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Marshfield Economic
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MARSHFIELD AREA
1998
ECONOMIC INDICATORS

2nd Quarter 1998
presented
September 4, 1998

Presented by:
Central Wisconsin Economic Research Bureau
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Special Report: Marshfield Clinic's Contribution to the Central Wisconsin Economy: Estimates from an Input-Output Analysis
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National and Regional Outlook

Economic statistics for the nation strongly suggest that the past year was quite robust. Real GDP grew to 7.5 trillion or by 4.6 percent from 1997. Industrial production in the country shot upwards by a remarkable 6.8 percent. Interest rates and inflation also behaved in a benign manner over the past twelve months. Short term borrowing rates fell from 5.12 to 5.00 percent and prices increase by a scant 1.7 percent over the period. However, even with this good news there is evidence the economy slowed during April-June. The economy is estimated to have grown by just 1.4 percent, down from the 5.5 percent annual rate of January-March. Accounting for the slow down in second quarter was: the large inventory buildup of first quarter; the strike at GM; and of course the financial situation in Asia.

Perhaps the most pressing problem confronting the U.S. economy at this point in time is the economic woes of Asia. The first notice of this problem was in July of 1997 when Thailand devalued in its currency. Since that time many countries throughout the far east have had to deal with the consequences of the mismanaged economies. This has meant that countries like Indonesia, Korea, Thailand, etc. are now being forced by financial market pressure and the International Monetary Fund to undergo painful restructurings of their economies. As a result of this, the currencies of these nations have fallen in value in relation to the U.S. dollar.

Initially these devaluations have had a positive impact on the U.S. economy. For example, low cost imports have helped to keep domestic inflation in check and create a low interest rate environment in this country. However, as this Asian scenario unfolds it is clear that our economy will be affected in an adverse manner. A group of leading Wall Street economists are forecasting that it will be six to nine months before the full impact of the Asian situation will be felt. That is, it will take this much time before lost sales to Asia take a really big bite out of corporations who export to that part of the world. The loss of demand will cause some firms to lower production and layoff workers. If there is any good news in this scenario it is that inflation and interest rates will remain abated without having to have Federal Reserve intervention.

As implied by the aforementioned, with Asian countries less able to import our goods and services and with their products being so attractively priced, one could guess that our trade balance will worsen. Case in point our trade deficit has set record for four months in a row. It is very likely that this trend will continue for the rest of the year.

The biggest unknown at this juncture is the situation in Japan. Japan, the second largest economy in the world, is now mired in a recession that is its worst in fifty years. Further, it seems that the Japanese government is unable or unwilling to deal with this financial sector lead problem. No one, including our Federal Reserve, seems to know how large the problem is in terms or bad loans on the books of Japanese banks. However, some individuals have estimated it could be at least several times larger than our own saving and loan crisis of the 1980s. Clearly, if Japan sinks further into its economic malaise the yen will likely fall sharply against the dollar. The impact would most likely cause our economy to stall, if not enter into a mild recession. Also, if the Japanese currency falls, China may be forced to devalue its currency to remain competitive in world markets. This would make a bad situation worse for U.S. firms.

Will the U.S. and Wisconsin economies fall into a recession during the last half of the year? The consensus among business, governmental, and academic economists is that the U.S. economy is so fundamentally from an internal aspect that the Asian situation as it now stands will cause growth to slow, but now cause a recession. Currently just 13 percent of our economic output is related to international trade. So while this represents a significant amount of economic activity it does not dominate our economic situation. In comparison, consumer expenditures on domestically produced goods and services account for about 67 percent of all economic activity in this country. Rising income levels, low inflation, and low interest rates have created a very strong domestic situation. This is evidenced by the strong numbers being reported for retail sales and home construction. Thus, spending by American consumers is now pitted against the downward pressure of the Asian situation in determining the future direction the economy.

TABLE 1:
NATIONAL ECONOMIC STATISTICS

	1997 Second Quarter	**1998 Second Quarter**	**Percent Change**
Nominal Gross Domestic Product (Billions)	$8,034.3	$8,431.7	+4.9
Real Gross Domestic Product (Billions of 1992 $)	$7,159.6	$7,491.0	+4.6
Industrial Production (1992 = 100)	119.9	128.1	+6.8
Three Month U.S. Treasury Bill Rate	5.12%	5.00%	-2.4
Consumer Price Index (1982-84 = 100)	160.3	163.0	+1.7

Central Wisconsin

The central Wisconsin economic picture remained bright in second quarter 1998. Employment is up in all categories and for all geographic areas. The same thing can be said about the falling unemployment rates throughout the area. The industrial sector employment categories also turned in good numbers. However, regional business executives do have some concern about the Asian situation as it pertains to the national economy. But, this group also feels that this situation will have a small impact upon their business region.

