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**The Performance of Wisconsin  
Retail and Service Markets**

**Steven C. Deller**



# **The Performance of Wisconsin Retail and Service Markets**

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## **Introduction**

The development of a community's retail and service markets should be an integral part of the community development process. Some economic development practitioners suggest that the retail and service sectors develop naturally following other forms of economic development, such as growth in the manufacturing sector or an influx of tourists. To a degree this position is correct.

Several factors, however, may prevent this process from being completely efficient. First, the process used by many franchise retail and service businesses tends to be biased toward medium and large size cities. While some retailers and service providers, such as Wal-Mart and Hardee's have succeeded by focusing on smaller rural markets, the trend toward volume retail limits the appeal of most smaller communities.

Second, the same site selection process tends to focus on the optimal location within a community, not necessarily which particular community given a cluster of communities. If local development practitioners can provide compelling evidence that their community is suitable, they may have provided the retailer or service provider with vital information that franchise either could not or would not develop on their own.

Third, for whatever reason, there appears to be a lag between industrial development and retail and service expansion. This is in all likelihood due to an imperfect flow of information. Because many retailers and service providers are worried more about site selection, they are unlikely to be aware of the increasing potential of the community overall.

Finally, for many small rural communities, retail and service development is fostered not by national franchises, but by local entrepreneurs. Unfortunately, many of these entrepreneurs lack the marketing background required to identify opportunities or, more importantly, sell their business idea to local investors.

The benefits of developing a strong local retail and service sectors are numerous. Naturally, tax revenues either through the property tax and/or the sales tax, will increase. Jobs will be created and dollars earned in the community through the industrial base will be retained, hence maximizing the economic impact of industrial development. The quality of life in the community will be enhanced. Studies of perceived quality of life suggest that access to local viable retail and service markets is important to the overall quality of life within the community. In addition, a vibrant downtown signals a vibrant and healthy community. Indeed, research suggests that quality of life is playing a greater role in industrial development and a healthy local retail market may induce additional industrial development.

Although the benefits are significant, there are costs associated with the development of local retail and service markets. A successful downtown revitalization effort will increase auto traffic, resulting in noise, dirt and perhaps safety concerns. In addition, while taxes will increase, the demands placed on local public services such as police and fire protection will also increase. Whether the increased revenues are sufficient to offset new expenditures is a difficult question to answer and needs to be addressed on a



case by case basis. Finally, many argue that the types of jobs created through retail development are part-time, low paying with few if any benefits. But again, any community development effort should pay close attention to the job skills of the local labor force and the demands of the types of businesses being promoted.

Despite these negatives, it is generally worthwhile for local economic development practitioners to explore the opportunities in retail and service development. The benefits usually outweigh the costs, resulting in a net increase in income in the community as well as enhancing the overall quality of life for the residents of the community.

The first step in advancing a retail and service development program usually entails an analysis of the strengths and weaknesses of existing markets. By better understanding the performance of the local market local leaders and development practitioners can foster a more conducive environment for retail and service business development. It is also hoped that current and future business operators will develop more informed business plans and capitalize on areas of opportunity.

To achieve this end, numerous research tools have been developed and refined over the years to help identify local strengths and weaknesses. Some of these tools include location quotients, population:employment ratios, and retail and service market thresholds. In this report we review the tools of Trade Area Analysis as developed by Ken Stone and Jim McConnon at Iowa State University and latter refined by Ron Hustedde, Ron Shaffer and Glen Pulver at the University of Wisconsin.

In addition to constructing an overall measure of local market performance ("pull factors"), the tools of Trade Area Analysis allow the analyst to estimate net inflows ("surpluses") and outflows ("leakages") of retail dollars. By estimating actual dollar flows, local retail and service business operators have a tangible dollar estimate that can be used in refining their business plans. Indeed, in several states, rural

bankers have adopted the tools of Trade Area Analysis as a viable means for estimating the revenue potential of any particular retail and/or service venture.

In the remainder of this report we outline potential sources of data, the tools of Trade Area Analysis and report the results of an Analysis for several counties in Wisconsin using data from the most recent (1996) county sales tax report provided by the Wisconsin Department of Revenue.

It is important to note that while the tools of Trade Area Analysis provide insight into the strengths and weaknesses of local retail and service markets, they represent only one piece of information. Much the same as location quotients or market threshold estimates, these tools should not be used as stand alone analysis. These tools should be viewed as a means of refining our questions and pointing the direction of future analysis. When at all possible, analysts should use the tools of Trade Area Analysis in tandem with other market analysis tools such as population:employment ratios, location quotients and market threshold estimates. Only when the results of the analysis are consistent across each of these research tools should a business operator consider moving to the next level of analysis.

It is also equally important to keep the market analysis study in perspective: the study should be one part of a larger, more comprehensive development process which is considering multiple aspects of the community. Too often development practitioners become engrossed in the study at hand and lose sight of the overriding objectives of the effort and the role of the study in the development process. Development processes often start out of a) the desire to "do something" and a market area analysis can help identify market strengths and weaknesses and resulting opportunities or b) **new information** is brought to the attention of local decision makers, business leaders, and residents. The intent of this study is to provide practitioners with potentially new information which can supplement current efforts or spur new discussions.



### Potential Data Sources

Reliable sources of information are needed for town and/or county retail and service sales, population and income. The retail and service sales information is most crucial to the analysis and often the most difficult to obtain. The ideal source of sales data is state sales tax reports. For Wisconsin these data are available for counties that have currently enacted the 0.5% county sales tax. As of 1996, 48 Wisconsin counties have elected to impose the county sales tax. These reports provide a rich array of data including taxable receipts and number of filers for a range of business classifications including manufacturing, transportation and public utilities, wholesale trade, and at the two digit sic level for retail trade and services. For those counties with the county sales tax these data represent perhaps the most timely and accurate data available. However, 24 counties have elected not to impose the county option sales tax, hence data are not available for a third of the state.

There are, however, alternative sources of retail and service sales data, for example:

*U.S. Census of Business, Retail and Services*—provides sales by commodity group for some towns and counties. The census is conducted every five years with the last census conducted in 1997. Unfortunately, for many communities, disclosure problems creates "holes" in the data. The census is the basis for all of the private vendors listed below.

*Sales and Marketing Management, Survey of Buying Power*—provides sales for select commodity groups, population and income data for all counties and SMAs in the United States. The *Survey of Buying Power* is published annually. Attempts to use these data for historical analysis of sales in Wisconsin, unfortunately, has proven less than successful due to inconsistencies from one year to the next. Because *S&MM* publishes annually there is little attempt to the current year's release consistent with the previous year's data.

Hence, "spikes" often appear in the data greatly complicating analysis.

*Editor and Publisher, Market Guide*—provides sales for select commodity groups, population and income data for all counties and SMAs. Data for smaller towns with daily newspapers with a minimum circulation level is also provided. *Market Guide* is published annually. Unfortunately, *Market Guide* suffers from the same year to year consistency problem as does the *Survey of Buying Power*.

*Standard Rate and Service Data*—provides limited data on retail and service sales, population and income for counties and SMAs and is also published annually. Again, consistency from year to year presents a problem.

*Woods and Poole, Inc.*— is a small, independent corporation located in Washington DC that specializes in long-term county economic and demographic projections. The *Woods & Poole* database contains more than 550 economic and demographic variables for every county in the United States for every year from 1969 to 2020. This comprehensive database includes population data by age, gender, and race; employment and earnings by major industry; personal income by source; retail sales by kind of business; and data on household size and income. Because *Woods and Poole* focus on time series of data, they pay particular attention to year to year consistencies in their database. This data source serves as the foundation of the University of Wisconsin-Extension Trade Area Analysis education program.

In addition to these sources of data, town-specific retail and service sales can be obtained through self surveying. Town and/or county data on population and income are generally available from a variety of sources including state agencies, the census and sources listed above.

For the analysis reported here, data on actual retail and service sales are taken from the Wisconsin Department of Revenues' Report on County Sales and Use



Tax for 1996.<sup>1</sup> While this limits the comprehensiveness of the study from a geographical perspective, these data are the most comprehensive and the most accurate.<sup>2</sup>

While the county represents a reasonable approximation of a regional retail and service market, the geographic boundaries of a county are arbitrary from a modern economic perspective. For many smaller rural counties with a larger dominate county seat community, the county data mirrors the market performance of the dominate community. If the county is composed of a collection of medium size communities, county level analysis will mask important differences across communities within the county.

### Tools of Trade Area Analysis

The most important component of Trade Area Analysis is the estimation of the market's potential. While there are several complex methods that may be used to estimate market potential, the method used here is perhaps the simplest. It should be kept in mind that Trade Area Analysis is based on averages. Many times there are mitigating circumstances, such as proximity to large population centers, interstate highways, or regional shopping centers, that will cause market potential to deviate substantially from actual market conditions. Hence, these tools should be viewed as only one means to examining local retail and service markets.

