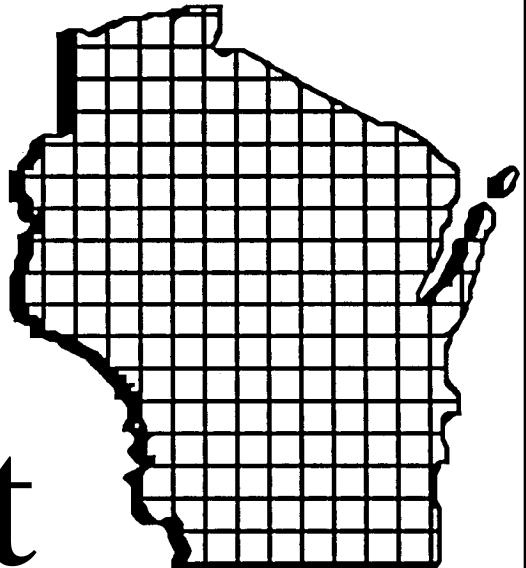


Wisconsin
Policy
Research
Institute
Report



March 2003

Volume 16, Number 2

An Economic
Tale of Two
Cities

*How Green Bay Outgrew
Milwaukee in the Nineties*

REPORT FROM THE PRESIDENT:

Three years ago, we published a study on Wisconsin's regional employment growth in the 1990s. One of the most interesting findings in that report was how economic growth in metropolitan Green Bay had outperformed metropolitan Milwaukee by a two-to-one ratio. We thought these results were so startling that we commissioned a much more in depth analysis of the factors causing Green Bay to outperform Milwaukee. Sammis White, a professor in the Department of Urban Planning at the University of Wisconsin-Milwaukee, conducted the study. His data gives a very strong indication of why metro Green Bay grew percentage-wise at a much higher rate than Milwaukee.

In this study thirty-three different factors that affect the rate of new job formation were studied. Brown County had the advantage in twenty-four of these, versus Milwaukee's advantage with eight. The obvious statistical advantage of metro Green Bay explains why it grew twice as fast as Milwaukee. The basis of this were favorable demographics, lower production costs, more well-located land, more highway improvements as well as a number of other advantages.

Another insightful observation in this report was that the city of Green Bay remains the economic hub of the metro area, controlling 72% of the jobs in the area while the city of Milwaukee ended up with only 41% of jobs in the area. This is not unimportant in understanding the differences between the two metro areas.

Other factors that were extremely important to the differences in growth between the city of Milwaukee and the city of Green Bay were crime and education data. Milwaukee's FBI crime rate is almost two times higher than Green Bay's. These types of crime rates do affect business location decisions. Equally important is that Green Bay's high school graduation rate was impressively 90% compared to Milwaukee's 56%. They had much higher test scores in Green Bay than in MPS. The reality is that Green Bay simply has a better-prepared work force than the city of Milwaukee.

Lastly, one of the topics not covered in this study, but which is also a major factor, is the lack of political leadership in Milwaukee. Over the last several years the political situation in Milwaukee city and county deteriorated to the point where there seems to be minimum leadership in terms of economic development from an elected official giving energy and vision to potential growth.

Finally, we would like to thank the Cornerstone Foundation of Northeastern Wisconsin for their support of this project.



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AN ECONOMIC TALE OF TWO CITIES

How Green Bay Outgrew Milwaukee in the Nineties

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EXECUTIVE SUMMARY

The metropolitan areas of Green Bay and Milwaukee and the cities of Green Bay and Milwaukee grew at very different rates during the 1990s. Employment in metropolitan Green Bay and Milwaukee grew by 34 percent and 15 percent, respectively. Employment in the cities of Green Bay and Milwaukee grew by 27% and 1.7%, respectively. The question this report explores is why the economies of the two areas and the two cities, located in the same state and only 120 miles apart, grew at such different rates. The answer is not simple, but it appears that there were significant differences in the economies. The aggregation of these differences helped the Green Bay economy while hindering Milwaukee's.

The study looks mainly at the metropolitan economies because they are the labor markets of their respective areas and they include the major cities. Obviously, metro Milwaukee is many times larger than metro Green Bay (known as Brown County). In fact, metro Milwaukee is 6.7 times larger in terms of population and 6.0 times larger in terms of jobs. But metro Green Bay added about 35,000 jobs and metro Milwaukee added 105,000 between 1991 and 1999. So the issue is not the absolute number of jobs added. In a relatively small economy, an addition of 35,000 new jobs counts for much, simply as a matter of mathematics. That is one way to describe and explain the high rate of growth rate in Brown County. But there are many other reasons why the Green Bay metro area grew relatively faster in terms of employment than metro Milwaukee did.

An examination of 33 different factors thought to affect the rate of new job formation shows that Brown County held an advantage in respect to 24 factors, while Milwaukee held an advantage in respect to eight. The preponderance of factors favoring metro Green Bay explains why it grew more than twice as fast as Milwaukee.

The factors that led to faster growth in the Green Bay area during the 1990s include the following:

- **Favorable demographics:** The population, the young-adult population, the labor force, and the labor force participation rate all grew more quickly in Brown County. Milwaukee's population grew one-third as fast overall, and it declined by over 45,500 persons ages 25 to 34.
- **Lower costs of production:** Labor, land, building construction, and building rents all cost less in Brown County.
- **More well-located land:** More urbanized, undeveloped land accessible to divided highways is available in Brown County.
- **More highway improvements:** More highways have recently been improved to expand the commute area and retail sales draw in Brown County.
- **Low levels of firm death and downsizing:** Relatively few jobs have been lost to downsizing and death of firms in the Green Bay area. That is not the case in Milwaukee.
- **More unique industries have grown:** The industries in which Brown County has a high concentration are largely growing and adding significantly to local growth. Milwaukee's ten most highly concentrated industries lost employment.
- **More favorable mix of industries:** A greater proportion of Brown County's growing industries are industries that are growing nationally; they are not swimming against a national tide of decline, as are a majority of the industries in the Milwaukee area that grew fastest because of unique local conditions.
- **Greater entrepreneurial success:** Brown County has benefited more, relatively and absolutely, from high profile, very successful, recent, local entrepreneurs.