Unemployment rates fell in all reporting categories during the past year. The unemployment rates now stand at5 historic lows. Portage, Wood, and Marathon counties seasonally adjusted rates were 4.0, 3.3 and 4.5 respectively. On a labor force weighted average basis central Wisconsin's rate was just 3.8 percent. The state continues to have one of the lowest unemployment rates in the nation, 3.2 percent. For the country as a whole the unemployment rate fell to 4.7 percent.

More good news comes form the employment situation. All geographic area reported increases in the number of employed. Portage county payrolls are estimated to have increased by 6.7 percent or 2,400 people. Marathon added 1,000 jobs and Wood approximately 300. For central Wisconsin 3,700 new jobs were created bringing total employment up to 149.4 thousand, a gain of 2.5 percent form a year ago. The state and nation also expanded, albeit at somewhat slower rates, 2.0 and 1.4 percent respectively.

Industrial sector employment also turned in a good performance over the past year. Manufacturing and services grew by 1.7 and 2.5 percent. At the same time trade, construction, and government increased by 2.4, 3.1, and 6.4 percent respectively. Overall the industrial categories increased from 139.2 to 143.1 thousand or by a very good 2.8 percent. Thus, it is quite apparent that the local economy continues to grow and develop.

The amount of growth that has taken place over the years in central Wisconsin's main industrial sectors is presented in figures 5A and 5B. Each category has increased by approximately the following amounts since 1994: services by 4,000; manufacturing by 3,000; trade by 4,000; construction by 1,100, and government by 1,000. Thus, a significant change has occurred in our economy and underscores the progress made in the region in terms of economic development.

The CWERB poll of regional business executives contains some very interesting results fore the quarter. The group believes that recent changes at the national and local levels have been minimal. Given the good performance of the economy this can be interpreted in a positive manner. However, the situation in Asia is clearly on the minds of these individuals. This group holds the opinion that the national economy will slow down because of the situation in Asia. However, this group does not see the situation having a dramatic effect on the local economy or their particular industry.

TABLE 2:
UNEMPLOYMENT IN CENTRAL WISCONSIN

	Unemployment Rate June 1997	Unemployment Rate June 1998	Percent Change
Portage	4.8%	4.0%	-16.7
Marathon	3.6%	3.3%	-8.3
Wood	4.8%	4.5%	-6.3
Central Wisconsin	4.2%	3.8%	-9.5
Wisconsin	4.0%	3.2%	-20.0
United States	5.2%	4.7%	-9.6

TABLE 3:
EMPLOYMENT IN CENTRAL WISCONSIN

	Total Employment June 1997 (Thousands)	Total Employment June 1998 (Thousands)	Percent Change
Portage	36.0	38.4	+6.7
Marathon	71.3	72.3	+1.4
Wood	38.4	38.7	+0.8
Central Wisconsin	145.7	149.4	+2.5
Wisconsin	2,872.2	2,929.6	+2.0
United States	130,463	132,265	+1.4

TABLE 4:
CENTRAL WISCONSIN EMPLOYMENT CHANGE BY SECTOR

	Employment June 1997 (Thousands)	Employment June 1998 (Thousands)	Percent Change
Manufacturing	35.2	35.8	+1.7
Durable goods	18.6	19.1	+2.7
Nondurable goods	16.6	16.8	+1.2
Services	47.8	49.0	+2.5
Trade	32.7	33.5	+2.4
Construction	6.4	6.6	+3.1
Government	17.1	18.2	+6.4