Still, previous application of these tools in numerous states (e.g., Illinois, Iowa, Maine, Kansas, and North Dakota) suggests that the method provides satisfactory results in most cases. Indeed, many market analysts have found that the simplicity of

the tools is what makes them so appealing: the average community resident can understand the tools, hence are more likely to embrace the results of the analysis. The key terms and basic measures used include:

**REGIONAL PER CAPITA EXPENDITURE RATE**—this rate is defined by dividing the reference region's, usually the state's, actual level of retail sales by the region's population.

**INDEX OF INCOME**—this is a proxy measure for the relative wealth of the community.

It seems reasonable to expect that wealthier communities may have a higher expenditure rate than the regional average. Similarly, poorer regions may have lower expenditure rates. The index of income is a simple measure to adjust local expenditure rates and is simply the ratio of local per capita income to the regional per capita income.

**TRADE AREA CAPTURED**--Trade Area Captured is defined as the number of full-time customer equivalents being serviced in a particular market.

Trade Area Captured is calculated by dividing actual sales by state per capita sales adjusted for income differences as measured by the index of income.

**PULL FACTOR**—the Pull Factor, or index of pulling power, is a proxy measure of the relative strength of the community's retail market.

The Pull Factor is calculated by comparing the Trade Area Captured for the community to its population. Consider a community with a population of 1,000 persons. Suppose that the calculated Trade Area Captured is 1,500 persons. The computed measure of 1,500 indicates that the community's retail and service businesses are effectively servicing 1,500 persons. The Pull Factor is calculated by dividing the Trade Area Captured by the population. In this example, the community has a pull factor of 1.5. Intuitively, this hypothetical community is attracting, or

<sup>1</sup> The data is available via the world wide web at: <http://badger.state.wi.us/agencies/dor/ra/county.html>

<sup>2</sup> For a detailed analysis of all 72 Wisconsin counties see Steven C Deller. 1996. "A Trade Area Analysis of Wisconsin Retail Markets." Department of Agricultural and Applied Economics Staff Paper Series No. 404. University of Wisconsin-Madison. (December). 35p.



pulling 500 persons into its market. These persons may be from surrounding towns, or tourists from greater distances. A Pull Factor less than one indicates the town is losing customers to other retail and service markets

**POTENTIAL SALES**--Potential Sales is an estimate of the sales level that a community should achieve if it were performing on par with a state-wide average, after adjusting for income.

A community's Potential Sales is calculated by multiplying state per capita sales by the community's population and an index of the community's buying power. Here the community's buying power is the ratio of the community's per capita income to the state's per capita income.

**SURPLUS OR LEAKAGE**--By comparing the Potential Sales of the community with the actual sales realized a measure of retail/service Surplus or Leakage can be estimated.

If actual sales is greater than Potential Sales, the community can be said to have a trade Surplus. If Potential Sales is greater than actual sales, the community is said to have a trade Leakage. Alternatively, the Surplus and Leakage measures places a dollar value on the relative size of the Pull Factor where surpluses are associated with Pull Factors greater than one and Leakages are associated with Pull Factors less than one.

### A Numerical Example

To compute *Trade Area Captured*, first determine actual sales within the community, second, determine state per capita sales for the particular business type, third, determine the index of income for the community. For illustrative suppose

1. \$1,000,000 = actual retail sales for eating and drinking establishments,
2. \$750 = state per capita sales for eating/drinking places

3. \$7,500 = community per capita income, and
4. \$10,000 = state per capita income.
5. 2,000 = community population

The Trade Area Captured (TAC) for this hypothetical community is

$$\text{TAC} = \frac{\text{Actual Sales}}{\text{State Per Capita Sales} * \text{Index of income}}$$

or

$$\text{TAC} = \frac{\$1,000,000}{\$750 * (\$7,500 / \$10,000)} = 1,778$$

In this example, the community's eating and drinking establishment market is supporting 1,778 full-time customer equivalents.

To compute the *Pull Factor*, simply divide the community's trade area captured by the community's population. Or

$$\begin{aligned} \text{Pull Factor} &= \frac{\text{Trade Area Captured}}{\text{Community Population}} \\ &= \frac{1,778}{2,000} = 0.889 \end{aligned}$$

For this community, Trade Area Captured is less than the community's population, hence the Pull Factor is less than one, or the restaurant market in this community is losing customers to surrounding markets.

To calculate *Potential Sales* (PS), no additional information is required. Potential Sales is estimated by the formula

$$\text{Potential Sales} = \text{State Per Capita Sales} * \text{Community Population} * \text{Index of Income}$$

or, for this example community

$$\begin{aligned} \text{PS} &= \$750 * 2,000 * (\$7,500 / \$10,000) \\ &= \$1,406,250. \end{aligned}$$

The community's sales *Surplus* or



*Leakage* for the restaurant market is calculated by comparing Potential Sales to actual sales.

$$\begin{aligned}\text{Surplus(Leakage)} &= \text{Actual Sales} - \text{Potential Sales} \\ &= \$1,000,000 - \$1,406,250 \\ &= -\$406,250\end{aligned}$$

Because Potential Sales are greater than actual sales in this example, this community is said to have a \$406,250 Leakage in this retail market. *In other words, the dollar value of the pull factor being less than one is approximately \$406,250.* But, it must be kept in mind that a Pull Factor less (or greater) than one does not necessarily mean that the difference between actual and potential sales will be a negative (positive) estimate. Levels of per capita income can come into play.

By multiplying the ratio of Leakage to Potential Sales by the community's population the Leakage can be expressed in terms of the number of full-time customer equivalents that are being lost. In this example, 578 full-time customer equivalents are being lost (\$406,250/\$1,406,250 times 2,000).

By computing retail and service market strengths (Surpluses) and weaknesses (Leakages) by specific commodity groups, detail market policies can be formulated. For example, Leakage data can be combined market threshold estimates to determine possible areas of market development within specific commodity groups. In our example, the lost customer equivalents of 578 when match to simple threshold estimates for eating and drinking establishments (460 people)<sup>3</sup> suggests that the market "gap" coupled with the potential revenues (\$406,250) may be sufficiently large to justify a local retail development strategy targeting an eating and drinking establishment.

While these tools are relatively simplistic, hence perhaps an over simplification of complex regional markets, the tools of Trade Area Analysis have proven useful on two fronts. First, their wide use in many extension educational programs in numerous states has created a track record of reasonable reliability. Second, and perhaps more importantly, the tools are easily explained to and understood by local business people. Extension educators have found that because local people can grasp the concepts, they are much more likely to "trust" the analysis, hence actually use the information provided. But because the target audience realize the simplicity of the tools, they appreciate that the analysis provides only partial answers to complex questions.

*Naturally, these data are suggestive and should be used simply as a means to point retail and service market development strategies in certain directions. When analyzing local markets one must always question the data and methods being employed. For example, research suggests that for larger urban markets the tools of Trade Area Analysis may be inappropriate. Use alternative types of data and tools of analysis to check and recheck the policy implications. Then challenge the assumptions upon which the analysis is constructed. In our example, is it possible that a neighboring community has a number of restaurants that would pose direct competition? Alternatively, are the existing restaurants in the community not effectively "closing the gap?" In other words, can existing businesses change their mode of operation to recover the observed leakage? Perhaps more directly, do the residents of the community simply prefer not to dine out? Only when questions of this nature have been asked and answered should the community consider moving forward.*

#### Commodity Groups and Data Caveats

For the analysis reported here data form the

<sup>3</sup> See Steven C. Deller and William Ryan, "Retail and Service Demand Thresholds for Wisconsin," Center for Community Economic Development Staff Paper 96.1 (April, 1996) University of Wisconsin-Extension.



Wisconsin county sales tax receipts are employed. The Wisconsin Department of Revenue reports county level sales for fourteen different types of retail and service based store type, in addition to total retail sales and total taxable service sales. These categories include:

1. Building Materials and Hardware Stores
2. General Merchandise Stores
3. Food Stores
4. Auto Dealers and Service Stations
5. Apparel and Accessory Stores
6. Furniture and Home Furnishing Stores
7. Eating and Drinking Establishments
8. Miscellaneous Retail Stores
9. Lodging Establishments
10. Personal Services
11. Business Services
12. Automotive and Miscellaneous Services
13. Amusement, Movies and Recreational
14. Other Services

It is important to note that the Wisconsin Department of Revenue observes that nearly one-third of all filers and about three-fifths of filers in retail trade are classified as Miscellaneous Retail. This category includes all specialty stores such as book stores, jewelry stores, and sporting good stores, among others.

Caution should be exercised in using the data as a measure of economic activity for a particular business code for the following reasons.

