production index and the number of employees in each industry suggests productivity advances. No measure of productivity as such is presented in this report. The adequacy or inadequacy of wage increase in any industry can only be measured against true productivity gains.

Average hourly wage rates for each industry are also presented. This data was available in the annual editions of the Statistical Abstract of the United Stages published by the Bureau of the Census. Current average hourly wage rates for Regional industries were estimated from data collected during firm interviews.

No capital expenditure data are presented in each manufacturing industry analysis. Expenditures made for plant and equipment from 1954 to 1961 were aggregated for each industry. This was done in order to determine where in the United States industries are expanding their facilities or replacing old equipment. These statistics were obtained from the Annual Survey of Manufacturers.

Input and output data collected from firms in the Region are presented for the dominant and sub-dominant manufacturing industries. These data are used to show the market orientation pf the industries and the origin of material supplies (intra or extra Regional by sector of the economy). Input data are not complete because household, government, and capital inputs were not collected.

The analyses of the non-manufacturing, locally oriented industries are less detailed. Employ-

1. See Methodology Chapter for definitions of dominant and sub-dominant industries.

2. These states are: Illinois, Indiana, Michigan, Ohio and Wisconsin. In the interest of clarity and simplicity, this area is referred to as simply: ENC States in this report.

Table 7

INDUSTRY EMPLOYMENT CHANGES IN THE SOUTHEASTERN WISCONSIN REGION: 1950 TO 1960

Industry	Employment 1950	% Distribution	Employment 1960	% Distribution	1950 - 1960 % Change
Dominant Industries	253,900	48.4%	316,200	51.6%	24.5%
Non-Electrical Machinery	62,500	11.9	58,800	9.6	-5.9
Electrical Machinery	20,100	3.8	40,900	6.7	103.5
Transportation Equipment	24,800	4.7	33,400	5.5	34.7
Retail Trade	78,900	15.1	90,200	14.7	14.3
Medical and Other Professional Services	25,400	4.9	38,700	6.3	52.4
Construction	26,800	5.1	28,800	4.7	7.5
Educational Services	15,400	2.9	25,400	4.1	64.9
Sub-Dominant Industries	139,100	26.5	150,100	24.5	7.9
Food and Kindred Products	21,900	4.2	21,300	3.5	-2.7
Fabricated Metals	17,600	3.3	18,300	3.0	4.0
Primary Metals	16,300	3.1	19,400	3.2	19.0
Printing and Publishing	9,900	2.0	13,800	2.2	39.4
Finance, Insurance, and Real Estate	16,900	3.2	23,000	3.7	36.1
Government Services	17,900	3.4	22,700	3.7	26.8
Wholesale Trade	17,600	3.3	18,700	3.1	6.3
Agriculture	21,000	4.0	12,900	2.1	-38.6
Other Industries	23,200	4.4	19,600	3.2	-15.5
Leather and Leather Products	11,000	2.0	7,600	1.2	-30.9
Chemicals and Allied Products	4,000	0.8	4,000	0.7	—
Paper and Allied Products	5,100	1.0	4,600	0.8	-9.8
Instruments	3,100	0.6	3,400	0.5	9.7
Other Manufacturing Employment	33,700	6.4	51,100	8.3	51.6
Other Service Employment	74,700	14.3	75,800	12.4	1.5
Total	524,600	100.0%	612,800	100.0%	16.8%

Source: Wisconsin Industrial Commission and United States Census of Population

ment trends are presented for each of these activities, but less emphasis has been put on these service type industries for reasons outlined in Chapter II.

NON-ELECTRICAL MACHINERY

The machinery industry is the largest industrial employer in the Region. In the United States, it is the second largest industrial employer; second only to the transportation equipment industry. In 1961, approximately 1,400,000 persons were employed in this industry nationally. This was about 2.6 percent of total non-agricultural employment. In the same year, there were 55,100 machinery industry employees in the Region or 9.6 percent of total Regional employment.

This industry includes establishments engaged in manufacturing such items as engines, turbines, farm implements, construction equipment, machine and metal working tools, pumps, compressors, pneumatic hand tools, office machines, vending equipment, and an array of miscellaneous industrial machinery. Some of the firms representing this industry within the Region are Harnischfeger Corporation; Bucyrus-Erie Co.; Kearney & Trecker Corporation; Gehl Bros. Manufacturing Co.; Chain Belt Co.; J. I. Case Co.; Twin Disc Clutch Co.; Nordberg Manufacturing Co.; International Harvester Co.; Allis-Chalmers Manufacturing Co.; and A. O. Smith Corporation.

This industry has been traditionally concentrated in the ENC States and Mid-Atlantic States. In 1961, these geographic areas accounted for nearly 65 percent of the industry's value added by manufacture. These areas have been losing their relative importance in the industry; in 1947 these states accounted for 73 percent of value added. The ENC States realized all of this 8 percent loss as shown in Table 8. All other areas in the country except the New England and Mid-Atlantic States, increased their relative importance in the industry. The Pacific States had the largest gain at 3.3 percent.

New capital expenditures from 1954 to 1961 were greatest in the ENC States and Mid-Atlantic States. These areas accounted for 66 percent of all new capital expenditures. The next largest amounts were spent in New England and on the Pacific Coast. None of the other areas of the country accounted for a signif-

Table 8

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE NON-ELECTRICAL MACHINERY INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$7,811	100.0%	$14,274	100.0%	83.0%	—
New England	933	2.0	1,558	10.9	67.0	-1.1%
Mid-Atlantic	1,678	21.5	3,070	21.5	83.0	—
East North Central	4,013	51.4	6,154	43.1	53.0	-8.3
West North Central	423	5.4	929	6.5	120.0	1.1
South Atlantic	135	1.7	507	3.6	276.0	1.9
East South Central	95	1.2	305	2.1	221.0	0.9
West South Central	175	2.2	583	4.1	233.0	1.9
Mountain	30	0.4	94	0.7	213.0	0.3
Pacific	329	4.2	1,074	7.5	226.0	3.3

Source: Annual Survey of Manufacturers

icant share of expenditures on plant and equipment. (See Table 9.)

Total national employment in the machinery industry has increased slowly in the past 15 years. The increase was just under 2 percent from 1947 to 1961.

Regional employment in the machinery industry appears to be declining. Employment for the industry in the Region declined by 23.8 percent from 1947 to 1961. As a result of this decline, the Region's share of Wisconsin machinery employment dropped from 80 percent in 1947 to 67.2 percent in 1961. On the other hand, the Wisconsin share of ENC States employment increased from 12.2 percent to 14.4 percent during the same period. In all, it appears that the Wisconsin machinery industry outside the southeastern Wisconsin Region has been improving its relative position in an employment sense. (See Table 10.)

This industry is very much affected by cyclical movements in the economy. In each of the four recessions sine 1947, employment in this industry dipped quite sharply. The most dramatic dips occurred in the recessions of 1949 and 1958 when employment dropped 14 percent from the preceding years. The drop in the 1954 recession was 9 percent and the drop in 1961 was 5 percent. These cyclical fluctuations tend to cause substantial amounts of short-run unemployment.

As shown in Table 11, average hourly wages in the industry have been rising at a steady pace since 1950. Production workers' wages increased from $1.61 per hour in 1950 to $2.62 per hour in 1961. This is an increase of 62.7 percent. Interviews have shown that the machinery industry in the Region pays its workers an average wage of approximately $3.00 per hour.

As shown in Table 12, the industrial production index for the industry increased from 74 to 107 between 1947 and 1961. This 45 percent increase is much greater than the employment increase and thus reflects significant productivity gains made in the machinery industry over the last 15 years. Output during the period has also fluctuated with general business activity. The index of industrial production fell off sharply in the 1954 and 1958 recessions. The

Table 9

NEW CAPITAL EXPENDITURES IN THE NON-ELECTRICAL MACHINERY INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$5,838	100.0%
New England	572	9.8
Mid-Atlantic	1,277	21.9
East North Central	2,623	44.9
West North Central	351	6.0
South Atlantic	160	2.7
East South Central	239	4.1
West South Central	193	3.3
Mountain	30	0.5
Pacific	393	6.8

Source: Annual Survey of Manufacturers

Table 10

EMPLOYMENT TRENDS IN THE NON-ELECTRICAL MACHINERY INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	1,375.0	1,210.0	1,517.0	1,418.0	1,572.0	1,362.0	1,471.0	1,401.0	1.9%
ENC States	765.0	683.0	797.0	729.0	813.0	574.0	609.0	568.0	-25.8
Wisconsin	90.4	79.6	93.0	82.7	96.4	83.6	86.5	82.0	-9.3
Region	72.3	62.5	70.7	61.2	69.4	58.5	58.8	55.1	-23.8
Region of Wisconsin	80.0%	78.6%	76.0%	74.0%	72.0%	70.0%	68.0%	67.2%	
ENC of United States	55.6	56.4	52.5	51.4	51.7	42.1	41.4	40.5	
Wisconsin of ENC	11.8	11.6	11.7	11.3	11.9	14.6	14.2	14.4	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

capital goods nature of this industry is responsible for these dips in employment and output.

Input and output data for the sampled machinery firms of the Region are presented below. Nearly 95 percent of their output is marketed outside the Region; mainly to wholesalers, mining firms, and other manufacturers. Most material inputs are purchased from suppliers outside the Region (See Table 13).

Based on the foregoing data, firm interviews, and the study of information about the industry from a substantial number of secondary sources, it is estimated that employment in this industry will continue to decline in the future at average rates of 1/3 to 1/4 percent per year. As a result, employment estimates for 1985 range from 54,100 to 55,200 persons. The major facts and judgments upon which this forecast was made are:

1. This industry is tending to be less concentrated in the traditional ENC States location and is expanding into other parts of the country. Many of the larger machinery firms in the Region indicated that they would probably expand out of the Region when expansion became necessary.

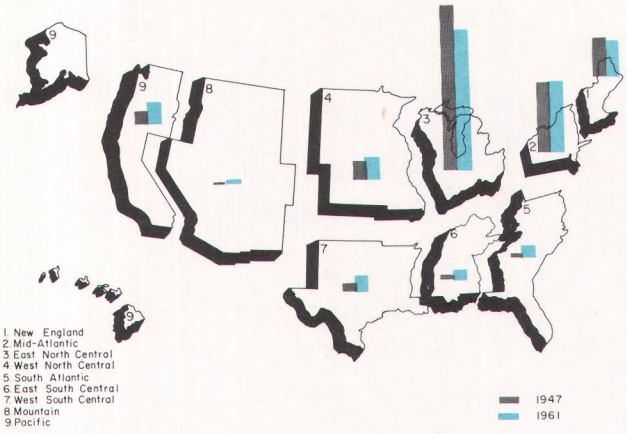
2. Declines in total employment in the machinery industry have been registered in the ENC States, Wisconsin, and in the Region. The employment level of the firms interviewed has also declined substantially. Interviews showed that most of this decline occurred in the large firms. The smaller firms with narrow product lines and more specialized techniques have generally shown either stable employment or slight increases.

3. A large amount of money has been spent for new production equipment, much of which requires less labor. The desire to cut rising overall costs is responsible for most of this investment. Strong foreign and domestic competition also tends to dictate the need for more efficient operations.

4. Interviewees indicated that rising transportation costs, which are a significant factor in the shipment of heavy bulk items such as this industry produces, are in part causing a geographic decentralization of this industry.

5. It is significant that, although output in this industry increased over the last fifteen years, employment has actually declined. It is probable that this industry will meet future increases in demand with even less total employment.

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The NON-ELECTRICAL MACHINERY Industry 1947 And 1961



NON-ELECTRICAL MACHINERY EMPLOYMENT

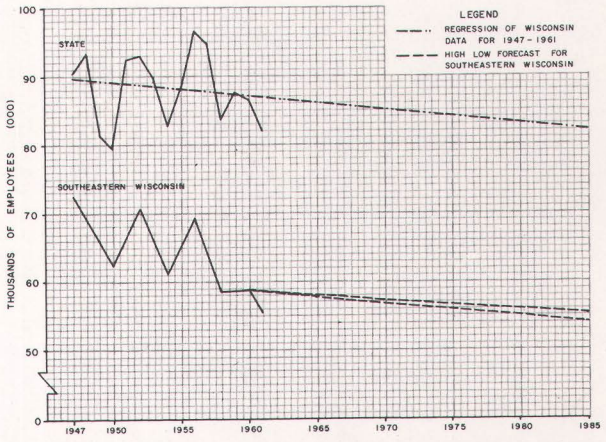


Table 11

UNITED STATES AVERAGE HOURLY WAGE IN THE NON-ELECTRICAL MACHINERY INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.61	$1.86	$2.01	$2.21	$2.38	$2.55	$2.62	62.7%

Source: United States Department of Commerce, Statistical Abstracts

Table 12

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE NON-ELECTRICAL MACHINERY INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	74	71	98	86	103	83	102	107	45%

Source: Board of Governors of the Federal Reserve System

Table 13

INPUT-OUTPUT RELATIONSHIPS IN THE NON-ELECTRICAL MACHINERY INDUSTRY IN THE SOUTHEASTERN WISCONSIN REGION: 1962

	Output			Input		
	Intra	Extra	Total	Intra	Extra	Total
Agriculture	0.1	14.7	14.8	----	----	-----
Construction	---	----	-----	----	----	-----
Manufacturing	3.6	13.7	17.3	22.2	59.5	81.7
Utilities	----	----	-----	----	----	-----
Wholesale Trade	1.5	36.5	38.0	1.3	17.0	18.3
Retail Trade/Services	0.2	2.1	2.3	----	----	-----
Government/Education	---	0.9	0.9	----	----	-----
Households	---	----	-----	----	----	-----
Mining	---	26.7	26.7	----	----	-----
Total	5.4	94.6	100.0	23.5	76.5	100.0

Source: Sample of Regional firm interviews

ELECTRICAL MACHINERY AND EQUIPMENT

The electrical machinery industry is one of the fastest growing industries in the Region. It is a dominant industry in the Region's industrial structure, accounting for approximately 40,900 employees in 1960 or 6.7 percent of total Regional employment. The electrical machinery and equipment industry includes establishments engaged in manufacturing machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy. Household appliances are also included in this group.

Some of the firms engaged in this type of work in the Region are: Globe-Union, Inc.; Allen-Bradley Co.,; The Louis Allis Co.; Cutler-Hammer, Inc.; A.C. Spark Plug Div., General Motors Corp.; General Electric Co.; Square D. Company; and Oak Manufacturing Co.

The electrical machinery industry has been traditionally concentrated in the ENC, Middle Atlantic, and New England States. As shown in Table 14, nearly 73 percent of the industry value added was generated in these areas in 1961. There has been a deconcentration, however, of this industry in these areas of the United States. For example, in 1947 these three areas accounted for over 88 percent of industry value added.

The largest single relative loss of value added from 1947 to 1961 was in the ENC States. This area declined over 8 percent. The Middle Atlantic States were close behind with a relative loss of nearly 7 percent. The largest relative gain was in the Pacific States (8.1%), followed by the South Atlantic (3.0%) and the East South Central (2.6%).

As shown in Table 15, new capital expenditures in the electrical machinery industry in the United States from 1954 to 1961 were nearly 4 billion dollars. As might be expected, the largest share of the expenditures were in the ENC, Middle Atlantic, and New England States. It should be noted, however, that in the areas where this industry is growing fast (the Pacific and South Atlantic States) over 640 million dollars has been spent on new plant and equipment since 1954.

As shown in Table 16, employment in this industry has also been increasing quite rapidly. Employment increased nearly 40 percent nationally from 1947 to 1961. Employment increases in Wisconsin and the Region were even faster at 51.9 percent and 118.4 percent. It is apparent from the Table that the Region is one of the fastest growing areas in this industry in the Great Lakes area since the ENC States average increase was only 33 percent.

As a result of these differences in employment growth, the State of Wisconsin has increased its share of ENC States electrical machinery industry employment from 10.6 percent in 1947 to 12.1 percent in 1961. The fast rate of growth in the Region has pushed its share of Wisconsin electrical machinery employment from 53.0 percent in 1947 to 76.2 percent in 1961. The ENC States share of total industry employment has been declining slightly which parallels the trend cited earlier in value added by manufacture.

Physical output in this industry has also increased very rapidly. As shown in Table 17, the industrial production index for the industry rose from 51 in 1947 to 116 in 1961; an increase of 127 percent. This increase in physical output, which is nearly 3 times faster than the industry's employment increase, indicates substantial gains in productivity (output per employee or man-hour).

Increased Productivity has, in part, resulted in higher average hourly wage rates. As shown in Table 18, the average hourly wage rate in the electrical machinery industry increased from $1.47 in 1950 to $2.35 in 1961; an increase of over 59 percent. Estimates made from data collected during the interviews showed a Regional average hourly wage of approximately $2.75 for this industry. Some electronic assembly work is done by female labor for rates averaging between $2.00 to $2.25 per hour.

Input and output data for the electrical machinery industry in the Region are presented in Table 19. It is apparent from the table that this industry is very much extra-Regionally oriented – both in terms of markets and supply sources. Over 83 percent of the output is marketed outside the Region; over 88 percent of the material supplies are purchased outside the Region.

This industry has an industrial market. Nearly 80 percent of the output is marketed with manufacturers, only 16 percent of this is to other Regional manufacturers. Most of the material inputs, i.e., ceramics, castings, forgings, rubber, plastics, and wire, are re-

Table 14

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE ELECTRICAL MACHINERY INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS BETWEEN 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$3,894	100.0%	$13,772	100.0%	254.0%	—
New England	451	11.6	1,483	10.8	229.0	-0.8%
Mid-Atlantic	1,362	35.0	3,885	28.2	185.0	-6.8
East North Central	1,635	42.0	4,673	33.8	186.0	-8.2
West North Central	191	4.9	615	4.5	222.0	-0.4
South Atlantic	95	2.4	743	5.4	682.0	3.0
East South Central	28	0.7	448	3.3	1500.0	2.6
West South Central	14	0.4	314	2.3	2143.0	1.9
Mountain	2	—	82	0.6	4000.0	0.6
Pacific	116	3.0	1,529	11.1	1218.0	8.1

Source: Annual Survey of Manufacturers

ceived from manufacturers outside the Region.

The employment forecast for this industry is one for continued growth. A 2 percent to 2-1/4 percent yearly growth rate is probable. This would result in a 1985 employment of 67,100 to 71,300. The forecast is based on the following facts and judgments:

1. Past employment growth in this industry in Wisconsin has been at the rate of 3 percent per year. Regional employment growth has been still faster. Large and small firms have both shown employment increases, although a few of the larger firms have shown employment losses. Producers of household appliances seem to be the main exceptions to overall employment growth.

2. Although there has been some deconcentration of this industry from the ENC States, the Region has been gaining a larger share of total electrical machinery employment.

3. Nationally, the field of electronics has great potential; e.g., telestar, data processing, space vehicles, and computers. Increased federal expenditures for the products of this industry are very likely.

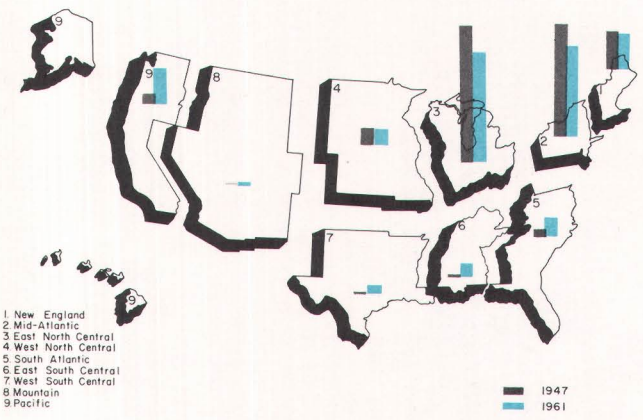
4. There presently is not a large volume of foreign competition and there is a growing foreign market for the products of this industry.

5. This industry is not primarily mass-production oriented and will require the addition of many professional and skilled workers as it grows.

6. Interviews indicated that many firms in the Region are anticipating local expansion to meet future demands.

7. The more traditional heavy electrical equipment sector of this industry is well represented in the Region by firms that are adapting readily to technological changes.

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The ELECTRICAL MACHINERY Industry 1947 And 1961



ELECTRIAL MACHINERY EMPLOYMENT

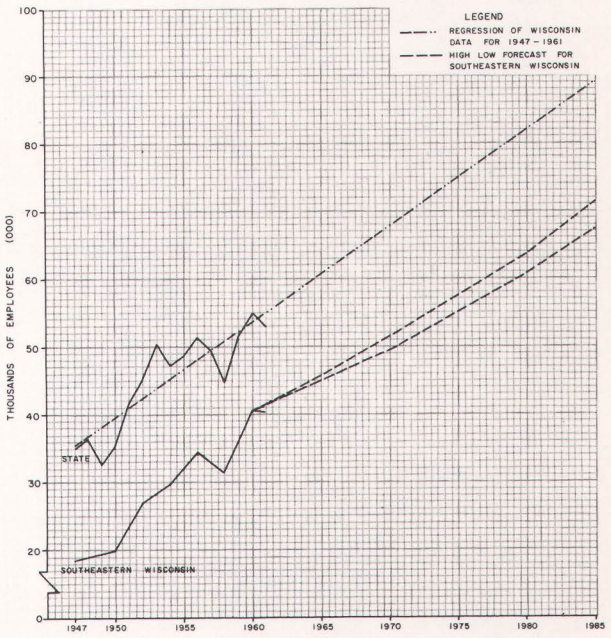


Table 15

NEW CAPITAL EXPENDITURES IN THE ELECTRICAL MACHINERY INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$3,902	100.0%
New England	462	11.9
Mid-Atlantic	1,074	27.5
East North Central	1,300	33.3
West North Central	181	4.6
South Atlantic	237	6.1
East South Central	110	2.8
West South Central	111	2.9
Mountain	20	0.5
Pacific	407	10.4

Source: Annual Survey of Manufacturers

Table 16

EMPLOYMENT TRENDS IN THE ELECTRICAL MACHINERY INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	1,035.0	991.0	1,185.0	1,190.0	1,323.0	1,249.0	1,446.0	1,436.0	38.7%
East North Central	328.0	311.0	357.0	351.0	396.0	413.0	451.0	437.0	33.2
Wisconsin	34.9	35.5	45.2	46.9	51.3	44.5	54.9	53.0	51.9
Region	18.5	20.1	27.1	29.8	34.4	31.4	40.9	40.4	118.4
Region of Wisconsin	53.0%	56.6%	60.0%	63.5%	67.1%	70.6%	74.5%	76.2%	
ENC of United States	31.7	31.4	30.1	29.5	29.9	33.1	31.2	30.4	
Wisconsin of ENC	10.6	11.4	12.7	13.4	13.0	10.8	12.2	12.1	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

Table 17

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE ELECTRICAL MACHINERY INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	51	67	77	82	102	89	112	116	127.5%

Source: Board of Governors of the Federal Reserve System

Table 18

UNITED STATES AVERAGE HOURLY WAGE IN THE ELECTRICAL MACHINERY INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.47	$1.67	$1.82	$1.98	$2.15	$2.28	$2.35	59.9%

Source: United States Department of Commerce, Statistical Abstracts

Table 19

INPUT-OUTPUT RELATIONSHIPS IN THE ELECTRICAL MACHINERY INDUSTRY IN THE SOUTHEASTERN WISCONSIN REGION: 1962

	Output			Input		
	Intra	Extra	Total	Intra	Extra	Total
Agriculture	------	------	-------	------	------	-------
Construction	------	------	-------	------	------	-------
Manufacturing	16.6%	62.1%	78.7%	11.7%	86.1%	97.8%
Utilities	------	------	-------	------	------	-------
Wholesale Trade	------	------	-------	------	2.0%	2.0%
Retail Trade/Services	------	18.6%	18.6%	------	0.2%	0.2%
Government/Education	------	2.7%	2.7%	------	------	-------
Households	------	------	-------	------	------	-------
Total	16.6%	83.4%	100.0%	11.7%	88.3%	100.0%

Source: Sample of Regional Firm Interviews

TRANSPORTATION EQUIPMENT

The transportation equipment industry is a dominant industrial activity in the Region. In 1960, there were approximately 33,400 persons employed by this type of manufacturer or 5.5 percent of total Regional employment.

This group includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water. Major products include motor vehicles, aircraft, ships, boats, railroad equipment, motorcycles and miscellaneous parts and accessories. Among the firms engaged in this type of work in the Region are: The Heil Company; Perfex Corporation; Harley-Davidson Motor Co.; American Motors Corporation; Walker Manufacturing Co.; and A.O. Smith Corporation.

This industry is highly concentrated in the ENC States. As shown in Table 20, $7,291,000,000 of value added by manufacture was realized in this area in 1961 or 42 percent of total industry value added. The Pacific States followed with $3,436,000,000 or nearly 20 percent of the total. The Mid-Atlantic States accounted for 12.6 percent of this industry's value added in 1961.

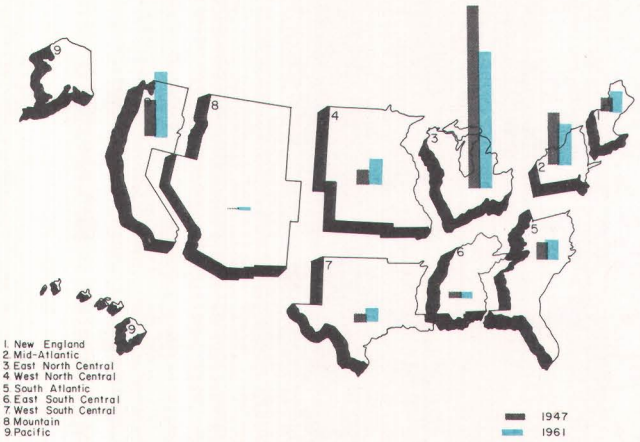
As shown in the table, this distribution has changed rather dramatically since 1947. The ENC States lost 13.9 percent of industry value added from 1947 to 1961; the Mid-Atlantic States lost 3.5 percent. The biggest relative gains in the share of value added were realized by the Pacific States (8.8%), the West North Central States (3.3%), and the New England States (2.8%). Small gains or losses were realized by the other areas of the United States.