Metro Milwaukee is not without its advantages. They include the following:

- Relatively high rates of patent development.
- Relatively high rates of new business incorporation.
- Higher rates of college graduates in the population.
- Higher personal incomes.
- More (and more direct) air service.
- Location closer to national markets.

But by comparison to Brown County, Milwaukee's advantages are more limited in number and impact. They did not enable Milwaukee to overcome slow population and workforce growth, an unfortunate mix of industries, or to compensate for a relatively modest level of entrepreneurial activity during the 1990s.

In short, Brown County grew faster because of cost advantages, local entrepreneurs, a fortunate mix of industries, and relatively rapid population and labor force growth. Metropolitan Milwaukee did not grow as rapidly because of slow population and slow labor force growth, an unfortunate mix of industries (one more appropriate for three decades earlier), more expensive factors of production, modest entrepreneurial efforts, and underutilization of its assets.

On 24 of the 33 measures used, metro Milwaukee finished second. It has some strengths, without which its employment would not have grown by 15 percent. But Milwaukee's assets were not sufficiently utilized. That must change if Milwaukee is to grow.

Part of what must change is the modest contribution of the city of Milwaukee. The rate of employment growth in the city of Green Bay was more than 15 times greater than that in Milwaukee in the 1990s. Certainly all of the factors noted in the metropolitan analysis played a role, but some were even more central to the outcome. For example, Green Bay did realize population growth, it did have more undeveloped land available, and the City chose to offer land at a below-market rate, an approach Milwaukee has not taken. Milwaukee was home to far more declining industries and more industries that have been declining nationally. Milwaukee had relatively fewer recent entrepreneurial successes. Milwaukee businesses faced higher costs for land, buildings, and labor. These all contributed to Milwaukee growing more slowly.

Two related factors are also very central to the different outcomes. One is crime rate and the second is student achievement levels. Milwaukee's FBI Index Crime Rate in 1999 was almost two times higher than it was in Green Bay. And Milwaukee's violent crime rate was 7.6 times higher in the City of Milwaukee than in its own suburbs. Those differences affect business location decisions. K-12 student outcomes also have an impact. In 1999, the Green Bay high school graduation rate, for example, was 89.6%; in Milwaukee it was 56.0%. On standardized tests, the proportion of students scoring at the upper end, known as proficient or advanced, was quite different. In Green Bay some 68% of 10th graders scored at the upper end in reading and 42% did so in math. In MPS, by contrast, 31% scored well in reading and 10% scored well in math. Clearly, Green Bay employers had access to a better-prepared workforce.

Regardless of what happened in the 1990s, Milwaukee, Green Bay, and their metropolitan areas face economic challenges in the present decade. All are experiencing higher rates of unemployment and negative job growth. Both communities must address the issue of income growth slower than the nation's. Each could learn lessons from the others as to what to do differently to do better in the 21st century. All need to stress **entrepreneurship** to a greater degree. This is *the* avenue to employment generation. All communities must stress greater **workforce development** through all levels of education and training because these communities will need their workers to be better educated to become more productive, more competitive, and better able to generate higher incomes.

INTRODUCTION

The 1990s were growth years for the United States and for Wisconsin. The Wisconsin economy added 461,748 jobs, growing by a remarkable 21 percent over the 1991-1999 period, far surpassing the U.S. growth rate of 13 percent. Unfortunately for some, growth was not uniform across all areas of the state. Employment in Brown County (Green Bay) and the Fox Cities grew by 34 percent and 29 percent, respectively; it grew by 15 percent in greater Milwaukee and by 8 percent in Racine County (White 2000).

In a state that is thought to be relatively homogeneous, why do we find such dramatic differences among communities that are not more than 150 miles apart? Do these communities differ markedly in respect to variables likely to affect economic development? What lessons might each community learn from an analysis of the track records during the 1990s?

To address these questions, we focus on two metropolitan areas, Brown County (the Green Bay metropolitan area) and the metropolitan Milwaukee area, consisting of four counties (Milwaukee, Ozaukee, Waukesha, and Washington). During the 1990s, Brown County added about 35,000 jobs while metro Milwaukee added 105,000. The absolute scale is different: Metropolitan Milwaukee had over six times more jobs in 1999 than did Brown County. The relative rates of growth are different as well: Brown County grew at more than double the rate of metropolitan Milwaukee.

We also examine the central city of each area, Green Bay and Milwaukee. During the 1991-1999 period, the city of Milwaukee added some 4,000 jobs, a growth claim it could not make in the preceding decade. Green Bay, by contrast, added about 21,200 jobs in the 1990s. When a city that is one-sixth the size of another adds over five times more jobs, the result demands some explanation.

We selected the 1991-1999 period for analysis because it was a period of growth. The record since then has been less clear. Rather than muddy the waters by considering the most recent three years, we chose to analyze the period in which the economy largely moved in one direction, expansion. That should provide a more accurate analysis of the two economies in question.