Since a multi-sector business is assigned the business category corresponding to its major activity, receipts for that activity may be overstated in the report, and receipts for its other activities understated. For example, automotive dealers and gasoline service stations are classified separately from and automotive repair, services, and parking. If an automotive dealer also repairs and services cars, taxable receipts from the repair and servicing operations will be included under thus overstating receipts for automotive dealers and gasoline service stations and understating receipts for automotive repair, services, and parking.

"Taxable receipts" upon which the analysis is based, captures only part of total

economic activity. Many sales are exempt either because the good or service sold is not taxable (e.g., food, prescription drugs, haircuts) or sales to the buyer are not subject to tax (e.g., sales to religious organizations, schools, units of government). In addition businesses that do not sell taxable goods and services are not required to file sales tax returns. Businesses that do file may not report gross receipts for sales that are not taxable. For example, a pharmacy in a clinic may sell only goods that are not taxable, and so would not file a sales tax return. In contrast, a pharmacy that has taxable sales may report its gross receipts from both taxable and non-taxable sales or may report only its gross receipts from taxable sales.

Therefore, while the county sales tax data represents the best measure of actual sales, it is not without its limitations.

### An Analysis of Wisconsin Counties

A detailed analysis of county level retail sales for the 48 Wisconsin counties which impose a county option sales tax is provided in a set of appendices to this report. Attention is limited to data for 1996. ***A more detailed historical analysis of individual counties is available from the author.***<sup>4</sup> Three specific measures of Trade Area Analysis are presented: pull factors, potential sales, and surplus/leakage.

### Issues to Consider in Interpretation

In addition to the direct use of these tools for small business development, such as the eating and drinking establishment case outlined in the numerical example above, strengths and/or weaknesses in certain commodity groups can point to the underlying structure of local markets. For

<sup>4</sup> Customized Trade Area Analysis packages for individual counties can be requested from the author. This customized study provides a historical analysis of retail sales for each of the ten individual commodity groups for the years 1969 to 1996. The analysis is presented graphically and focuses on trends in retail employment and income, per capital sales in constant dollars, and a presentation of historical pull factors. Each target county is compared to three similar counties. This program, however, does not use the county sales tax data, but rather historical data from Woods and Poole, Inc.



example, strength in eating and drink places as well as miscellaneous retail and to some extent service stations often point to strong tourist economies. Areas with strong sales in building materials can point to areas experiencing overall growth as measured through strong construction activities.

Thus, certain commodity groups can be used as indicators of particular sectors of the economy beyond the broad retail markets.

When interpreting these estimates of market strengths and weaknesses one must keep in mind the nature of the particular commodity group. Some goods are often labeled "convenient" because of the frequency in purchasing patterns. These goods, like milk and bread, gasoline, and hardware items, are purchased on such a regular basis that people will tend to make their purchases as close to their residents as possible. People are usually unwilling to travel great distances to purchase convenient goods. Hence, nearly every community has a grocery store, hardware store, gasoline station, and restaurant. For these categories, one would generally expect the pull factor to be close to one indicating that local businesses are satisfying local demands. Weak performance in these types of commodity groups generally point to opportunities while strengths may indicate a strong tourism sector. Generally, those commodity groups with low population threshold estimates are considered convenient goods.

Conversely, larger ticket items that are purchased on a much less frequent basis, such as furniture and automobiles, people are often willing to travel great distances in pursuit of a "good deal" or just the right item. Note that in casual observation, car dealership, appliance stores, furniture stores tend to cluster together in larger urban markets. If one again considers threshold estimates, these types of goods generally require much larger market populations to support a particular business.

### The Wisconsin Analysis

As noted above the results of the analysis of the 1996 data are reported in a set of appendices to this report. The state-wide per capita expenditure rates that are used are as follows:

	State Per Capita Sales
<b>Retail:</b>	
Building Materials, Hardware	\$619.96
General Merchandise	\$973.62
Food Stores	\$481.37
Auto Dealers and Gasoline	\$1,387.05
Apparel and Accessories	\$301.25
Furniture and Home Furnishings	\$393.06
Eating and Drinking Places	\$800.09
Miscellaneous Retail	\$1,275.83
Total Retail Trade	\$6,232.23
<b>Services:</b>	
Lodging Facilities	\$181.10
Personal Services	\$86.18
Business Services	\$320.46
Automotive and Miscellaneous Repair	\$370.93
Motion Pictures and Amusements	\$153.53
Other Services	\$204.97
Total Service	\$1,317.18

The complete results of the analysis are provided in appendix tables to this report. Clearly, a detailed explanation of the analysis county-by-county and sector-by-sector is beyond the scope of this report. Some highlights and potential insights into interpretation of results are provided.

In terms of total retail sales, many of the larger urban retail hubs become apparent. First, Dane County, and in particular Madison, appears to be performing strongly across all retail sectors. This reflects the fact that Madison serves as a regional hub for a large part of the southern and western parts of Wisconsin. In addition, the University of Wisconsin-Madison presents huge injections of money into the local retail market. Door County also represents a strong retail market. This reflects the large tourism industry in the County. The latter observation is reinforced when one focuses on the performance of the restaurant and lodging sectors. For the



latter the Pull Factor of 9.25 is particularly large and the computed Surplus of almost \$45 million drives much of the local economy.

When comparisons between the computed Pull Factor and the measure of Surplus/Leakage, the data generally coincide. Specifically, Pull Factors less than one are associated with Leakages while Pull Factors greater than one are associated with Surpluses. There are, however, some instances when the Pull Factor and computed measures of Surplus and Leakage appear to contradict. Adams County is an example of a county where such inconsistencies appear to exist.

In these cases one must pay particular attention to the level of income within the county. Generally speaking, care must be taken when interpreting results for smaller, poorer markets that are "thinner" than surrounding markets. Counties with particularly low populations and low Indexes of Income (i.e., low per capita income levels), the estimated Potential Sales may be overly conservative, thus inflating measures of Surplus and Leakages.

### Summary and Conclusions

The development of the local retail and service markets should be part of any comprehensive economic development initiative. As an initial step in that process it is important to establish a baseline of data describing the local market. This baseline of data can serve as either a response to a specific request for information (e.g., the retail redevelopment effort is underway and is in need of more specific information) or as a stimulus to spur on a development process. One set of tools that have proven useful in such an analysis are the tools of Trade Area Analysis. In this paper I have attempted to lay out those tools and provide a partial analysis of the local retail and service markets for the counties of Wisconsin. Using sales data from the county option sales tax, estimates of Pull Factors, Potential Sales, and Surplus and/or Leakage are provided. While this analysis can serve as a starting point in analyzing local retail markets, it should be viewed as introductory.

Naturally, the results of a Trade Area Analysis study should not be taken as the end product of the retail market development process. Rather it should be viewed as the first preliminary step in a much larger educational effort.

### Additional Readings

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Hustedde, R., R. Shaffer and G. Pulver, Community Economic Analysis, North Central Regional Center for Rural Development: Ames, Iowa. 1984.

In addition, the Center for Community Economic Development, University of Wisconsin-Madison/Extension, has a series of publications focusing on market and business analysis. The Center staff can be reached at CCED 1327 University Ave, Madison, WI 53606 or via the world wide web at: <http://www.uwex.edu/ces/cced/>