The distribution of total new capital expenditures from 1954 to 1961 is shown in Table 21. It is evident that most of the expenditures made for new plant and equipment during those years occurred in the ENC States; over 4 billion dollars or nearly 60 percent of the total. Over 804 million dollars was spent in the Pacific States and nearly 775 million was spent in the Mid-Atlantic States. All other areas accounted for substantially smaller amounts.

Employment in this industry in the long-run has been increasing moderately. Employment nationally was up 19.5 percent from 1947 to 1961. Total ENC States employment, on the other hand, shows nearly an 11 percent drop during the period. Employment was high in the boom period of the mid-fifties and low in recession periods. Wisconsin and Regional employment in this industry was 18.8 and 21.8 percent higher than in 1947. The Wisconsin and Regional increases are due mainly to the success of American Motors in the last few years.

As a result of these trends, the ENC States' share of total transportation equipment employ-

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The TRANSPORTATION & EQUIPMENT Industry 1947 And 1961



TRANSPORTATION EQUIPMENT EMPLOYMENT

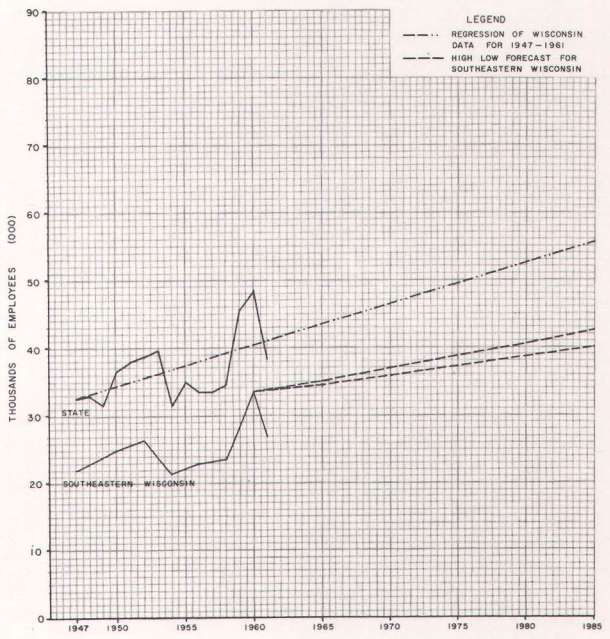


Table 20

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE TRANSPORTATION EQUIPMENT IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$5,871	100.0%	$17,352	100.0%	196%	—
New England	207	3.5	1,100	6.3	431	2.8%
Mid-Atlantic	945	16.1	2,184	12.6	131	-3.5
East North Central	3,283	55.9	7,291	42.0	122	-13.9
West North Central	262	4.4	1,335	7.7	410	3.3
South Atlantic	287	4.9	971	5.6	238	0.7
East South Central	105	1.8	300	1.7	186	-0.1
West South Central	133	2.3	615	3.6	362	1.3
Mountain	5	0.1	120	0.7	2300	0.6
Pacific	644	11.0	3,436	19.8	434	8.8

Source: Annual Survey of Manufacturers

ment has been declining and Wisconsin and Regional shares of ENC States' employment has been increasing. The Regional share of total Wisconsin industry employment increased slightly from 67.7 percent in 1947 to 69.3 percent in 1961 as shown in Table 22.

Industrial production in the transportation equipment industry has increased rapidly. The physical output index as computed by the Federal Reserve System shows output up about 160 percent from 1947 to 1961. As shown in Table 23, the index went from 40 in 1947 to 104 in 1961. Since the index of production rose more than 6 times faster than employment during the same period, indications of very large productivity advances are quite evident.

Average hourly wages in the industry are also increasing. They have gone from $1.74 per hour in 1950 to $2.80 in 1961; an increase of more than 60 percent. Estimates of transportation equipment workers' wages in the Region today were made from firm interview data. The average is approximately $2.90 per hour. (See Table 24.)

Input and output data were collected during firm interviews. As is the case in nearly all of the major manufacturing industries in the Region, this industry is extra-Regionally oriented in terms of markets and suppliers. Nearly all (98%) of the output in percentage terms (the largest share of this output is automobiles) is marketed outside Regional boundaries. Nearly 88 percent of the material inputs are received from extra-Regional suppliers.

The output is channeled mainly to retailers (automobile dealers) whereas most of the suppliers are other manufacturers. Much of the material inputs are received from primary metal manufacturers outside the Region; the intra-Regional suppliers include foundries, clock manufacturers, and other motor vehicle parts producers. (See Table 25.)

Employment in the transportation equipment industry in the Region is expected to increase at an average annual rate of 3/4 to 1 percent. This range of increases would result in a 1985 employment total of 40,200 to 42,800. This es-

Table 21

NEW CAPITAL EXPENDITURES IN THE TRANSPORTATION EQUIPMENT INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$6,926	100.0%
New England	303	4.4
Mid-Atlantic	772	11.2
East North Central	4,120	59.5
West North Central	305	4.4
South Atlantic	341*	4.9
East South Central	57*	0.8
West South Central	174	2.5
Mountain	50*	0.7
Pacific	804	11.6

*Estimated

Source: Annual Survey of Manufacturers

Table 22

EMPLOYMENT TRENDS IN THE TRANSPORTATION EQUIPMENT INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	1,275.0	1,265.0	1,703.0	1,754.0	1,853.0	1,607.0	1,617.0	1,523.0	19.5%
East North Central	628.0	681.0	753.0	710.0	721.0	560.0	630.0	560.0	-10.8
Wisconsin	32.5	36.5	38.9	31.2	33.5	34.5	48.4	38.6	18.8
Region	22.0	24.8	26.5	21.3	23.0	23.7	33.4	26.8	21.8
ENC of United States	49.3%	53.8%	44.2%	40.5%	38.9%	34.8%	39.0%	36.8%	
Region of Wisconsin	67.7	67.9	68.1	68.3	68.7	68.7	69.0	69.4	
Wisconsin of ENC	5.2	5.4	5.2	4.4	4.6	6.2	7.7	6.9	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

timate is based primarily on the following facts and judgments:

1. Wisconsin employment in this industry has increased at a rate of 1-3/8 percent per year from 1947 to 1961. This increase can be attributed mainly to the growth of the motor vehicle sector of the industry. A number of large firms in other sectors of the industry have experienced sharp employment declines. Future employment gains are likely to slow down in the motor vehicle industry, while other transportation equipment manufacturers will probably maintain present employment levels.

2. Increased shipping costs have stimulated manufacturers of transportation equipment (especially motor vehicles) to locate assembly plants throughout national markets.

3. Continued population growth in the ENC States is expected, but at a slower rate than in other parts of the United States. The ENC States and the Region are, however, most favorably situated with respect to raw material inputs, e.g., steel, castings, rubber, paint, and glass.

4. Interviews indicated that the motor vehicle segment of the Region's industry anticipated local expansion, but other representatives of this industry group gave no indication of any immediate or long range expansion plans.

5. The industry's future in the Region depends, to a large extent, on the fortunes of one large firm. This in itself, is neither good nor bad. It should be pointed out, however, that the employment forecast for this industry could be either very high or very low depending upon the success of this firm.

Table 23

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE TRANSPORTATION EQUIPMENT INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	40	53	69	79	92	84	102	104	160%

Source: Board of Governors of the Federal Reserve System

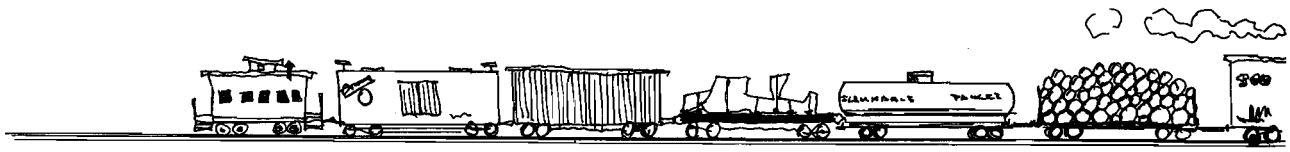


Table 24

UNITED STATES AVERAGE HOURLY WAGE IN THE TRANSPORTATION EQUIPMENT INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.74	$1.96	$2.14	$2.31	$2.53	$2.74	$2.80	60.9%

Source: United States Department of Commerce, Statistical Abstracts

Table 25

INPUT-OUTPUT RELATIONSHIPS IN THE TRANSPORTATION EQUIPMENT INDUSTRY IN THE SOUTHEASTERN WISCONSIN REGION: 1962

	Output			Input		
	Intra	Extra	Total	Intra	Extra	Total
Agriculture	-----	------	-------	------	------	-------
Construction	0.1%	0.9%	1.0%	------	------	-------
Manufacturing	0.6%	1.1%	1.7%	12.1%	87.9%	100.0%
Utilities	-----	------	-------	------	------	-------
Retail Trade/Services	1.5%	94.6%	96.1%	------	------	-------
Government/Education	-----	0.6%	0.6%	------	------	-------
Wholesale Trade	-----	0.6%	0.6%	------	------	-------
Households	-----	------	-------	------	------	-------
Total	2.2%	97.8%	100.0%	12.1%	87.9%	100.0%

Source: Sample of Regional Firm Interviews

RETAIL TRADE

This industry is a dominant activity in the Region. In 1960, there were approximately 90,200 people employed in retail trade, or 14.7 percent of total Regional employment. Retail trade includes establishments engaged in selling merchandise for personal, household, or farm consumption, and rendering services incidental to the sale of these goods. Some of the common types of establishments are hardware and equipment stores, department and general merchandise stores, grocery and other food stores, automotive dealers, service stations, apparel stores, furniture and appliance stores, eating and drinking places, and a miscellany of antique, book, liquor, and sporting goods stores.

At national, state, and Regional levels, the size of retail (and wholesale) employment is directly related to the size of the population of the area. For example, the ENC States have 20.2 percent of the United States population and 20.0 percent of national retail-wholesale employment. The Region has 39.9 percent of Wisconsin's population and 42.2 percent of state retail-wholesale employment (see Table 26). It is likely that this relationship will continue since most retail trade is so closely linked to the personal consumption and household needs of the population.

Actual retail employment levels in the nation, state, and Region have trended up over the years (see Table 27). The 1950-1960 period, however, shows the employment gains slowing down. This is largely the result of increased self service operations, automated merchandise handling, and vending operations.

The number of retail establishments in the Region has shown a modest 4.9 percent increase during the 1947-1958 period. Perhaps more significant, however, was the rise in popularity of suburban shopping centers and the decline of small neighborhood stores. As far as the total number of establishments is concerned, these two phenomenon have probably tended to cancel one another out (see Table 28).

The dollar volume of retail sales in actual and constant dollars for the United States, Wisconsin, and the Region are shown in Table 29 for the period 1949-1961. It should be pointed out that the percentage change in both the actual and constant dollar figures over this period were less than the rates of change in income. This emphasizes the fact that retail sales do not grow in proportion to income. As income grows, a smaller percentage is spent at retail. The difference is taken up by increased expenditures for services, housing, and/or savings.

In all, it seems likely that retail employment will continue its upward trend as population in the Region grows. It should be pointed out though, that self service operations, and the increasing use of other automated retailing techniques will moderate this growth and cause it to proceed at a slower pace than population gains. It is likely that retail employment will increase at an average annual rate of 2/3 to 1 percent and range between 106,500 to 115,700 persons by 1985.

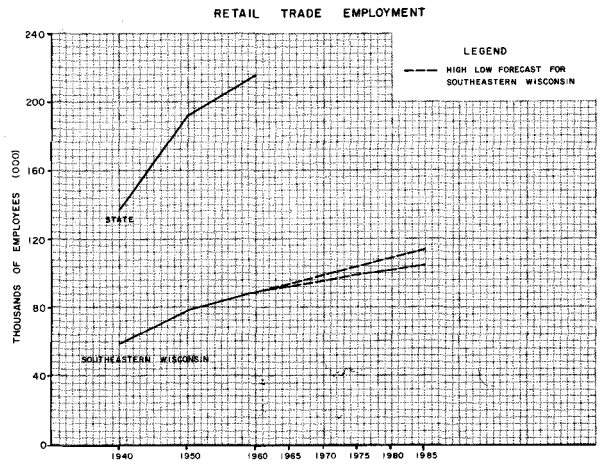


Table 26

UNITED STATES AND WISCONSIN DISTRIBUTION OF POPULATION AND RETAIL-WHOLESALE EMPLOYMENT: 1960

	Population	Retail-Wholesale Employment
United States	100.0%	100.0%
New England States	5.9	5.7
Middle Atlantic States	19.1	19.5
East North Central States	20.1	20.0
West North Central States	8.6	9.2
South Atlantic States	14.5	13.6
East South Central States	6.7	5.7
West South Central States	9.5	10.0
Mountain States	3.8	4.0
Pacific States	11.8	12.3

	Population	Retail-Wholesale Employment
Wisconsin	100.0%	100.0%
Southeastern Region	39.9	42.2
5 South Central Counties [1] Balance of Planning Area III	12.3	12.4
12 Central Counties Planning Area I	8.9	7.6
10 East Central Counties Planning Area II	16.4	16.4
10 Southwest Counties Planning Area IV	7.8	7.5
11 West Central Counties Planning Area V	7.6	7.2
9 Northwest Counties Planning Area VI	3.5	3.4
8 Northeast Counties Planning Area VII	3.6	3.3

1. Map of Wisconsin Planning Areas is included in Appendix B.

Source: United States Census of Population

Table 27

RETAIL EMPLOYMENT IN THE UNITED STATES, WISCONSIN, AND SOUTHEASTERN WISCONSIN REGION: 1940, 1950, AND 1960

	Region	% of Total Regional Employment	Wisconsin	Region's Share of Wisconsin	United States
1940	59,500	15.8%	139,900	42.5%	6,294,000
1950	78,900	15.1	193,000	40.9	8,542,000
1960	90,200	14.7	217,900	41.4	9,580,000

Source: United States Census of Population

Table 28

NUMBER OF ESTABLISHMENTS IN THE SOUTHEASTERN WISCONSIN REGION BY COUNTY: 1947, 1954, AND 1958

	1947	1954	1958	% Change 1947 - 1958
Kenosha County	1,061	1,075	1,040	-2.0%
Milwaukee County	9,805	10,300	10,281	4.9
Ozaukee County	360	387	386	7.2
Racine County	1,450	1,458	1,442	-0.6
Walworth County	762	793	814	6.8
Washington County	551	595	547	-0.7
Waukesha County	1,057	1,202	1,270	20.2
	15,046	15,820	15,780	4.9%

Source: United States Census of Business

Table 29

TRENDS IN RETAIL SALES IN THE SOUTHEASTERN WISCONSIN REGION, WISCONSIN, AND THE UNITED STATES: 1949 TO 1961 (1,000'S OF DOLLARS)

	1949	1952	1955	1958	1961	% Change 1949 To 1961
Region	$1,449,251 (1,746,058)*	$1,589,747 (1,718,675)	$1,731,397 (1,855,711)	$1,966,519 (1,952,753)	$2,004,789 (1,923,996)	38.3% (10.2)
Milwaukee	1,104,853 (1,311,127)	1,142,562 (1,235,224)	1,241,748 (1,330,906)	1,430,367 (1,420,354)	1,403,433 (1,346,875)	27.0 (1.2)
Kenosha	75,902 (91,447)	92,131 (99,603)	96,845 (103,798)	96,881 (96,203)	114,030 (109,435)	50.2 (19.7)
Ozaukee	18,368 (22,130)	27,217 (29,424)	31,124 (33,359)	35,933 (35,681)	44,340 (42,553)	141.4 (92.3)
Racine	115,014 (138,569)	144,780 (156,522)	146,775 (157,313)	159,042 (157,929)	171,836 (164,911)	49.4 (19.0)
Walworth	42,527 (51,237)	56,132 (60,684)	64,816 (69,470)	72,274 (71,768)	68,995 (66,215)	62.2 (29.2)
Washington	23,819 (28,697)	42,219 (45,643)	42,417 (45,463)	45,638 (45,319)	45,204 (43,382)	89.8 (51.2)
Waukesha	68,768 (82,852)	84,706 (91,576)	107,672 (115,403)	126,384 (125,499)	156,951 (150,626)	128.2 (81.8)
Wisconsin	3,440,207 (4,144,761)	3,291,222 (3,558,140)	4,218,076 (4,520,934)	4,598,335 (4,566,147)	4,769,862 (4,577,637)	38.7 (10.4)
United States	128,117,785 (154,356,307)	163,570,205 (176,835,749)	185,543,993 (198,866,052)	200,805,844 (199,400,203)	219,315,563 (210,477,146)	71.2 (36.4)

*Figures in parenthesis are adjusted to the 1957 - 1959 = 100 Consumer Price Index

Source: Survey of Buying Power, Sales Management

MEDICAL AND OTHER PROFESSIONAL SERVICES

Medical and other professional services were classified as a dominant activity in the Region and accounted for 38,700 jobs or 6.3 percent of the total Regional employment in 1960. Hospitals, clinics, dental offices, legal firms, charitable institutuions, architects, engineers, and social workers are all included in this category.

Hospitals are the largest single employer in this group with 15,800 employees, many of whom (12,800) are women. There presently are 55 hospitals in the Region with a total of 15,252 beds. Nearly half of these facilities serve mental, chronically ill, and tubercular patients.

Table 30 shows the rapid growth that all of these occupations are experiencing in the Region and state. The increased demand for professional skills requires a buildup of employment in many less skilled jobs such as nurses aides, hospital domestics, legal secretaries, X-ray and lab technicians, therapists, draftsmen, and others.

At national, state, and Regional levels the increased importance of medical facilities, and the increasing need in many fields for competent professional assistance has caused these occupations to grow faster than either total employment or population. This growth trend may be seen in Table 31 which shows the employment increase in these fields per 1,000 population between 1940 and 1960.

As a result of these trends and the past record of growth within the Region, (4% per year between 1940-1960) continued employment increases of 2 to 2-1/2 percent per year are expected. This growth would result in an employment level in these categories of between 63,500 and 72,000 by 1985.

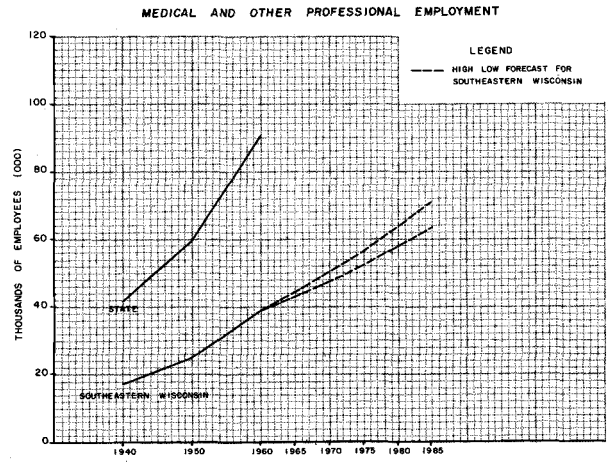


Table 30

MEDICAL AND OTHER PROFESSIONAL EMPLOYMENT IN THE SOUTHEASTERN WISCONSIN REGION AND WISCONSIN: 1940, 1950, AND 1960

	Region	% of Total Regional Employment	Wisconsin	Region's Share of Wisconsin
1940	17,700	4.7%	41,400	42.8%
1950	25,400	4.9	59,400	42.8
1960	38,700	6.3	90,600	42.7

Source: United States Census of Population

Table 31

MEDICAL AND OTHER PROFESSIONAL EMPLOYMENT PER 1,000 POPULATION IN THE UNITED STATES, WISCONSIN, AND SOUTHEASTERN WISCONSIN REGION: 1940, 1950 AND 1960

	United States	Wisconsin	Region
1940	13.8	13.2	16.6
1950	18.2	17.3	20.5
1960	23.3	22.9	24.5

Source: United States Census of Population

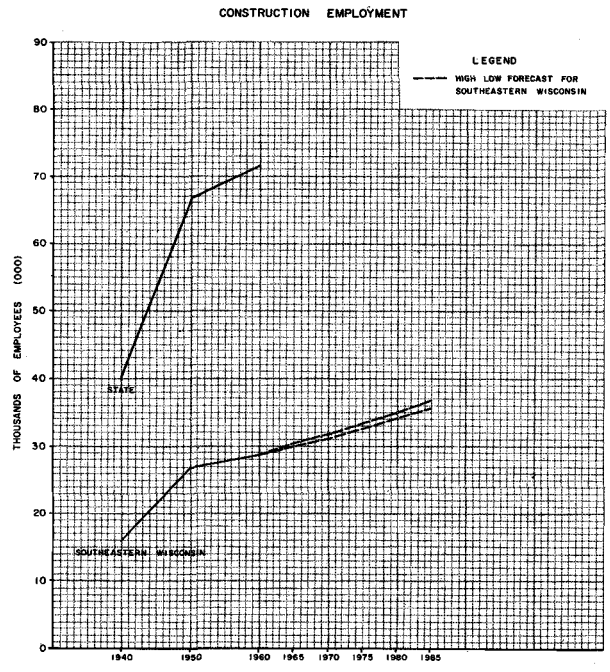
CONSTRUCTION

This group includes establishments engaged in the construction of buildings of all types, roadways, bridges, sewers, and hydroelectric projects. Also included are subcontractors engaged in specialized activities such as plumbing, painting, plastering, carpentry, masonry, and electrical wiring. Within the Region, 1960 Wisconsin Industrial Commission records show a total of 2,121 firms engaged in these activities. Census employment records showed a total of 28,800 jobs which was 4.7 percent of total Regional employment in 1960.

Construction can normally be thought of as a following economic function in any area. It is seldom able to initiate economic growth. Rather, when growth is occurring, construction activity is spurred to put in place the physical representations of that growth (i.e., new houses, streets, schools, and plants). Construction employment tends to vary with the overall level of business activity. Table 32 compares the level of total employment with construction employment for the Region.

The matching yearly fluctuations of total employment and construction employment for the State of Wisconsin may be seen in Table 33. It can be observed that every time total employment rises, construction employment follows suit. Every time total employment turns down, construction employment turns down.

Interviews within the Region indicated an average wage approximating $3.75 per hour. This is indicative of very high skill requirements. Actually the average is raised to this level by the skilled tradesmen in the industry whose average wage often runs over $4.00 per hour. General construction wages range from



$2.75 to $3.25 per hour. These rates are comparable to national average wages in the industry of $3.50 per hour.[1]

The interviews further indicated that the largest share of construction work (85-90%) is intra-Regional. That is, not many local contractors work outside of the Region. The main exceptions are firms engaged in prefabricated construction or those situated near the borders of the Region.

Firms in the Region indicated that competition was keen. This appears to be a characteristic of this industry in almost any mature industrial complex. Competition is further increased by the ease of individual entry into the many specialized trades that comprise the overall industry.

The dollar volume of construction activity in the Region may be seen in Table 34 which shows taxable and non-taxable construction for the 1956-1960 period. It is likely that this figure is understated, due to the lack of available data on smaller projects, renovations, and minor improvements.

It is likely that future expansions of total employment, business activity, and population will generate increases in construction employment at the rate of 7/8 to 1 percent per year. The 1985 construction employment total will probably range between 35,800 and 36,900.

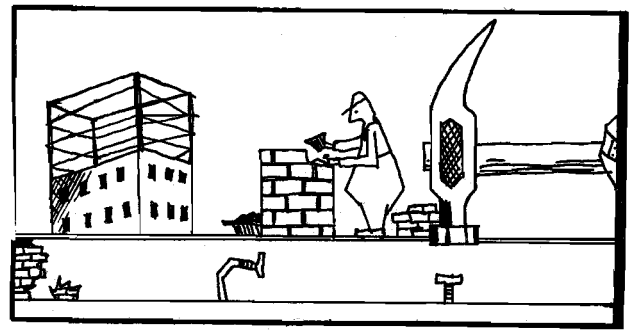


Table 32

COMPARISON OF CONSTRUCTION EMPLOYMENT TO TOTAL EMPLOYMENT IN THE SOUTHEASTERN WISCONSIN REGION: 1940, 1950, AND 1960

	1940	1950	1960
Construction Employment	15,700	26,800	28,800
Total Regional Employment	377,600	524,600	612,800

Source: United States Census of Population

Table 33

COMPARISON OF CONSTRUCTION EMPLOYMENT TO TOTAL EMPLOYMENT IN WISCONSIN: 1954 TO 1961 (1,000'S)

	Total Employment	Construction Employment
1954	1,466.0	51.0
1955	1,496.0	56.9
1956	1,533.0	58.1
1957	1,531.0	55.1
1958	1,484.0	52.0
1959	1,532.0	53.4
1960	1,551.0	56.0
1961	1,528.0	55.4

Source: Wisconsin Industrial Commission

Table 34

TAXABLE AND NON-TAXABLE CONSTRUCTION IN THE SOUTHEASTERN WISCONSIN REGION: 1956 TO 1960 (MILLIONS OF DOLLARS)

Taxable	1956	1957	1958	1959	1960
Residential	$195.7	$192.9	$180.0	$169.3	$185.1
Mercantile	27.2	33.9	40.4	33.5	42.3
Manufacturing	38.3	46.5	32.7	23.4	28.4
Agriculture	0.9	1.1	1.1	1.6	1.8
Total Taxable	$262.1	$274.4	$254.2	$227.8	$257.6
Non-Taxable					
Federal	$ 1.5	$ 0.2	$ 3.2	$ 0.8	$ 0.2
State	0.9	0.6	1.1	24.3	41.9
County	4.2	3.8	2.1	11.9	10.2
Municipal	41.4	27.6	33.5	29.0	36.9
Private	22.9	28.1	26.7	60.3	26.4
Total Non-Taxable	$ 70.9	$ 60.3	$ 66.6	$126.3	$115.6
Grand Total	$333.0	$334.7	$320.8	$354.1	$373.2

Source: Wisconsin Department of Taxation, Western Builder Magazine

EDUCATIONAL SERVICES

Educational services are a dominant activity in the Region. In 1960, public and private educational institutions employed 25,400 persons or 4.1 percent of total Regional employment.