FIGURE 5A:
CENTRAL WISCONSIN EMPLOYMENT CHANGE BY SECTOR--
MANUFACTURING, SERVICES AND TRADE

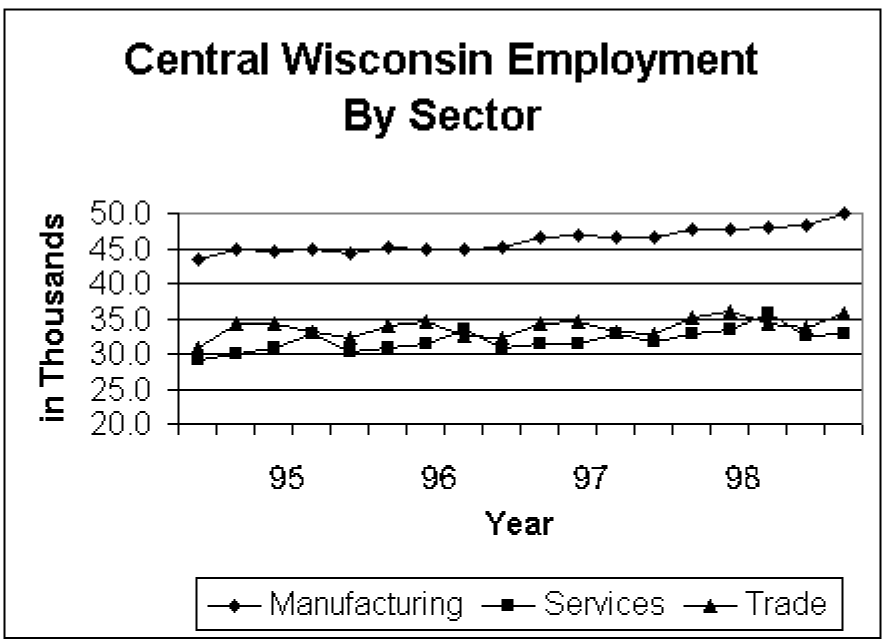

FIGURE 5B:
CENTRAL WISCONSIN EMPLOYMENT CHANGE BY SECTOR--
CONSTRUCTION AND GOVERNMENT

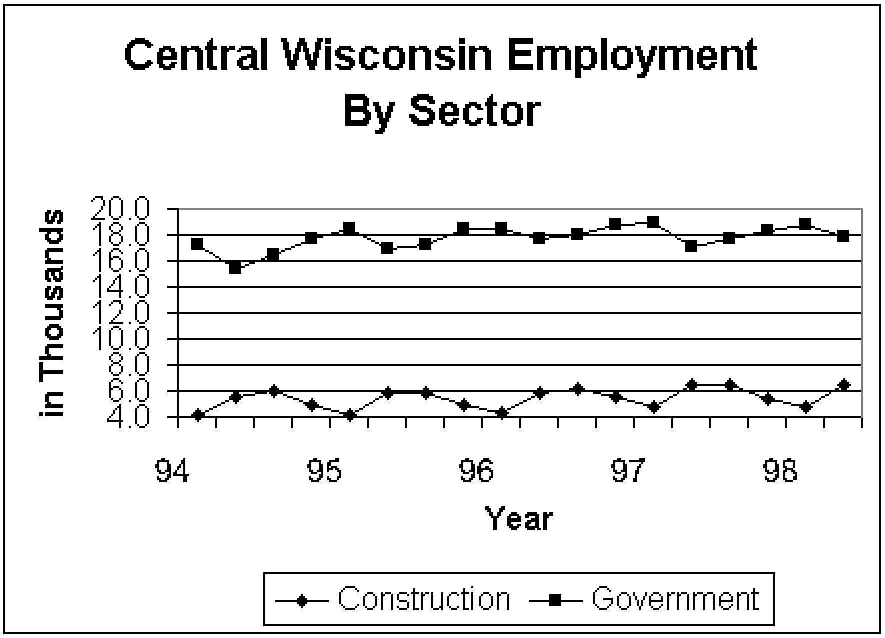

TABLE 6:
BUSINESS CONFIDENCE IN CENTRAL WISCONSIN

	Index Value	
	March 1998	**June 1998**
Recent Change in National Economic Conditions	50	51
Recent Change in Local Economic Conditions	51	53
Expected Change in National Economic Conditions	49	41
Expected Change in Local Economic Conditions	57	49
Expected Change in Industry Conditions	57	51

Wausau

The Wausau area economy performed nicely over the past twelve months. The unemployment rate is down and employment is up in all reporting categories. Almost all other indicators of performance support the idea that local economic development stayed on track for the resident of the Wausau area.

Marathon county industrial sector payrolls grew by 1,300 positions or by 2.0 percent from a year ago. All sectors but government participated in this expansion. Services and trade lead the growth by adding 400 and 600 positions respectively. Manufacturing and construction added 200 and 100 positions. As of second quarter 1998 there are 66.9 thousand people employed in all of these sectors, compared to 65.6 thousand in 1997.

Retailer confidence in Table 8 shows that our panel of local merchants believes that sales and store traffic are much improved over last year's figures. This group is also very optimistic with regard to the future. Expected sales and traffic are forecasted to be higher than a year ago. At the national level, one of the key features of the current expansion is the strong growth in retail sector activity.

Help wanted advertising is a useful barometer of local labor market conditions. The index does not capture all employment opportunities in an area nonetheless the correlation between it and available employment in an area makes it an indicator worth watching. For June 1998 the index in Wausau remained at an elevated level and stands at 206. This means that there are about 2 jobs being advertised for every one job in the base year. The U.S. index figure moved upward by about 12 percent from a year earlier. Both local ad state indexes point towards an increase in employment levels.

Public assistance claims data on a monthly average basis is given in Table 10. The figures represent only general assistance. The numbers are so low in Marathon County as to make percentage changes rather meaningless. Suffice it say that the numbers in Table 10 are incredibly low and reflect the effects of the state's W2 plan and the strength of the local economy. Another measure of local family distress is unemployment claims data on a weekly average basis. Here we see that new claims have risen by 14.5 percent and total claims by 7.5 percent since last year. Thus, there has been an increase over the past year in the number of people who have been laid off from their jobs.

Residential construction in Wausau was booming during second quarter 1998. The number of residential permits issued was 122 and their estimated value was $14.1 million. Both figures exceed 1997 totals. Housing permits reached 140 during the period. Another area of strength was the residential alteration activity. A total of 426 permits were issued and their value is estimated to be $2.1 million. Once again these figures exceeded those of 1997.