Pull Factors (1996)									
County	Building Materials	General Merch..	Food stores	Auto Dealers & Service St.	Apparel & Accessory	Furniture & Home Furnishing	Eating & Drinking Places	Misc. Retail Stores	Total Retail Trade
Adams	0.39	0.19	0.50	0.59	0.08	0.14	0.40	0.45	0.97
Ashland	1.12	1.28	0.58	0.67	0.36	0.35	0.94	0.57	0.78
Barron	1.10	1.76	0.79	0.83	0.33	0.39	0.90	0.65	0.92
Bayfield	0.70	0.02	0.42	0.60	0.03	0.09	0.70	0.44	0.43
Buffalo	0.58	0.13	0.60	0.55	0.04	0.18	0.66	0.38	0.42
Burnett	0.97	0.10	0.56	0.58	0.08	0.14	0.54	0.44	0.45
Chippewa	0.94	0.91	0.71	0.87	0.31	0.24	0.69	0.55	0.71
Columbia	0.92	0.61	0.82	1.13	0.44	0.58	0.88	0.58	0.79
Crawford	0.74	1.20	1.02	0.72	0.78	0.31	0.68	0.65	0.78
Dane	1.74	1.25	1.36	1.19	2.03	2.13	1.48	1.71	1.51
Dodge	0.59	0.70	0.63	0.86	0.22	0.31	0.56	0.44	0.60
Door	1.64	1.10	1.34	1.33	1.26	0.70	1.76	1.29	1.33
Douglas	0.68	0.69	0.49	0.84	0.09	0.32	1.20	0.68	0.72
Dunn	1.11	0.66	0.61	0.63	0.13	0.24	0.57	0.35	0.57
Forest	1.13	0.02	0.23	0.61	0.01	0.22	0.52	0.27	0.41
Iowa	1.16	0.43	0.71	0.76	0.77	0.55	0.54	0.67	0.69
Iron	0.94	0.06	1.14	0.49	0.02	0.20	1.41	0.63	0.62
Jackson	0.69	0.78	0.78	0.76	0.10	0.12	0.88	0.38	0.62
Jefferson	0.73	0.82	0.91	0.86	0.21	0.55	0.92	0.55	0.74
Juneau	0.57	0.50	0.90	0.88	0.13	0.31	0.67	0.43	0.60
Kenosha	0.47	0.70	0.87	0.77	2.02	0.76	0.96	0.84	0.83
La Crosse	1.65	1.83	1.60	0.91	0.98	1.64	1.22	1.32	1.35
Langlade	0.68	1.38	0.80	0.86	0.20	0.43	0.84	0.44	0.77
Lincoln	0.69	0.61	0.74	0.90	0.31	0.47	0.71	0.58	0.68
Marathon	1.27	1.42	0.89	0.94	1.03	1.07	0.87	0.91	1.04
Marquette	0.51	0.10	0.64	0.76	0.10	0.45	0.97	0.49	0.54
Milwaukee	0.64	0.80	1.08	0.93	1.95	1.37	1.20	1.32	1.08
Monroe	0.82	0.71	0.88	0.74	0.22	0.23	0.73	0.41	0.63
Oconto	0.69	0.05	0.50	0.75	0.03	0.24	0.52	0.26	0.42

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
Computations by the author, University of Wisconsin-Madison/Extension



Pull Factors (1996)									
County	Building Materials	General Merch..	Food stores	Auto Dealers & Service St.	Apparel & Accessory	Furniture & Home Furnishing	Eating & Drinking Places	Misc. Retail Stores	Total Retail Trade
Oneida	1.38	1.57	1.34	1.49	0.59	0.80	1.42	1.00	1.28
Ozaukee	1.25	1.13	1.39	1.72	1.10	1.68	1.37	1.15	1.36
Pepin	0.85	0.37	0.61	0.90	0.05	0.19	0.68	0.56	0.61
Pierce	0.49	0.07	0.66	0.63	0.09	0.27	0.70	0.34	0.43
Polk	1.07	0.48	0.58	0.71	0.09	0.36	0.63	0.45	0.58
Portage	1.17	0.84	0.90	0.86	0.46	0.76	0.84	1.07	0.91
Price	0.82	0.37	0.52	0.89	0.11	0.20	0.59	0.39	0.55
Richland	0.41	1.06	0.63	0.71	0.20	0.47	0.45	0.41	0.60
Rusk	1.02	0.34	0.35	0.58	0.07	0.05	0.48	0.23	0.43
St. Croix	2.46	0.98	0.98	1.05	0.15	0.42	1.08	0.76	1.04
Sauk	1.91	0.92	1.10	1.07	0.49	0.60	1.54	0.78	1.08
Sawyer	1.38	0.76	0.72	0.89	0.37	0.52	0.93	0.57	0.80
Shawano	0.68	0.62	0.56	0.67	0.14	0.29	0.54	0.30	0.51
Trempealeau	0.87	0.10	0.71	0.78	0.10	0.17	0.58	0.51	0.53
Vilas	1.50	0.33	1.23	1.17	0.21	0.92	1.32	0.93	0.98
Walworth	1.20	0.98	0.80	1.05	0.37	0.64	1.36	0.85	0.98
Washburn	0.86	0.63	0.63	0.87	0.19	0.41	0.71	0.66	0.69
Waupaca	1.15	0.69	0.87	0.94	0.24	0.60	0.82	0.56	0.77
Waushara	0.61	0.21	0.68	0.84	0.04	0.35	0.59	0.37	0.51

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
 Computations by the author, University of Wisconsin-Madison/Extension



Pull Factor (1996)							
County	Lodging	Personal Services	Business Services	Automotive and Misc. Services	Amusement Movie, & Recreation	Other Services	Total Services
Adams	1.48	0.29	0.21	0.88	0.76	0.12	0.63
Ashland	0.93	0.83	0.32	0.35	0.71	0.70	0.55
Barron	0.61	0.54	0.36	0.70	0.44	0.56	0.54
Bayfield	3.59	0.62	0.39	0.52	0.26	0.34	0.86
Buffalo	0.13	0.56	0.32	0.50	0.43	0.45	0.39
Burnett	0.86	0.35	0.21	0.54	0.48	0.36	0.46
Chippewa	0.39	0.72	1.34	0.79	0.58	0.43	0.78
Columbia	0.88	0.71	0.61	1.00	0.67	0.78	0.80
Crawford	1.19	0.43	0.48	0.84	0.62	0.41	0.68
Dane	1.42	1.48	1.95	1.39	1.05	2.64	1.69
Dodge	0.23	0.57	0.47	0.59	0.84	0.34	0.50
Door	9.25	1.89	1.11	0.81	1.59	1.56	2.32
Douglas	0.76	0.37	0.60	0.61	0.42	0.53	0.58
Dunn	0.47	0.45	0.47	0.58	0.30	0.57	0.50
Forest	0.41	0.08	0.25	0.25	0.26	0.19	0.25
Iowa	0.74	0.19	0.44	0.59	2.64	0.39	0.76
Iron	2.44	0.18	0.86	0.22	1.66	0.25	0.85
Jackson	0.79	0.30	0.82	0.58	0.47	0.61	0.64
Jefferson	0.30	0.73	0.63	0.89	0.55	0.65	0.66
Juneau	1.03	0.34	0.31	0.70	0.41	0.31	0.53
Kenosha	0.31	0.67	0.67	0.79	1.15	0.73	0.72
La Crosse	1.28	1.01	1.00	1.10	0.91	0.84	1.03
Langlade	0.39	0.48	0.45	0.71	0.39	0.35	0.50
Lincoln	0.42	0.51	0.43	0.68	0.59	0.38	0.52
Marathon	0.55	0.94	1.04	1.18	0.82	1.05	0.98
Marquette	1.25	0.65	0.52	0.80	0.53	0.70	0.74
Milwaukee	0.89	1.34	1.70	1.26	1.23	1.49	1.35
Monroe	0.78	0.50	0.40	0.54	0.42	0.35	0.49
Oconto	0.38	0.17	0.22	0.56	0.45	0.21	0.36
Oneida	2.92	0.72	1.21	1.72	1.32	0.90	1.52
Ozaukee	0.72	2.10	1.54	1.53	2.43	1.48	1.55
Pepin	0.15	0.49	0.54	0.51	0.87	0.19	0.46
Pierce	0.11	0.44	0.42	0.48	0.66	0.37	0.42
Polk	0.35	0.76	0.40	0.49	0.76	0.38	0.48
Portage	1.11	0.61	0.67	0.84	0.69	0.89	0.81
Price	0.95	0.35	0.54	0.60	0.29	0.77	0.61
Richland	0.34	0.26	0.21	0.41	0.24	0.26	0.30
Rusk	0.49	0.27	0.23	0.41	0.18	0.26	0.32
St. Croix	0.80	0.82	0.49	1.03	1.13	0.60	0.80
Sauk	4.76	0.69	1.56	0.80	3.86	1.05	1.92
Sawyer	3.58	0.38	0.39	0.52	1.21	0.57	0.99
Shawano	0.54	0.31	0.22	0.39	0.52	0.21	0.35
Trempealeau	0.18	0.43	0.52	0.60	0.34	0.15	0.41
Vilas	5.51	0.85	0.63	0.71	1.23	0.47	1.38
Walworth	3.71	0.88	1.03	0.72	2.03	1.15	1.43
Washburn	0.74	0.70	0.32	0.55	0.58	0.45	0.52
Waupaca	0.59	0.88	0.48	0.72	0.60	0.31	0.58
Waushara	0.85	0.33	0.35	0.58	0.49	0.29	0.49

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
Computations by the author, University of Wisconsin-Madison/Extension