The growth of population in the Region has exerted substantial pressure on the educational facilities. This pressure is reflected in the employment increases of the last two decades and in the volume of new construction. Public and private schools are being built or planned every month at all educational levels; primary, secondary, and collegiate. Table 35 shows Regional and state employment gains between 1940 and 1960. In February, 1963 there were more than 190 public graded and high school districts in the Region.

The scope of the Regional educational program is further emphasized by Table 36 which lists the expenditures for public education in the Region for 1957. The 1960 census indicated that 31.6 percent of Regional educational needs are met by private organizations. Using this as indicator, total expenditures probably approximate $137.5 million for 1957. It is likely that this figure would have grown since then.

At national, state, and Regional levels the role of education has increased. A higher percentage of eligible students are attending primary and secondary schools. Vocational schools are more numerous and have expanded their facilities. College enrollments are up sharply. As a result, educational employment has grown faster than either total employment or population. Table 37, which shows the employment increase per 1,000 population between 1940 and 1960, substantiates this point.

Many interview comments were directed at the area of higher education in the Region. The consensus seemed to be that existing facilities were insufficient to serve the Region's needs. A deficiency was particularly noted in private-public research facilities which are often the joint efforts of large universities and private industry. Current expansion plans of Marquette University and the University of Wisconsin-Milwaukee are heartening, but even these efforts may not completely fill the current needs.

In all, the employment outlook for this sector of the economy appears bright. Past Regional employment trends showed a 4 percent increase per year between 1940 and 1960. A further employment gain of between 2-1/2 and 3 percent per year seems likely. A 1985 educational employment level of 47,000 to 53,000 is anticipated.

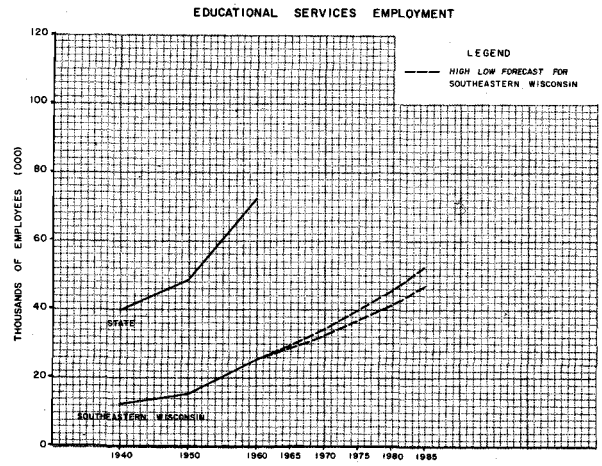


Table 35

EDUCATIONAL EMPLOYMENT IN WISCONSIN AND THE SOUTHEASTERN WISCONSIN REGION: 1940, 1950 AND 1960

	Region	% of Total Regional Employment	Wisconsin	Region's Share of Wisconsin
1940	12,000	3.2%	39,900	30.1%
1950	15,400	3.0	48,300	31.9
1960	25,400	4.1	72,600	35.0

Source: United States Census of Population

Table 36

EXPENDITURES BY LOCAL GOVERNMENTS FOR PUBLIC EDUCATION IN THE SOUTHEASTERN WISCONSIN REGION: 1957

County	Amount	$ Per Capita
Kenosha	$ 5,371,000	$58.00
Milwaukee	62,636,000	64.00
Ozaukee	2,244,000	66.00
Racine	8,927,000	68.00
Walworth	2,201,000	45.00
Washington	2,497,000	59.00
Waukesha	10,154,000	74.00
	$94,030,000	(Average) $62.00

Source: United States Census of Governments, 1957

Table 37

EDUCATIONAL EMPLOYMENT PER 1000 POPULATION IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1940, 1950, AND 1960

	United States	Wisconsin	Region
1940	11.9	12.7	11.2
1950	13.7	14.1	12.4
1960	18.9	18.4	16.2

Source: United States Census of Population

FOOD AND KINDRED PRODUCTS

The food and kindred products industry is a sub-dominant in the Region. There were approximately 21,400 persons employed in this industry in 1960 or 3.7 percent of total Regional employment. Food and kindred manufacturing is the largest non-durable goods industry in the Region and state; both in terms of employment and dollar output.

This industry embraces an exceptionally wide range of economic activities. It includes establishments manufacturing all types of foods and beverages and certain related products such as chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls. The industry in the Region is concerned primarily with the manufacture of meat products, dairy products, beverages, and canned vegetable products. Some of the larger firms in this industry group are: Patrick Cudahy Inc.; The Borden Co., Wisconsin Milk and Ice Cream Division; Sealtest Foods; Joseph Schlitz Brewing Co.; Pabst Brewing Co.; Miller Brewing Company; and The Krier Preserving Co.

Value added by manufacture in the food products industry is most important in the agricultural sections of the country, notably ENC, Mid-Atlantic, West North Central, and Pacific States. The New England, Southern, and Mountain areas are considerably less important.

The relative economic importance of these areas has been changing in the postwar period. The ENC, West North Central, and Mid-Atlantic States have become less important in this industry; the South Atlantic and Pacific States have become more important. As shown in Table 38, the ENC, Mid-Atlantic, and West North Central States declined in their share of industry value added between 1947 and 1961. The ENC States lost the greatest share at 1.8 percent. The Pacific and South Atlantic States showed gains of 2.5 and 2.0 percent respectively.

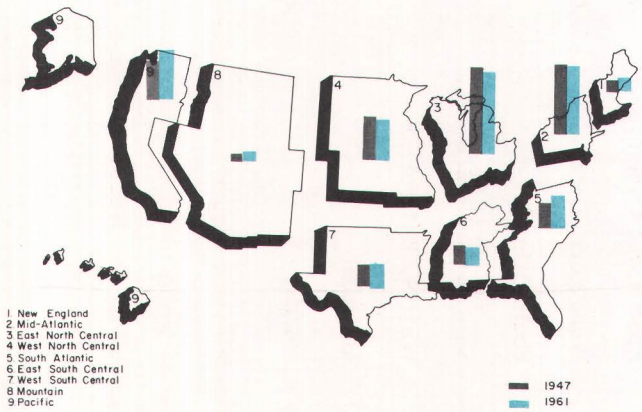
The distribution of new capital expenditures for plant and equipment are shown in Table 39. The ENC and Mid-Atlantic States have accounted for the largest share of total new capital expenditures from 1954 to 1961. The Pacific States rank third in this measurement followed by the West North Central and South Atlantic States.

Interviews with food and kindred product manufacturers in the Region showed that many firms have invested substantial sums of money in new production equipment. It was indicated, however, that little of this money has been invested in new production facilities within the Region. The physical expansion that has occurred has been limited mainly to warehouse or storage additions to existing plants.

Employment in this industry has been trending downward since 1947. As shown in Table 40; national, ENC States, Wisconsin, and Regional employment have all turned down. The ENC States show the fastest rate of decline from 1947 to 1961 at 4.8 percent. Regional employment declined at a slightly lower rate than Wisconsin's totals.

The effects of these changes are reflected in the changes in employment distributions in the bottom half of Table 40. The ENC share of United States industry employment is decreasing; the Wisconsin share of ENC employment

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The FOOD & KINDRED PRODUCTS Industry: 1947 And 1961



FOOD AND KINDRED PRODUCTS EMPLOYMENT

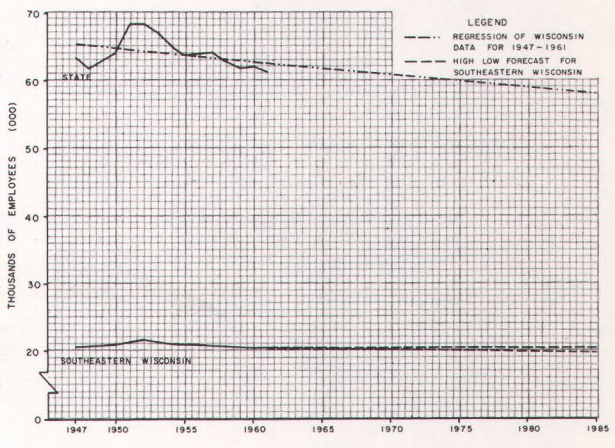


Table 38

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE FOOD AND KINDRED PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$9,025	100.0%	$20,255	100.0%	124.0%	—
New England	365	4.0	801	4.0	119.0	—
Middle Atlantic	1,918	21.3	4,027	19.9	110.0	-1.4%
East North Central	2,383	26.4	4,981	24.6	109.0	-1.8
West North Central	1,205	13.4	2,472	12.2	105.0	-1.2
South Atlantic	696	7.7	1,967	9.7	183.0	2.0
East South Central	510	5.6	1,013	5.0	99.0	-0.6
West South Central	594	6.6	1,427	7.0	140.0	0.4
Mountain	245	2.7	576	2.8	135.0	0.1
Pacific	1,109	12.3	2,991	14.8	170.0	2.5

Source: Annual Survey of Manufacturers

is increasing; and the Regional share of state employment is also increasing.

Production and average hourly wages are both increasing in this industry. The industrial production index for this industry rose from 83 in 1947 to 110 in 1961, an increase of 32.5 percent. Average hourly wages increased from $1.33 in 1947 to $2.18 in 1961, an increase of approximately 64 percent. Wages in the Region, as estimated from firm interviews, are approximately $2.30 per hour. The production index and industry wage data are shown in Tables 41 and 42.

Production trend data is unavailable for the Region. Certain data relating to the distribution of outputs and inputs for this industry, however, was collected during firm interviews. These data are presented in Table 43. The data from this sample of food and kindred products firms indicate that nearly 70 percent of this industry's output is marketed outside the Region. The output is distributed primarily to wholesalers and retailers outside the Region. Smaller proportions are sold to manufacturers for further processing, directly to households, or to the government for school lunch programs and institutional uses.

From the interviews, it was learned that about 65 percent of the material inputs come from outside the Region. These materials are mainly agricultural products and packaging materials from manufacturers. Nearly 25 percent of the agricultural inputs, however, are received from farms located within the Region.

The Regional employment projection to 1985 for this industry indicates stability or a slight increase at the rate of 1/3 of one percent per year. The resulting employment estimates for 1985 range from 19,600 to 21,300. This projection is based primarily on the following facts and judgments:

1. Employment in this industry in Wisconsin has shown an average decline of approximately 1/3 of one percent per year since 1947.

2. The total employment in the firms interviewed has increased by only 4 percent since 1947. The interviewed firms repre-

Table 39

NEW CAPITAL EXPENDITURES IN THE FOOD AND KINDRED PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$7,596	100.0%
New England	281	3.7
Mid-Atlantic	1,332	17.5
East North Central	1,851	24.4
West North Central	879	11.6
South Atlantic	843	11.1
East South Central	379	5.0
West South Central	535	7.0
Mountain	441	5.8
Pacific	1,055	13.9

Source: Annual Survey of Manufacturers

Table 40

EMPLOYMENT TRENDS IN THE FOOD AND KINDRED PRODUCTS INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	1,799.0	1,790.0	1,828.0	1,818.0	1,842.0	1,773.0	1,793.0	1,780.0	-1.1%
East North Central	396.0	390.0	397.0	392.0	397.0	385.0	383.0	377.0	-4.8
Wisconsin	63.7	64.2	68.5	65.1	64.2	62.9	62.1	61.3	-3.8
Region	21.7	21.9	23.4	22.3	22.0	21.6	21.3	21.1	-2.8
Region of Wisconsin	34.1%	34.1%	34.2%	34.3%	34.3%	34.3%	34.3%	34.4%	
ENC of United States	22.0	21.8	21.7	21.6	21.6	21.7	21.4	21.2	
Wisconsin of ENC	16.1	16.5	17.3	16.6	16.2	16.3	16.2	16.3	

Source: Annual Survey of Manufacturers and Wisconsin Industrial Commission

sent nearly 50 percent of total employment in the Region. The large employers in the Region (those with more than 1,000 employees) have shown employment declines since 1947; whereas the small and medium size firms (500 employees or less) have shown some modest increases. These declines and increases have tended to offset each other. It is possible that employment growth in the smaller firms may tend to more than balance out any further employment losses by the larger firms.

3. The industry appears to be expanding more rapidly in South Atlantic and West Coast areas and losing its foothold in the traditional ENC and Mid-Atlantic States. Food and kindred processors appear to be expanding or constructing production facilities near growing markets rather than supplying these markets by expanding existing facilities.

4. New capital expenditures of the food and kindred industry in the ENC States have been substantial since 1954. These expenditures seem to indicate that processors are purchasing a large amount of automatic equipment. Interviews in the Region showed that substantial investment has been made in new equipment to replace old, worn out equipment, but that little or no physical expansion of production facilities has taken place. This equipment has had a tendency to increase production; but, because it is highly mechanized, there have been only moderate employment increases.

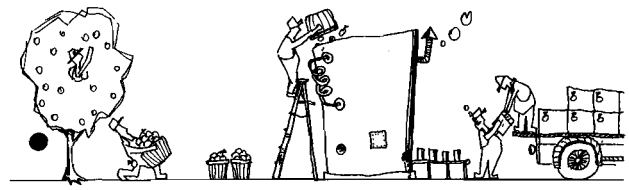


Table 41

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE FOOD AND KINDRED PRODUCTS INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	83	86	90	93	100	102	109	110	33%

Source: Board of Governors of the Federal Reserve System

Table 42

UNITED STATES AVERAGE HOURLY WAGE IN THE FOOD AND KINDRED PRODUCTS INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.33	$1.52	$1.67	$1.85	$2.01	$2.11	$2.18	63.9%

Source: United States Department of Commerce, Statistical Abstracts

Table 43

INPUT-OUTPUT RELATIONSHIPS IN THE FOOD AND KINDRED PRODUCTS INDUSTRY IN THE SOUTHEASTERN WISCONSIN REGION: 1962

	Output			Input		
	Intra	Extra	Total	Intra	Extra	Total
Agriculture	------	------	-------	24.8%	27.0%	51.8%
Construction	------	------	-------	------	------	-------
Mining	------	------	-------	------	------	-------
Manufacturing	1.4%	8.5%	9.9%	5.3%	37.3%	42.6%
Utilities	------	------	-------	1.9%	------	1.9%
Wholesale Trade	12.3%	48.8%	61.1%	3.0%	0.7%	3.7%
Retail Trade/Services	13.1%	12.1%	25.2%	------	------	-------
Government/Education	0.3%	------	0.3%	------	------	-------
Households	3.5%	------	3.5%	------	------	-------
Total	30.6%	69.4%	100.0%	35.0%	65.0%	100.0%

Source: Sample of Regional Firm Interviews

FABRICATED METALS

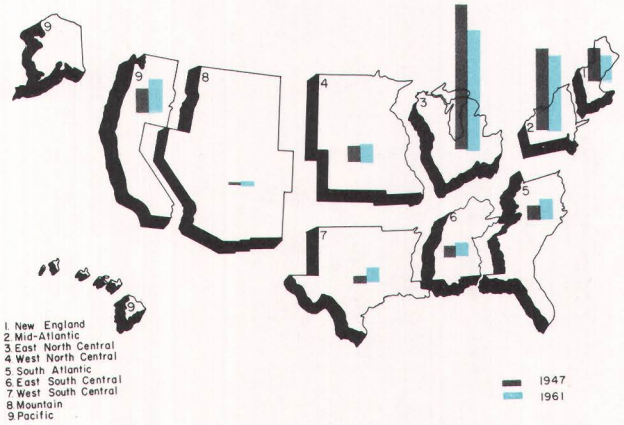
The fabricated metals industry is a subdominant in the Region. In 1960, approximately 18,300 persons were employed in this industry in the Region. This was approximately 3 percent of total Regional employment. This industry is the most important Regional subdominant in terms of its employment level and market orientation.

The major products manufactured by this industry group are structural forms, nonelectric heating and plumbing apparatus, pots and pans, metal cans, cutlery, hand tools, and hardware. A few of the nationally known metal fabricators located in the Region are Continental Can Co., Inc.; Inland Steel Products Co.; The West Bend Co.; Regal Ware, Inc.; Modine Manufacturing Co.; and Mueller Climatrol Division of Worthington Corporation.

This fabricated metals industry is most economically important in the ENC and Mid-Atlantic States. These two areas accounted for over 60 percent of the industry's total 1961 value added by manufacture in the United States. As shown in Table 44, the Pacific and New England States are also important producers of fabricated metal products.

It should be noted from the value added distribution that the ENC States have lost 6.6 percent of their share of total value added since 1947. The New England and Mid-Atlantic States lost somewhat smaller shares. The largest gains were registered in the Pacific, West South Central, and South Atlantic States. The 4 percent gain in the Pacific States is particularly noteworthy.

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The FABRICATED METALS Industry: 1947 And 1961



New capital expenditures for plant and equipment have been the largest in the ENC States from 1954 to 1961. As shown in Table 45, over 1.5 billion dollars was spent during those years in this area. The area accounted for nearly 39 percent of th total spent in the United States. The next largest amount was spent in the Mid-Atlantic States ($791 million) followed by the Pacific States ($381 million). The West South Central States have also invested a substantial amount of money from 1954 to 1961; a total of approximately 370 million dollars.

Employment in this industry nationally has increased at a slow rate from 1947 to 1961. As shown in Table 46, the increase was approximately 9 percent. Fabricated metals employment in the ENC States, however, declined slightly. Regional employment increased at a rate slightly less than the national average.

As a result of these employment trends, the ENC States have declined in their share of national employment from 41.3 percent in 1947 to 35.2 percent in 1961. The Wisconsin share of ENC States employment has remained steady, whereas the Region's share of Wisconsin industry employment increased from 48.2 percent to 54.5 percent.

As shown in Tables 47 and 48, production and average hourly wages in the fabricated metals industry nationally have been increasing at a fast rate. The industrial production index for this industry rose from 75 in 1947 to 107 in 1961, an increase of nearly 43 percent. Nationally, average wages in the industry increased from $1.53 per hour in 1950 to $2.49 per hour in 1961. This is an increase of nearly 63 percent during that eleven year period. Average wages in the Region, as de-

FABRICATED METALS EMPLOYMENT

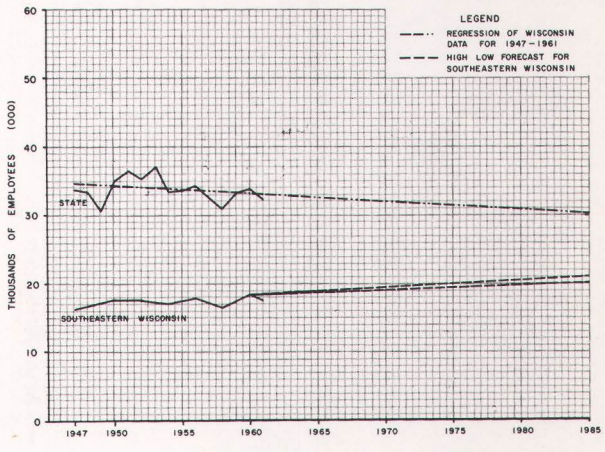


Table 44

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE FABRICATED METALS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$4,919	100.0%	$10,263	100.0%	109.0%	—
New England	506	10.3	877	8.5	73.0	-1.8%
Mid-Atlantic	1,205	24.5	2,368	23.1	97.0	-1.4
East North Central	2,159	43.9	3,830	37.3	77.0	-6.6
West North Central	232	4.7	567	5.5	144.0	0.8
South Atlantic	207	4.2	601	5.8	190.0	1.6
East South Central	144	2.9	377	3.8	162.0	0.9
West South Central	105	2.1	432	4.2	311.0	2.1
Mountain	22	0.5	94	0.9	327.0	0.4
Pacific	339	6.9	1,117	10.9	229.0	4.0

Source: Annual Survey of Manufacturers

termined from firm interviews, were estimated to be $2.60 per hour.

The fast rate of increase in output for this industry coupled with the slow rate of increase in employment, seems to indicate substantial productivity gains.

The input and output data for this industry, as shown in Table 49, is based on information obtained during firm interviews of Regional metal fabricators.

The products of this industry are marketed outside the Region to a great extent. Approximately 94 percent of the industry's output is sold in other regions or in national markets. Since much of the output from the Region is aluminum cookware, a large share of the industry output is shipped to wholesalers and retailers. The government purchases over 11 percent of the industry output. Only a small 3.9 percent is sold to other manufacturers.

A large share of the materials used in the production of metal products are imported from other states. The materials are purchased mainly from primary metal producers in other states in the ENC area. Only about 10 percent of the material inputs are supplied by Regional manufacturers or wholesalers.

Fabricated metals employment is estimated to increase at an average annual rate of from 1/3 to 1/2 percent per year to 1985 in the Region. This growth should result in a 1985 job total of 19,900 to 20,700. Some of the facts or judgments which bear on this estimate are:

1. Employment in this industry has shown signs of decline nationally, but Regional employment has increased slightly. This increase is due mainly to the growth of aluminum, stainless steel, and metal can fabricators. Other types of fabricators, generally small job shop operations, have shown stable or slightly declining employment.

2. There appears to be some locational shift in this industry to west coast or southern areas. This locational trend would indicate that metal fabricators, like many other manufacturers, are tending to shift their operations closer to markets. Although this

Table 45

NEW CAPITAL EXPENDITURES IN THE FABRICATED METALS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$3,971	100.0%
New England	277	7.0
Mid-Atlantic	791	19.9
East North Central	1,543	38.9
West North Central	173	4.3
South Atlantic	249	6.3
East South Central	161	4.0
West South Central	370	9.3
Mountain	26	0.7
Pacific	381	9.6

Source: Annual Survey of Manufacturers

Table 46

EMPLOYMENT TRENDS IN THE FABRICATED METAL INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	989.0	982.0	1,064.0	1,070.0	1,140.0	1,0770.0	1,129.0	1,076.0	8.8%
East North Central	408.0	429.0	410.0	407.0	439.0	393.0	405.0	379.0	-7.1
Wisconsin	33.7	36.0	35.2	33.2	34.2	30.8	33.8	32.1	-4.7
Region	16.2	17.6	17.6	16.9	17.8	16.3	18.3	17.5	8.0
Region of Wisconsin	48.1%	48.9%	50.0%	50.9%	52.0%	52.9%	54.1%	54.5%	
ENC of United States	41.3	43.7	38.5	38.0	38.5	36.5	35.9	35.2	
Wisconsin of ENC	8.3	8.4	8.6	8.2	7.8	7.8	8.3	8.5	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

trend is likely to continue, the Region's materials orientation, skilled workers, and other assets should enable the metal fabricators to continue a slow employment growth.

3. Automation may hold back employment growth in this industry. For example, the can producers are now using machines that can make 1,000 cans per minute, place them in cartons, seal the cartons, and place the cartons on conveyors destined for pre-selected warehouse areas. Many metal stamping operations are adaptable to a variety of automatic processes.

4. Since Regional input and output data indicate a strong extra-Regional market and supply orientation, it is possible that Regional fabricators may expand their operations nearer to markets or supplies.

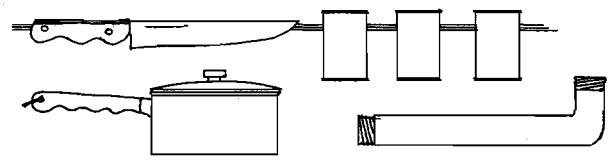


Table 47

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE FABRICATED METALS INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	75	84	88	89	97	92	106	107	42.7%

Source: Board of Governors of the Federal Reserve System

Table 48

UNITED STATES AVERAGE HOURLY WAGE IN THE FABRICATED METALS INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wages	$1.53	$1.74	$1.90	$2.07	$2.27	$2.44	$2.49	62.7%

Source: United States Department of Commerce, Statistical Abstracts

Table 49

INPUT-OUTPUT RELATIONSHIPS IN THE FABRICATED METALS INDUSTRY
IN THE SOUTHEASTERN WISCONSIN REGION: 1962

	Output			Input		
	Intra	Extra	Total	Intra	Extra	Total
Agriculture	-----	------	-------	-----	------	-------
Construction	1.6%	5.6%	7.2%	-----	------	-------
Manufacturing	0.9%	3.0%	3.9%	7.4%	88.8%	96.2%
Utilities	-----	1.7%	1.7%	0.2%	------	0.2%
Wholesale Trade	0.4%	20.0%	20.4%	2.2%	1.4%	3.6%
Retail Trade/Services	2.0%	45.2%	47.2%	-----	------	-------
Government/Education	0.6%	11.1%	11.7%	-----	------	-------
Households	0.5%	7.4%	7.9%	-----	------	-------
Total	6.0%	94.0%	100.0%	9.8%	90.2%	100.0%

Source: Sample of Regional Firm Interviews

PRIMARY METALS

Primary metals, a sub-dominant industry in the Regional economy employed 19,300 persons in the Region in 1960. This accounted for 3.2 percent of total Regional employment. This industry group includes establishments engaged in: the smelting and refining of ferrous and non-ferrous metals from ore, pig iron, or scrap; the rolling, drawing, and alloying of ferrous and non-ferrous metals; and the manufacture of castings, forgings, and other basic products from these metals.

Some of the firms engaged in this type of work in the Region are: Ladish Co.; Anaconda American Brass Co.; Belle City Malleable Iron Co.; Trent Tube Co.; Stroh Die Casting Co., Inc.,; and Ampco Metal, Inc.

This industry is located primarily in the ENC and Mid-Atlantic Stages. Over 67 percent of the value added by manufacture originated in these two areas in 1961. This concentration has diminished since 1947 when over 73 percent of the value added by manufacture originated in these areas. This loss in the share of industry value added has been captured mainly by the South Atlantic, East South Central, and Pacific States. Table 50 shows these changes.

The industry has been traditionally located in the ENC and Mid-Atlantic States because these states are favorably situated with respect to raw materials, i.e. coal, iron ore, and limestone. The Region has no basic metal production because of its distance from the coal regions of the east, and is primarily concerned with the production of castings and forgings. These operations generally supply machinery and transportation equipment manufacturers in Wisconsin and in the industrial belt along the lower Great Lakes.