TABLE 7:
MARATHON COUNTY EMPLOYMENT CHANGE BY SECTOR

	Employment June 1997 (Thousands)	Employment June 1998 (Thousands)	Percent Change
Manufacturing	18.9	19.1	+1.1
Services	20.3	20.7	+3.4
Trade	15.9	16.5	+3.8
Construction	3.1	3.2	+3.2
Government	7.4	7.4	0

TABLE 8:
RETAILER CONFIDENCE IN WAUSAU

	Index Value	
	March 1998	**June 1998**
Total Sales Compared to Previous Year	70	69
Store Traffic Compared to Previous Year	69	67
Expected Sales Three Months From Now	69	68
Expected Store Traffic Three Months From Now	68	67
100 = Substantially Better 50 = Same 0 = Substantially Worse		

TABLE 9:
HELP WANTED ADVERTISING IN WAUSAU

	Index Value	
	1997	**1998**
Wausau (June) (1980 = 100)	214	206
U.S. (May) (1987 = 100)	81	91

TABLE 10:
PUBLIC ASSISTANCE CLAIMS IN MARATHON COUNTY

	1997 Second Quarter (Monthly Avg.)	1998 Second Quarter (Monthly Avg.)	Percent Change
New Applications	3	6	+100.0
Total Claims	7	8	+14.3

TABLE 11:
UNEMPLOYMENT CLAIMS IN WAUSAU *

	1997 Second Quarter (Weekly Avg.)	1998 Second Quarter (Weekly Avg.)	Percent Change
New Claims	186	213	+14.5
Total Claims	1,393	1,498	+7.5
* Includes Medford Area.			

TABLE 12:
RESIDENTIAL CONSTRUCTION IN WAUSAU AREA

	1997 Second Quarter	1998 Second Quarter	Percent Change
Residential Permits Issued	104	122	+17.3
Estimated Value of New Homes	$11,435.7 (thousands)	$14,141.3 (thousands)	+23.7
Number of Housing Units	148	140	-5.4
Residential Alteration Permits Issued	316	426	+34.8
Estimated Value of Alterations	$1,817.6 (thousands)	$2,141.9 (thousands)	+17.8

TABLE 13:
NONRESIDENTIAL CONSTRUCTION IN WAUSAU AREA

	1997 Second Quarter	1998 Second Quarter
Number of Permits Issued	18	10
Estimated Value of New Structures	$7,439.4 (thousands)	$3,911.0 (thousands)
Number of Business Alteration Permits	65	48
Estimated Value of Business Alterations	$14,969.2 (thousands)	$9,000.0 (thousands)

TABLE 14:
FINANCIAL STATISTICS FOR MARATHON COUNTY

	1997 Second Quarter (Millions)	1998 Second Quarter (Millions)	Percent Change
Bank Deposits	1,232.8	$1,420.1	+15.2
Bank Loans	1,075.4	$1,122.7	+4.4

Marshfield

There are many good things to say about the local economy is second quarter 1998. The unemployment rate in Wood County stands at a very low 4.5 percent, and total unemployment grew, albeit by a modest 0.8 percent. Similarly, industrial sector unemployment rose by about 1.0 percent from last year. Most other indicators contained in this report are positive in nature with regard to the state of the local economy.

Wood County industrial sector employment grew from 42.3 to 42.7 thousand, or by about 1.0 percent from a year earlier. Services, trade, and manufacturing added 600, 200, and 100 positions respectively. However construction and government payrolls contracted by 100 and 400 persons each. The CWERB estimates that Marshfield employment rose by approximately 3.1 percent during the same period. Thus the local area appears to have grown more quickly than the rest of the county. This is due to the greater proportion of service sector employment in Marshfield.

Retailer optimism is lower this quarter that last. When local merchants were queried about store sales and traffic they felt matters have improved but not to the extent as in the previous quarter. With regard to the future the same type of impression is held by the merchants. That is, activity should be above last year's marks.

Help wanted advertising remains quite strong in the local area. The reading of 297 means there are almost 3 jobs being advertised for every one advertised in the base year. The high level of advertising bodes well for area residents in job search. The U.S. likewise experienced as increase in its help wanted index.

Family financial distress can be measured in a variety of ways. One measure is public assistance claims on a monthly average basis. For Wood County the total caseload rose from 2,453 to 2,485, or 1.3 percent from last year. Total caseload data consists of AFDC, MA, and food stamps. Another measure of distress in the community is unemployment claims data. New claims on a weekly average basis increased from 51 to 65. Further, total claims grew from 145 to 184 over the same period. Percentage wise the increases in new and total claims were high, but one should remember that the raw numbers are at low levels.

Residential construction for Marshfield in second quarter amounted to 9 new units with an estimated value of $1.1 million. On the other hand, alteration activity was somewhat off the pace of last year. Residential permits issued totaled 78, down 9.3 percent from a year ago. Further, the estimated value of these alterations was down 1.1 percent and now stands at 460.7 thousand.