The Approach

In order to analyze the variations in rates of growth, we hypothesized a series of possible explanations; then we explored the two metropolitan areas for differences and similarities in light of these explanations. The metropolitan areas are the most accessible units of analysis, and they represent the vast majority of each area's labor market. We present evidence for both geographic areas. Our analysis includes attention to observed differences between the largest cities in the two areas, Milwaukee and Green Bay. The city of Milwaukee accounts for a little more than 41 percent of all employment in the Milwaukee metropolitan area, while Green Bay accounts for 72 percent of Brown County employment. One city (Green Bay) has been growing rapidly and the other (Milwaukee) has not. Green Bay accounted for most (61 percent) of the growth observed in Brown County's economy in the 1990s, while the city of Milwaukee accounted for less than 4 percent of the growth observed in metropolitan Milwaukee. Why the differences are so pronounced is another topic of exploration.

Our report is based largely on data from the state's unemployment insurance records. The Center for Urban Initiatives and Research at the University of Wisconsin-Milwaukee maintains a copy of these records for the years 1977 to 1999. We focused on the 1990s, using the data from 1991, 1995, and 1999. Some of our data also appeared in an earlier WPRI publication, *The Roaring Nineties* (White, 2000), but most have been newly derived for this study.

Basic Descriptions of the Local Economies

The two metropolitan economies and the two major cities in question differ greatly in size. In March 1999, Brown County contained 137,120 jobs while metropolitan Milwaukee had six times more, 827,071 (Table 1). In both economies the largest industries were services, manufacturing, and retail. But the employment distributions were different. Compared to Brown County, Milwaukee had 7.6 times more employment in services, 6 times more employment in manufacturing, and 5.3 times more employment in retail sales. Again compared to Brown County, Milwaukee had more government jobs (6.5 times more) and more wholesale trade jobs (6.7 times more), but it had

less than 6 times as many jobs in Finance, Insurance, and Real Estate (FIRE). In other words, the economies of these two communities differ in employment distribution by major industry grouping. That profile suggests that growth-rate differences may be explained in part by differences in employment distribution by major industry.

This is a plausible but not very helpful explanation. If one looks at absolute growth in employment in the major industries for 1991-1999 (Table 1), one sees dramatic differences. The data show that manufacturing grew almost as much absolutely in Brown County as in all of metro Milwaukee. The same is true of retail employment. The absolute number of jobs added in most other industries is modest, with one exception: Milwaukee experienced dramatic growth in service-sector jobs, where Milwaukee employers added over six times more jobs than were added in Brown County. It is not immediately apparent why growth would differ within major industries, by city. A more detailed explanation is necessary.

**TABLE 1 EMPLOYMENT IN 1999 AND CHANGE IN EMPLOYMENT 1991 TO 1999 BY MAJOR INDUSTRY
METROPOLITAN MILWAUKEE AND BROWN COUNTY**

Industry	Employment 1999		Change 91-99	
	Brown County	Metro Milwaukee	Brown County	Metro Milwaukee
Agri & Mining	809	4,621	308	1,575
Construction	6,729	29,077	2,695	5,334
Manufacturing	29,870	178,327	7,021	9,523
Trans/Utilities	11,148	39,870	2,548	5,052
Wholesale trade	7,367	49,527	1,655	5,638
Retail trade	24,603	129,251	4,258	4,300
FIRE	9,889	56,161	3,847	4,580
Services	33,533	254,523	10,300	65,566
Government	13,167	85,643	2,255	3,453
TOTAL	137,120	827,071	34,892	105,092

Source: ES202 Database, UWM CUIR

Note: Columns do not add up because of a few unclassified workers

**TABLE 2 1991-1999 MAJOR INDUSTRY GROWTH RATES
METROPOLITAN MILWAUKEE AND BROWN COUNTY**

Industry	Brown County	Metro Milwaukee
Agri & Mining	61%	52%
Construction	67%	22%
Manufacturing	31%	6%
Trans/Utilities	30%	15%
Wholesale trade	29%	13%
Retail trade	21%	4%
FIRE	64%	9%
Services	44%	35%
Government	21%	4%
TOTAL	34%	15%

Source: ES202 Database, UWM CUIR

This need for further analysis becomes even clearer as we review growth rates by industry, as opposed to relative size of the industries. Data for rates of growth by area show some dramatic differences across industries (Table 2). Construction employment in Brown County grew by 67 percent, while it grew by 22 percent in metro Milwaukee. Manufacturing employment grew by 31 percent in Brown County, while it grew by less than 6 percent in Milwaukee. Milwaukee, in fact, experienced no manufacturing- employment growth in the 1995-1999 period. Services employment for the decade grew by about 35 percent in Milwaukee and by 44 percent in Brown County. Not only is employment distributed differently in the two areas, growth rates by industry varied substantially between the two areas. But what is

responsible for the sometimes dramatic differences in growth rates in communities that appear similar in terms of employment by industry? That question requires further exploration.

We looked next at a more detailed industry listing, using the two-digit Standard Industrial Classification (SIC) categories. This analysis showed that the scale of the employment gains in Milwaukee among the largest gainers was many times that in Brown County (Table 3). Business Services, the industry that added the most jobs in both markets, added almost eight times more jobs in Milwaukee. Health and Allied Services in Milwaukee added 7.7 times more jobs than it did in Brown County. Collectively, the largest gainers (the industries on this list) in Brown County accounted for 57 percent of the county's net growth. This means that smaller gainers also played a very important role. In Milwaukee, the ten largest gainers accounted for more than 80 percent of the total net growth. In other words, growth in Milwaukee was much more concentrated in a limited number of industries. This lack of diversity in sources of growth may have been a detriment to Milwaukee, whereas the diversity of growth industries was a plus for Brown County.