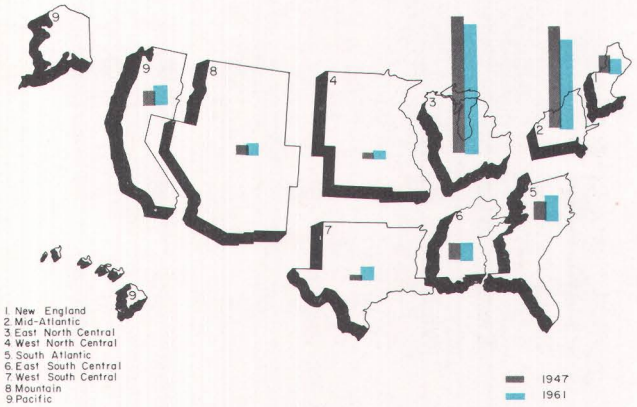
The industry is capital intensive. That is, it requires large and continuous dollar investments in new plants and equipment. As shown in Table 51, nearly 10.8 billion dollars were invested in new plant and equipment in this industry from 1954 to 1961. The ENC States accounted for 43.4 percent of this total investment; the Middle Atlantic States accounted for 25 percent. The South Atlantic States are also investing substantial amounts. These states accounted for 9.7 percent of the entire industry's new capital expenditures from 1954 to 1961.

Employment in this industry has shown a slight overall decline since 1947. United States primary metals employment was lower in 1961 than in any of the previous years. As shown in Table 52, the ENC States, Wisconsin, and Regional employment have also been trending downward.

Production, on the other hand, has been increasing at a slow rate. As shown in Table 53, the primary metals industrial production index increased by 22 percent from 1947 to 1961 (from 81 to 99).

It can be seen from the employment data and production index that this industry is very much affected by recessions in the national economy. Employment and production fell off markedly in both the 1954 and 1958 recessions, and both measures were up sharply in the 1956 "boom period." These general economic fluctuations tend to cause short-run unemployment problems in the industry.

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The PRIMARY METALS Industry 1947 And 1961



PRIMARY METALS EMPLOYMENT

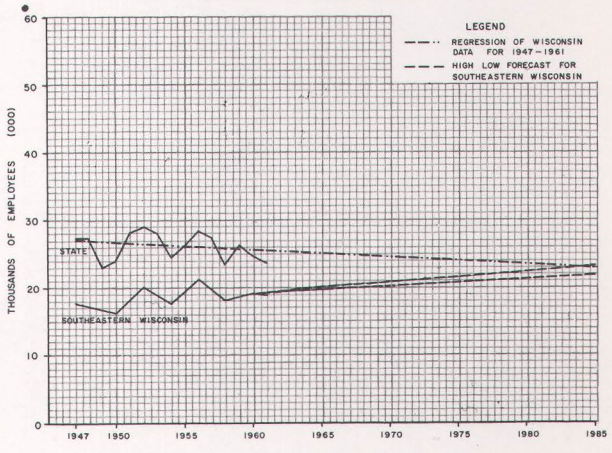


Table 50

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE PRIMARY METALS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$5,764	100.0%	$12,956	100.0%	125.0%	—
New England	288	5.0	574	4.4	99.0	-0.6%
Mid-Atlantic	1,804	31.3	3,528	27.2	96.0	-4.1
East North Central	2,417	41.9	5,153	39.8	113.0	-2.1
West North Central	115	2.0	323	2.5	181.0	0.5
South Atlantic	322	5.6	996	7.7	209.0	2.1
East South Central	287	5.0	646	5.0	125.0	—
West South Central	96	1.7	507	3.9	428.0	2.2
Mountain	176	3.0	450	3.5	156.0	0.5
Pacific	259	4.5	779	6.0	201.0	1.5

Source: Annual Survey of Manufacturers

Wages in the industry have increased steadily since 1950 as shown in Table 54. Wages increased from $1.65 per hour in 1950 to $2.90 in 1961 or about 75 percent. Wages, therefore, have increased at about the same rate as production. Average hourly wages in the Region, as estimated from firm interviews, were approximately $2.90.

Input and output data for the primary metals industry in the Region were collected during firm interviews. From the sample it is estimated that approximately 89 percent of Regional primary metals output is marketed outside the Region. Approximately 95 percent of the material inputs are purchased outside the Region. These data also reveal that about half of the output of the Region is contracted for by the federal government. (See Table 55.)

It is estimated that Regional employment in this industry will increase slowly to 1985 at a rate of from 1/4 to 1/3 percent per year. This would result in a 1985 employment range of 22,000 to 23,400. The reasons for this forecast are:

1. A large number of small primary metal firms in the Region have evidenced an ability to adapt the newest technologies of the industry. They have also shown employment gains.

2. Anticipated growth in the Regional electrical machinery and transportation equipment industries should sustain or increase the demand for primary metal products.

3. Some of the largest firms in the Region have also adopted newer technologies and have competed successfully for government contracts.

4. Regional firms have a proven export ability. That is, in the face of stiff foreign and domestic competition, Regional firms have continuously exported more than 80 percent of their output into national markets.

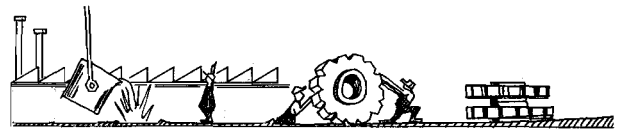


Table 51

NEW CAPITAL EXPENDITURES IN THE PRIMARY METALS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$10,781	100.0%
New England	228	2.1
Mid-Atlantic	2,699	25.0
East North Central	4,677	43.4
West North Central	152	1.4
South Atlantic	1,044	9.7
East South Central	704	6.6
West South Central	370	3.4
Mountain	313	2.9
Pacific	594	5.5

Source: Annual Survey of Manufacturers

Table 52

EMPLOYMENT TRENDS IN THE PRIMARY METAL INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	1,279.0	1,247.0	1,282.0	1,219.0	1,355.0	1,154.0	1,229.0	1,142.0	-10.7%
East North Central	514.0	470.0	497.0	466.0	526.0	424.0	468.0	439.0	-14.6
Wisconsin	27.5	24.2	29.1	24.6	28.5	23.5	24.6	23.7	-13.8
Region	17.9	16.3	20.1	17.7	21.4	18.1	19.4	19.0	6.1
Region of Wisconsin	65.1%	67.4%	69.1%	72.0%	75.1%	77.0%	78.9%	80.2%	
ENC of United States	40.2	37.7	38.8	38.2	38.8	36.7	38.1	38.4	
Wisconsin of ENC	5.4	5.1	5.9	5.3	5.4	5.5	5.3	5.4	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

Table 53

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE PRIMARY METALS INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	81	89	89	81	104	78	91	99	22%

Source: Board of Governors of the Federal Reserve

Table 54

UNITED STATES AVERAGE HOURLY WAGE IN THE PRIMARY METALS INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.65	$1.90	$2.09	$2.36	$2.65	$2.81	$2.90	75.8%

Source: United States Department of Commerce, Statistical Abstracts

Table 55

INPUT-OUTPUT RELATIONSHIPS IN THE PRIMARY METALS INDUSTRY IN THE SOUTHEASTERN WISCONSIN REGION: 1962

	Output			Input		
	Intra	Extra	Total	Intra	Extra	Total
Mining	------	------	-------	-----	9.2%	9.2%
Agriculture	------	------	-------	-----	------	-------
Construction	------	------	-------	-----	------	-------
Manufacturing	8.4%	34.9%	43.3%	0.9%	81.2%	82.1%
Utilities	------	------	-------	2.2%	------	2.2%
Wholesale Trade	1.1%	6.1%	7.2%	1.4%	5.1%	6.5%
Retail Trade/Services	------	------	-------	-----	------	-------
Government/Education	1.4%	48.1%	49.5%	-----	------	-------
Households	------	------	-------	-----	------	-------
Total	10.9%	89.1%	100.0%	4.5%	95.5%	100.0%

Source: Sample of Regional Firm Interviews

PRINTING AND PUBLISHING

The printing and publishing industry is a sub-dominant in the Region. In 1960, approximately 13,800 persons were employed in this industry or 2.2 percent of total Regional employment. Printing and publishing is the second largest non-durable goods manufacturing industry in the Region.

This industry group consists of firms engaged in: the publishing and printing of newspapers; commercial printing including periodicals; and book publishing, printing, and binding. These activities are represented in the Region by such firms as: The Journal Company, Milprint, Inc.; W.A. Krueger Co.; Columbian Art Works, Inc.; and Western Publishing Co., Inc.

The printing and publishing industry is quite heavily concentrated in the Mid-Atlantic States of New York, Pennsylvania, and New Jersey. Over 35 percent of the value added by manufacture in this industry was realized in this area. As shown in Table 56, the second largest concentration is in the ENC States. The Pacific States rank third. The ENC and Mid-Atlantic States have experienced relative losses in value added by manufacture. The largest relative gains have occurred in the South Atlantic and Pacific States.

The ENC States have invested more money in new plant and equipment from 1954 to 1961 than any other area in the United States. This is especially noteworthy since the Mid-Atlantic States accounted for the largest share of value added by manufacture in this industry. As shown in Table 57, the ENC States spent approximately 810 million dollars on new plant and equipment from 1954 to 1961 compared to 726 million in the Mid-Atlantic States. Relatively large amounts were also spent in the West North Central, Pacific, and South Atlantic States.

United States employment in this industry increased steadily from 1947 to 1961. As shown in Table 58, employment increased by 28.4 percent during the period. Employment in the ENC States increased at a slow rate of 17.4 percent while the Wisconsin and Regional employment increased at 35 and 65 percent respectively.

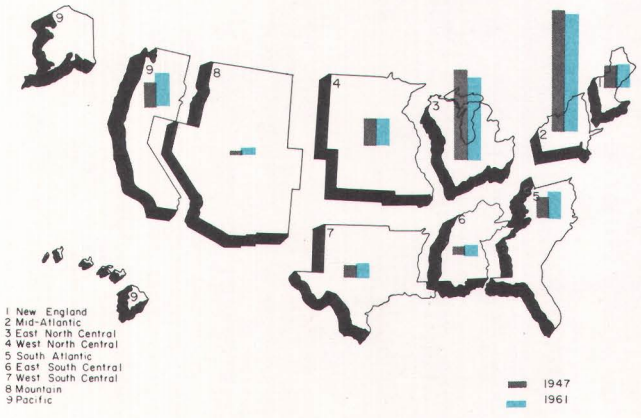
As a result of these employment trends, it can be seen that the ENC States are losing their share of total United States employment; Wisconsin is increasing its share of ENC States employment; and the Region is increasing its share of Wisconsin employment in this industry.

As shown in Table 59, the industrial production index rose from 70 to 112 from 1947 to 1961; an increase of 60 percent. This rate of increase was over twice as fast as the employment increase in the same period. This would indicate substantial productivity gains.

Average hourly wages in the industry increased over 44 percent from 1950 to 1951. Average hourly wages increased from $1.90 in 1950 to $2.74 in 1961. Data from interviewed firms indicate an industry average hourly wage of approximately $3.00 in the Region today. (See Table 60.)

The output of this industry in the Region is distributed as shown in Table 61. This data was collected during the firm interviews. Nearly 3/4 of the interviewed firms' output is marketed

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The PRINTING & PUBLISHING Industry: 1947 And 1961



PRINTING AND PUBLISHING EMPLOYMENT

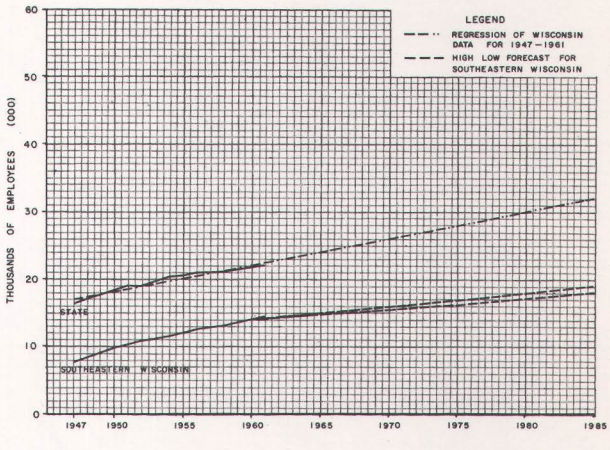


Table 56

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE PRINTING AND PUBLISHING INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$4,269	100.0%	$9,391	100.0%	120%	—
New England	281	6.6	625	6.6	122	—
Mid-Atlantic	1,577	37.0	3,327	35.4	111	-1.6%
East North Central	1,170	27.4	2,310	24.6	97	-2.8
West North Central	335	7.8	710	7.6	112	-0.2
South Atlantic	262	6.1	736	7.8	181	1.7
East South Central	102	2.4	252	2.7	147	0.3
West South Central	154	3.6	371	4.0	141	0.4
Mountain	60	1.4	176	1.9	193	0.5
Pacific	328	7.7	884	9.4	170	1.7

Source: Annual Survey of Manufacturers

outside the Region; twenty percent is sold to manufacturers; fifty-five percent is sold to retailers; twenty percent is sold directly to households. About two percent of the output is marketed to wholesalers or to the various levels of government. Materials are also purchased mainly from outside of the Region. Most of the material input is, of course, paper. This paper is to a large extent purchased from Wisconsin mills outside the Region, although newsprint is imported from Canada. Wholesalers in the Region supply most of the other materials needed in printing and publishing operations.

Employment in this industry is forecasted to increase at an average annual rate of 1 to 1-1/4 percent per year to 1985. This would result in a range of 17,700 to 18,800 jobs. The major facts and judgments upon which this estimate is based are:

1. Employment in this industry in Wisconsin increased from 1947 to 1961 at a rate of 1-1/4 percent per year. Employment in the Region increased at an even faster rate. Both large and small companies in the Region have experienced substantial employment gains.

2. The demands for books, newspapers, and many other printed items should increase in the next twenty-five years. Educational systems, governments, and businesses will require more of the products manufactured by the printing and publishing industry.

3. New capital expenditures in this industry are very strong in the ENC States. Interviewed firms in the Region indicated that any expansion necessary to meet increased demands will likely be made within the Region.

Table 57

NEW CAPITAL EXPENDITURES IN THE PRINTING AND PUBLISHING INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$2,348	100.0%
New England	114	4.9
Mid-Atlantic	726	30.9
East North Central	810	34.5
West North Central	225	9.6
South Atlantic	153	6.5
East South Central	55	2.3
West South Central	51	2.2
Mountain	22	0.9
Pacific	192	8.2

Source: Annual Survey of Manufacturers

Table 58

EMPLOYMENT TRENDS IN THE PRINTING, PUBLISHING, AND ALLIED INDUSTRIES IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	721.0	748.0	780.0	814.0	862.0	873.0	917.0	926.0	28.4%
East North Central	195.0	212.0	215.0	218.0	229.0	221.0	227.0	229.0	17.4
Wisconsin	16.3	18.5	19.1	20.2	20.9	21.1	21.8	22.0	35.0
Region	8.6	9.9	10.6	11.6	12.4	13.0	13.8	14.2	65.1
Region of Wisconsin	52.8%	53.5%	55.5%	57.4%	59.3%	61.6%	63.3%	64.5%	
ENC of United States	27.0	28.3	27.6	26.8	26.6	25.3	24.8	24.7	
Wisconsin of ENC	8.4	8.7	8.9	9.3	9.1	9.5	9.6	9.6	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

Table 59

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE PRINTING AND PUBLISHING INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	70	80	81	88	98	98	111	112	60%

Source: Board of Governors of the Federal Reserve System

Table 60

UNITED STATES AVERAGE HOURLY WAGE IN THE PRINTING AND PUBLISHING INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.90	$2.10	$2.27	$2.42	$2.59	$2.67	$2.74	44.2%

Source: United States Department of Commerce, Statistical Abstracts

Table 61

INPUT-OUTPUT RELATIONSHIPS IN THE PRINTING AND PUBLISHING INDUSTRIES IN THE SOUTHEASTERN WISCONSIN REGION: 1962

	Output			Input		
	Intra	Extra	Total	Intra	Extra	Total
Agriculture	------	------	-------	------	------	-------
Construction	------	------	-------	------	------	-------
Manufacturing	2.1%	19.3%	21.4%	1.2%	73.1%	74.3%
Utilities	------	------	-------	0.1%	------	0.1%
Wholesale Trade	0.1%	1.3%	1.4%	24.0%	1.4%	25.4%
Retail Trade/Services	6.0%	49.1%	55.1%	------	------	-------
Government/Education	------	1.0%	1.0%	0.2%	------	0.2%
Households	18.7%	2.4%	21.1%	------	------	-------
Total	26.9%	73.1%	100.0%	25.5%	74.5%	100.0%

Source: Sample of Regional Firm Interviews

FINANCE, INSURANCE, AND REAL ESTATE

The finance, insurance, and real estate industry group is a sub-dominant in the Regional economy and accounted for 3.8 percent of total employment in 1960. There were approximately 23,000 employees in this industry in 1960. This group includes banks, trust companies, credit agencies other than banks, investment companies, brokers and dealers in security or commodity contracts, insurance firms of all types, agents and brokers of these firms, real estate agents, and real estate developers.

At national, state, and Regional levels there has been a steady employment increase in these fields which actually has proceeded faster than population gains (see Table 62).

The fact that employment in this category has grown faster than population may be explained by: the more numerous services demanded of banks; the rise of savings and loan institutions; the increased desire and need for insurance coverage; and the expansion of urban-suburban living.

There is no real indication of any future decline in public, private, or industrial demands made upon this industry. There is some indication, however, that these demands will not precipitate as rapid an employment increase as in the past. Improved data processing equipment, I.B.M. systems, and communications improvements have allowed many firms to realize great savings. Fewer people are required to process large volumes of routine business forms and data (i.e., check processing, premium billing, and balancing accounts).

An example of this in the Region is an insurance company's installation of an I.B.M. magnetic tape system utilizing a 7090 computer. Though no significant unemployment has occurred, some vacancies were left unfilled. Not all firms can implement a system of this type, but many other improved data handling techniques are being developed and tailored to the needs of smaller firms. In the long run this will act to moderate future employment growth.

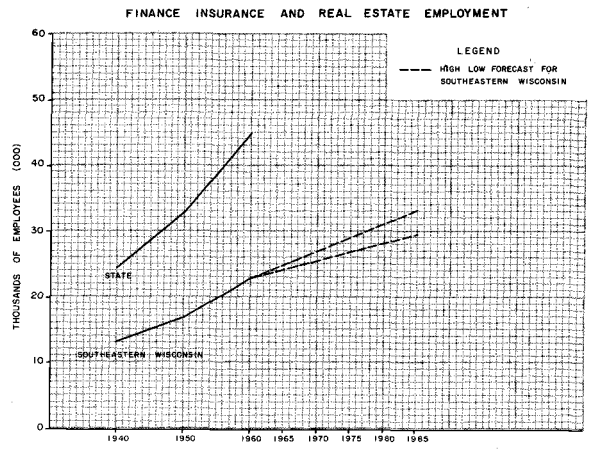


Table 62

EMPLOYMENT IN FINANCE, INSURANCE, AND REAL ESTATE IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1940, 1950, AND 1960

	Region	% of Total Regional Employment	Wisconsin	Region's Share of Wisconsin	United States
1940	13,500	3.6%	24,800	54.4%	1,475,000
1950	16,900	3.2	32,900	51.4	1,920,000
1960	23,000	3.8	45,200	50.9	2,695,000

Source: United States Census of Population

GOVERNMENT

Government is a sub-dominant economic activity in the Region. In 1960, governmental activities employed approximately 22,700 persons or 3.7 percent of total Regional employment.

At all levels of government (i.e. municipal, county, state, and federal) employment has increased over the 1940-1960 period. This growth has occurred both as a result of population increases and as a result of the increasing services which government has been required to perform (see Table 63).

Of specific importance to the Region is the growth in the full value property tax base. Assessments from this base provide most of the local revenue which finances governmental activities. (The major state revenue source is the income tax.) As shown in Table 64, the property tax base has grown substantially in both the state and Region, with residential and manufacturing categories showing the sharpest increase.

Actual tax and aid revenues available for governmental expenditures in the Region have increased substantially between 1940 and 1960 (see Table 65). It is apparent from these tables that the Region's growing tax base has been adequately supporting the increased expenditures.

The amount of state aids received in the Region has increased over 300 percent from 1940 to 1960. From tax records it is estimated that the Region contributes about half of all state revenues, but it is apparent from Table 65 that the Region receives only about a fourth of all state aids. This suggests that the Region is supporting more than its share of state supported activities.

The increasing tendency of governmental activities to proliferate rather than diminish seems to indicate that government employment will continue to increase. By 1985, it is likely that considerably more people will be working in governmental services in the Region.

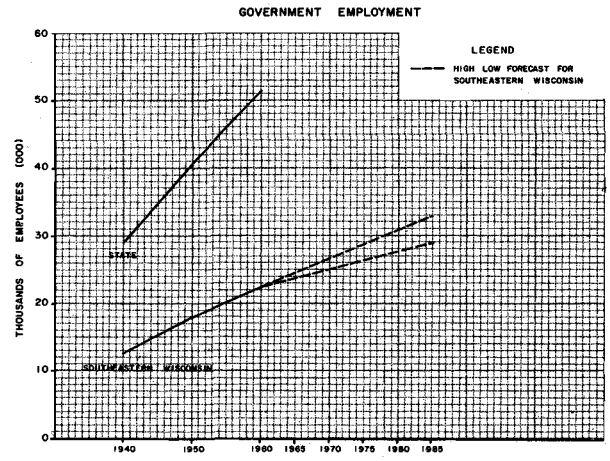


Table 63

GOVERNMENT EMPLOYMENT IN THE UNITED STATES, WISCONSIN, AND SOUTHEASTERN WISCONSIN REGION: 1940, 1950, AND 1960

	Region	% of Total Regional Employment	Wisconsin	Region's Share of Wisconsin	United States
1940	12,680	3.3%	28,820	44.0%	1,415,283
1950	17,954	3.4	40,941	43.9	2,514,469
1960	22,686	3.7	51,834	43.8	3,202,890

Source: United States Census of Population

Table 64

FULL VALUE PROPERTY TAX BASE BY TYPE IN WISCONSIN AND THE SOUTHEASTERN WISCONSIN REGION: 1940 AND 1960 (MILLIONS OF DOLLARS)

	Wisconsin			Southeast Region		
	1940	1960	% Change	1940	1960	% Change
Residential	$1,725	$ 9,219	434%	$ 920	$4,901	433%
Mercantile	637	2,353	269	336	1,131	237
Manufacturing	366	1,954	434	176	1,035	488
Agriculture	1,106	2,317	109	146	218	49
Timber	34	37	9	2.6	2.5	-4
Total	$3,868	$15,880	313%	$1,580.6	$7,281.5	361%

Source: Wisconsin State Department of Taxation

Table 65

TAX AND AID REVENUE FOR THE SOUTHEASTERN WISCONSIN REGION: 1940 AND 1960 (1,000'S OF DOLLARS)

	1940	1960	% Change
Property Tax	$50,762	$239,380	372%
Shared Tax	8,704	62,777	621
State Aids	8,735	35,424	306
Total	$68,201	$337,581	395%

Source: Wisconsin State Department of Taxation

WHOLESALE TRADE

Wholesale trade is a sub-dominant in the Region. In 1960, approximately 18,700 persons were employed in this activity or 3.1 percent of total Regional employment. This activity group includes establishments primarily engaged in selling merchandise to retailers, industrial, commercial, institutional, or professional users; or acting as agents in buying and selling merchandise.

It has been pointed out in the retail trade discussion that the size of wholesale (and retail) employment is directly related to the size of the population at national, state, and Regional levels.

Actual employment in wholesale activities has trended up over the years (see Table 66).

A significant fact is that during the 1950-1960 period this growth in employment slowed down appreciably. This is largely the result of mechanized warehousing techniques, better inventory control methods, and improved materials handling. The result of these innovations in the wholesale field may best be seen in the 1960 downturn of wholesale employment per 1000 population (see Table 67).

The number of wholesale establishments in the Region has increased 17.5 percent during the 1947-1958 period (see Table 68). The greatest percentage increases occurred in Ozaukee and Waukesha Counties where the number of wholesale establishments more than doubled. The greatest absolute increase occurred in Milwaukee County where 168 establishments were added between 1947 and 1958.

In summary; it is likely that increasing total employment, greater industrial needs, and a larger population in the Region will create added demands for wholesaling activities. The experience of the 50's, however, would indicate that this increased activity will be satisfied by very slight (if any) employment increases.