Nonresidential construction for the area went as follows. The number of new permits was 20 and the estimated value was $1.7 million for this construction. The number of alterations to existing structures was 9. These alterations are estimated to have a value of $348.9 thousand. Percentage changes are not given in Table 13 due to the volatile nature of this type of activity.

Financial statistics for the local area are presented in Table 14. The amount of bank deposits rose from $288.9 million to $294.8 million, or 2.0 percent from Second Quarter 1997. Likewise bank lending rose by 2.3 percent in our sample of local institutions. The gain in lending was from $253.0 million to $258.9 million for the Marshfield area.

Clark county economic data is presented in Tables 15 and 16. Industrial sector figures show that manufacturing, trade, and construction expanded by 5.4, 2.3, and 7.8 percent respectively since June 1997 However, service and government employment dropped by 0.8 and 1.6 percent over the period. We can also see that Clark county's unemployment rate now stands at 5.0 percent compared to 5.9 percent of a year ago. However, this drop is tempered somewhat by the decline in the total number of people employed and the decline in the labor force.

TABLE 7:
WOOD COUNTY EMPLOYMENT CHANGE BY SECTOR

	Employment June 1997 (Thousands)	Employment June 1998 (Thousands)	Percent Change
Manufacturing	10.1	10.2	+1.0
Services	16.2	16.8	+3.7
Trade	9.2	9.4	+2.2
Construction	1.8	1.7	-5.6
Government	5.0	4.6	-8.0
Marshfield Employment Index	151.4	156.1	+3.1

TABLE 8:
RETAILER CONFIDENCE IN MARSHFIELD*

	Index Value	
	March 1998	**June 1998**
Total Sales Compared to Previous Year	70	62
Store Traffic Compared to Previous Year	69	56
Expected Sales Three Months From Now	70	69
Expected Store Traffic Three Months From Now	69	62
100 = Substantially Better 50 = Same 0 = Substantially Worse *Data collected by UW Marshfield-Wood County		

TABLE 9:
HELP WANTED ADVERTISING IN MARSHFIELD

	Index Value	
	1997	**1998**
Marshfield (June) (1980 = 100)	290	297
U.S. (May) (1987 = 100)	81	91

TABLE 10:
PUBLIC ASSISTANCE CLAIMS IN WOOD COUNTY

	1997 Second Quarter (Monthly Avg.)	**1998 Second Quarter (Monthly Avg.)**	**Percent Change**
Total Caseload	2,453	2,485	+1.3

TABLE 11:
UNEMPLOYMENT CLAIMS IN WOOD COUNTY

	1997 Second Quarter (Weekly Avg.)	1998 Second Quarter (Weekly Avg.)	Percent Change
New Claims	51	65	+27.5
Total Claims	145	184	+26.9

TABLE 12:
RESIDENTIAL CONSTRUCTION IN MARSHFIELD AREA*

	1997 Second Quarter	1998 Second Quarter	Percent Change
Residential Permits Issued	9	9	0
Estimated Value of New Homes	$922.0 (thousands)	$1,105.0 (thousands)	+19.8
Number of Housing Units	9	10	+11.1
Residential Alteration Permits Issued	86	78	-9.3
Estimated Value of Alterations	$465.9 (thousands)	$460.7 (thousands)	-1.1
*Data collected by UW Marshfield-Wood County			

TABLE 13:
NONRESIDENTIAL CONSTRUCTION IN MARSHFIELD AREA*

	1997 Second Quarter	1998 Second Quarter
Number of Permits Issued	19	20
Estimated Value of New Structures	$1,255.9 (thousands)	$1,722.9 (thousands)
Number of Business Alteration Permits	14	9
Estimated Value of Business Alterations	$264.3 (thousands)	$348.9 (thousands)
*Data collected by UW Marshfield-Wood County		

TABLE 14:
FINANCIAL STATISTICS FOR MARSHFIELD*

	1997 Second Quarter (Millions)	1998 Second Quarter (Millions)	Percent Change
Bank Deposits	$288.9	$294.8	+2.0
Bank Loans	$253.0	$258.9	+2.3
*Data collected by UW Marshfield-Wood County Note: Figures for four quarters beginning Fourth Quarter 1998 have no previous comparison points due to merger activity in the local area.			

TABLE 15:
CLARK COUNTY EMPLOYMENT BY SECTOR

	June 1997	June 1998	Percent Change
Manufacturing	2,749	2,897	+5.4
Services	2,147	2,130	-0.8
Trade	2,089	2,137	+2.3
Construction	476	513	+7.8
Government	1,992	1,961	-1.6

TABLE 16:
CLARK COUNTY EMPLOYMENT STATISTICS

	June 1997	June 1998	Percent Change
Unemployment Rate	5.9%	5.0%	-15.3
Total Employed	15,575	15,571	0
Total Unemployed	983	818	-16.8
Labor Force	16,558	16,389	-1.0

Marshfield Clinic's Contribution to the Central Wisconsin Economy Estimates from an Input-Output Analysis

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Introduction

The availability of high quality health care services is an essential component for community development and growth [1], and is particularly important in rural areas. Several studies conducted over the past 20 years have demonstrated the importance of the health care sector in both industrial development and in the retention of existing rural businesses and industries[2-5]. Although access to quality health care services is important to all community residents, these services are particularly important for retirees and the elderly [6].