Potential Sales (1996)									
County	Building Materials	General Merch..	Food stores	Auto Dealers & Service St.	Apparel & Accessory	Furniture & Home Furnishing	Eating & Drinking Places	Misc. Retail Stores	Total Retail Trade
Adams	\$6,942,515	\$10,902,836	\$5,390,557	\$15,532,628	\$3,373,445	\$4,401,563	\$8,959,627	\$14,287,149	\$69,790,320
Ashland	\$8,020,822	\$12,596,256	\$6,227,814	\$17,945,145	\$3,897,406	\$5,085,211	\$10,351,229	\$16,506,218	\$80,630,101
Barron	\$21,272,204	\$33,406,817	\$16,516,927	\$47,592,726	\$10,336,399	\$13,486,604	\$27,452,731	\$43,776,517	\$213,840,925
Bayfield	\$7,065,658	\$11,096,224	\$5,486,171	\$15,808,137	\$3,433,281	\$4,479,636	\$9,118,548	\$14,540,566	\$71,028,222
Buffalo	\$7,771,249	\$12,204,315	\$6,034,032	\$17,386,770	\$3,776,136	\$4,926,981	\$10,029,144	\$15,992,617	\$78,121,244
Burnett	\$5,956,670	\$9,354,619	\$4,625,091	\$13,326,976	\$2,894,412	\$3,776,536	\$7,687,349	\$12,258,356	\$59,880,008
Chippewa	\$28,535,387	\$44,813,244	\$22,156,468	\$63,842,792	\$13,865,661	\$18,091,471	\$36,826,195	\$58,723,575	\$286,854,793
Columbia	\$26,854,891	\$42,174,118	\$20,851,637	\$60,082,983	\$13,049,089	\$17,026,034	\$34,657,439	\$55,265,246	\$269,961,437
Crawford	\$7,758,084	\$12,183,641	\$6,023,810	\$17,357,317	\$3,769,739	\$4,918,635	\$10,012,155	\$15,965,525	\$77,988,907
Dane	\$282,429,978	\$443,540,630	\$219,294,410	\$631,886,232	\$137,235,857	\$179,060,960	\$364,488,532	\$581,218,612	\$2,839,155,210
Dodge	\$41,139,293	\$64,606,980	\$31,942,845	\$92,041,762	\$19,990,038	\$26,082,363	\$53,092,100	\$84,661,419	\$413,556,802
Door	\$15,449,757	\$24,262,987	\$11,996,054	\$34,566,049	\$7,507,208	\$9,795,165	\$19,938,603	\$31,794,380	\$155,310,202
Douglas	\$21,475,336	\$33,725,825	\$16,674,650	\$48,047,198	\$10,435,104	\$13,615,390	\$27,714,882	\$44,194,547	\$215,882,932
Dunn	\$18,023,184	\$28,304,412	\$13,994,207	\$40,323,630	\$8,757,665	\$11,426,721	\$23,259,726	\$37,090,291	\$181,179,838
Forest	\$3,907,961	\$6,137,236	\$3,034,359	\$8,743,359	\$1,898,922	\$2,477,652	\$5,043,399	\$8,042,276	\$39,285,164
Iowa	\$10,692,193	\$16,791,497	\$8,302,016	\$23,921,857	\$5,195,455	\$6,778,864	\$13,798,754	\$22,003,690	\$107,484,324
Iron	\$3,119,027	\$4,898,259	\$2,421,787	\$6,978,261	\$1,515,570	\$1,977,467	\$4,025,244	\$6,418,711	\$31,354,325
Jackson	\$8,432,610	\$13,242,947	\$6,547,549	\$18,866,447	\$4,097,499	\$5,346,285	\$10,882,661	\$17,353,646	\$84,769,644
Jefferson	\$40,747,737	\$63,992,062	\$31,638,819	\$91,165,725	\$19,799,777	\$25,834,116	\$52,586,779	\$83,855,627	\$409,620,642
Juneau	\$10,958,420	\$17,209,592	\$8,508,730	\$24,517,492	\$5,324,818	\$6,947,652	\$14,142,332	\$22,551,564	\$110,160,600
Kenosha	\$81,310,522	\$127,693,668	\$63,134,031	\$181,917,654	\$39,509,684	\$51,550,973	\$104,934,869	\$167,330,638	\$817,382,038
La Crosse	\$61,248,024	\$96,186,627	\$47,556,387	\$137,031,427	\$29,761,094	\$38,831,324	\$79,043,317	\$126,043,601	\$615,701,800
Langlade	\$9,843,778	\$15,459,107	\$7,643,259	\$22,023,680	\$4,783,201	\$6,240,967	\$12,703,836	\$20,257,718	\$98,955,544
Lincoln	\$14,290,435	\$22,442,336	\$11,095,892	\$31,972,275	\$6,943,881	\$9,060,153	\$18,442,446	\$29,408,587	\$143,656,004
Marathon	\$72,133,556	\$113,281,752	\$56,008,522	\$161,385,845	\$35,050,494	\$45,732,765	\$93,091,583	\$148,445,166	\$725,129,682
Marquette	\$6,276,586	\$9,857,030	\$4,873,492	\$14,042,730	\$3,049,863	\$3,979,363	\$8,100,215	\$12,916,718	\$63,095,996
Milwaukee	\$618,474,094	\$971,279,291	\$480,217,831	\$1,383,724,444	\$300,523,417	\$392,113,350	\$798,168,508	\$1,272,770,889	\$6,217,271,825
Monroe	\$18,236,804	\$28,639,890	\$14,160,073	\$40,801,566	\$8,861,465	\$11,562,157	\$23,535,412	\$37,529,904	\$183,327,273
Oconto	\$14,678,780	\$23,052,210	\$11,397,424	\$32,841,127	\$7,132,582	\$9,306,365	\$18,943,622	\$30,207,770	\$147,559,881
Oneida	\$20,204,159	\$31,729,512	\$15,687,638	\$45,203,169	\$9,817,425	\$12,809,462	\$26,074,372	\$41,578,565	\$203,104,302
Ozaukee	\$70,657,230	\$110,963,265	\$54,862,220	\$158,082,833	\$34,333,131	\$44,796,773	\$91,186,319	\$145,407,005	\$710,288,777
Pepin	\$3,488,295	\$5,478,174	\$2,708,507	\$7,804,432	\$1,695,001	\$2,211,583	\$4,501,801	\$7,178,636	\$35,066,431

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
Computations by the author, University of Wisconsin-Madison/Extension



Potential Sales (1996)									
County	Building Materials	General Merch..	Food stores	Auto Dealers & Service St.	Apparel & Accessory	Furniture & Home Furnishing	Eating & Drinking Places	Misc. Retail Stores	Total Retail Trade
Pierce	\$18,651,351	\$29,290,913	\$14,481,951	\$41,729,040	\$9,062,898	\$11,824,980	\$24,070,403	\$38,383,009	\$187,494,544
Polk	\$18,798,014	\$29,521,239	\$14,595,828	\$42,057,172	\$9,134,163	\$11,917,964	\$24,259,678	\$38,684,829	\$188,968,887
Portage	\$35,289,322	\$55,419,924	\$27,400,600	\$78,953,504	\$17,147,473	\$22,373,474	\$45,542,450	\$72,622,640	\$354,749,387
Price	\$8,495,570	\$13,341,822	\$6,596,435	\$19,007,309	\$4,128,092	\$5,386,202	\$10,963,914	\$17,483,213	\$85,402,557
Richland	\$8,410,625	\$13,208,420	\$6,530,479	\$18,817,259	\$4,086,816	\$5,332,347	\$10,854,288	\$17,308,402	\$84,548,634
Rusk	\$6,213,374	\$9,757,760	\$4,824,411	\$13,901,306	\$3,019,147	\$3,939,287	\$8,018,638	\$12,786,634	\$62,460,556
St. Croix	\$36,132,287	\$56,743,755	\$28,055,126	\$80,839,488	\$17,557,079	\$22,907,915	\$46,630,334	\$74,357,397	\$363,223,382
Sauk	\$29,501,358	\$46,330,249	\$22,906,502	\$66,003,978	\$14,335,037	\$18,703,898	\$38,072,824	\$60,711,468	\$296,565,315
Sawyer	\$6,957,453	\$10,926,294	\$5,402,155	\$15,566,048	\$3,380,703	\$4,411,034	\$8,978,904	\$14,317,889	\$69,940,479
Shawano	\$19,479,466	\$30,591,422	\$15,124,946	\$43,581,799	\$9,465,289	\$12,350,006	\$25,139,123	\$40,087,205	\$195,819,256
Trempealeau	\$13,108,826	\$20,586,685	\$10,178,425	\$29,328,638	\$6,369,724	\$8,311,012	\$16,917,527	\$26,976,930	\$131,777,767
Vilas	\$10,153,411	\$15,945,369	\$7,883,675	\$22,716,429	\$4,933,655	\$6,437,275	\$13,103,431	\$20,894,918	\$102,068,163
Walworth	\$48,463,330	\$76,108,974	\$37,629,637	\$108,427,977	\$23,548,869	\$30,725,812	\$62,544,097	\$99,733,710	\$487,182,407
Washburn	\$6,821,111	\$10,712,177	\$5,296,292	\$15,261,008	\$3,314,454	\$4,324,593	\$8,802,949	\$14,037,309	\$68,569,892
Waupaca	\$28,317,040	\$44,470,342	\$21,986,932	\$63,354,280	\$13,759,564	\$17,953,039	\$36,544,408	\$58,274,235	\$284,659,840
Waushara	\$10,012,858	\$15,724,639	\$7,774,542	\$22,401,968	\$4,865,359	\$6,348,165	\$12,922,042	\$20,605,672	\$100,655,244