TABLE 3 SPECIFIC INDUSTRIES IN MILWAUKEE AND BROWN COUNTY WITH THE LARGEST NET EMPLOYMENT GAINS, 1991-1999

Brown County				Metro Milwaukee		
Rank	SIC	Industry	Gain	SIC	Industry	Gain
1	73	Business Services	3,721	73	Business Services	29,469
2	58	Eating and Drinking Places	2,640	80	Health and Allied Services	13,518
3	42	Trucking and Warehousing	2,003	83	Social Services	9,038
4	17	Special Trade Contractors	1,898	82	Educational Services	6,325
5	80	Health and Allied Services	1,748	45	Air Transportation	6,022
6	79	Amusement and Recreation Services	1,723	50	Wholesale Trade, Durable Goods	5,681
7	64	Insurance Agents, Brokers and Service	1,638	17	Special Trade Contractors	4,206
8	82	Educational Services	1,516	87	Engineering and Management Services	3,801
9	35	Industrial Machinery and Equipment	1,472	27	Printing and Publishing	3,371
10	63	Insurance Carriers	1,456	34	Fabricated Metal Products	2,908
Totals			19,815			84,339

Source: ES202 Database, UWM CUIR

Another aspect of the diversity issue comes into view if we look at the specific industries that served as growth-rate leaders in both metropolitan areas. There were only four: business services, health services, education services, and special trade contractors. The limited overlap indicates that the two metropolitan economies differ in what it is that has driven their growth. If we look at the faster-growing industries in even greater detail (using the four-digit SIC), we find virtually no overlap in manufacturing and overlap in only 3 of 10 industries in services. This theme of different industries and different growth rates is developed more fully in the other sections that follow.

POSSIBLE EXPLANATIONS

Economic theory suggests many possible explanations for outcomes of the sort observed in these two communities. One explanation is mathematical: it is easier for small communities to grow relatively quickly, given their small initial base. Other explanations have to do with workforce demographics, including immigration rates and age profiles for workers. Still others relate to the cost and availability of factors of production. If a community provides

well for access to land, labor, and capital — or even two of the three factors — at a relatively low cost, one would expect to see higher rates of employment growth, other conditions being similar. Easy access to transportation can also make a difference in growth rates, as can access to an updated infrastructure. Infrastructure quality in turn might be related to the history and political climate in a given community. Some communities struggle to recover from employment losses when old-line firms downsize or disappear. The political climate might be revealed in tax rates and in the level of effort expended by local governments to attract employment growth. An aggressive community may attract more business than one that passively hopes that employment growth will occur. And occasionally simple luck makes a big difference. In some communities the stars seem to be aligned during a period of growth. Seattle, for example, has grown because Bill Gates lives there.

To assess the alternative explanations in this case, we look first at those that can be examined through the use of quantitative analysis. Then we switch to some qualitative analysis in an effort to gain additional insights. The combination of approaches is much more informative than either approach used by itself.

Analysis of the Potential Explanations

Why did Brown County and Green Bay grow so much faster than Milwaukee, given the slight distance (about 120 miles) separating the areas? To gain insight, we review a number of possible explanations.

Size Differential

Metropolitan Milwaukee is many times larger than Brown County. In overall population, Milwaukee is 6.6 times larger: 1.5 million versus 227,000 persons in 2000 (Table 4). And, as noted above, Milwaukee's economy is 6.0 times larger. Thus, if both communities added 20,000 jobs in the year 2000, that would amount to an employment growth rate of 15 percent for Brown County and 2 percent for Milwaukee. Whatever is added in Milwaukee, in other words, may seem to pale by comparison on a percentage basis, even if the absolute number seems large. Such an analysis does not account for the additional opportunities a larger economy should provide, but it suggests that larger communities may find it difficult to match smaller communities in growth rates.

**TABLE 4 DEMOGRAPHIC AND EMPLOYMENT COMPARISONS,
BROWN COUNTY AND METRO MILWAUKEE, 2000**

	Brown County	Metro Milwaukee
Total Population	226,778	1,500,741
Major City Population	102,313	596,974
Metro Employment (1999)	137,120	827,071
Major City Employment (1999)	98,282	342,618

Source: U.S. Bureau of the Census, 1990 and 2000; UWM CUIR ES202 Database

To have matched Brown County's growth rate in the 1990s, Milwaukee would have needed to add 245,500 jobs. That is equal to more than half the job growth experienced across the entire state in the 1990s. Since metro Milwaukee's employment is just over 30 percent of the state's total, that would be an extraordinary achievement. The calculation suggests how hard it may be for a larger community to match growth rates in smaller communities.

It is not impossible, as has been shown in some rapid-growth communities of the South and Southwest. But it is a challenge, and one to which Milwaukee clearly did not rise.

Demographics

Can we attribute the more rapid growth in Brown County to a younger workforce, a faster-growing workforce, a workforce that has fewer or more minority group members, a better-educated workforce, or any other aspect of the composition of the workforce? That is what we explore next, beginning with data regarding population size and growth in population over the 1990s.

The labor force, consisting of adults who are either working (known as the workforce) or looking for work (the unemployed), is a sub-component of the overall population. If the labor force is growing more rapidly in one com-

munity than another, the community with the faster-growing labor force is likely to have a faster-growing economy. Growth in the number of young adults in a community is even more influential, since young adults are more likely than others to supply added workers to the labor force and workforce.

Brown County's population grew by 16.5 percent during the 1990s (Table 5). By comparison, the population of metropolitan Milwaukee grew by 4.8 percent. That fact alone suggests a possible explanation for different growth rates in employment. Looking specifically at population growth among people aged 18 to 44 years, we find that Milwaukee experienced a decrease of 25,000 in that age range, while Brown County grew by about 8,600. Milwaukee also experienced a decline of about 8,000 individuals aged 18 to 24 years, and a decline of 45,500 persons aged 25 to 34 years. With losses of that scale over the decade, it is no wonder that the Milwaukee economy was challenged to grow rapidly.