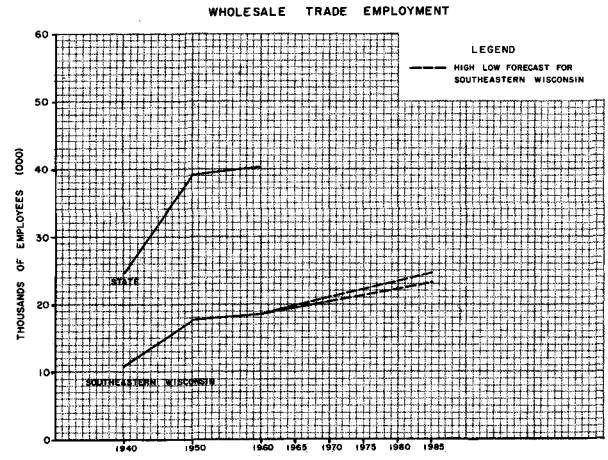


Table 66

WHOLESALE TRADE EMPLOYMENT IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1940, 1950, AND 1960

	Region	% of Total Regional Employment	Wisconsin	Region's Share of Wisconsin	United States
1940	10,900	2.9%	24,800	44.0%	1,203,751
1950	17,600	3.4	39,100	45.0	1,965,036
1960	18,700	3.1	40,100	46.6	2,212,984

Source: United States Census of Population

Table 67

WHOLESALE TRADE EMPLOYMENT PER 1000 POPULATION IN THE UNITED STATES, WISCONSIN, AND SOUTHEASTERN WISCONSIN REGION: 1940, 1950, AND 1960

	United States	Wisconsin	Region
1940	9.1	7.9	10.2
1950	13.0	11.4	14.2
1960	12.3	10.1	11.9

Source: United States Census of Population

Table 68

WHOLESALE TRADE ESTABLISHMENTS IN THE SOUTHEASTERN WISCONSIN REGION: 1947, 1954, AND 1958

	1947	1954	1958	% Change 1947 - 1958
Kenosha	75	72	87	16.0%
Milwaukee	1,779	1,714	1,947	9.4
Ozaukee	17	30	38	123.5
Racine	111	141	166	49.5
Walworth	57	72	82	43.9
Washington	37	34	53	43.2
Waukesha	71	105	149	109.9
Total	2,147	2,168	2,522	17.5

Source: United States Census of Business

AGRICULTURE

Agriculture in the Region is oriented, for the most part, to the Regional market. In 1960, there were 12,900 persons working in agriculture or 2.1 percent of the total Regional employment. This employment level is down sharply from 1950 when 21,000 persons made a living on farms. An employment drop of 38.6 percent during that period, however, was consistent with state and national declines of 33.6 and 38.4 percent respectively (see Table 69).

There are many kinds of farming in the Region – dairying, cash grain, livestock raising, and truck farming. About one-half of the farms were classified as miscellaneous farms which were either part-time, part-retirement, or institutional in nature. These farms generally have very low incomes. It is likely that many of them willl be abandoned or consolidated with larger farms in the future.

The next largest group of farms are those which raise livestock, other than poultry. This group is in turn followed by farms specializing in field crops (see Table 70).

Dairy products are the most important source of revenue for farmers in the Region. Sales of livestock and field crops follow in that order. Sales of poultry products, vegetables, and forest products are of somewhat lesser importance. Fruit and nut sales are relatively unimportant (see Table 71). More specifically, fluid and manufacturing milk, cattle, calves, hogs, oats, soybeans, wheat, barley, potatoes, and many kinds of vegetables are the primary products sold. Sod is also being produced and sold in increasing amounts to meet the landscaping demands of suburbanites.

Average farm incomes (gross) in the Region were higher than the state average in both 1949 and 1959. The average farm income in the Region was $8,872 in 1959 compared to the state average of $7,325. These high gross incomes are due to a number of factors including the following:

1. The soil in the Region is some of the richest in the state.
2. The farms are generally near the expanding urban markets of the Region.
3. Gross returns from truck farming are relatively high.

It is likely that these advantages will keep gross incomes as high or higher than state averages in the future.

It should be emphasized that although the average farm income in the Region is high, the majority of farms have relatively small incomes. Over 27 percent of the farms have gross incomes of less than $2,500 (see Table 72). On the other hand, only 145 farms in 1959, or 1.5 percent of all farms, had a gross income of $40,000 or more and accounted for about 10 percent of the total sales of all farm products. This predominance of low income farms does not reflect a bright future for agriculture in the Region.

Accompanying the employment decline already mentioned, there has been a steady decline in both the number of farms and in the number of acres in farmland. The number of farms declined by nearly 33 percent from 1950 to 1959, and the acreage decline was 15.5 percent. As a result, the average size farm increased from 98.7 acres to 124.8 acres (see Table 73). This size is still well below the state average of 161.2 acres.

Agricultural employment in the Region is estimated to decline at an average annual rate of from 1-3/4 to 1-1/2 percent. Employment in 1985 would then range from 8,400 to 8,900 persons.

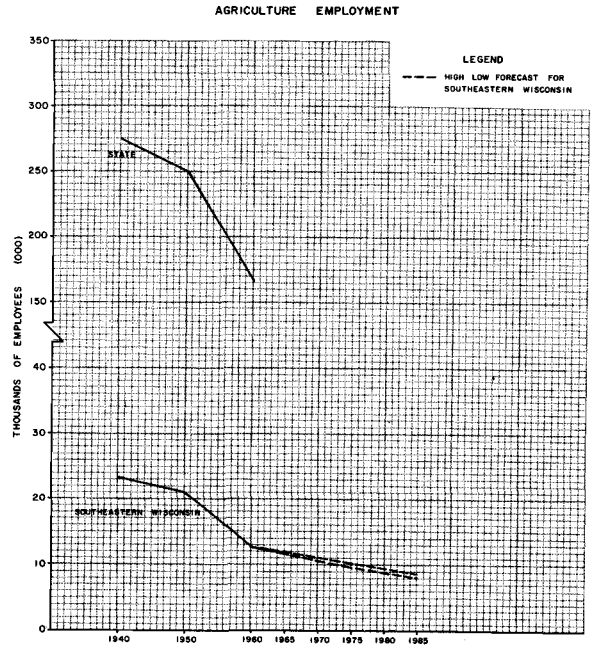


Table 69

AGRICULTURAL EMPLOYMENT IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1950 AND 1960

	1950	1960	% Change
Region	21,000	12,900	-38.6%
Wisconsin	251,700	167,200	-33.6
United States	6,908,600	4,256,700	-38.4

Source: United States Census of Population

Table 70

NUMBER AND TYPE OF FARMS IN THE SOUTHEASTERN WISCONSIN REGION: 1959

Type of Product	Number	% of Total
Field Crop	730	7.7%
Vegetable	157	1.7
Fruit and Nut	45	0.5
Poultry	148	1.6
Dairy	4,713	49.7
Other Livestock	839	8.8
General	356	3.7
Miscellaneous	2,491	26.3
Total	9.479	100.0%

Source: United States Census of Agriculture

Table 71

VALUE AND TYPE OF PRODUCT SOLD IN THE SOUTHEASTERN WISCONSIN REGION: 1959

Type of Product	Dollars	% of Total
Dairy	$40,650,480	48.3%
Cattle, calves, and hogs	18,817,305	22.4
Poultry	3,615,538	4.3
Vegetables	3,274,568	3.9
Fruit and nuts	674,753	0.8
Forest products	4,608,839	5.5
Cash grain and other feed	12,454,850	14.8
Total	$84,096,333	100.0%

Source: United States Census of Agriculture

Table 72

NUMBER OF FARMS BY ECONOMIC CLASS IN THE SOUTHEASTERN WISCONSIN REGION: 1959

Class	Number	% of Total
Class I (Sales of $40,000 or more)	145	1.5%
Class II (Sales of $20,000 to $39,999)	658	7.0
Class III (Sales of $10,000 to $19,999)	2,270	23.9
Class IV (Sales of $5,000 to $9,999)	2,340	24.7
Class V (Sales of $2,500 to $5,000)	1,490	15.7
Class VI (Sales of $2,500 or less)	2,576	27.2
Total	9,479	100.0%

Source: United States Census of Agriculture

Table 73

TRENDS IN THE NUMBER OF FARMS, FARM ACREAGE, AND AVERAGE FARM SIZE IN THE SOUTHEASTERN WISCONSIN REGION: 1950, 1954, AND 1959

	1950	1954	1959	% Change 1950 to 1959
Number of farms	14,134	12,415	9,479	-32.9
Acres in farmland	1,394,497	1,341,196	1,177,699	-15.5
Average farm size	98.7 acres	108.0 acres	124.8 acres	

Source: United States Census of Agriculture

LEATHER AND LEATHER PRODUCTS

The leather and leather products industry in the Region accounted for about 7,600 employees in 1960, or 1.2 percent of total employment. This industry is not a sub-dominant, but is considered here because of its declining position in the United States economy.

This industry includes establishments engaged in tanning, currying, and finishing hides and skins; and establishments manufacturing finished and artificial leather products. Some of the Regional firms are: Albert Trostel and Sons Company; B.D. Eisendrath Tanning Company; Weyenberg Shoe Manufacturing Company; Nunn-Bush Shoe Co., Herbst Shoe Manufacturing Co.; Musebeck Shoe; Western Leather Products Corp.; and Amity Leather Products Co.

This industry is most significant in terms of value added by manufacture in the New England, Mid-Atlantic and ENC States. Over 75 percent of the value added by manufacture is realized in these areas. The Mid-Atlantic States and ENC States, however, are declining in their relative importance. As shown in Table 74, these two areas lost nearly 6 percent of their share of value added from 1947 to 1961. The largest gains were made in the West North Central States (primarily Missouri) and the East South Central States (primarily Tennessee). The hub of this industry, New England, seems to be holding its leadership position.

As shown in Table 75, new capital expenditures in this industry were relatively small from 1954 to 1961. The largest amounts were spent in the New England, ENC, and Mid-Atlantic States. These areas accounted for over 71 percent of total new capital expenditures. The West North Central and South Atlantic States accounted for 39 million dollars in the period or 15 percent of the total. Some states in these areas are recognized for their shoe industries.

Employment in this industry has been trending downward since 1947. As shown in Table 76, national industry employment declined over 12 percent from 1947 to 1961. ENC States, Wisconsin, and Regional employment declined faster than the national rate. Regional employment declined fastest; over 38 percent.

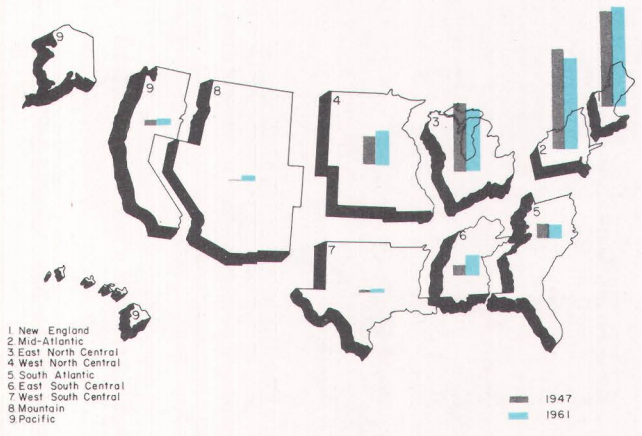
Production in this industry has increased at a relatively slow rate. As shown in Table 77, the industrial production index for this industry increased from 93 to 100 from 1947 to 1961, an increase of only 7.5 percent.

Average hourly wages in this industry are relatively low. Wages increased moderately from $1.18 per hour in 1947 to $1.68 per hour in 1961. Interview data showed that production wages in the Region averaged somewhat higher; approximately $1.85 per hour. Most firms use some form of piecework wage system. Most firms are unionized and employ a high percentage of females. (See Table 78.)

Input and output data were not tabulated in any detail for this industry since it is relatively small in the Regional economy. Limited data secured from firm interviews indicate that over 80 percent of the leather industry output is marketed outside the Region. Some of the hides or semi-finished leather is supplied to tanners or shoe companies from Regional sources, but a large share of these inputs are purchased outside the Region.

Employment in this industry is expected to

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The LEATHER & LEATHER PRODUCTS Industry 1947 And 1961



LEATHER AND LEATHER PRODUCTS EMPLOYMENT

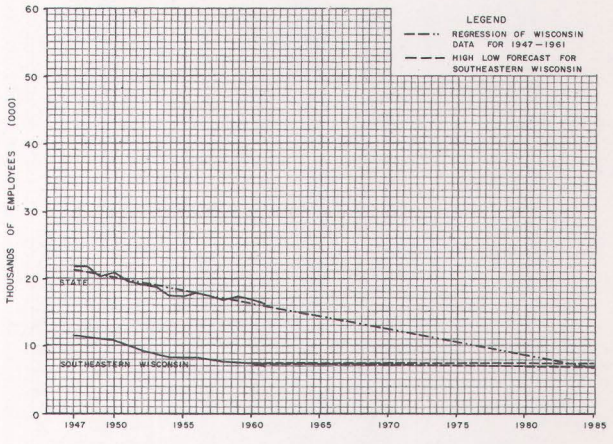


Table 74

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE LEATHER AND LEATHER PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$1,533	100.0%	$2,006	100.0%	31.0%	—
New England	454	29.6	610	30.4	34.0	0.8%
Mid-Atlantic	469	30.6	542	27.0	16.0	-3.6
East North Central	319	20.8	375	18.7	18.0	-2.1
West North Central	129	8.4	206	10.3	60.0	1.9
South Atlantic	69	4.5	79	4.0	14.0	-0.5
East South Central	50	3.3	116	5.8	132.0	2.5
West South Central	9	0.6	15	0.7	67.0	0.1
Mountain	5	0.3	20	1.0	300.0	0.7
Pacific	29	1.9	43	2.1	48.0	0.2

Source: Annual Survey of Manufacturers

remain at present levels or decline slightly. A forecast of minus 1/3 percent per year to stable employment has resulted in a 1985 employment range of 6,900 to 7,600. The primary facts or judgments on which this forecast is based are:

1. Employment declines have been registered in this industry across the country since 1947. The decline in this industry in the Region has been especially fast. The overall employment decline in the interviewed firms, however, has been very slight.

2. The leather industry originated in the Region because it was close to the Chicago stockyards and had ready access to natural sources of tannic acid which was used in the tanning process. Today, slaughtering facilities are moving closer to livestock raising areas and effective inorganic tanning agents have been developed. These tanning compounds are imported to a large extent from South America.

3. The industry is labor intensive. Because of this fact, low labor costs are sought by firms in this industry. These lower wage costs are generally sought in southern states if low cost female labor is not available in the Great Lakes Region.

4. There is growing competition from substitute products in the leather industry. Several new synthetics have been developed which compete strongly with leather.

5. Leather industry firms in the Region gave no indication of expansion within the Region.

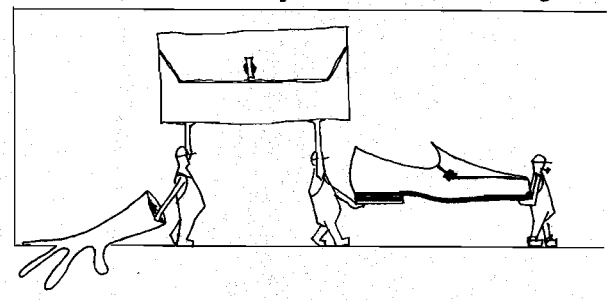


Table 75

NEW CAPITAL EXPENDITURES IN THE LEATHER AND LEATHER PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$260	100.0%
New England	73	28.1
Mid-Atlantic	64	24.6
East North Central	48	18.5
West North Central	20	7.7
South Atlantic	19	7.3
East South Central	12	4.6
West South Central	6	2.3
Mountain	5	1.9
Pacific	13	5.0

Source: Annual Survey of Manufacturers

Table 76

EMPLOYMENT TRENDS IN THE LEATHER AND LEATHER PRODUCTS INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	412.0	395.0	384.0	373.0	383.0	359.0	366.0	361.0	-12.4%
East North Central	75.0	69.0	61.0	59.0	59.0	53.0	56.0	55.0	-26.7
Wisconsin	22.0	21.0	19.2	17.8	18.0	17.1	17.1	16.4	-25.5
Region	11.7	11.0	9.5	8.6	8.5	7.8	7.6	7.2	-38.5
Region of Wisconsin	53.2%	52.4%	49.5%	48.3%	47.2%	45.6%	44.4%	43.9%	
ENC of United States	18.2	17.5	15.9	15.8	15.4	14.8	15.3	15.2	
Wisconsin of ENC	29.3	30.4	31.5	30.2	30.5	32.3	30.5	29.8	

Source; Wisconsin Industrial Commission and Annual Survey of Manufacturers

Table 77

UNITES STATES INDEX OF INDUSTRIAL PRODUCTION IN THE LEATHER AND LEATHER PRODUCTS INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	93	92	91	91	101	97	101	100	7.5%

Source: Board of Governors of the Federal Reserve System

Table 78

UNITED STATES AVERAGE HOURLY WAGE IN THE LEATHER AND LEATHER PRODUCTS INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.18	$1.32	$1.38	$1.50	$1.57	$1.64	$1.68	42.4%

Source: United States Department of Commerce, Statistical Abstracts

CHEMICALS AND ALLIED PRODUCTS

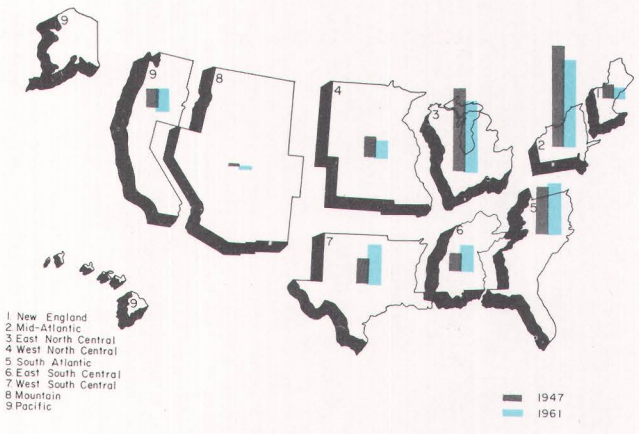
The chemicals and allied products industry in the Region accounted for approximately 4,000 employees in 1960 or 0.7 percent of total Regional employment. This industry is not sub-dominant in the Region, but is considered because of its strong growth nationally.

This industry includes establishments engaged in the manufacture of organic and inorganic chemicals, plastic resins, drugs, paints varnishes, cosmetics, soaps and other cleaning preparations, and miscellaneous chemical products. Some of the major firms in this industry in the Region are: S.C. Johnson and Son, Inc.; Lakeside Laboratories, Inc.; Kolmar Laboratories, Co.; Chris Hansen's Laboratory, Inc.; Pittsburgh Plate Glass Co., Milwaukee Paint Division; and Peter Cooper Corporations; U.S. Glue Division and U.S. Gelatine Co.

According to the value added by manufacture figures presented in Table 79, the chemical and allied products industry is most significant in the Middle Atlantic, ENC, and South Atlantic States. Two of the areas, however, (ENC and MA) are declining in relative economic importance. They have been losing their share of industry value added to the East South Central and West South Central States. These are the areas where the petro-chemical industry has made major advances.

New capital expenditures since 1954, as shown in Table 80, have been largest in the West South Central States. The Middle Atlantic and South Atlantic States rank second and third respectively. The ENC States, which ranked second in economic importance as measured by value added in 1961, ranked fourth in new capital expenditures. The volume of investment by the Pacific States has been quite small compared to the spending being done in that area by other industries such as transportation equipment and primary metals.

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The CHEMICALS & CHEMICAL PRODUCTS Industry: 1947 And 1961



The national employment trend in this industry has been upward at a steady pace since 1947. Employment in the ENC States and Wisconsin, however, has not paralleled this national trend. As shown in Table 81, ENC States employment peaked in 1956 whereas Wisconsin employment peaked in 1952. Since these peaks, both areas have shown downward trends. As a result of these upward-downward movements, employment increases over the 1947 to 1961 period have been less than half the national rate. Regional employment closely paralleled state employment over this period.

Production has been increasing very rapidly in this industry. The industrial production index went up over 170 percent from 1947 to 1961. This fast increase in output, which is over six times faster than the employment increase in the same period, reflects the large increases in productivity experienced in the chemical industry in the last 15 years (see Table 82).

Average hourly wages increased over 75 percent from 1950 to 1961. Interviews indicated that chemical workers' wages are somewhat lower in the Region than the national average. They stand today at approximately $2.40 per hour (see Table 83).

Detailed input and output data were not tabulated for this industry. It was determined, however, that this industry is quite heavily export-oriented. That is, over 85 percent of the output of the chemical industry in the Region is mar-

CHEMICALS AND ALLIED PRODUCTS EMPLOYMENT

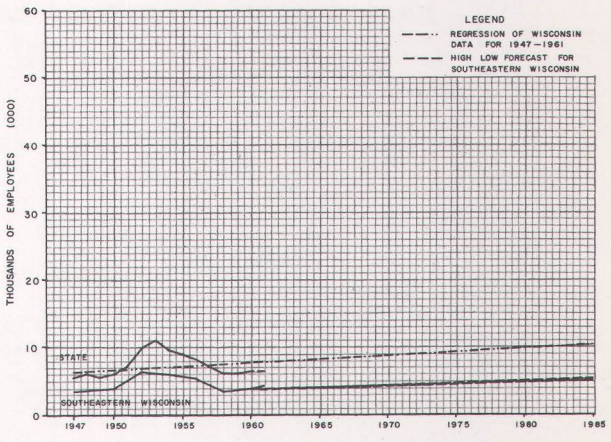


Table 79

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE CHEMICALS AND CHEMICAL PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$5,365	100.0%	$14,731	100.0%	175.0%	—
New England	217	4.1	470	3.2	117.0	-0.9%
Mid-Atlantic	1,655	30.9	3,884	26.4	135.0	-4.5
East North Central	1,357	25.3	3,203	21.7	136.0	-3.6
West North Central	328	6.1	795	5.4	142.0	-0.7
South Atlantic	779	14.5	2,301	15.6	195.0	1.1
East South Central	292	5.4	1,182	8.0	305.0	2.6
West South Central	389	7.3	1,803	12.2	363.0	4.9
Mountain	40	0.7	140	1.0	250.0	0.3
Pacific	308	5.7	953	6.5	209.0	0.8

Source: Annual Survey of Manufacturers

keted outside Regional boundaries. A large share of the material inputs also come from other states.

Employment in the chemical industry in the Region is estimated to increase at an annual average rate of from 1 to 1-1/4 percent to 1985. This would result in an employment range between 5,100 and 5,500. This forecast is based on the following facts and judgments:

1. Employment in this industry in Wisconsin has shown a past rate of increase of approximately 1-1/4 percent per year. Regional employment has increased at nearly that same rate. Interviewed firm employment has increased at less than 1 percent per year since 1947.

2. Although this industry has been very dynamic in its overall growth in this country in the last decade, employment growth has only been about 2 percent per year. This is because much of this industry is adaptable to automatic production processes.

3. The Region is not favorably located with respect to the major raw materials of the industry (i.e. coal, oil, and sulfur), but it is possible that organic or inorganic resources present in Wisconsin, which are not utilized today, may be converted through chemistry to useful products in the future. Large employment increases, unforeseeable today, could result.

4. New capital expenditure figures, and the changing distribution of value added in the industry, do not point to dynamic growth for the Region's chemical industry. The southern half of the United States indicates much more potential.

5. Some firms indicated they anticipated output and employment growth in the future, but none indicated they felt it would be faster than past growth.

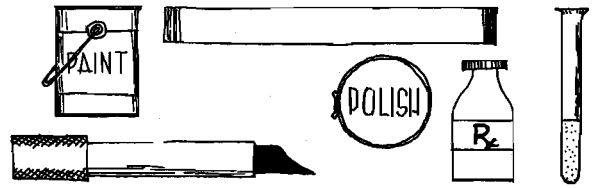


Table 80

NEW CAPITAL EXPENDITURES IN THE CHEMICALS AND CHEMICAL PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	8,710	100.0%
New England	254	2.9
Mid-Atlantic	1,711	19.7
East North Central	1,576	18.1
West North Central	395	4.5
South Atlantic	1,595	18.3
East South Central	754	8.7
West South Central	1,944	22.3
Mountain	73	0.8
Pacific	408	4.7

Source: Annual Survey of Manufacturers

Table 81

EMPLOYMENT TRENDS IN THE CHEMICALS AND CHEMICAL PRODUCTS INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	649.0	640.0	730.0	753.0	797.0	794.0	830.0	830.0	27.9%
East North Central	142.0	143.0	165.0	166.0	173.0	156.0	157.0	153.0	7.7
Wisconsin	5.7	6.0	10.0	9.5	8.4	6.0	6.4	6.4	12.3
Region	3.6	4.0	6.3	6.0	5.3	3.7	4.0	4.4	22.2
Region of Wisconsin	63.2%	66.7%	63.0%	63.2%	63.1%	61.7%	62.5%	68.8%	
ENC of United States	21.9	22.3	22.6	22.0	21.7	19.6	18.9	18.4	
Wisconsin of ENC	4.0	4.2	6.1	5.7	4.9	3.8	4.1	4.2	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

Table 82

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE CHEMICALS AND CHEMICAL PRODUCTS INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	45	61	72	77	96	100	121	123	173.3%

Source: Board of Governors of the Federal Reserve System

Table 83

UNITED STATES AVERAGE HOURLY WAGE IN THE CHEMICALS AND CHEMICAL PRODUCTS INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.51	$1.71	$1.91	$2.10	$2.31	$2.50	$2.58	70.9%

Source: United States Department of Commerce, Statistical Abstracts

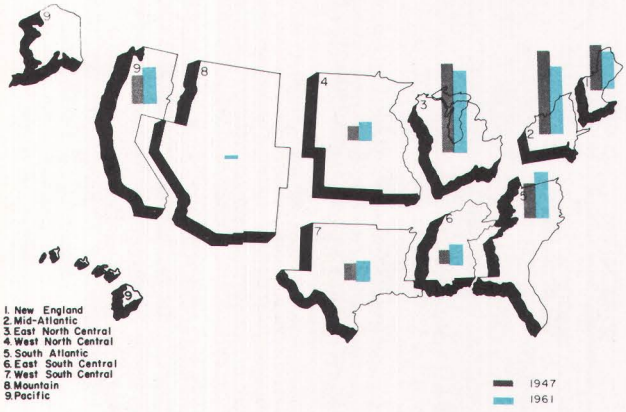
PAPER AND ALLIED PRODUCTS

The paper and allied products industry is not a sub-dominant industry in the Region. It accounted for only 4,504 employees in 1960 or about 0.8 percent of total Regional employment. The industry was analyzed because of its overall importance in the State's economy and because of its past growth and future potential in the state.

This industry includes manufacturers of pulp from wood, other cellulose fibers, and rags; manufacturers of paper and paperboard; and manufacturers of paper and paperboard into converted products such as paper bags, paper boxes, and envelopes. The major products produced in the Region are converted from purchased paper and paperboard. They include such things as boxes and other packaging materials, paper cups and plates, lace paper, napkins, and tape. Some of the firms in the Region are: Cornell Paperboard Products Co., Division of St. Regis Paper Company; American Paper and Plastics Products, Inc.; Rexford Paper Company; and the A. George Schulz Company.