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
Computations by the author, University of Wisconsin-Madison/Extension



Potential Sales (1996)							
County	Lodging	Personal Services	Business Services	Automotive and Misc. Services	Amusement, Movie, & Recreation	Other services	Total Services
Adams	\$2,027,980	\$965,084	\$3,588,633	\$4,153,772	\$1,719,327	\$2,295,334	\$14,750,128
Ashland	\$2,342,964	\$1,114,980	\$4,146,016	\$4,798,932	\$1,986,371	\$2,651,843	\$17,041,107
Barron	\$6,213,828	\$2,957,063	\$10,995,745	\$12,727,358	\$5,268,101	\$7,033,014	\$45,195,108
Bayfield	\$2,063,951	\$982,202	\$3,652,286	\$4,227,449	\$1,749,823	\$2,336,047	\$15,011,758
Buffalo	\$2,270,061	\$1,080,286	\$4,017,010	\$4,649,611	\$1,924,564	\$2,569,330	\$16,510,862
Burnett	\$1,740,004	\$828,040	\$3,079,042	\$3,563,931	\$1,475,180	\$1,969,394	\$12,655,592
Chippewa	\$8,335,478	\$3,966,723	\$14,750,133	\$17,072,988	\$7,066,841	\$9,434,367	\$60,626,530
Columbia	\$7,844,588	\$3,733,116	\$13,881,473	\$16,067,532	\$6,650,663	\$8,878,762	\$57,056,133
Crawford	\$2,266,216	\$1,078,456	\$4,010,206	\$4,641,734	\$1,921,304	\$2,564,977	\$16,482,893
Dane	\$82,500,679	\$39,260,773	\$145,989,948	\$168,980,491	\$69,944,306	\$93,376,975	\$600,053,172
Dodge	\$12,017,207	\$5,718,800	\$21,265,176	\$24,614,023	\$10,188,222	\$13,601,469	\$87,404,898
Door	\$4,513,032	\$2,147,681	\$7,986,083	\$9,243,734	\$3,826,161	\$5,107,997	\$32,824,686
Douglas	\$6,273,165	\$2,985,300	\$11,100,745	\$12,848,894	\$5,318,407	\$7,100,174	\$45,626,684
Dunn	\$5,264,756	\$2,505,414	\$9,316,305	\$10,783,439	\$4,463,475	\$5,958,824	\$38,292,213
Forest	\$1,141,555	\$543,248	\$2,020,051	\$2,338,170	\$967,814	\$1,292,050	\$8,302,888
Iowa	\$3,123,299	\$1,486,329	\$5,526,866	\$6,397,239	\$2,647,941	\$3,535,052	\$22,716,726
Iron	\$911,100	\$433,578	\$1,612,246	\$1,866,143	\$772,433	\$1,031,212	\$6,626,711
Jackson	\$2,463,251	\$1,172,223	\$4,358,873	\$5,045,309	\$2,088,351	\$2,787,989	\$17,915,996
Jefferson	\$11,902,830	\$5,664,369	\$21,062,778	\$24,379,751	\$10,091,252	\$13,472,013	\$86,572,993
Juneau	\$3,201,066	\$1,523,337	\$5,664,481	\$6,556,525	\$2,713,873	\$3,623,072	\$23,282,354
Kenosha	\$23,751,633	\$11,303,028	\$42,029,953	\$48,648,844	\$20,136,701	\$26,882,878	\$172,753,037
La Crosse	\$17,891,173	\$8,514,127	\$31,659,514	\$36,645,264	\$15,168,186	\$20,249,816	\$130,128,081
Langlade	\$2,875,468	\$1,368,390	\$5,088,315	\$5,889,624	\$2,437,830	\$3,254,549	\$20,914,175
Lincoln	\$4,174,382	\$1,986,523	\$7,386,821	\$8,550,100	\$3,539,053	\$4,724,702	\$30,361,581
Marathon	\$21,070,948	\$10,027,332	\$37,286,318	\$43,158,179	\$17,864,008	\$23,848,790	\$153,255,576
Marquette	\$1,833,455	\$872,512	\$3,244,409	\$3,755,340	\$1,554,408	\$2,075,164	\$13,335,288
Milwaukee	\$180,662,595	\$85,974,483	\$319,693,403	\$370,038,821	\$153,166,252	\$204,479,851	\$1,314,015,404
Monroe	\$5,327,157	\$2,535,110	\$9,426,726	\$10,911,250	\$4,516,378	\$6,029,451	\$38,746,072
Oconto	\$4,287,821	\$2,040,507	\$7,587,560	\$8,782,451	\$3,635,227	\$4,853,097	\$31,186,662
Oneida	\$5,901,841	\$2,808,593	\$10,443,665	\$12,088,337	\$5,003,597	\$6,679,897	\$42,925,931
Ozaukee	\$20,639,698	\$9,822,107	\$36,523,196	\$42,274,880	\$17,498,394	\$23,360,687	\$150,118,962
Pepin	\$1,018,967	\$484,910	\$1,803,123	\$2,087,080	\$863,883	\$1,153,300	\$7,411,262
Pierce	\$5,448,250	\$2,592,736	\$9,641,008	\$11,159,277	\$4,619,042	\$6,166,508	\$39,626,821
Polk	\$5,491,092	\$2,613,124	\$9,716,819	\$11,247,027	\$4,655,363	\$6,214,998	\$39,938,423
Portage	\$10,308,371	\$4,905,591	\$18,241,287	\$21,113,930	\$8,739,466	\$11,667,352	\$74,975,998
Price	\$2,481,643	\$1,180,975	\$4,391,417	\$5,082,979	\$2,103,944	\$2,808,805	\$18,049,762
Richland	\$2,456,829	\$1,169,166	\$4,347,508	\$5,032,155	\$2,082,907	\$2,780,720	\$17,869,286
Rusk	\$1,814,990	\$863,725	\$3,211,735	\$3,717,520	\$1,538,754	\$2,054,265	\$13,200,988
St. Croix	\$10,554,610	\$5,022,773	\$18,677,021	\$21,618,285	\$8,948,228	\$11,946,054	\$76,766,970
Sauk	\$8,617,648	\$4,101,003	\$15,249,450	\$17,650,938	\$7,306,066	\$9,753,737	\$62,678,841
Sawyer	\$2,032,343	\$967,160	\$3,596,354	\$4,162,709	\$1,723,026	\$2,300,272	\$14,781,864
Shawano	\$5,690,151	\$2,707,853	\$10,069,067	\$11,654,746	\$4,824,126	\$6,440,299	\$41,386,242
Trempealeau	\$3,829,222	\$1,822,266	\$6,776,040	\$7,843,133	\$3,246,425	\$4,334,039	\$27,851,125
Vilas	\$2,965,915	\$1,411,432	\$5,248,366	\$6,074,880	\$2,514,511	\$3,356,920	\$21,572,024
Walworth	\$14,156,633	\$6,736,919	\$25,051,020	\$28,996,063	\$12,002,033	\$16,022,942	\$102,965,610
Washburn	\$1,992,516	\$948,207	\$3,525,878	\$4,081,134	\$1,689,261	\$2,255,195	\$14,492,192
Waupaca	\$8,271,696	\$3,936,370	\$14,637,268	\$16,942,349	\$7,012,767	\$9,362,177	\$60,162,628
Waushara	\$2,924,858	\$1,391,894	\$5,175,713	\$5,990,786	\$2,479,703	\$3,310,450	\$21,273,405

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
Computations by the author, University of Wisconsin-Madison/Extension