**TABLE 5 DEMOGRAPHIC CHARACTERISTICS, BROWN COUNTY AND METRO MILWAUKEE
1990 AND 2000**

	Brown County	Metro Milwaukee
Rate of Population Growth, 1990-2000	16.5%	4.8%
Change in number of 18-44 year olds, 1990-2000	8,600	-25,000
Change in number of 25-34 year olds, 1990-2000	-2,459	-45,553
Labor Force Participation Rate, 2000	72.0%	68.1%
Immigrants from other counties & countries 1995-2000	37,506 (16.5%)	235,307 (15.6%)
% with College Degrees, 2000	22.5%	27.0%
% with High School Degrees, 2000	86.3%	84.4%

Source: U.S. Bureau of the Census

Milwaukee did increase its labor force over the decade, but its decreases in the younger-worker categories meant that employers faced a challenge in finding workers, especially entry-level workers. In 2000, 39.2 percent of the Milwaukee-area population fell into the 18-44 age range. Brown County had a somewhat younger population, of whom 42.5 percent were between 18 and 44. That somewhat older population in Milwaukee may well have inhibited employer growth and scared other prospective employers away.

In an environment where population growth is slight, negative effects on economic growth may be offset if there is at the same time an increase in the labor force participation rate (LFPR). For example, if 74 percent of the adult population aged 16-65 years is working or looking for work, it can provide more workers than a population in which only 64 percent choose to participate in the labor force. This point suggests two comparisons. One is an end of period comparison between metro Milwaukee and Brown County; another is a comparison of change in labor force participation rates over the study period. If Milwaukee had a higher LFPR rate by the year 2000 than Brown County, it would suggest that the lower proportion of prime-age individuals in Milwaukee might not be an important factor in explaining the higher growth rate in Brown County.¹

According to U.S. Census data, early in the year 2000 the LFPR was 68.1 percent in metro Milwaukee and 72.0 percent in Brown County. The state's Department of Workforce Development (DWD), using a different definition of participation, notes that the 2000 LFPR in metro Milwaukee ranged from 77.9 percent in Waukesha to 67.2 percent in Milwaukee County. For Brown County it was 80.2 percent in that same year. This latter rate is very high, especially in comparison to the state rate of 73.5 percent and the nation's rate of 66.9 percent. Regardless of the data used, it seems likely that employers behaved as they did in Brown County in part because of its highly committed labor force. Not only did the overall population in Brown County grow faster than it did in Milwaukee, a considerably higher proportion of the Brown County adult population sought participation in the workforce. This allowed the economy to grow faster. Whether it helped to cause the faster growth is harder to answer. But having more workers available does play a critical role.

Another factor contributing to labor force size is immigration. How rapidly have these communities added to or seen losses in their populations, especially prime-age populations, due to in-migration or out-migration? The 2000 Census gives us some partial numbers on this phenomenon. Between 1995 and April 2000, Brown County experienced immigrant growth of 37,506 persons (16.5 percent of the 2000 population) from elsewhere in the U.S. or from other countries. During the same time period, metro Milwaukee counties collectively added 235,307 persons (some 15.6 percent of their 2000 population) from areas outside each county boundary. Unfortunately, the Milwaukee numbers are not comparable to Brown County's, since they include moves from one county to another within the metro area. But since the percent of immigrants is smaller than Brown County's, and we know many moves are internal to

Milwaukee, it is certain that immigration was relatively greater in Brown County. We cannot tell if the appeal was based on perceptions of the job market, quality of life, history as a place for migrant labor, or other factors. But the end result was more bodies in Brown County that could be included in the workforce.

We cannot tell if the appeal was based on perceptions of the job market, quality of life, history as a place for migrant labor, or other factors. But the end result was more bodies in Brown County that could be included in the workforce.

One element to note is the rapid immigration of Hispanics to Brown County. Brown County's Hispanic population grew by 470 percent over the 1990s, according to Census data. Records from the Green Bay Archdiocese are said to show that the actual increase is 50 percent more than that. Several large employers in Brown County recruited in Mexico in the 1990s to attract workers to jobs that were going begging among the Anglo population. The packing plants were especially interested, but other employers including Proctor and Gamble were also involved. Such efforts helped to reduce the impact of what would otherwise have been a severe labor shortage.

The Hispanic population also grew in Milwaukee County during the 1990s. According to Census data, the increase was 84 percent. Here, too, the rate of increase in Milwaukee cannot match that of Brown County. The lower rate of growth may reflect the fact that Milwaukee's Hispanic population is much greater absolutely and relatively than Brown County's. In 2000, Hispanics constituted 8.8 percent of the Milwaukee County population and 3.8 percent of the Brown County population (U.S. Census 2000).

Did these many contributions to the labor force of Brown County allow it to experience a lower unemployment rate than Milwaukee, say in 1999? Both markets were said to be experiencing worker shortages. In Milwaukee this was especially evident in the suburban counties, the counties that experienced the greatest drop in young people aged 18-24. Waukesha County and Washington County, for example, had unemployment rates of 2.1 percent and 2.2 percent, respectively. Milwaukee's 1999 unemployment rate, by contrast, was 5.4 percent, while Brown County's was 2.3 percent (DWD, 2003). Thus it appears that Brown County, despite its faster rate of growth in employment, attracted enough individuals to the labor force to push its unemployment rate slightly higher than that of metro Milwaukee outside its central city. That excess-capacity labor force, in turn, suggested to employers in Brown County that they could expand.