In addition to its contributions to community economic growth and development and quality of life, the health care sector is often a major direct contributor to a community's economy through its employment and local purchasing activities. Studies of rural communities have shown that rural hospitals are often the second largest employer in the community, and the combined economic impact of the healthcare sector, including hospitals, physicians, dentists, and pharmacists, often support between 10 and 15 percent of rural communities employment [3].

This paper describes results of an analysis of Marshfield Clinic's economic contribution to Marathon and Wood counties (Central Wisconsin) during 1997. These impacts, which are estimated using an input-output model, characterize the Clinic's contribution to Central Wisconsin's employment levels and employee compensation in the context of the Clinic's impact on Central Wisconsin's healthcare sector and its general economy.

Input-Output Analyses

Input-output (I/O) analysis is the principal quantitative technique used to estimate the impact of transactions among industries and sectors in an economy. The principal advantage of the I/O analytic framework is its facility in estimating indirect and induced effects within an economy that are secondary to a change in final demand. The I/O analytic framework has broad appeal because it is based on a general equilibrium framework, although the fixed coefficient production function requirements limits its use for some analyses. Because the I/O framework incorporates interdependencies among industries in an economy, it can produce estimates of economy-wide impacts associated with exogenous change in demand for an industry's output. These impacts, which are characterized as multipliers, can be estimated for a wide range of macroeconomic indicators, including measures of total output, employment, employee compensation, and personal income.

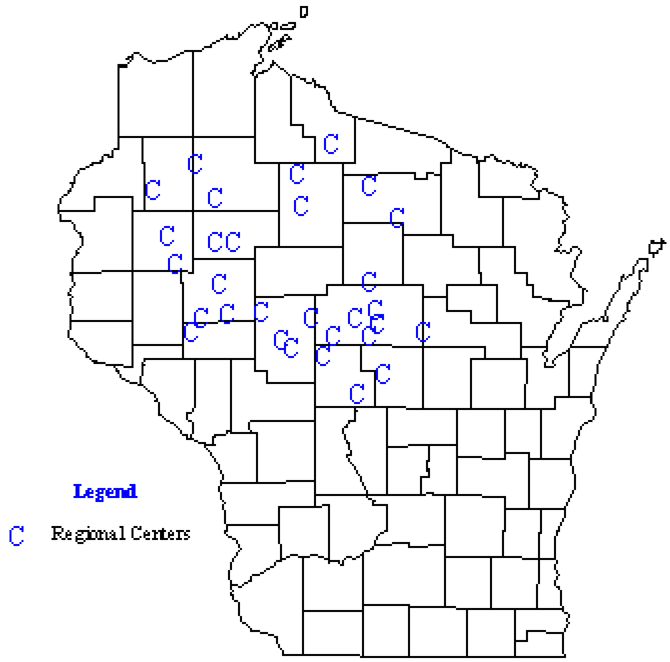
Until recently, I/O analyses were restricted to large geographic areas (e.g., U.S., Census regions etc.) because of their computational complexity. However, with the advent of more powerful personal computers and the development of more refined economic software it has become feasible to estimate I/O models at sub-state/region areas. These advances, including expanded software capability to incorporate survey-based data and the capability to customize individual industry production functions, has led to a significant increase in the demand for I/O analyses. Two recent examples of the use of I/O analyses in Wisconsin are an analysis of the impact of community health centers throughout Wisconsin [7] and an assessment of the significance of the health care sector in Grant county [8].

IMPLAN Pro 1.1 software was used to estimate the economic impact of Marshfield Clinic on the Central Wisconsin economy. IMPLAN Professional is one of the most comprehensive I/O microcomputer-based software programs currently available [9]. IMPLAN Pro provides a number of different analytic options in developing I/O model estimates. This study used IMPLAN Pro's Type II multipliers, which are income-based multipliers, to estimate direct, indirect, and induced effects of changes in demand for Marshfield Clinic services. Direct impacts are changes in Marshfield Clinic activity resulting from changes in exogenous demand for its services. Indirect impacts are influences on other businesses and industries that result from changes in the purchasing activities of Marshfield Clinic. Induced effects are the aggregate effects on the purchasing patterns and consumption levels of area households resulting from the impact of Marshfield Clinic's direct and indirect effects on household income.