## Surplus/Leakage (1996)

County	Building Materials	General Merch...	Food stores	Auto Dealers & Service St.	Apparel & Accessory	Furniture & Home Furnishing	Eating & Drinking Places	Misc. Retail Stores	Total Retail Trade
Adams	(\$281,753)	(\$5,821,540)	\$1,225,443	\$7,112,550	(\$2,716,853)	(\$2,906,211)	(\$70,383)	\$1,488,113	(\$1,970,634)
Ashland	\$6,463,756	\$13,481,984	(\$436,452)	\$1,390,257	(\$1,619,682)	(\$2,212,689)	\$5,382,235	(\$1,305,590)	\$21,143,819
Barron	\$15,493,432	\$58,927,753	\$3,854,845	\$14,613,928	(\$5,059,673)	(\$5,343,880)	\$11,067,985	\$947,299	\$94,501,689
Bayfield	\$1,662,368	(\$10,728,958)	(\$1,406,565)	\$814,959	(\$3,260,247)	(\$3,781,996)	\$2,018,588	(\$3,269,670)	(\$17,951,522)
Buffalo	(\$2,105,483)	(\$10,250,395)	(\$1,502,690)	(\$5,424,398)	(\$3,589,784)	(\$3,826,889)	(\$1,736,654)	(\$8,291,179)	(\$36,727,472)
Burnett	\$6,983,306	(\$7,272,919)	\$1,183,859	\$3,888,292	(\$2,407,468)	(\$2,602,768)	\$1,695,755	(\$263,004)	\$1,205,054
Chippewa	\$8,765,753	\$12,409,702	(\$258,498)	\$13,366,152	(\$7,802,815)	(\$11,913,845)	(\$1,341,103)	(\$13,978,039)	(\$752,693)
Columbia	\$5,275,973	(\$8,685,384)	\$1,341,913	\$28,323,375	(\$5,629,049)	(\$4,232,090)	\$5,023,013	(\$13,260,742)	\$8,157,009
Crawford	\$2,430,614	\$13,638,781	\$4,857,506	\$4,614,107	\$1,402,849	(\$2,202,467)	\$1,989,271	\$2,323,255	\$29,053,915
Dane	\$93,027,192	(\$20,310,386)	\$8,827,146	(\$55,047,222)	\$75,606,283	\$113,314,862	\$49,599,504	\$180,383,044	\$445,400,424
Dodge	(\$6,216,907)	\$658,362	(\$2,765,551)	\$22,051,054	(\$13,571,462)	(\$14,292,427)	(\$10,390,452)	(\$30,523,561)	(\$55,050,946)
Door	\$14,404,849	\$7,192,979	\$6,981,512	\$19,694,473	\$3,637,228	(\$1,733,073)	\$21,602,473	\$16,706,862	\$88,487,304
Douglas	\$958,312	\$1,866,885	(\$4,302,524)	\$13,418,830	(\$9,053,586)	(\$7,037,414)	\$23,164,714	\$1,921,347	\$20,936,564
Dunn	\$17,555,752	\$4,647,528	\$1,115,471	\$4,513,504	(\$6,761,897)	(\$6,533,877)	\$85,030	(\$14,134,307)	\$487,202
Forest	\$5,975,091	(\$5,851,314)	(\$1,482,669)	\$3,251,351	(\$1,865,684)	(\$1,273,094)	\$812,933	(\$3,152,750)	(\$3,586,136)
Iowa	\$9,266,271	(\$5,142,299)	\$1,150,122	\$5,201,893	\$1,276,445	(\$739,070)	(\$1,732,332)	\$1,763,164	\$11,044,196
Iron	\$1,752,063	(\$4,377,433)	\$2,185,101	(\$1,278,829)	(\$1,468,816)	(\$1,321,157)	\$5,461,270	\$311,479	\$1,263,679
Jackson	\$982,310	\$3,465,561	\$1,671,181	\$4,155,161	(\$3,425,919)	(\$4,289,127)	\$4,666,637	(\$6,584,288)	\$641,516
Jefferson	(\$3,695,975)	\$967,486	\$4,212,493	\$6,405,771	(\$14,682,653)	(\$8,340,396)	\$7,146,831	(\$27,161,065)	(\$35,147,508)
Juneau	\$392,268	(\$1,575,300)	\$5,455,806	\$14,821,670	(\$4,041,606)	(\$3,043,868)	\$2,926,860	(\$4,852,814)	\$10,083,016
Kenosha	(\$37,514,174)	(\$24,101,274)	\$23,543	(\$21,386,150)	\$52,414,706	(\$6,150,247)	\$11,654,675	(\$6,121,696)	(\$31,180,616)
La Crosse	\$47,831,700	\$93,376,367	\$34,410,425	(\$2,807,445)	\$1,575,176	\$29,853,740	\$24,434,495	\$53,247,475	\$281,921,934
Langlade	\$1,316,818	\$20,115,063	\$2,630,061	\$9,750,214	(\$3,165,825)	(\$1,781,265)	\$5,200,262	(\$5,232,914)	\$28,832,416
Lincoln	\$1,286,809	(\$848,176)	\$1,890,114	\$13,779,591	(\$3,502,085)	(\$2,241,993)	\$2,254,776	(\$2,224,463)	\$10,394,574
Marathon	\$27,554,166	\$61,933,268	(\$1,574,006)	\$3,623,811	\$4,463,342	\$7,777,089	(\$4,578,177)	(\$775,408)	\$98,424,086
Marquette	\$57,392	(\$8,003,202)	\$1,311,116	\$7,130,060	(\$2,439,271)	(\$462,215)	\$7,387,919	(\$383,730)	\$4,598,070
Milwaukee	(\$275,158,236)	(\$294,193,217)	(\$30,331,691)	(\$261,260,452)	\$208,490,063	\$73,350,334	\$31,638,510	\$188,709,661	(\$358,755,029)
Monroe	\$8,011,078	\$6,999,096	\$7,742,463	\$11,954,230	(\$5,499,423)	(\$6,893,637)	\$6,511,166	(\$10,415,090)	\$18,409,881
Oconto	\$4,457,388	(\$20,715,354)	(\$745,412)	\$13,453,449	(\$6,736,590)	(\$5,078,143)	(\$449,424)	(\$15,463,138)	(\$31,277,225)
Oneida	\$12,180,747	\$26,209,544	\$8,655,852	\$32,904,683	(\$3,117,717)	(\$960,024)	\$16,755,806	\$6,698,387	\$99,327,278
Ozaukee	(\$26,993,412)	(\$48,826,817)	(\$17,195,392)	(\$24,129,805)	(\$15,634,979)	(\$7,707,063)	(\$29,637,041)	(\$63,186,519)	(\$233,311,029)
Pepin	\$1,297,959	(\$2,208,816)	(\$70,209)	\$3,493,598	(\$1,552,735)	(\$1,540,029)	\$415,749	(\$753,714)	(\$918,199)

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
 Computations by the author, University of Wisconsin-Madison/Extension



Surplus/Leakage (1996)									
County	Building Materials	General Merch..	Food stores	Auto Dealers & Service St.	Apparel & Accessory	Furniture & Home Furnishing	Eating & Drinking Places	Misc. Retail Stores	Total Retail Trade
Pierce	(\$6,550,551)	(\$26,433,261)	(\$1,820,971)	(\$6,390,512)	(\$8,030,576)	(\$7,590,166)	(\$1,695,101)	(\$21,039,517)	(\$79,550,654)
Polk	\$11,897,170	(\$8,160,697)	(\$1,628,258)	\$3,200,266	(\$7,817,193)	(\$5,367,232)	(\$1,138,252)	(\$11,935,087)	(\$20,949,283)
Portage	\$18,946,184	\$5,680,514	\$4,992,534	\$10,443,670	(\$6,738,757)	\$119,606	\$4,888,698	\$29,482,776	\$67,815,225
Price	\$1,050,272	(\$6,581,780)	(\$1,944,959)	\$4,139,489	(\$3,501,360)	(\$3,934,432)	(\$2,101,908)	(\$8,212,493)	(\$21,087,171)
Richland	(\$2,310,111)	\$11,393,998	\$656,139	\$4,746,127	(\$2,685,228)	(\$884,409)	(\$2,341,240)	(\$4,694,092)	\$3,881,186
Rusk	\$8,661,036	(\$1,874,018)	(\$860,735)	\$5,085,330	(\$2,545,027)	(\$3,466,351)	\$1,014,652	(\$5,974,424)	\$40,464
St. Croix	\$44,634,141	(\$6,022,995)	(\$3,049,512)	(\$3,716,990)	(\$15,163,365)	(\$14,229,231)	(\$987,868)	(\$23,168,993)	(\$21,704,814)
Sauk	\$39,241,446	\$5,690,311	\$7,660,562	\$19,608,334	(\$5,762,795)	(\$4,993,026)	\$33,432,908	(\$2,716,106)	\$92,161,633
Sawyer	\$12,069,017	\$5,529,384	\$2,296,609	\$11,975,942	(\$887,943)	\$172,302	\$7,635,186	\$1,716,467	\$40,506,965
Shawano	\$5,723,926	\$5,525,368	\$999,650	\$11,360,609	(\$6,952,573)	(\$5,526,432)	\$415,673	(\$17,506,893)	(\$5,960,672)
Trempealeau	\$4,188,460	(\$17,606,247)	\$776,001	\$5,365,982	(\$5,381,628)	(\$6,194,646)	(\$1,970,147)	(\$5,952,770)	(\$26,774,995)
Vilas	\$13,984,137	(\$7,681,333)	\$7,526,463	\$19,309,833	(\$3,313,015)	\$3,000,727	\$14,325,443	\$9,969,562	\$57,121,817
Walworth	\$16,497,436	\$7,307,510	(\$4,122,949)	\$19,092,299	(\$13,867,285)	(\$8,793,000)	\$32,193,185	(\$4,954,758)	\$43,352,437
Washburn	\$4,109,847	\$1,963,999	\$989,638	\$9,581,948	(\$2,163,534)	(\$1,004,801)	\$2,913,259	\$3,308,097	\$19,698,454
Waupaca	\$9,700,146	(\$8,289,470)	\$442,964	\$6,356,960	(\$9,836,436)	(\$5,314,627)	(\$1,477,908)	(\$19,750,375)	(\$28,168,746)
Waushara	\$495,696	(\$10,036,307)	\$1,308,038	\$9,990,214	(\$4,563,195)	(\$2,534,665)	\$80,116	(\$7,415,000)	(\$12,675,102)