Growth in Brown County may also have been influenced by other demographic factors. For example, is Brown County's population better educated than Milwaukee's? Is the labor market more appealing to some employers because it constituted of fewer minorities? Does it have more migrants from geographic areas (such as the Upper Peninsula of Michigan) that are thought to export workers possessed of a strong work ethic?

By one measure, at least, Milwaukee's population is more highly educated than Brown County's. In 2000, 27 percent of Milwaukee adults aged 25 and older had obtained college degrees, as compared with 22.5 percent in Brown County. In the "new economy" that is supposedly increasingly dependent on an educated workforce, the lower proportion of college-educated individuals in Brown County would suggest either that it would have a more difficult time growing or that it would grow through expansion of traditional industries.

We know that Brown County outstripped Milwaukee in growth during the 1990s. The explanation may have to do with a different measure of educational attainment: high school graduation rates. In percentage terms, adults in Brown County (86.3 percent) edged adults in metropolitan Milwaukee (84.4 percent) in high school graduation rates. That difference may make the Brown County economy more appealing to many traditional employers — those who have not required a high proportion of college-educated workers. Wage rates may not be as high for such workers, as we shall see below. But the availability of workers educated to the high school level does hold appeal for employers in many industries and may help to explain growth rates in Brown County.

Another potentially relevant demographic element is the percentage of the population that is minority. According to Richard Florida (2002) of Carnegie Mellon University, new-economy enterprises are more likely to succeed in places that have more diverse populations. Knowledge workers will migrate to communities known to have diversity and promote diversity. New-economy workers are said to value diversity because it ensures that multiple perspectives will be brought to bear in problem solving, making success more likely. Whether this attitude is present yet in Brown County remains to be seen. Diversity has only recently begun to be appreciated in Milwaukee. Its “old economy” has tended to under-appreciate the contribution of minorities.

Milwaukee, though, is much more diverse than Brown County. Milwaukee County, for example, is home to 55 percent of the state's minority population. In fact, 34 percent of Milwaukee County and 23 percent of metropolitan Milwaukee consist of minorities. In Brown County, minorities constitute 9 percent of the population, according to Census data. By itself, however, diversity is not enough to ensure that an economy will grow rapidly. Employers must be open to diverse populations to benefit from their potential for adding value. Often employers have been known to seek homogeneity rather than diversity among employees. That tendency has been changing, but the presence of a largely homogeneous workforce may have contributed to some of the employment growth in Brown County. The Brown County experience does not confirm the view that diversity fosters growth; then again it is not yet a “new economy.” On the other hand, the recent dramatic growth of the Hispanic population in Brown County certainly contributed to its employment growth.

In explaining what they look for in selecting sites for expansion, many employers emphasize the importance of access to a workforce with a strong work ethic. Many U.S. manufacturing firms have moved to rural or semi-rural locations over the last 20 years in part to find former farm workers who were thought to possess a strong work ethic. Generally, employers compliment workers throughout Wisconsin for their strong work ethic. But a nearby area that has often been praised even more is the Upper Peninsula of Michigan. This raises a question about the proximity of Brown County to the Upper Peninsula and its workforce. Perhaps an infusion of workers from the U.P. has given an extra boost to the Brown County economy. To examine this possibility systematically it would be necessary to track immigration from the U.P. to Brown County and other local areas in the 1990s. Unfortunately, such data have yet to be made available by the Census. But anecdotal evidence suggests that Brown County is a favorite site for migrants from the U.P.

Finally, growth in a given area may be affected by the degree to which the city or county in question draws additional workers from outside the metropolitan area. Both Milwaukee and Brown County attract workers from outside their boundaries. Throughout the 1990s, however, several highways connecting Brown County to its larger environs were expanded to divided, four-lane roads. This expansion in effect increased the accessible workforce by reducing commute times. Milwaukee, by contrast, experienced increasing traffic congestion, making access more difficult. Thus, Brown County employers gained access to more workers through its expanded transportation network.

Demographics are a powerful force in the economy. An economy that is adding population more rapidly is likely to be adding jobs more rapidly as well. Brown County’s impressive employment growth rate can be attributed in part to its rate of population growth. It can also be attributed in part to higher labor force participation rates: more of the adults seek to work, thus allowing more jobs to be filled. Compared to adults in Milwaukee, adults in Brown County are less likely to have completed college degrees. This does not seem to have inhibited overall employment growth, but it may inhibit the development of higher-paying jobs. That is another issue that is explored later.

Higher Incomes

Growth rates may be affected by income levels. If people in one area generally have higher personal incomes than people in another area, one might expect the higher-income area to be stronger, economically, and to generate more jobs as that income is spent in the local economy. But if the income gap between the two areas is closing, then we would expect the lower-income area to be generating more jobs and raising wages to attract more workers.

In 1999, Milwaukee had a 6.4 percent higher per capita income than Brown County (Census 2000). The figure for Milwaukee was \$23,170; it was \$21,784 for Brown County. That difference might suggest a stronger economic environment in Milwaukee. But the figure from 1999 provides only a snapshot. To learn more we must look at gains over the 1990s. In inflation-adjusted terms Brown County’s per capita income grew 17.2 percent. That figure is well below Ozaukee County’s 32 percent and Waukesha County’s 24.6 percent, but it is higher than Milwaukee’s 13.2 percent. There are clearly gaps across these counties.