Marshfield Clinic Regional System

Marshfield Clinic is organized as a not-for-profit 501(c)(3) multi-specialty physician group practice. Founded in 1916, the Clinic has grown into a regional system of care, incorporating 39 regional centers (Map 1) and employing 533 physicians and over 3,700 support staff. It currently operates regional centers in 15 central, northern, and western Wisconsin counties. Marshfield Clinic has a significant presence in Central Wisconsin with major tertiary care facilities in Wausau and Marshfield and regional centers located in seven other communities in this area.

Map 1. Marshfield Clinic Regional Centers, 1998



Marshfield Clinic has grown rapidly during the past 20 years (Table 1). Between 1978 and 1998, Marshfield Clinic physician staffing levels increased from 138 to 533, and its regional center system increased from 5 regional centers to 39 centers. Over this same period, the total number of patient encounters grew from 365,000 to over 1.2 million. This growth is attributable to many factors, including the establishment of entirely new regional centers, the expansion of existing regional centers including the Marshfield center, and the acquisition and subsequent expansion of existing physician practices.

Table 1
Marshfield Clinic Physician Employment and Encounter Data, Selected Fiscal Years [1]

Year	Physician Staff			Regional Centers	Encounters
	Marshfield Center	Regional Centers	Total		
1978	133	5	138	5	365,000
1983	186	14	200	6	471,000
1988	234	28	262	8	630,000
1993	292	112	404	21	906,000
1998 [2]	287	246	533	39	1,246,000

1 Marshfield Clinic's fiscal year begins October 1 and ends September 30.
2 Projected for 1998

Marshfield Clinic provides health care services under a wide range of financial arrangements, including fee for service and direct contracting, and participates in preferred provider organizations, Medicaid risk contracts, and HMOs. The Clinic's wholly owned HMO subsidiary, Security Health Plan, has more than 100,000 enrollees, and markets its plans in 27 Wisconsin counties, including Marathon and Wood.

Central Wisconsin

The Central Wisconsin area had an estimated resident population of 197,051 in 1996. Its estimated employment base was slightly over 129,000 persons, and its estimated total economic output was $10.8 billion in 1995 (IMPLAN 1997). Estimated total income was $4.3 billion in 1995, and average income per household was $62,403.

Central Wisconsin's health care sector, which is a net exporter of health care services, is a major contributor to the area's economic activity. The health sector, which includes doctors and dentists, nursing and protective care services, hospitals, and other medical and health services enterprises, directly employed 12,279 individuals, accounting for 9.5 percent of total area employment. The sector contributed over $830 million to the economy, which represented about 8 percent of Central Wisconsin's economic output. By contrast, it accounted for 16 percent of total Central Wisconsin employee compensation (Table 2). The sectors relatively larger share of compensation relative to both total output and employment reflects the labor-intensive nature of the health care sector and its relatively higher average wages compared to other Central Wisconsin industries.

Table 2
Selected Economic Indicators for Marathon and Wood Counties, Implan 1997 Model

Economic Indicator	Marathon and Wood Counties		
	Aggregate	Health Sector [1]	Health Sector Share
Employment	129,580	12,279	9.5%
Total Output [2]	10,848.8	830.6	7.7%
Employee Compensation [2]	3,253.8	521.9	16.0%
Indirect Business Taxes [2]	382.4	1.2	0.3%

1. Includes Implan sectors 490 (Doctors and Dentists), 491 (Nursing and

Protective Care), 492 (Hospitals), and 493 (Other Medical and Health Services).
2. Millions of dollars.

Marshfield Clinic's Economic Impact

Estimating the economic impact of Marshfield Clinic on Central Wisconsin requires isolating Clinic-specific purchasing and employment levels from those of the remaining health care sector, and modeling those impacts in an input-output analytic framework. To estimate these impacts, Marshfield Clinic employment, compensation, and output data were developed from internal accounting and employment databases for 1997 for regional centers located in Central Wisconsin.[1] These data were adjusted for Clinic employee residence, and the resulting adjusted employment and compensation estimates were incorporated into the base IMPLAN PRO I/O model.

The analytic approach is designed to yield conservative estimates of the impact of Marshfield Clinic activities in Central Wisconsin. Estimates are conservative because they do not include any measures of the impact of patient-related spending in Central Wisconsin incident to a Clinic visit by non-area residents. Thus, any "tourism effect" is not accounted for in this analysis. In addition, the economic impacts will be conservative if there are "synergy effects" associated with Marshfield Clinic operations. "Synergy effects are usually not captured in I/O models unless there is an established pattern of transactions between synergistic industries. Thus, for example, any "synergy effects" resulting from an expansion of physician services which might accommodate an expansion of hospital-related services would not be fully captured in a base I/O model because it would not necessarily involve any purchase arrangements between the economy's physician sector and hospital sector. These effects can be modeled in an I/O framework but were not estimated in this analysis.