Data Source: Wisconsin Department of Revenue County Sales Tax Report  
Computations by the author, University of Wisconsin-Madison/Extension



Surplus/Leakage (1996)							
County	Lodging	Personal Services	Business Services	Automotive and Misc. Services	Amusement, Movie, & Recreation	Other services	Total Services
Adams	\$5,357,142	(\$286,426)	(\$1,702,899)	\$4,844,690	\$1,478,213	(\$1,624,696)	\$8,066,026
Ashland	\$1,182,564	\$385,236	(\$1,993,218)	(\$2,049,834)	\$303,751	\$358,285	(\$1,813,217)
Barron	(\$241,256)	(\$437,253)	(\$4,782,169)	\$1,128,236	(\$1,649,777)	(\$820,830)	(\$6,803,048)
Bayfield	\$10,932,623	\$84,740	(\$1,165,156)	(\$370,391)	(\$956,897)	(\$959,127)	\$7,565,792
Buffalo	(\$1,899,761)	(\$317,852)	(\$2,425,760)	(\$1,732,595)	(\$895,066)	(\$1,107,866)	(\$8,378,900)
Burnett	\$1,627,746	(\$170,234)	(\$1,598,728)	\$727,083	\$119,174	(\$379,718)	\$325,322
Chippewa	(\$3,837,974)	\$46,365	\$12,771,103	\$1,791,188	(\$1,382,067)	(\$3,740,923)	\$5,647,692
Columbia	\$1,177,940	(\$286,660)	(\$2,822,859)	\$4,891,660	(\$849,939)	\$165,878	\$2,276,021
Crawford	\$2,493,200	(\$253,210)	(\$625,062)	\$2,236,508	\$169,756	(\$708,209)	\$3,312,983
Dane	\$7,252,635	\$5,091,647	\$72,409,826	\$10,879,269	(\$13,922,960)	\$95,242,551	\$176,952,968
Dodge	(\$7,986,923)	(\$1,058,984)	(\$6,903,214)	(\$3,532,131)	\$2,075,200	(\$6,913,595)	(\$24,319,648)
Door	\$44,770,436	\$2,648,281	\$2,476,737	(\$454,466)	\$3,377,717	\$4,274,937	\$57,093,644
Douglas	\$1,028,093	(\$1,275,856)	(\$952,255)	(\$937,818)	(\$1,889,293)	(\$1,302,492)	(\$5,329,620)
Dunn	(\$878,262)	(\$485,150)	(\$1,477,811)	\$404,969	(\$2,068,093)	\$115,226	(\$4,389,121)
Forest	(\$78,851)	(\$439,786)	(\$889,607)	(\$1,004,854)	(\$401,420)	(\$753,578)	(\$3,568,096)
Iowa	\$575,049	(\$1,034,407)	(\$1,609,716)	(\$355,815)	\$8,613,661	(\$1,296,934)	\$4,891,838
Iron	\$2,794,690	(\$302,002)	\$694,726	(\$1,182,803)	\$1,361,979	(\$609,066)	\$2,757,525
Jackson	\$687,633	(\$607,855)	\$1,423,571	(\$335,025)	(\$502,065)	(\$61,863)	\$604,396
Jefferson	(\$7,481,782)	(\$513,387)	(\$4,646,732)	\$2,400,485	(\$3,220,338)	(\$2,653,877)	(\$16,115,631)
Juneau	\$2,797,752	(\$580,375)	(\$2,496,053)	\$1,766,853	(\$717,719)	(\$1,576,560)	(\$806,102)
Kenosha	(\$15,334,941)	(\$2,618,324)	(\$9,325,727)	(\$4,223,488)	\$6,519,923	(\$4,294,476)	(\$29,277,033)
La Crosse	\$6,722,309	\$772,591	\$2,435,762	\$6,893,340	(\$345,476)	(\$1,956,436)	\$14,522,089
Langlade	(\$976,612)	(\$276,598)	(\$1,219,929)	\$1,089,810	(\$851,322)	(\$1,351,433)	(\$3,586,083)
Lincoln	(\$1,386,810)	(\$390,013)	(\$2,294,077)	\$732,234	(\$243,235)	(\$1,855,358)	(\$5,437,259)
Marathon	(\$8,450,732)	\$216,440	\$4,891,196	\$12,250,787	(\$1,835,144)	\$3,583,532	\$10,656,078
Marquette	\$2,693,459	\$251,820	\$103,565	\$2,136,330	\$75,184	\$806,230	\$6,066,588
Milwaukee	(\$41,072,721)	\$13,852,299	\$151,381,045	\$34,785,195	\$10,983,398	\$60,711,781	\$230,640,998
Monroe	\$1,914,131	(\$306,484)	(\$2,818,628)	(\$632,108)	(\$1,231,246)	(\$2,352,487)	(\$5,426,822)
Oconto	(\$1,205,859)	(\$1,376,717)	(\$4,429,388)	\$522,459	(\$575,551)	(\$2,896,595)	(\$9,961,650)
Oneida	\$14,111,109	(\$453,443)	\$4,236,527	\$12,092,613	\$2,674,287	\$302,967	\$32,964,059
Ozaukee	(\$13,343,156)	\$357,997	(\$8,779,096)	(\$10,426,888)	\$3,477,568	(\$6,256,419)	(\$34,969,994)
Pepin	(\$777,817)	(\$105,726)	(\$229,147)	(\$378,486)	\$342,981	(\$806,750)	(\$1,954,944)
Pierce	(\$4,677,904)	(\$1,073,560)	(\$4,285,206)	(\$3,950,751)	(\$553,720)	(\$6,166,508)	(\$17,646,249)
Polk	(\$2,573,646)	\$389,130	(\$3,782,661)	(\$2,871,489)	\$750,037	(\$6,214,998)	(\$10,668,965)
Portage	\$4,797,127	(\$955,733)	(\$2,247,877)	\$2,299,330	(\$804,270)	\$1,974,096	\$5,062,672
Price	\$728,673	(\$611,929)	(\$1,167,713)	(\$917,377)	(\$1,282,276)	\$129,605	(\$3,121,016)
Richland	(\$1,008,363)	(\$639,172)	(\$2,731,790)	(\$1,451,909)	(\$1,200,273)	(\$1,492,448)	(\$8,523,956)
Rusk	\$263,220	(\$315,675)	(\$1,507,879)	(\$128,208)	(\$878,044)	(\$787,939)	(\$3,354,524)
St. Croix	(\$2,850,322)	(\$1,296,363)	(\$10,434,361)	(\$1,502,255)	\$259,962	(\$5,443,346)	(\$21,266,684)
Sauk	\$41,343,076	(\$647,429)	\$13,713,980	(\$412,880)	\$26,980,332	\$2,759,719	\$83,736,799
Sawyer	\$12,362,323	(\$230,106)	(\$849,098)	\$110,589	\$2,392,672	\$318,554	\$14,104,934
Shawano	\$147,611	(\$1,115,727)	(\$5,824,425)	(\$3,064,486)	(\$58,424)	(\$3,873,467)	(\$13,788,918)
Trempealeau	(\$2,766,692)	(\$640,982)	(\$1,468,282)	(\$707,045)	(\$1,570,153)	(\$3,346,413)	(\$10,499,567)
Vilas	\$22,927,647	\$499,872	(\$15,352)	\$749,734	\$2,401,329	(\$837,626)	\$25,725,604
Walworth	\$44,314,195	(\$152,131)	\$3,594,952	(\$5,854,399)	\$15,094,717	\$4,492,382	\$61,489,716
Washburn	\$764,328	\$295,873	(\$1,428,114)	\$116,438	\$152,639	(\$354,423)	(\$453,260)
Waupaca	(\$2,537,926)	\$135,970	(\$6,440,304)	(\$2,677,143)	(\$2,072,235)	(\$6,006,281)	(\$19,597,920)
Waushara	\$1,328,450	(\$609,182)	(\$2,064,441)	(\$46,684)	(\$394,187)	(\$1,648,154)	(\$3,434,199)

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Computations by the author, University of Wisconsin-Madison/Extension



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