What is probably limiting the impact of higher average incomes on growth in Milwaukee is the fact that Milwaukee has more individuals and a higher percentage of its population at the low end of the income distribution. Metro Milwaukee had a poverty rate of 10.6 percent in 1999, compared to 6.9 percent for Brown County. In absolute numbers Brown County had 15,123 individuals in poverty and metro Milwaukee had 155,664. The major county in metro Milwaukee, Milwaukee County, experienced a 14.7 percent rate of poverty, more than twice that of Brown County (Census 2000). That condition will limit retail sales if not other forms of economic activity in the local economy.

Land Cost and Availability

Another critical element for employment growth is inexpensive and available land. This is especially true today, as industrial, commercial, and office users seek large lots on which to build. Traditionally, such users were content with more limited space. Today, however, industrial users often build on only about 25 percent of a parcel, using the remainder for parking, landscaping, and potential future growth. Commercial users seek extra land for parking and landscaping. The idea is to be more isolated but also more in control of future space needs. Communities seeking to attract new businesses must be able therefore to meet the demand for larger lots.

Not only must space be available, it must be reasonably priced. In Milwaukee, for example, top-priced industrial lots in business parks are selling for \$85,000-\$87,500 per acre. Prime land for office space in Waukesha County near I-94 is selling for \$165,000-175,000 an acre (Siegel, 2003). That is suitably located land with all infrastructure features (roads, sewer, water, electricity, and telecommunications) in place. In terms of actual buildings that reflect land and building costs, new industrial space could have been (and still is) available to lease at \$5.25 net per square foot per year (Casey 2002).

In Brown County, by contrast, available land near I-43 in the City of Green Bay's 653-acre business park sells for \$38,900 to \$99,900 an acre. Light manufacturing lots sell for \$38,900 an acre — about half the going rate in metro Milwaukee. Land for office development is also considerably less than in metropolitan Milwaukee. Office A land in the Green Bay park lists at \$59,000 per acre compared to \$165,000 in Waukesha for similar locations. That substantial difference may help to account for some of the difference in growth rates.

TABLE 6 LAND AND CONSTRUCTION COSTS, BROWN COUNTY AND METRO MILWAUKEE, 1999

Construction Cost, Industrial Bldg.	Brown County	Metro Milwaukee
Prime Industrial Land Cost	\$38,900/acre	\$85-87,500 acre
Prime Office Land Cost	\$59,000/acre	\$165-175,000/acre
Annual Rent, New Industrial Bldg.	\$4.00 sq. ft.	\$5.25 sq. ft.
Construction Cost, Industrial Bldg.	\$2,993,000	\$3,130,000

Source: *Land – I-43 Business Center Sites and Roger Siegel, The Polacheck Company
Building – realestatejournal.com/partners/constructioncosts
Rents – Tim Casey, Centerpoint Properties and Robert Straebel, Nicolet Real Estate*

Lower-priced land of the sort found in Green Bay may also be found in many other communities in Brown County. These communities have developed business parks through the use of tax incremental finance districts (TIFs). The communities sell the land at above cost but not at full-market value. They regain their investment over time as the land is developed to the point where it is valued at \$200,000-\$800,000 per acre. Several of the communities, including Green Bay, estimate that each has been adding 30 to 40 acres to their developed property tax rolls each year. No comparable figures are available for metro Milwaukee. But it is clear that the City of Milwaukee, which is six times larger than Green Bay, did not have six times as much raw land (3,900 acres) to develop. Milwaukee's land bank program ran out of banked land in the mid-1990s. Furthermore, the City and suburbs have not sold land at a discount; they have sold land at full-market value.

The less expensive land and marginally lower building costs offered by some Brown County communities result in new industrial buildings that can be rented for \$4.00 net per square foot (Straebel, 2003). That \$1.25 difference in per square foot lease cost between Milwaukee and Brown County also may make Brown County more appealing to

potential employers as a location. This is especially true of employers who are already located in the area. Why should they move any of their operations to Milwaukee with its many higher costs? The answer is that they do not; they stay and grow in Green Bay. Besides offering a relatively large and growing workforce, it offers access to relatively inexpensive land and buildings.

Construction Costs

For businesses seeking to find ideal locations, land costs combined with construction costs are important considerations. Since it is clear that land costs in Brown County are significantly lower than in metro Milwaukee, the question is whether construction costs are also lower, thus adding to the appeal of building in Brown County. Is there a significant difference between the two areas in terms of building costs?

To find an answer, we turn to a standard construction source, R.S. Means. That source estimates construction costs for a standard building; then it estimates how much it would cost to construct that building in different markets all across the country. If we take, for example, an industrial building and an office building, we get two estimates that we can use for cost comparisons between Milwaukee and Brown County. For the standard industrial building and the office building, the Milwaukee cost is an estimated 4.6 percent more than the Brown County cost.

To put this in concrete terms, let's look at a hypothetical 50,000 square foot industrial building on a five-acre lot. The initial site would be \$230,000 more expensive in Milwaukee on a prime site near an Interstate. The building would be 4.6 percent more expensive (\$137,000). For the land and the building, the combined cost is \$367,000 (12 percent) more expensive in Milwaukee.

Thus, Brown County has yet another point in its favor. Land and buildings are less expensive in Brown County than in Milwaukee. These cost factors might be outweighed in some cases — for example, in ventures for which labor costs would be a larger consideration. But less expensive space does hold appeal for some employers.

Labor Costs

Growth rates in Brown County may also have been affected by labor costs. If we examine multiple industries using data from the State of Wisconsin Wage Survey for 1990 and 1997, we find that Brown County wage rates were lower than Milwaukee's in 1990 and grew more slowly than those in Milwaukee over the 1990-1997 period.