As shown in Table 84, the paper and allied products industry is most important in terms of value added by manufacture in the ENC and Mid-Atlantic States. Its importance in these areas is generally due to proximity to markets and raw materials although substantial quantities of pulpwood are imported into these areas from Canada. These areas have been declining in their relative economic importance during the period from 1947 to 1961. They lost over 7 percent of their share of value added over the period to the South Atlantic, East South Central, and Pacific States.

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The PAPER & ALLIED PRODUCTS Industry: 1947 And 1961



New capital expenditure figures for this industry are presented in Table 85. They show that the ENC States have accounted for the largest share of all these expenditures from 1954 to 1961; nearly 45 percent. The South Atlantic States had the next largest share; the Mid-Atlantic States ranked third. These new capital expenditures represent dollars invested in new production equipment as well as plants, warehouses, or other depreciable assets. They exclude investment in land.

Firms that were interviewed in the Region have also spent substantial amounts of money on capital items. Most of the investment has been made for new, automatic equipment. Some warehouse buildings have also been constructed. The building of new plants or the addition of production facilities has been minimal; in fact, some firms indicated they will probably acquire or build additional production facilities in other states.

As shown in Table 86, employment in this industry has been increasing in the nation, ENC States, and Wisconsin. Regional employment, however, has declined. Wisconsin employment in the industry, which is concentrated mainly in the Fox and Wisconsin River Valley regions, has been growing at a rate equal to the national growth, but faster than all the firms in the ENC area combined. As a result, the State increased its share of total ENC employment from 25.2 percent in 1947 to 28.1 percent in

PAPER AND ALLIED PRODUCTS EMPLOYMENT

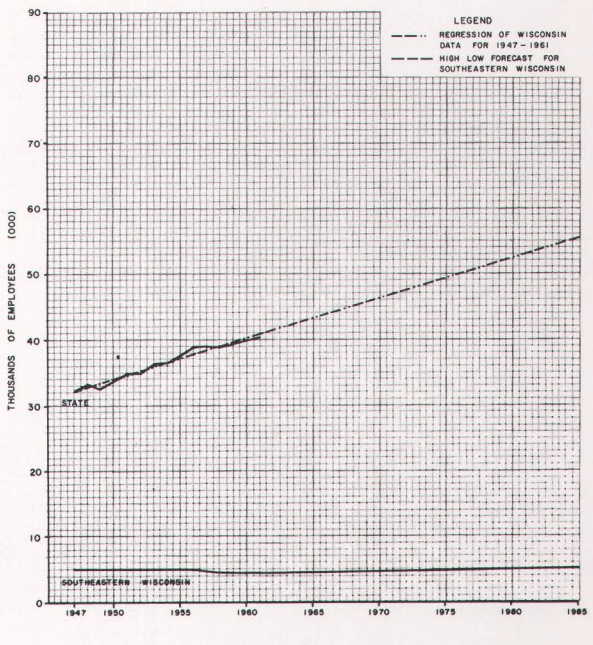


Table 84

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE PAPER AND ALLIED PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$2,875	100.0%	$6,656	100.0%	132.0%	—
New England	397	13.8	753	11.3	90.0	-2.5%
Mid-Atlantic	734	25.5	1,350	20.3	84.0	-5.2
East North Central	776	27.0	1,638	24.6	111.0	-2.4
West North Central	125	4.3	355	5.3	184.0	1.0
South Atlantic	312	10.9	953	14.3	205.0	3.4
East South Central	117	4.1	413	6.2	253.0	2.1
West South Central	156	5.4	414	6.2	165.0	0.8
Mountain	5	0.2	43	0.7	760.0	0.5
Pacific	253	8.8	737	11.1	191.0	2.3

Source: Annual Survey of Manufacturers

1961. Because Regional employment has been declining, its share of state employment has dropped from 15.8 percent to 11.1 percent over the same period of years.

Production trends are presented in Table 87. The industrial production index for the paper and allied products industry increased sharply from 1947 to 1961. The increase from 65 to 114 was over 75 percent. Since this rate of increase is nearly triple the employment rate of increase, it indicates substantial productivity advances.

Average hourly wages in the industry have also been steadily increasing. As shown in Table 88, average hourly wages for production workers increased from $1.41 per hour in 1950 to $2.34 per hour in 1961. This is an increase of nearly 66 percent. Wages in the Region are estimated to average approximately $2.40 per hour today. This estimate was made from data gathered during firm interviews in the Region.

Detailed input and output data were not tabulated for this industry because it accounts for a relatively small share of total Regional employment. It can be estimated from interview information, however, that at least 60 percent of the industry output is marketed outside the Region, and over 90 percent of the material inputs are received from non-Regional suppliers.

Prospects for this industry in the Region are fair. Both employment and output gains are anticipated. Employment is estimated to increase at a rate of from 2/3 percent to 3/4 percent per year, and by 1985 should range between 5,400 to 5,600. This forecast is based on the data already presented and comments, opinions, and facts gathered from firm interviews. Some of the facts and judgments behind this forecast are:

1. Increasing demands for paper products are anticipated in the future. More and more uses are being found for paper in industry and in the home.

2. The Region is favorably located in terms of both markets and suppliers. Wisconsin is the largest producer of paper and paperboard of any state in the nation.

Table 85

NEW CAPITAL EXPENDITURES IN THE PAPER AND ALLIED PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$7,095	100.0%
New England	531	7.5
Mid-Atlantic	704	9.9
East North Central	3,177	44.8
West North Central	184	2.6
South Atlantic	1,135	16.0
East South Central	464	6.5
West South Central	326	4.6
Mountain	33	0.5
Pacific	541	7.6

Source: Annual Survey of Manufacturers

Table 86

EMPLOYMENT TRENDS IN THE PAPER AND ALLIED PRODUCTS INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	465.0	485.0	504.0	531.0	568.0	564.0	593.0	590.0	26.9%
East North Central	123.0	129.0	126.0	138.0	148.0	142.0	146.0	145.0	17.9
Wisconsin	32.2	33.8	35.0	36.5	39.0	38.9	39.9	40.5	25.8
Region	5.1	5.1	5.0	4.9	5.0	4.7	4.6	4.5	-11.8
Region of Wisconsin	15.8%	15.1%	14.3%	13.4%	12.8%	12.1%	11.5%	11.1%	
ENC of United States	26.5	26.6	25.0	26.0	26.1	25.2	24.6	24.6	
Wisconsin of ENC	26.2	26.2	27.8	26.4	26.4	27.4	27.3	27.9	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

3. The expansion of the paper industry in the south will probably not continue at its present rapid rate. Most firms had been interested in the lower wage costs, less unionization, and the pulp wood supply in the south. Wage rates should eventually equalize, unionization is likely in the near future, and extensive reforestation projects in the Upper Midwest area should result in more ample supplies of pulpwood for northern producers.

4. Employment in the interviewed firms increased by 14.9 percent from 1947 to 1961. The interviewed firms accounted for nearly half of total Regional employment in the industry.

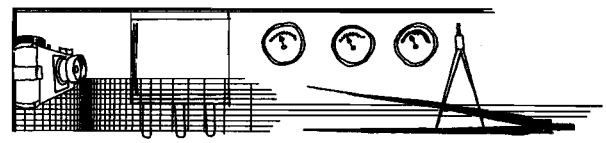


Table 87

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE PAPER AND ALLIED PRODUCTS INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	65	77	78	85	101	101	112	114	75%

Source: Board of Governors of the Federal Reserve System

Table 88

UNITED STATES AVERAGE HOURLY WAGE IN THE PAPER AND ALLIED PRODUCTS INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change
Hourly Wage	$1.41	$1.61	$1.75	$1.94	$2.12	$2.26	$2.34	66.0%

Source: United States Department of Commerce, Statistical Abstracts

INSTRUMENTS AND RELATED PRODUCTS

The instruments industry in the Region is presently quite small in employment terms. There were approximately 3,400 employees in this industry in the Region in 1960 or 0.5 percent of total employment. The industry is considered in this analysis because of its possible growth potential.

This industry includes establishments engaged in manufacturing mechanical measuring, engineering, laboratory, and scientific research instruments; optical instruments and lenses; and watches, clocks, and other timing devices. Among the firms engaged in this type of work in the Region are Johnson Service Co.; Borg Equipment Div., Amphenol-Borg Electronics Corp.; Badger Meter Mfg. Co.; Durant Manufacturing Co.; and Realist, Inc.

The mechanical instruments and related products industry is concentrated in the Mid-Atlantic and East and West North Central States. As shown in Table 89, these three areas accounted for over 75 percent of the entire industry's value added by manufacture in 1960. The Mid-Atlantic States have lost a substantial share of the industry value added since 1947, while the East and West North Central States have shown an increase. Much of this increase can be attributed to the growth of large firms in Minnesota.

The Pacific States and West South Central States have also increased in their share of industry value added from 1947 to 1961. The Pacific States showed the largest increase at 4.8 percent.

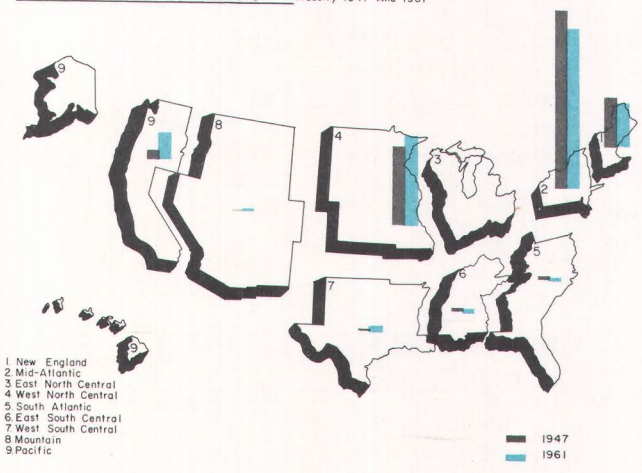
As shown in Table 90, combined new capital expenditures in the industry from 1954 to 1961 were about 1.5 billion dollars. Over 1/3 of this amount was spent in the Mid-Atlantic States; 27.1 percent was in the West North Central States. The ENC and New England States combined accounted for 27 percent of the total. The Pacific States show a low 96 million dollar expenditure for plant and equipment during the period.

Employment in this industry increased at a moderate rate from 1947 to 1961. As shown in Table 91, employment was up 29.6 percent during that period. ENC States and Regional employment increased faster at 82.9 percent and 36.0 percent respectively. Wisconsin employment declined quite sharply. This was due to the movement out of the state of one fairly large firm during the period.

The percentages in the lower part of Table 91, show the effects of these employment trends on employment shares. Because of the loss of the Wisconsin firm mentioned above, the Region accounted for 81 percent of total state employment in this industry in 1961 compared to 35 percent in 1947. ENC States employment growth is evidenced by the 21.6 percent share of total industry employment in 1961 compared to 15.3 percent in 1947. The Wisconsin share of ENC States employment has dropped markedly from 17.1 percent in 1947 to 5.6 percent in 1961.

Physical production in this industry is up sharply since 1947. The index of industrial production for instruments and related products increased 111 percent, from 55 in 1947 to 116 in 1961. This increase is about 3-1/2 times

Distribution Of Value Added By Manufacture By Geographic Areas In The United States In The INSTRUMENTS & RELATED PRODUCTS Industry 1947 And 1961



INSTRUMENT AND RELATED PRODUCTS EMPLOYMENT

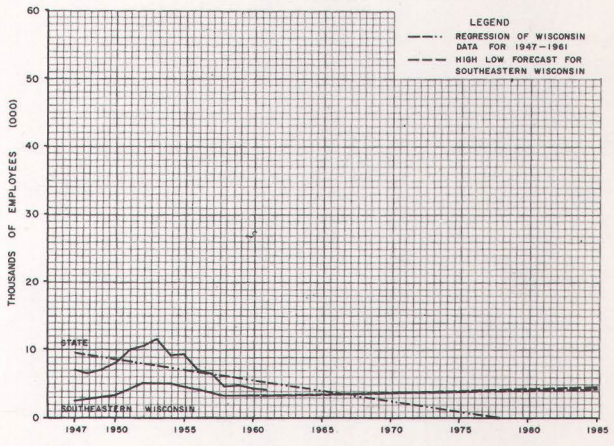


Table 89

CHANGES AND DISTRIBUTION OF VALUE ADDED IN THE INSTRUMENTS AND RELATED PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1947 AND 1961 (MILLIONS OF DOLLARS)

	1947 Value Added	Distribution	1961 Value Added	Distribution	Absolute Change	Relative Change
United States	$1,081	100.0%	$3,746	100.0%	247.0%	—
New England	166	15.3	474	12.6	186.0	-2.7%
Mid-Atlantic	590	54.6	1,805	48.2	206.0	-6.4
East North Central	260	24.1	791	21.1	293.0	3.2
West North Central			231	6.2		
South Atlantic	10	0.9	30	0.8	200.0	-0.1
East South Central	13	1.2	37	1.0	185.0	-0.2
West South Central	8	0.7	76	2.0	850.0	1.3
Mountain	2	0.2	11	0.3	450.0	4.1
Pacific	32	3.0	291	7.8	809.0	4.8

Source: Annual Survey of Manufacturers

faster than employment gains; indicating substantial productivity advances. (See Table 92.)

Average hourly wages are also increasing. As shown in Table 93, wages increased from $1.47 per hour in 1947 to $2.38 per hour in 1961, an increase of 61.9 percent. Average hourly wages in this industry are somewhat lower than in most other durable goods industries in the Region. Interviews indicated that the industry's average wage in the Region is approximately $2.50 per hour. A considerable amount of female labor is used in this industry in the Region.

Detailed input and output data were not tabulated for this industry. It is estimated, however, that approximately 80 to 85 percent of the output is marketed outside the Region. Materials for manufacture are also purchased to a large extent from suppliers outside the Region.

Employment in the instruments and related products industry in the Region is expected to increase at an average annual rate of from 1 to 1-1/4 percent. Consequently, the 1985 employment level should range between 4,400 and 4,600. Some of the facts and judgments which have contributed to this estimate are:

1. Employment in this industry in the Region has increased at an average annual rate of 2 percent from 1947 to 1961; the Region accounts for over 80 percent of total state employment in this group. Although some large firms in the Region have shown sustained employment declines since the mid-fifties, other firms in the Region have been able to more than compensate for these losses.

2. Modern science and industry are demanding an increasing amount and a wider variety of precision control and measuring instruments. The demands for optical, medical, and photographic equipment should be in great demand in the future.

3. Although there has not been a substantial development of the industry in the Region, there appear to be no significant economic factors to keep the industry from growing. The Region provides a ready industrial, commercial, and consumer market for the products of this industry and raw materials are readily available in the ENC industrial belt. There is also a good supply of skilled manpower available.

Table 90
NEW CAPITAL EXPENDITURES IN THE INSTRUMENTS AND RELATED PRODUCTS INDUSTRY IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS OF DOLLARS)

	New Capital	Distribution
United States	$1,515	100.0%
New England	206	13.6
Mid-Atlantic	551	36.4
East North Central	205	13.5
West North Central	410	27.1
South Atlantic	15	1.0
East South Central	8	0.5
West South Central	16	1.1
Mountain	8	0.5
Pacific	96	6.3

Source: Annual Survey of Manufacturers

Table 91

EMPLOYMENT TRENDS IN THE INSTRUMENTS AND RELATED PRODUCTS INDUSTRY IN THE UNITED STATES, EAST NORTH CENTRAL STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
United States	267.0	250.0	313.0	321.0	338.0	324.0	354.0	346.0	29.6%
East North Central	41.0	41.0	54.0	61.0	69.0	64.0	75.0	76.0	85.4
Wisconsin	7.0	7.9	10.7	9.0	7.0	4.8	4.4	4.2	-40.0
Region	2.5	3.1	5.0	5.0	4.4	3.4	3.4	3.4	36.0
Region of Wisconsin	35.7%	39.2%	46.7%	55.6%	62.9%	70.8%	77.3%	81.0%	
ENC of United States	15.4	16.4	17.3	19.0	20.4	19.8	21.2	22.0	
Wisconsin of ENC	17.1	19.3	19.8	14.8	10.1	7.5	5.9	5.5	

Source: Wisconsin Industrial Commission and Annual Survey of Manufacturers

Table 92

UNITED STATES INDEX OF INDUSTRIAL PRODUCTION IN THE INSTRUMENTS AND RELATED PRODUCTS INDUSTRY: 1947 TO 1961 (1957 = 100)

	1947	1950	1952	1954	1956	1958	1960	1961	% Change
Index	55	59	80	85	97	94	119	116	111%

Source: Board of Governors of the Federal Reserve System

Table 93

UNITED STATES AVERAGE HOURLY WAGE IN THE INSTRUMENTS AND RELATED PRODUCTS INDUSTRY: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change 1950 - 1961
Hourly Wage	$1.47	$1.72	$1.83	$2.01	$2.19	$2.32	$2.38	61.9%

Source: United States Department of Commerce, Statistical Abstracts

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Chapter V
PROJECTIONS

An economic analysis is valuable not only for an understanding of what presently exists, but because it provides some insight into what may be expected in the future. That is, what might be expected in terms of changes in relative importance of area industries, future employment levels, and future population levels.

This chapter does not restate or highlight all of the economic relationships embodied in the report. The most critical factors bearing on the employment forecast of each industry were presented in the separate industry analysis. The judgments embodied in these forecasts were made after many secondary data sources were reviewed and compared with the primary data from the 125 interviews. Past employment trends, market shifts, geographical changes within an industry, new plant and equipment expenditure patterns, wage trends, input-output data, value added trends, industrial production index trends, tax considerations, and opinions and comments of business, civic, educational, and administrative leaders also entered into these judgments.

In addition, there are some general economic conditions that were important to all the projections. They are as follows:

1. Industry in the ENC States and Mid-Atlantic States is losing its relative position in the United States in terms of employment and value added by manufacture. This is in response to the growth taking place in the comparatively new markets offered in the south, southeast, gulf states, southwest, and west coast. Wisconsin is bearing its share in this loss as many of its large native firms have expanded out of state.

2. Wisconsin (and hence the Region) is least favorably situated within the ENC States and Mid-Atlantic industrial belt. The state is at the extreme western and northern end of this industrial complex of states, farthest removed from the centers of population, markets, and materials. Increased transportation costs tend to place an added burden on Wisconsin and Regional firms competing in distant markets.

3. The increasing foreign competition in most industries, including the heavy industrial goods industries, is being felt by many United States and Regional firms. This competition is expected to get stronger in the future.

4. Technological changes in industry often render usable plants and techniques obsolete before their useful or depreciable lives are realized. This premature obsolescence is costly, and firms that do not keep up are soon operating at a competitive disadvantage. Many heavy industrial goods firms in this country and some in the Region are faced with this problem.

5. Wage rates in an industry or firm must be such that the firm or industry is able to compete effectively in national or international markets. The Region is generally recognized as a high wage area. Wages in themselves, however, are not necessarily indicative of a competitive disadvantage. The increased skill, dependability, and productivity of the workers in the Region may justify the high wage levels. Attention should be drawn, however, to the possibility that wage differentials may not always be commensurate with skill differentials.

6. Taxes are a cost of doing business. As such, they affect prices and profits. Many firms in the Region believed Wisconsin's tax burden was excessively heavy and placed them at a competitive disadvantage with firms located in other states. It should be emphasized, however, that shifting markets, technological advances, and strong competition magnify the effects of tax costs, and some firms interviewed expressed no concern over excessive tax costs. Table 95 presents a brief tabulation of the types of taxes which can be levied in the five East North Central States. This table should be viewed with caution since it does not reflect the full range of revenue sources used to finance state and local government; nor does it show the effects or extent of deficit financing.

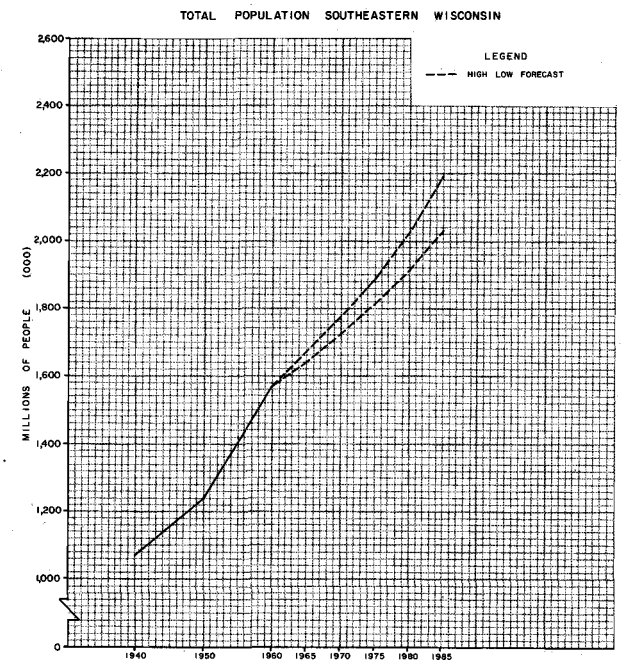
Table 94 presents the 1960 employment level in each of the forecast industries; the anticipated low and high annual rates of change; and a low and high employment forecast for 1965, 1970, 1975, 1980, and 1985.

It can be seen that the 1960 employment in the forecast industries was 421,500. This was 68.8 percent of the total Regional employment in 1960 (612,800). If the total employment in the forecast industries for any of the years shown on the table were divided by 0.6878, an estimated total employment figure for that year could thereby be obtained.[1] The following table summarizes this operation for each five year period from 1965 to 1985.

A forecast of total population in each of the years shown can be obtained by observing and projecting the relationship between the level of employment and total population. This relationship is called the employed participation rate. In 1960 the employed participation rate in the Region was 38.94 percent. In other words 38.94 persons out of every 100 population were employed. It has been noted over many years, that the employed participation rate is slowly declining. That is, a larger population is being supported by fewer workers. In recognition of this established trend the employed participation rate in the following forecasts is lowered steadily at each succeeding five year interval. The range of employed participation rates used was 38.94 percent in 1960 and 37.5 percent in 1985. The forecasts of total population are shown in Table 97.

It should be emphasized that all of these forecasts reflect the use of certain data, certain methods, and certain judgments. As new data becomes available and new trends become evident, it will be essential that periodic revisions be made to these estimates if they are to remain meaningful.

1. This projection technique assumes that the forecast employment and total employment ratio remains constant. It may, in fact, vary, but only periodic review can identify the variation.



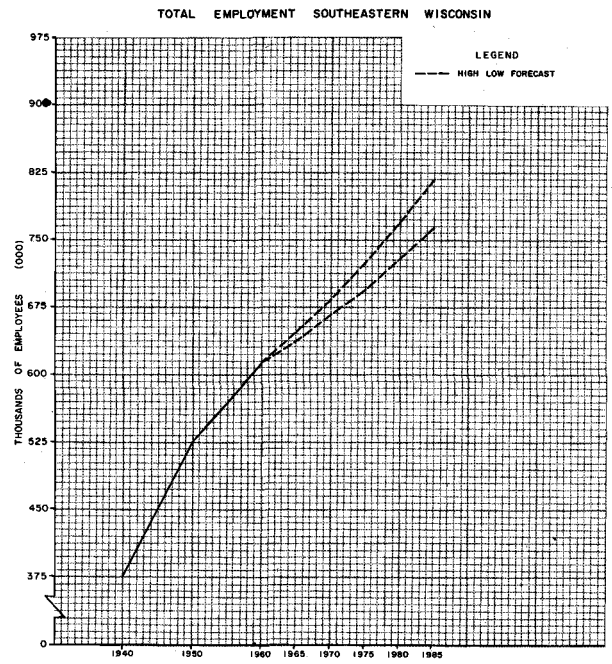


Table 94

EMPLOYMENT FORECASTS IN LEADING ECONOMIC FUNCTIONS: 1965, 1970, 1975, 1980, AND 1985

Industries	1960 Employment	Annual % Rate Change	1965 Low	1965 High	1970 Low	1970 High	1975 Low	1975 High	1980 Low	1980 High	1985 Low	1985 High
Non-Electrical Machinery	58,800	-1/3 to -1/4	57,824	58,065	56,871	57,346	55,936	56,656	55,013	55,931	54,101	55,237
Electrical Machinery	40,900	2 to 2-1/4	45,154	45,710	49,853	51,092	55,043	57,105	60,773	63,824	67,100	71,334
Transportation Equipment	33,400	3/4 to 1	34,669	35,103	35,989	36,894	37,361	38,774	38,781	40,751	40,257	42,832
Retail Trade	90,200	2/3 to 1	93,240	94,800	96,396	99,635	99,653	104,713	103,017	110,053	106,499	115,672
Medical	38,700	2 to 2-1/2	42,725	43,785	47,171	49,536	52,082	56,045	57,504	63,414	63,491	71,746
Construction	28,800	7/8 to 1	30,081	30,269	31,421	31,812	32,820	33,434	34,280	35,139	35,807	36,933
Education	25,400	2-1/2 to 3	28,738	29,444	32,512	34,135	36,784	39,571	41,620	45,875	47,089	53,180
Food and Kindred Products	21,300	-1/3 to constant	20,946	21,300	20,601	21,300	20,263	21,300	19,928	21,300	19,598	21,300
Primary Metals	19,400	1/2 to 3/4	19,889	20,137	20,391	20,904	20,905	21,701	21,433	22,525	21,974	23,383
Fabricated Metals	18,300	1/3 to 1/2	18,606	18,761	18,919	19,235	19,235	19,720	19,559	20,218	19,887	20,728
Printing and Publishing	13,800	1 to 1-1/4	14,503	14,683	15,243	15,624	16,020	16,626	16,837	17,692	17,697	18,825
Agriculture	12,900	-1-3/4 to -1-1/2	11,828	11,974	10,845	11,115	9,943	10,317	9,117	9,577	8,359	8,891
Leather and Leather Prod.	7,600	-1/3 to constant	7,474	7,600	7,351	7,600	7,230	7,600	7,111	7,600	6,993	7,600
Paper	4,600	2/3 to 3/4	4,755	4,775	4,916	4,957	5,082	5,146	5,253	5,341	5,431	5,544
Chemical and Allied	4,000	1 to 1-1/4	4,204	4,256	4,418	4,528	4,644	4,819	4,880	5,281	5,130	5,456
Instruments	3,400	1 to 1-1/4	3,573	3,618	3,756	3,849	3,947	4,096	4,148	4,359	4,360	4,638
Total	421,500	7/8 to 1-1/8	438,200	444,300	456,700	469,600	476,900	497,600	499,300	528,700	523,800	563,300

Table 95

COMPARATIVE SELECTED STATE TAX LEVIES FOR WISCONSIN, INDIANA, ILLINOIS, MICHIGAN, AND OHIO: 1962

Tax	Wisconsin	Indiana	Illinois	Michigan	Ohio
Personal Income	2% to 10% (+ surtax) Graduated	2% of Adjusted Gross Income	None	None (Detroit 1%)	None (Some cities 1%)
Corporate Income	2% to 7% Graduated	2% of taxable or gross whichever is higher	None	None (Detroit 1%)	None (Some cities 1%)
Sales	3% (Selective)	2%	3-1/2%	4%	3%
Real Property	YES (Rebate)	Optional	None	None	Optional
Personal Property	YES	Optional	None	None	Optional
Gasoline	.06¢/Gal.	.06¢/Gal.	.05¢/Gal.	.06¢/Gal.	.07¢/Gal.