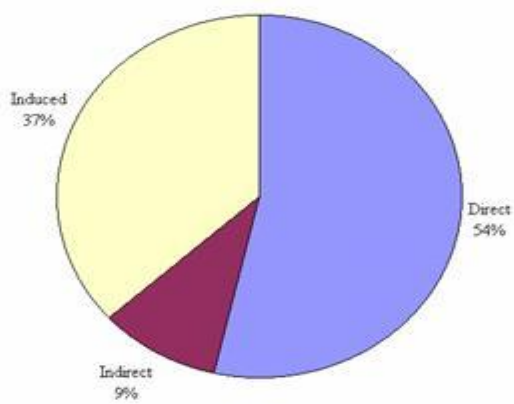
Marshfield Clinic's estimated employment impacts on Central Wisconsin are summarized in Table 3. The total employment impact of Marshfield Clinic operations in Central Wisconsin was 5,012 employed persons, which represented nearly four percent of all employed persons. This total includes 2,514 individuals employed directly by Marshfield Clinic and an additional 2,498 jobs created through indirect and induced effects. The distribution of the Clinic's employment impacts is depicted in Chart 1. It is readily apparent from this graphic that the principal economic sectors benefiting from Marshfield Clinic's impact are other health services, retail and service sectors. These sectors account for over 90 percent of the total estimated employment impact of Marshfield Clinic in Central Wisconsin.

Table 3
Marshfield Clinic Estimated Employment Impacts, Marathon and Wood Counties, 1997

Sector	Direct	Indirect	Induced	Total
Total Effect	2,514	562	1,936	5,012
Sector Effects:				
Health	2,514	87	358	2,959
Wholesale	0	26	80	107
Service	0	305	486	791
Retail	0	25	796	821
Sector Subtotal	2,514	443	1,721	4,678

The induced effects of Marshfield Clinic-related household spending in the local economy accounts for 37 percent of the aggregate employment impact, while the indirect impact on employment accounts for about 9 percent of the total employment impact (Chart 2). These shares are characteristic of service industries that have high value added to output ratios, reflecting their high labor intensity. With more of total output accounted for by labor costs, the share of output available for business-related purchases is smaller. This relationship, combined with the fact that Central Wisconsin does not have major medical and pharmaceutical manufacturing, results in lower relative indirect effects.

Chart 2. Marshfield Clinic Employment Impacts by Type II Effects



Marshfield Clinic's impact on total employee compensation in Central Wisconsin was estimated at $207.5 million in 1995 (Table 4). The health, services, and retail sectors in the economy are the principal affected sectors, accounting for over 94 percent of the employee compensation impact. This pattern mirrors the Clinic's employment impacts. Marshfield Clinic's total employee compensation impact accounts for an estimated 6.4 percent of Central Wisconsin employee compensation and 6.2 percent of Central Wisconsin personal income (employee compensation and proprietor income). These percentages are higher than the estimated share of employment attributed to Marshfield Clinic operations, which reflects the higher average wages and earnings of Clinic employees and their related impact on local economic activity. In the health care sector, Marshfield Clinic accounts for about 40 percent of both compensation and employment.

Table 4
Marshfield Clinic Estimated Employee Compensation Impacts, Marathon and Wood Counties, 1997

Sector	Direct	Indirect	Induced	Total	% of Total
		Millions $			
Total Effect	159.7	11.3	36.5	207.5	100.0%
Sector Effects:					
Health	159.7	1.6	12.9	174.3	84.0%
Wholesale	0.0	0.8	2.3	3.1	1.5%
Service	0.0	4.4	6.9	11.2	5.4%
Retail	0.0	0.3	9.5	9.8	4.7%
Sector Subtotal	159.7	7.0	31.6	198.4	95.6%

Summary

I/O models have become increasingly useful tools for isolating and estimating sector-specific and economy-wide economic impacts. An emerging use of this technique is in modeling local and regional economic impacts associated with changes in the growth and development of industries or sectors. It is likely that I/O analyses will be more prominent in the future as an aid in regional planning and development activities.

The health care sector is an important component in the economic fabric of Central Wisconsin. Taken as a whole, the sector is a very significant exporter of health care services, generating economic output that is more than twice as large as local demand. This means that health care dollars flow into Central Wisconsin from other areas. These dollars support local employment in the health care sector, and through indirect and induced effects support substantial additional economic activity in other Central Wisconsin economic sectors.

Although a conservative approach was used in estimating Marshfield Clinic's impact on Central Wisconsin's economy, even these conservative estimates are substantial in magnitude. Direct employment at Marshfield Clinic facilities located in Central Wisconsin accounted for about 2 percent of total area employment. The Clinic's impact on total area employment was 3.9 percent, including indirect and induced effects. Clinic activities accounted for about 6.4 percent of Central Wisconsin employee compensation, and 6.2 percent of personal income. Within Central Wisconsin's health care sector, Marshfield Clinic accounted for about 40 percent of sector employment and employee compensation, respectively. These estimates reflect the significant contribution of Marshfield Clinic operations to both Central Wisconsin's health care sector and to its larger economy.

Endnotes

[1] For the purposes of this analysis, Marshfield Clinic data were aggregated with Wausau Medical Center data.

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