Source: Commerce Clearing House, Inc., - Topical Law Reports

Table 96

TOTAL EMPLOYMENT FORECASTS FOR THE SOUTHEASTERN WISCONSIN REGION: 1965, 1970, 1975, 1980, AND 1985

	Low Total Employment Level	High Total Employment Level
1965	637,100	646,000
1970	664,000	682,800
1975	693,400	723,500
1980	725,900	768,700
1985	761,600	819,000

Table 97

TOTAL POPULATION FORECASTS FOR THE SOUTHEASTERN WISCONSIN REGION: 1965, 1970, 1975, 1980, AND 1985

	Low Population Forecast	High Population Forecast
1965	1,644,100	1,667,100
1970	1,724,700	1,773,500
1975	1,815,200	1,894,000
1980	1,917,800	2,030,900
1985	2,030,900	2,184,000

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APPENDIX A

Included in this section are the Interview Topic Guide and Basic Factors Questionnaire which were used in the collection of primary data for this study. The primary data were obtained through interviews with management officials of 125 selected firms. The Topic Guide was memorized by the interviewer. It served the purpose of assuring coverage of the most significant topics during the interview. Since the interview itself was not a structured one, only notes were taken during the conversation. After the interview these notes were transcribed onto the questionnaire. This technique, while accompanied with several limitations, allowed a more free-flowing conversation with the various business, community, and government leaders.

INTERVIEW TOPIC GUIDE

I. GENERAL DESCRIPTION: Ownership form and changes; other outlets and facilities by location; important product shifts since 1950; reasons. Financing problems with banks, inventories, S.B.A., credit problems.

II. MARKETS: Type of customer—manufacturer, wholesaler, retailer, contractor, government, by location; changes since 1950, reasons; competition by product or service line and location; ability of firm and industry to meet competition, etc., reasons.

III. OPERATIONS: Plant investment and expansion, since 1950 and next five years; labor relations and union activity; labor incentives and benefits; labor efficiency and supply, reasons.

IV. TAXES: Local and state income; federal; Wisconsin compared with other states; considered moving because of local or Wisconsin taxes? Reasons.

V. AUTOMATION: Expenditures on; position in industry; effects on employment; effects on profits; effects on production costs and competitive strength.

VI. RESEARCH AND DEVELOPMENT: Expenditures on, as % of total costs; market research, operations research, product development or "basic" research; results and effects on sales, profits, output and productivity, labor force and competitive strength.

VII. COST STRUCTURE: Materials, labor, transportation, marketing, other; effects on profits, competitive position. Reasons.

VIII. MATERIALS OR MERCHANDISE: Sources by type of supplier—manufacturer, wholesaler, jobber, processor, extractor, by location; major changes by type and location—reasons by product line. Effects on costs, profits, competition, employment.

IX. TRANSPORTATION: Types used, why and what products; rates. Highway quality, rail quality, port quality, air quality. Parking problems? Reasons.

X. UTILITIES AND PUBLIC SERVICES: Water gas, power sources, supply and cost—quality. Local Government services—sewage, recreation facilities, streets and traffic.

XI. LAWS AND REGULATIONS: Local codes and ordinances, licenses, Federal and State regulations. Effects on firm and industry and locality. Reasons.

XII. OTHER PROBLEMS: Seek information about other problems and complaints.

BASIC FACTORS QUESTIONNAIRE

I. General Description: (State whether firm is proprietorship, partnership, family or closed corporation, public corporation, or cooperative)

A. Present Organization:

Name _____ Address _____ Organization Type _____

B. Previous Organization:

Name _____ Address _____ Organization Type _____

C. Location of Headquaters and Other Facilities:

1. Headquarters _____
Address State

2. Plants: (List plants in other Wisconsin communities and across the nation by city and state, and type of plant)

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____
7. _____ 8. _____ 9. _____
10. _____ 11. _____ 12. _____

3. Warehouses: (List warehouses in other Wisconsin communities and across the nation by city and state, and function of warehouse)

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____
7. _____ 8. _____ 9. _____
10. _____ 11. _____ 12. _____

4. Sales Offices: (List sales offices in other Wisconsin communities and across the nation by city and state, and territory served)

1. _____ 2. _____ 3. _____
4. _____ 5. _____ 6. _____
7. _____ 8. _____ 9. _____

5. Wholly Owned Subsidiaries: (List name and location, and describe function to parent corporation)

(a) _____
Name City and State Function

(b) _____
Name City and State Function

(c) _____
Name City and State Function

II. Labor and Employment:

A. Employment — 1962: _____ Male _____ Female _____ Total

B. Employment — Ten Years Ago: _____ Male _____ Female _____ Total

C. Wages and Benefits:

	High	Low	Average Pay Rate
1. _____ Job	_____	_____	_____ Rate
2. _____ Job	_____	_____	_____ Rate
3. _____ Job	_____	_____	_____ Rate

Note: Do not list managerial jobs.

D. Is the firm unionized? ____ Yes ____ No (List name of union and year of unionzation)

1. _____ Name of Union _____ Year Unionized
2. _____ Name of Union _____ Year Unionized
3. _____ Name of Union _____ Year Unionized
4. _____ Name of Union _____ Year Unionized

III. Research, Development and Automation:

A. Does the firm conduct product development research? ____ Yes ____ No

B. What new products has this research produced during the last 10 years? (List product, function, and market)

	Product	Function	Market
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____

IV. Sources of materials, merchandise or services by kind, supplier type, location and transportation mode. (List the materials etc. purchases in the operation by the type of supplier — e.g., mfr., extractor, wholesaler, jobber, processor, retailer, utility, agricultural producer etc. - with % distribution of total purchases, % distribution among supplier types, % distribution by location (city and state) and % distribution of transportation usage — railroad, truck, boat, air, etc.)

Material, Merchandise or Service	% of Listed Purchases	Major Supplier Type and % Distribution	Locations and % Distributions	Transportation (Inbound) Type and % Usage
1. _____ Name	_____ %			
2. _____ Name	_____ %			
3. _____ Name	_____ %			
4. _____ Name	_____ %			
5. _____ Name	_____ %			

V. Market sales of major products or services by customer type, locations, and transportation usage. (List the name of the products sold, % of total sales, customer types — e.g., mfr., wholesaler, retailer, final consumer, government, jobbers, institutions, etc., and % distribution, with locations of buyers by city and state and % distribution, and transportation usage and % distribution — railroad, truck, boat, air, etc.)

Product or Service	% of Total Sales	Customers and % Distribution	Location and % Distribution	Transportation (Outbound) Type and % Usage
1. _____	_____ %			
2. _____	_____ %			
3. _____	_____ %			
4. _____	_____ %			
5. _____	_____ %			

Interviewer's Appraisal: _____

_____

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APPENDIX B

Included in Appendix B are detailed tables of labor force, income, and industry data. Industry data include employment, new capital expenditure, value added by manufacture, industrial production, and wage comparisons.

A computational table of employment and population projections is also included. Much of the data included in the body of this report were taken from these tables.

Appendix B Table 1

LABOR FORCE TRENDS IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1930 TO 1960

	1930	1940	1950	1960
Region	421,110	447,547	538,716	636,901
Milwaukee	311,364	326,944	385,261	431,746
Ozaukee	6,735	7,590	9,645	14,438
Kenosha	24,856	26,447	32,535	39,726
Racine	35,725	38,028	46,771	54,947
Walworth	11,985	12,973	16,448	20,444
Washington	10,366	11,303	14,255	17,384
Waukesha	20,079	24,262	33,801	58,216
Wisconsin	1,129,546	1,227,202	1,396,383	1,532,961
United States	----------	52,705,082	59,303,720	68,144,079

Source: United States Census of Population

Appendix B Table 2

EMPLOYMENT, UNEMPLOYMENT, AND THE PERCENTAGE OF UNEMPLOYMENT IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1930 TO 1960

	1930			1940		
	Employed	Unemployed	% Unemployed	Employed	Unemployed	% Unemployed
Region	389,670	30,440	7.8%	377,622	69,925	15.6%
Milwaukee	287,510	23,854	7.7	273,090	53,854	16.0
Ozaukee	6,378	357	5.3	7,080	510	6.7
Racine	33,077	2,648	7.4	31,996	6,032	15.9
Kenosha	21,863	2,993	12.0	21,303	5,144	19.4
Walworth	11,657	328	2.7	11,628	1,345	10.4
Washington	9,682	684	6.6	10,463	840	7.4
Waukesha	19,503	576	2.9	22,062	2,200	9.1
Wisconsin	1,064,429	64,076	5.7	1,060,758	166,794	13.6
United States	---------	---------	----	45,070,315	7,634,767	14.5

Appendix B Table 2 (Cont)

EMPLOYMENT, UNEMPLOYMENT, AND THE PERCENTAGE OF UNEMPLOYMENT IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1930 TO 1960

	1950			1960		
	Employed	Unemployed	% Unemployed	Employed	Unemployed	% Unemployed
Region	523,853	14,163	2.6%	612,723	24,174	3.8%
Milwaukee	374,055	10,506	2.7	414,230	17,512	4.1
Ozaukee	9,504	141	1.5	14,146	292	2.0
Racine	45,180	1,591	3.4	52,558	2,389	4.3
Kenosha	31,859	676	2.1	38,498	1,228	3.1
Walworth	16,071	377	2.3	19,734	710	2.9
Washington	14,022	233	1.6	16,971	413	2.4
Waukesha	33,162	639	1.9	56,586	1,630	2.8
Wisconsin	1,355,283	41,000	2.9	1,468,631	59,091	3.9
United States	56,449,409	2,854,311	4.8	64,639,252	3,504,827	5.1

Source: United States Census of Population

Appendix B Table 3

DISTRIBUTION OF EMPLOYMENT BY OCCUPATION IN THE SOUTHEASTERN WISCONSIN REGION FROM 1940 TO 1960 AND WISCONSIN AND UNITED STATES DISTRIBUTION IN 1960

Occupation	1940		1950		1960			
						Distribution		
	Regional Employment	Distribution	Employment	Distribution	Employment	Region	Wisconsin	U.S.
Total	377,622	100.0%	524,553	100.0%	612,723	100.0%	100.0%	100.0%
Professional and Technical	32,234	8.5	48,072	9.2	67,085	10.9	10.0	11.2
Farmers	13,382	3.5	11,889	2.3	7,566	1.2	7.4	3.9
Managers and Officials	32,916	8.7	44,597	8.5	44,692	7.3	7.2	8.4
Clerical and Sales	78,780	20.9	114,708	21.8	143,022	23.3	19.9	21.6
Craftsmen and Foremen	62,294	16.5	91,688	17.5	97,309	15.9	13.7	13.5
Operatives (Semi-Skilled)	82,984	22.0	126,436	24.1	137,543	22.4	20.4	18.4
Private and Service Workers	41,652	11.1	46,309	8.8	58,438	9.5	10.0	11.1
Farm Labor	9,665	2.6	8,264	1.6	4,203	0.7	3.6	2.2
Labor (Unskilled)	21.512	5.7	27,550	5.3	25,221	4.1	4.1	4.8
No report on occupation	2,203	0.6	5,040	1.0	27,664	4.5	3.7	4.9

Source: United States Census of Population

Appendix B Table 4

NUMBER AND PERCENTAGE OF FEMALES IN THE LABOR FORCE IN THE UNITED STATES, WISCONSIN, AND THE WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1930 TO 1960

	1940		1950		1960	
	Number	% of Labor Force	Number	% of Labor Force	Number	% of Labor Force
Region	112,588	25.1%	155,068	28.8%	206,300	32.3%
Milwaukee	87,653	26.6	116,610	30.1	145,994	33.8
Ozaukee	1,319	17.4	2,334	23.9	4,117	28.5
Racine	8,352	21.8	12,369	26.3	17,431	31.4
Kenosha	5,762	21.9	7,959	24.3	11,334	28.2
Walworth	2,595	19.9	4,011	24.3	6,454	31.5
Washington	2,105	18.5	3,637	25.5	4,947	28.4
Waukesha	4,802	20.0	8,148	24.6	16,023	27.5
Wisconsin	231,086	18.8	359,468	25.7	476,194	31.0
United States	12,887,216	24.4	16,535,636	27.8	22,381,410	32.8

Source: United States Census of Population

Appendix B Table 5

POPULATION, INCOME, AND RETAIL SALES DISTRIBUTION IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1961

	Population (Millions)		Income (Billions)		Retail Sales (Billions)	
	Population	Distribution	Income	Distribution	Sales	Distribution
United States	184.5	100.0%	$362.9	100.0%	$219.3	100.0%
New England	10.8	5.8	23.5	6.5	13.4	6.1
Middle Atlantic	34.9	18.9	79.3	21.8	43.7	20.0
East North Central	37.3	20.2	76.7	21.1	45.2	20.6
West North Central	15.6	8.5	28.9	8.0	19.5	8.9
South Atlantic	26.8	14.6	45.6	12.6	28.3	12.9
East South Central	12.2	6.6	16.2	4.5	10.7	4.9
West South Central	17.4	9.4	28.1	7.7	18.9	8.6
Mountain	7.2	3.9	13.2	3.6	9.1	4.1
Pacific	22.3	12.1	51.4	14.2	30.5	13.9

Source: Sales Management, Survey of Buying Power

Appendix B Table 6

EMPLOYMENT TRENDS IN SELECTED INDUSTRIES IN THE UNITED STATES: 1940 TO 1960

	1940	1950	1960
Agriculture	8,449,463	6,908,647	4,256,734
Contract Construction	2,087,564	3,457,980	3,815,937
Primary Metals	1,507,107	1,184,975	1,224,922
Fabricated Metals		847,209	1,291,709
Non-Electrical Machinery	691,180	1,253,533	1,568,035
Electrical Machinery	420,925	861,307	1,487,412
Transportation Equipment	877,636	1,343,157	1,818,698
Food and Kindred Products	1,202,782	1,481,280	1,822,477
Printing and Publishing	637,957	862,936	1,141,192
Chemical and Allied Products	400,852	637,349	864,542
Wholesale Trade	1,203,751	1,965,036	2,212,984
Retail Trade	6,294,042	8,542,295	9,579,651
Finance Insurance and Real Estate	1,474,681	1,919,610	2,694,630
Education	1,566,223	2,078,749	3,393,933
Medical and Other Professional	1,824,204	2,747,804	4,183,913
Government	1,415,283	2,514,469	3,202,890

Source: United States Census of Population

Appendix B Table 7

EMPLOYMENT TRENDS IN SELECTED INDUSTRIES IN THE UNITED STATES: 1947 TO 1961 (MILLIONS)

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
Non-Electrical Machinery	1.4	1.4	1.2	1.2	1.5	1.5	1.6	1.4	1.4	1.6	1.6	1.4	1.5	1.5	1.4
Electrical Machinery	1.0	1.0	0.9	1.0	1.1	1.2	1.3	1.2	1.2	1.3	1.3	1.2	1.4	1.4	1.4
Transportation Equipment	1.3	1.3	1.2	1.3	1.5	1.7	2.0	1.8	1.9	1.9	1.9	1.6	1.7	1.6	1.5
Primary Metals	1.3	1.3	1.1	1.2	1.4	1.3	1.4	1.2	1.3	1.4	1.4	1.2	1.2	1.2	1.1
Fabricated Metals	1.0	1.0	0.9	1.0	1.1	1.1	1.2	1.1	1.1	1.1	1.2	1.1	1.1	1.1	1.1
Food and Kindred Products	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Printing and Publishing	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9
Leather and Products	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Chemicals and Products	0.6	0.7	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Paper and Products	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Instruments and Products	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3
Construction	2.0	2.2	2.2	2.3	2.6	2.6	2.6	2.6	2.8	3.0	2.9	2.8	3.0	2.9	2.8
Government Education Welfare	5.5	5.7	5.9	6.0	6.4	6.6	6.6	6.8	6.9	7.3	7.6	7.9	8.2	8.5	8.8
Finance Insurance Real Estate	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.7

Source: Wisconsin Industrial Commission

Appendix B Table 8

EMPLOYMENT TRENDS IN SELECTED INDUSTRIES IN THE EAST NORTH CENTRAL STATES: 1947 TO 1961 (IN 1,000'S)

	1947	1950	1952	1954	1956	1958	1960	1961
Non-Electrical Machinery	765	683	797	729	813	574	609	568
Electrical Machinery	328	311	357	351	396	413	451	437
Transportation Equipment	628	681	753	710	721	560	630	560
Primary Metals	514	470	497	466	526	424	468	439
Fabricated Metals	408	429	410	407	439	393	405	379
Food and Kindred Products	396	390	397	392	397	385	383	377
Printing and Publishing	195	212	215	218	229	221	227	229
Leather and Leather Products	75	69	61	59	59	53	56	55
Paper and Allied Products	123	129	126	138	148	142	146	145
Chemicals and Allied Products	142	143	165	166	173	156	157	153
Instruments and Related Products	41	41	54	61	69	64	75	76

Source: Annual Survey of Manufacturers

Appendix B Table 9

EMPLOYMENT TRENDS IN SELECTED INDUSTRIES IN WISCONSIN: 1940 TO 1960

	1940	1950	1960
Agriculture	274,007	251,668	167,177
Contract Construction	39,863	66,578	71,717
Primary Metals	37,764	23,195	24,127
Fabricated Metals		33,577	35,566
Non-Electrical Machinery	42,522	77,659	87,363
Electrical Machinery	10,427	27,081	51,124
Transportation Equipment	20,199	35,543	51,218
Food and Kindred Products	41,265	55,876	63,366
Printing and Publishing	14,212	22,155	29,472
Chemicals and Allied Products	4,038	6,043	8,034
Wholesale Trade	24,769	39,088	40,121
Retail Trade	139,939	193,018	217,932
Finance Insurance and Real Estate	24,769	32,873	45,199
Education	38,928	48,344	72,620
Medical and Other Professional	41,430	59,477	90,584
Government	28,820	40,941	51,834

Source: United States Census of Population

Appendix B Table 10

EMPLOYMENT TRENDS IN SELECTED INDUSTRIES IN WISCONSIN: 1947 TO 1961 (THOUSANDS)

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
Non-Electrical Machinery	90.4	93.2	81.4	79.6	92.7	93.0	89.5	82.7	88.7	96.4	94.8	83.6	87.7	86.5	82.0
Electrical Machinery	34.9	36.3	32.3	35.5	41.9	45.2	50.6	46.9	48.6	51.3	49.3	44.5	51.3	54.9	53.0
Transportation Equipment	32.5	32.7	31.7	36.5	38.2	38.9	39.7	31.2	35.1	33.5	33.6	34.5	45.2	48.4	38.6
Primary Metals	27.5	27.5	22.7	24.2	28.4	29.1	28.1	24.6	26.2	28.5	27.8	23.5	26.4	24.6	23.7
Fabricated Metals	33.7	33.4	30.3	36.0	36.4	35.2	36.9	33.2	33.5	34.2	32.6	30.8	33.1	33.8	32.1
Food and Kindred Products	63.7	62.0	63.1	64.2	68.6	68.5	66.9	65.1	63.9	64.2	64.4	62.9	61.9	62.1	61.3
Printing and Publishing	16.3	17.1	17.7	18.5	19.1	19.1	19.7	20.2	20.5	20.9	21.1	21.1	21.3	21.8	22.0
Leather and Leather Products	22.0	21.9	20.5	21.0	19.8	19.2	19.0	17.8	17.7	18.0	17.8	17.1	17.4	17.1	16.4
Chemicals and Allied Products	5.7	5.9	5.7	6.0	7.2	10.0	11.0	9.5	9.0	8.4	7.2	6.0	6.1	6.4	6.4
Paper and Allied Products	32.2	33.2	32.5	33.8	35.0	35.0	36.3	36.5	37.6	39.0	39.2	38.9	39.5	39.9	40.5
Instruments and Related Products	7.0	6.5	6.9	7.9	9.9	10.7	11.5	9.0	9.2	7.0	6.3	4.8	4.9	4.4	4.2
Construction	37.7	42.3	45.5	49.1	53.5	51.6	52.3	51.0	56.9	58.1	55.1	52.0	53.4	56.0	55.4
Government Education Welfare	115.0	119.0	119.0	120.0	119.0	119.0	120.0	125.0	131.0	138.0	144.0	150.0	155.0	163.0	170.0
Finance Insurance and Real Estate	29.5	30.2	31.0	32.1	33.4	34.5	35.9	37.2	38.5	40.1	41.2	41.7	43.6	45.7	46.7

Source: Wisconsin Industrial Commission

Appendix B Table 11

EMPLOYMENT TRENDS IN SELECTED INDUSTRIES IN THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961 (THOUSANDS)

	1947	1950	1952	1954	1956	1958	1960	1961
Non-Electrical Machinery	72.3	62.5	70.7	61.2	69.4	58.5	58.8	55.1
Electrical Machinery	18.5	20.1	27.1	29.8	34.4	31.4	40.9	40.4
Transportation Equipment	22.0	24.8	26.5	21.3	23.0	23.7	33.4	26.8
Primary Metals	17.9	16.3	20.1	17.7	21.9	18.1	19.4	19.0
Fabricated Metals	16.2	17.6	17.6	16.9	17.8	16.3	18.3	17.5
Food and Kindred Products	21.7	21.9	23.4	22.3	22.0	21.6	21.3	21.1
Printing and Publishing	8.6	9.9	10.6	11.6	12.4	13.0	13.8	14.2
Leather and Leather Products	11.7	11.0	9.5	8.6	8.5	7.8	7.6	7.2
Paper and Allied Products	5.1	5.1	5.0	4.9	5.0	4.7	4.6	4.5
Chemicals and Allied Products	3.6	4.0	6.3	6.0	5.3	3.7	4.0	4.4
Instruments and Related Products	2.5	3.1	5.0	5.0	4.4	3.4	3.4	3.4

Source: Wisconsin Industrial Commission

Appendix B Table 12

INDUSTRY STRUCTURE OF THE SOUTHEASTERN WISCONSIN, WISCONSIN, ENC STATES, AND UNITED STATES ECONOMIES: 1950 AND 1960

	1950 Distribution				1960 Distribution			
	Regional	Wisconsin	ENC States	U.S.	Regional	Wisconsin	ENC States	U.S.
Dominant Industries	48.4%	37.5%	42.0%	36.1%	51.6%	43.8%	45.0%	39.9%
Non-Electrical Machinery	11.9	5.8	5.0	2.2	9.6	6.0	5.0	2.4
Electrical Machinery	3.8	2.0	2.7	1.5	6.7	3.5	3.5	2.3
Transportation Equipment	4.7	2.6	6.3	2.4	5.5	3.5	5.7	2.8
Retail Sales	15.1	14.2	15.0	15.1	14.7	14.8	14.6	14.8
Medical	4.9	4.4	4.6	4.9	6.3	6.2	6.2	6.5
Construction	5.1	4.9	5.0	6.1	4.7	4.9	5.0	5.9
Sub-Dominant Industries	26.5	36.8	30.1	31.3	24.5	31.0	26.9	27.7
Food and Kindred Products	4.2	4.1	3.0	2.6	3.5	4.3	3.0	2.8
Fabricated Metals	3.3	2.5	2.8	1.5	3.0	2.4	3.1	2.0
Primary Metals	3.1	1.7	3.9	2.1	3.2	1.6	3.5	1.9
Printing and Publishing	2.0	1.6	1.9	1.5	3.2	2.0	2.1	1.8
Finance, Insurance and Real Estate	3.2	2.4	3.0	3.4	3.7	3.1	3.3	4.2
Government	3.4	3.0	3.5	4.5	3.7	3.5	3.8	5.0
Wholesale Trade	3.3	2.9	3.2	3.5	3.1	2.7	3.1	3.4
Agriculture	4.0	18.6	8.8	12.2	2.1	11.4	5.0	6.6
Other Industries	4.4	5.1	2.9	3.1	3.2	4.8	3.2	3.4
Leather	2.0	1.6	0.6	0.7	1.2	1.2	0.4	0.6
Chemicals	0.8	0.4	1.2	1.1	0.7	0.6	1.2	1.3
Paper and Allied	1.0	2.5	1.1	0.9	0.8	2.7	1.1	0.9
Instruments	0.6	0.6	N/A	0.4	0.5	0.3	0.5	0.6
Other Manufacturing	6.4	5.4	10.7	9.0	8.3	4.9	5.9	7.7
Other Services	14.3	15.2	14.3	20.5	12.4	15.5	19.0	21.3
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Appendix B Table 13

EMPLOYMENT TRENDS OF INTERVIEWED MANUFACTURING FIRMS IN THE SOUTHEASTERN WISCONSIN REGION: 1947 TO 1961

Industry	Number of Firms	Number of Employees 1947	Number of Employees 1961	% Change 1947 - 1961	% of Total Industry Employment Interviewed
Food and Kindred Products	16	9,267	9,642	4.0%	45.5%
Paper and Allied Products	5	1,787	2,053	14.9	45.6
Printing and Publishing	8	4,542	6,907	52.1	48.6
Chemicals and Allied Products	5	1,672	1,964	13.9	44.6
Leather and Leather Products	12	4,630	4,582	-1.0	63.6
Primary Metals	8	5,978	8,451	41.4	44.5
Fabricated Metals	13	5,431	5,729	5.5	32.7
Non-Electrical Machinery	18	35,647	27,751	-22.2	50.3
Electrical Machinery	13	21,260	29,375	38.2	72.7
Transportation Equipment	7	18,118	22,280	23.0	83.1
Instruments and Related Products	3	1,600	2,146	34.1	63.1
Total	108*	109,932	120,820	9.9	—

*Seventeen non-manufacturing firms were interviewed for a total of 125 interviews

Appendix B Table 14

PERCENTAGE DISTRIBUTION OF VALUE ADDED BY MANUFACTURE FOR SELECTED INDUSTRIES IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1961

	United States	New England	Mid-Atlantic	ENC	WNC	South Atlantic	ESC	WSC	Mountain	Pacific
Non-Electrical Machinery	100.0%	10.9	21.5	43.1	6.5	3.6	2.1	4.1	0.7	7.5
Electrical Machinery	100.0%	10.8	28.2	33.9	4.5	5.4	3.3	2.3	0.6	11.1
Transportation Equipment	100.0%	6.3	12.6	42.0	7.7	5.6	1.7	3.5	0.7	19.8
Primary Metals	100.0%	4.4	27.2	39.8	2.5	7.7	5.0	3.9	3.5	6.0
Fabricated Metals	100.0%	8.5	23.1	37.3	5.5	5.9	3.8	4.2	0.9	10.9
Food and Kindred Products	100.0%	4.0	19.9	24.6	12.2	9.7	5.0	7.0	2.8	14.8
Printing and Publishing	100.0%	6.7	35.4	24.6	7.6	7.8	2.9	4.0	1.9	9.4
Leather and Leather Products	100.0%	30.4	27.0	18.7	10.3	4.0	5.8	0.7	1.0	2.1
Paper and Allied Products	100.0%	11.3	20.3	24.6	5.3	14.3	6.2	6.2	0.6	11.1
Chemicals and Allied Products	100.0%	3.2	26.4	21.7	5.4	15.6	8.0	12.2	1.0	6.5
Instruments and Related Products	100.0%	12.7	48.2	21.1	6.2	0.8	1.0	2.0	0.3	7.8

Source: Annual Survey of Manufacturers

Appendix B Table 15

VALUE ADDED TRENDS IN SELECTED MANUFACTURING INDUSTRIES IN THE UNITED STATES: 1954 TO 1960 (MILLIONS)

	1954	1955	1956	1957	1958	1959	1960
Machinery Non-Electrical	$12,182	$13,758	$16,181	$15,977	$12,392	$14,545	$14,377
Electrical Machinery	7,299	8,002	9,111	9,620	10,395	12,533	13,068
Transportation Equipment	13,422	17,065	16,627	18,486	15,284	17,681	17,977
Primary Metals	9,771	12,962	13,847	13,320	11,671	13,635	13,314
Fabricated Metals	7,653	8,774	9,243	9,543	9,422	10,144	10,284
Food and Kindred Products	13,769	14,792	15,941	16,349	17,685	18,737	19,660
Leather and Leather Products	1,640	1,778	1,881	1,891	1,898	2,120	2,043
Paper and Allied Products	4,630	5,140	5,609	5,724	5,707	6,447	6,568
Chemicals and Allied Products	9,611	11,171	11,958	12,474	12,273	14,277	14,380
Instruments and Related Products	2,131	2,366	2,690	2,872	2,906	3,530	3,763
Printing and Publishing	6,412	6,946	7,555	7,921	7,939	8,706	9,262

Source: Annual Survey of Manufacturers

Appendix B Table 16

VALUE ADDED TRENDS IN SELECTED INDUSTRIES IN WISCONSIN: 1954 TO 1961 (MILLIONS)

	1954	1955	1956	1957	1958	1959	1960	1961
Non-Electrical Machinery	$715.3	$747.7	$968.8	$967.0	$766.3	$860.7	$827.2	$802.2
Electrical Machinery	280.7	308.7	397.5	385.9	358.1	460.3	454.6	446.5
Transportation Equipment	251.2	310.1	308.0	349.7	357.8	513.9	604.6	495.3
Primary Metals	191.7	224.9	280.1	277.3	213.9	276.2	248.4	238.7
Fabricated Metals	256.7	286.0	316.8	310.7	311.2	344.3	327.6	325.3
Food and Kindred Products	514.6	544.7	545.4	564.4	624.7	684.2	715.7	713.7
Leather and Leather Products	93.6	105.5	106.4	109.5	108.4	115.7	115.3	122.6
Paper and Allied Products	317.8	347.5	386.8	387.7	402.7	445.8	461.4	466.3
Chemicals and Allied Products	93.6	95.9	105.6	103.4	105.3	123.6	135.5	138.4
Instruments and Related Products	56.2	66.1	76.8	81.8	n/a	n/a	n/a	n/a
Printing and Publishing	141.9	149.9	158.9	167.6	165.8	191.4	189.7	189.4

Source: Annual Survey of Manufacturers

Appendix B Table 17

VALUE ADDED TRENDS IN SELECTED INDUSTRIES IN MILWAUKEE AND WAUKESHA COUNTIES: 1954 TO 1961 (MILLIONS)

	1954	1955	1956	1957	1958	1959	1960	1961
Non-Electrical Machinery	$397.6	$425.4	$537.7	$508.3	$436.4	$501.9	$460.1	$445.8
Electrical Machinery	205.5	230.7	308.1	296.3	246.6	307.1	313.5	301.2
Transportation Equipment	62.1	89.5	88.8	86.1	88.7	125.6	173.1	117.0
Primary Metals	113.0	130.9	172.6	183.1	139.6	170.2	151.1	139.9
Fabricated Metals	124.2	132.9	147.9	143.5	146.8	157.8	143.6	142.9
Food and Kindred Products	238.7	244.0	244.8	262.1	275.7	278.7	299.2	289.5
Leather and Leather Products	32.7	40.3	39.0	38.9	48.4	47.6	47.7	45.4
Paper and Allied Products	29.5	29.4	29.7	28.7	37.5	42.4	41.2	44.1
Chemicals and Allied Products	28.9	30.4	30.2	33.8	35.9	n/a	n/a	n/a
Instruments and Related Products	42.2	50.0	66.2	62.9	80.1	93.7	128.8	107.8
Printing and Publishing	70.6	75.0	79.3	80.4	86.5	102.6	93.7	90.3

Source: Annual Survey of Manufacturers

Appendix B Table 18

NEW CAPITAL EXPENDITURES FOR SELECTED INDUSTRIES IN THE UNITED STATES AND GEOGRAPHIC AREAS: 1954 TO 1961 (MILLIONS)

	United States	New England	Mid-Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Non-Electrical Machinery	$ 5,838	$572	$1,277	$2,623	$351	$ 160	$239	$ 193	$ 30	$ 393
Electrical Machinery	3,902	462	1,074	1,300	181	237	110	111	20	407
Transportation Equipment	6,926	303	772	4,120	305	341	57	174	50	804
Primary Metals	10,781	228	2,699	4,677	152	1,044	704	370	313	594
Fabricated Metals	3,971	277	791	1,543	173	249	161	370	26	381
Food and Kindred Products	7,596	281	1,332	1,851	879	843	379	535	441	1,055
Printing and Publishing	2,348	114	726	810	225	153	55	51	22	192
Leather and Leather Products	260	73	64	48	20	19	12	6	5	13
Paper and Allied Products	7,095	531	704	3,177	184	1,135	464	326	33	541
Chemicals and Allied Products	8,710	254	1,711	1,576	395	1,595	754	1,944	73	408
Instruments and Related Products	1,515	206	551	205	410	15	8	16	8	96

Source: Annual Survey of Manufacturers

Appendix B Table 19

INVESTMENT IN NEW PLANT AND EQUIPMENT IN WISCONSIN: 1952 TO 1961 (MILLIONS)

SIC	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
20	State Totals Not Broken Down by 2 Digit SIC	State Totals Not Broken Down by 2 Digit SIC	$ 35.7	$ 27.8	$ 31.4	$ 34.4	$ 35.5	$ 31.4	$ 40.8	$ 32.5
22			0.9	1.1	2.0	1.1	0.9	n/a	n/a	1.7
24			4.2	7.6	12.7	n/a	4.5	4.6	4.1	3.5
25			1.3	2.3	1.7	1.2	1.5	1.4	1.0	1.3
26			22.2	29.1	44.3	50.7	28.0	34.8	56.9	56.3
27			6.0	n/a	5.0	4.9	11.8	n/a	n/a	14.3
28			4.9	n/a	n/a	3.6	3.7	4.1	4.8	4.1
30			1.9	2.5	2.3	3.0	5.8	3.8	3.6	n/a
31			1.9	3.0	2.4	2.5	1.8	2.5	2.0	1.4
32			5.0	2.8	3.3	3.8	5.8	n/a	n/a	n/a
33			11.6	11.8	15.5	13.2	5.8	10.7	n/a	14.1
34			8.9	13.3	14.9	15.1	13.9	18.9	13.6	11.8
35			36.0	42.5	56.8	54.5	35.0	32.3	31.7	30.4
36			10.7	13.9	20.6	25.4	12.6	18.5	21.1	17.9
37			10.1	20.5	19.7	15.6	10.6	15.7	37.6	13.0
38			1.5	1.8	n/a	n/a	7.3	n/a	n/a	n/a
Total	$183.0	$170.7	$169.4	$171.9	$224.0	$310.7	$191.6	$207.0	$259.0	$227.9

Note: Columns do not add up to the State total due to the unavailability of figures in some categories and estimate errors.

Source: Annual Survey of Manufacturers

Appendix B Table 20

INVESTMENT IN NEW PLANT AND EQUIPMENT IN THE SOUTHEASTERN WISCONSIN REGION: 1952 TO 1961 (MILLIONS)

SIC	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961
20	State Totals Not Broken Down by 2 Digit SIC	State Totals Not Broken Down by 2 Digit SIC	$ 12.5	$ 9.7	$ 11.0	$ 12.4	$ 12.8	$ 11.3	$ 14.7	$ 11.7
22			0.3	0.4	0.7	0.4	0.3	n/a	n/a	0.6
24			0.7	1.3	2.2	n/a	0.8	0.8	0.7	0.6
25			0.2	0.4	0.3	0.2	0.3	0.2	0.2	0.2
26			2.4	3.2	4.9	5.6	3.1	3.8	6.3	6.2
27			3.3	n/a	2.7	2.7	6.5	n/a	n/a	7.9
28			3.0	n/a	n/a	2.2	2.3	2.5	3.0	2.6
31			0.8	1.3	1.1	1.1	0.8	1.1	0.9	0.6
33			8.7	8.8	11.6	9.9	4.4	8.1	n/a	10.9
34			4.8	7.2	8.2	8.3	7.6	10.6	7.6	6.7
35			24.8	28.9	38.0	36.0	22.7	21.0	20.6	19.8
36			6.7	8.9	13.6	17.3	8.8	13.1	15.4	13.1
37			7.0	14.3	13.8	11.1	7.6	11.3	27.5	9.5
38			1.1	1.4	n/a	n/a	5.8	n/a	n/a	n/a
Total	$ 95.2	$ 88.8	$ 88.1	$ 89.4	$116.5	$161.6	$ 99.6	$107.6	$134.7	$118.5

Note: Columns do not add up to the Regional total due to the unavailability of figures in some categories and estimate errors.

Appendix B Table 21

INDUSTRIAL PRODUCTION INDEX TRENDS FOR SELECTED INDUSTRIES IN THE UNITED STATES: 1947 TO 1961

	1947	1950	1952	1954	1956	1958	1960	1961	% Change 1947 To 1961
Non-Electrical Machinery	74	71	98	86	103	83	102	107	44.0%
Electrical Machinery	51	67	77	82	102	89	112	116	127.0
Transportation	40	53	69	79	92	84	102	104	160.0
Primary Metals	81	89	89	81	104	78	91	99	22.0
Fabricated Metals	75	84	88	89	97	92	106	107	43.0
Food and Kindred Products	83	86	90	93	100	102	109	110	33.0
Printing and Publishing	70	80	81	88	98	98	111	112	60.0
Leather and Leather Products	93	92	91	91	101	97	101	100	8.0
Paper and Allied Products	65	77	78	85	101	101	112	114	75.0
Chemicals and Allied Products	45	61	72	77	96	100	121	123	173.0
Instruments and Related Products	55	59	80	85	97	94	119	116	111.0

Source: Board of Governors of the Federal Reserve System

Appendix B Table 22

AVERAGE HOURLY WAGE TRENDS FOR SELECTED INDUSTRIES IN THE UNITED STATES: 1950 TO 1961

	1950	1952	1954	1956	1958	1960	1961	% Change 1950 To 1961
Non-Electrical Machinery	$1.61	$1.86	$2.01	$2.21	$2.38	$2.55	$2.62	63.0%
Electrical Machinery	1.47	1.67	1.82	1.98	2.15	2.28	2.35	60.0
Transportation Equipment	1.74	1.96	2.14	2.31	2.53	2.74	2.80	61.0
Primary Metals	1.65	1.90	2.09	2.36	2.65	2.81	2.90	76.0
Fabricated Metals	1.53	1.74	1.90	2.07	2.27	2.44	2.49	63.0
Food and Kindred Products	1.33	1.52	1.67	1.85	2.01	2.11	2.18	64.0
Printing and Publishing	1.90	2.10	2.27	2.42	2.59	2.67	2.74	44.0
Leather and Leather Products	1.18	1.32	1.38	1.50	1.57	1.64	1.68	42.0
Paper and Allied Products	1.41	1.61	1.75	1.94	2.12	2.26	2.34	66.0
Chemicals and Allied Products	1.51	1.71	1.91	2.10	2.31	2.50	2.58	71.0
Instruments and Related Products	1.47	1.72	1.83	2.01	2.19	2.32	2.38	62.0

Source: United States Department of Commerce, Statistical Abstract

Appendix B Table 23

AVERAGE HOURLY WAGE IN THE UNITED STATES, ENC STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION IN SELECTED INDUSTRIES: 1961

	United States	ENC States	Wisconsin	Region
Non-Electrical Machinery	$2.62	$2.80	$2.73	$3.00
Electrical Machinery	2.35	2.45	2.52	2.75
Transportation Equipment	2.80	2.98	2.89	2.90
Food and Kindred Products	2.18	2.24	2.17	2.30
Fabricated Metals	2.49	2.50	2.42	2.60
Primary Metals	2.90	3.06	2.80	2.90
Printing and Publishing	2.74	2.84	2.62	3.00
Leather and Leather Products	1.68	1.79	1.87	1.90
Chemicals and Allied Products	2.58	2.68	2.39	2.40
Paper and Allied Products	2.34	2.40	2.50	2.40
Instruments and Related Products	2.38	2.39	n/a	2.50

Source: United States Department of Commerce, Statistical Abstract; Department of Resource Development, Division of Planning

Appendix B Table 24

NUMBER OF FARMS IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1950 TO 1959

	1950	1954	1959	1950 To 1959 Absolute Change	1950 To 1959 % Change
Region	14,134	12,415	9,469	-4,665	-33.0%
Milwaukee	1,390	1,065	557	-833	-59.9
Kenosha	1,403	1,385	966	-437	-31.1
Ozaukee	1,355	1,234	989	-366	-27.0
Racine	2,095	1,704	1,305	-790	-37.7
Walworth	2,342	2,113	1,919	-423	-18.1
Washington	2,500	2,245	1,850	-650	-26.0
Waukesha	3,049	2,669	1,883	-1,166	-38.2
Wisconsin	168,561	153,558	131,215	-37,346	-22.2
United States	5,382,162	4,782,416	3,703,894	-1,678,268	-31.2

Source: United States Census of Agriculture

Appendix B Table 25

NUMBER OF ACRES IN FARMLAND IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1950 TO 1959

	1950	1954	1959	1950 - 1959 Absolute Change	1950 - 1959 % Change
Region	1,394,497	1,341,196	1,177,699	-216,798	-15.5%
Milwaukee	59,451	47,203	32,848	-26,603	-44.7
Kenosha	149,239	146,745	123,495	-25,744	-17.3
Ozaukee	127,623	129,364	116,827	-10,796	-8.5
Racine	187,181	172,577	149,391	-37,790	-20.2
Walworth	319,859	314,428	306,290	-13,569	-4.2
Washington	253,648	249,340	218,120	-35,528	-14.0
Waukesha	297,496	281,539	230,728	-66,768	-22.4
Wisconsin	23,221,095	22,507,288	21,156,223	-2,064,872	-8.9
United States	1,158,565,852	1,158,191,511	1,120,157,789	-38,408,063	-3.3

Source: United States Census of Agriculture

Appendix B Table 26

AVERAGE FARM SIZE IN ACRES IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1950 TO 1959

	1950	1954	1959	1950 To 1959 Absolute Change	1950 To 1959 % Change
Region	98.7	108.0	124.8	+26.1 Acres	26.1%
Milwaukee	42.8	44.3	59.0	16.2	37.9
Kenosha	106.4	106.0	127.8	21.4	20.1
Ozaukee	94.2	104.8	118.1	23.9	25.4
Racine	89.3	101.3	114.5	25.2	28.2
Walworth	136.6	148.8	159.6	23.0	16.8
Washington	101.5	111.1	117.9	16.4	16.2
Waukesha	97.6	105.5	122.5	24.9	25.5
Wisconsin	137.8	146.6	161.2	23.4	17.0
United States	215.3	242.2	302.4	87.1	40.4

Source: United States Census of Agriculture

Appendix B Table 27

VALUE OF ALL PRODUCTS SOLD PER FARM IN WISCONSIN AND THE SOUTHEASTERN WISCONSIN REGION: 1949 TO 1959

	1949	1954	1959	1949 To 1959 Absolute Change	1949 To 1959 % Change
Region	$5,817	$ 5,938	$ 8,872	+$3,055	52.5%
Milwaukee	4,702	5,051	10,175	5,473	116.4
Kenosha	6,179	6,510	9,888	3,709	60.0
Ozaukee	5,124	5,261	8,173	3,049	59.5
Racine	5,566	6,004	7,994	2,428	43.6
Walworth	8,534	10,405	11,436	2,852	34.0
Washington	4,728	4,930	7,360	2,632	55.7
Waukesha	5,408	5,703	7,754	2,346	43.4
Wisconsin	4,536	5,163	7,325	2,789	61.5

Source: United States Census of Agriculture

Appendix B Table 28

EMPLOYMENT IN AGRICULTURE IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1950 TO 1960

	1950	1960	1950 To 1960 Absolute Change	1950 To 1960 % Change
Region	21,019	12,873	-8,146	-38.8%
Milwaukee	2,166	1,436	-730	-33.7
Kenosha	1,691	1,228	-463	-27.4
Ozaukee	2,093	1,253	-840	-40.1
Racine	2,728	1,626	-1,102	-40.4
Walworth	4,137	2,723	-1,414	-34.2
Washington	3,860	2,176	-1,684	-43.6
Waukesha	4,344	2,431	-1,913	-44.0
Wisconsin	251,668	167,177	-84,491	-33.6
United States	6,908,647	4,256,734	-2,651,913	-38.4

Source: United States Census of Population

Appendix B Table 29

NUMBER OF FARMS BY TYPE OF FARM IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1959

	Field Crop	Vegetable	Fruit and Nut	Poultry	Dairy	Other Livestock	General	Miscellaneous	Total
Region	730	157	45	148	4,713	839	356	2,491	9,479
Milwaukee	21	35	10	6	75	20	75	341	583
Kenosha	145	20	5	6	396	95	35	270	972
Ozaukee	25	16	30	15	570	50	25	230	961
Racine	286	61	--	45	386	105	45	360	1,288
Walworth	137	---	--	30	1,137	231	65	335	1,935
Washington	50	5	--	25	1,245	170	30	315	1,840
Waukesha	66	20	--	21	904	168	81	640	1,900
Wisconsin	3,121	788	481	1,557	86,343	9,950	3,739	25,223	131,202
United States	868,285	21,912	61,419	103,279	428,293	616,902	211,613	1,329,111	3,707,973

Source: United States Census of Agriculture

Appendix B Table 30

NUMBER OF FARMS BY ECONOMIC CLASS IN THE UNITED STATES, WISCONSIN, AND THE SOUTHEASTERN WISCONSIN REGION: 1959

	Class I	Class II	Class III	Class IV	Class V	Class VI	Total
Region	145	658	2,270	2,340	1,490	2,576	9,479
Milwaukee	12	40	65	140	75	251	583
Kenosha	22	90	250	215	105	290	972
Ozaukee	6	65	225	215	200	250	961
Racine	48	75	285	250	220	410	1,288
Walworth	40	255	605	435	265	335	1,935
Washington	—	40	425	650	360	365	1,840
Waukesha	17	93	415	435	265	675	1,900
Wisconsin	1,010	4,221	23,750	43,523	28,324	30,298	131,202
United States	101,835	210,162	482,478	653,150	616,819	1,633,888	3,707,973

Source: United States Census of Agriculture

Appendix B Table 31

VALUE OF FARM PRODUCTS SOLD BY PRODUCT IN WISCONSIN AND THE SOUTHEASTERN WISCONSIN REGION: 1959 (THOUSANDS)

	Dairy Products	Other Livestock	Poultry Products	Vegetables	Fruit and Nuts	Forest Products	Field Crops	Total
Region	$ 40,650	$ 18,817	$ 3,615	$ 3,274	$ 674	$ 4,608	$12,454	$ 84,096
Milwaukee	682	552	202	360	92	3,549	492	5,931
Kenosha	4,109	2,164	480	384	172	182	2,116	9,610
Ozaukee	4,214	1,709	353	622	155	229	569	7,854
Racine	3,729	1,927	462	962	45	205	2,962	10,296
Walworth	11,992	5,565	594	272	28	109	3,565	22,129
Washington	8,076	3,325	594	389	47	91	1,017	13,541
Waukesha	7,845	3,573	927	282	132	239	1,730	14,731
Wisconsin	$517,239	$263,394	$52,316	#19,464	$10,188	$15,063	$83,436	$961,103

Source: United States Census of Agriculture

Appendix B Table 32

TOTAL EMPLOYMENT FORECASTS IN THE SOUTHEASTERN WISCONSIN REGION:
1965, 1970, 1975, 1980, and 1985

1960	Regional Employment in Leading Economic Functions / Regional Total Employments	421,500 / 612,800	=	0.6878 Constant Ratio
1965	Low Forecast of Leading Economic Function Employment / Constant Ratio	438,200 / 0.6878	=	637,100 Low Forecast Total Employment
1965	High Forecast of Leading Economic Function Employment / Constant Ratio	444,300 / 0.6878	=	646,000 High Forecast Total Employment
1970	Low Forecast of Leading Economic Function Employment / Constant Ratio	456,700 / 0.6878	=	664,000 Low Forecast Total Employment
1970	High Forecast of Leading Economic Function Employment / Constant Ratio	469,600 / 0.6878	=	682,800 High Forecast Total Employment
1975	Low Forecast of Leading Economic Function Employment / Constant Ratio	476,900 / 0.6878	=	693,400 Low Forecast Total Employment
1975	High Forecast of Leading Economic Function Employment / Constant Ratio	497,600 / 0.6878	=	723,500 High Forecast Total Employment
1980	Low Forecast of Leading Economic Function Employment / Constant Ratio	499,300 / 0.6878	=	725,900 Low Forecast Total Employment
1980	High Forecast of Leading Economic Function Employment / Constant Ratio	528,700 / 0.6878	=	768,700 High Forecast Total Employment
1985	Low Forecast of Leading Economic Function Employment / Constant Ratio	523,800 / 0.6878	=	761,600 Low Forecast Total Employment
1985	High Forecast of Leading Economic Function Employment / Constant Ratio	563,300 / 0.6878	=	819,000 High Forecast Total Employment

Appendix B Table 33

POPULATION FORECAST IN THE SOUTHEASTERN WISCONSIN REGION: 1965, 1970, 1975, 1980, and 1985

1960	Regional Total Employment / Regional Total Population	612,800 / 1,573,600	=	0.3894	Employed Participation Rate [1]
1965	Low Forecast Total Employment / Employed Participation Rate	637,100 / 0.3875	=	1,644,100	Low Forecast Total Population
1965	High Forecast Total Employment / Employed Participation Rate	646,000 / 0.3875	=	1,667,100	High Forecast Total Population
1970	Low Forecast Total Employment / Employed Participation Rate	664,000 / 0.3850	=	1,724,700	Low Forecast Total Population
1970	High Forecast Total Employment / Employed Participation Rate	682,800 / 0.3850	=	1,773,500	High Forecast Total Population
1975	Low Forecast Total Employment / Employed Participation Rate	693,400 / 0.3820	=	1,815,200	Low Forecast Total Population
1975	High Forecast Total Employment / Employed Participation Rate	723,500 / 0.3820	=	1,894,000	High Forecast Total Population
1980	Low Forecast Total Employment / Employed Participation Rate	725,900 / 0.3785	=	1,917,800	Low Forecast Total Population
1980	High Forecast Total Employment / Employed Participation Rate	768,600 / 0.3785	=	2,030,900	High Forecast Total Population
1985	Low Forecast Total Employment / Employed Participation Rate	761,600 / 0.3750	=	2,030,900	Low Forecast Total Population
1985	High Forecast Total Employment / Employed Participation Rate	819,000 / 0.3750	=	2,184,000	High Forecast Total Population

[1] The employed participation rate is the ratio of total employment to total population. At National, State, and Regional levels there is an observed long run trend for this ratio to decline.

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