The average hourly wage in the Milwaukee area in 1990 was \$10.73, or 6 percent more than that in Brown County (Table 7). By 1997 the average Milwaukee rate was 9 percent higher than the rate in metro Green Bay. The wage rate had increased 20 percent in Brown County and 24 percent in Milwaukee over the seven years. The median wage rate differed only by a modest 2 percent in 1990, but it had increased to a 10 percent difference between the two areas in 1997. Those numbers refer to all wages.

If we look at the starting mean wage, Milwaukee was higher in 1990, at \$8.23 an hour versus \$7.72 an hour in Brown County. By 1997 the difference had increased from 6.4 percent to 8.6 percent; Milwaukee became relatively more expensive for employers of hourly workers. This is especially true for those employers located in Milwaukee County, the vast majority of whom were located in the city of Milwaukee. The average starting wage in 1997 in Milwaukee County was 12.9 percent higher than the comparable wage in Brown County.

Thus, cheaper labor may well have contributed to differences between growth rates in metro Milwaukee and Brown County. Employers would have found differences in the cost of labor throughout the 1990s. For employers seeking to hire hourly workers, therefore, Brown County would have offered a cost-saving advantage. Add this to a

TABLE 7 AVERAGE WAGE RATES, BROWN COUNTY AND METRO MILWAUKEE 1990 AND 1997

	Brown County	Metro Milwaukee
Average, Private Industry Wage, 1990	\$10.09	\$10.73
Average, Private Industry Wage, 1997	\$12.09	\$13.32
Rate of Wage Increase, 1990-1997	19.8%	24.1%

Source: State of Wisconsin Wage Survey

more rapidly growing labor force, a higher proportion of workers with high school degrees, and the cumulative effect likely helps to account for the faster rate of employment growth observed in Brown County.

Labor costs may also be assessed by examining total earnings for workers in different communities. Earnings are a combination of wage and salary income. They are more inclusive than hourly wages alone.

As can be seen in Table 8, average earnings per worker across all industries and occupations in 1999 were \$2,572 higher in Milwaukee County than in Brown County. Of the nine major industry groups, seven generated higher earnings in Milwaukee. Only the Transportation/Communication/Utility (TCU) industry group and Retail generated higher earnings in Brown County. The Retail difference is very small (\$79). The TCU difference is larger (\$1,767), but it pales in contrast to the difference of more than \$19,000 in Finance, Insurance, and Real Estate (FIRE), or even the difference of \$6,606 in Wholesale Trade, favoring Milwaukee.

**TABLE 8 AVERAGE EARNINGS PER WORKER,
BROWN COUNTY AND METRO MILWAUKEE**

Industry	Brown County	Metro Milwaukee
Agri & Mining	\$19,466	\$20,342
Construction	\$33,690	\$36,781
Manufacturing	\$37,785	\$39,524
Trans/Utilities	\$38,146	\$36,379
Wholesale trade	\$34,542	\$41,148
Retail trade	\$15,838	\$15,759
FIRE	\$31,332	\$50,856
Services	\$25,602	\$26,926
Government	\$31,416	\$34,334
Nonclassifiable	\$18,446	\$21,738
TOTAL	\$29,336	\$31,908

Source: S. B. White, *The Roaring Nineties*.

In short, with a few exceptions, Milwaukee workers have higher earnings than workers in Brown County. In fact, on average, earnings for Milwaukee workers are the highest in the state (White, 2000). For employers, high earnings are justifiable or not according to worker productivity. Milwaukee workers could be more productive than Brown County workers, given the higher rates of college completion in Milwaukee. But if employers are not seeking high proportions of college graduates, then economies such as Brown County's may have more appeal.

If employers bet on Brown County in the 1990s, they found relatively low labor costs. Earnings and hourly wages were lower in Brown County than in Milwaukee. In addition, the rates of increase were lower. Average earnings per worker in Milwaukee increased by 11 percent between 1991 and 1999. In Brown County the rate of increase was 9 percent. To the degree that labor costs matter to an employer, Brown County may have grown more rapidly because it offered access to less expensive labor.

Capital Cost and Availability

Theoretically, there are regional differences in the cost of capital and its availability. Rural America is reported to have much less capital available, and what is available is often more expensive because lenders think that there is greater risk involved in lending to businesses located in small communities (Magill, 2003). It seems less likely that there would be important differences among metropolitan areas within the same state. In the case of Brown County and Milwaukee, both communities are served by some of the same financial institutions, and it would be unusual if Brown County would be shortchanged. But it is the smaller community that would be the likely candidate for being rejected, given that the larger market can more easily use the capital generated by the smaller market.

If capital were more expensive or less available in Brown County, then the county's rate of growth would likely be lower. That is not what has occurred. With a growth rate twice that of metro Milwaukee, Brown County apparently has not suffered from lack of access to capital, at least as it is reflected in employment gains. In fact, bankers say that capital is as inexpensive in Green Bay as it is in Milwaukee. There is no difference between the two communities.

What we do not know is whether price or availability of capital has contributed to the problem of lower-paying jobs in Brown County. Recall that wage rates were lower in Brown County, and they grew more slowly than they did in Milwaukee over the 1990s. This may be attributable in part to some condition in the capital market. But if employees were adding more value, they likely would be compensated at a higher level than they have been in Brown

County. Lower productivity — if in fact it is lower — may reflect low capital investment on the part of businesses in Brown County, but levels of capital investment in turn might reflect management decisions, not lender decisions.

The lower wage rates also may be a result of the very high labor force participation rate in Brown County. This higher rate may be explained at least in part by a higher proportion of part-time workers in the Brown County workforce. Part-time workers are more likely to accept a lower wage. Unfortunately, there are not data available to verify this.

Taxes

Business decisions are influenced by anticipated costs, and one important source of costs is taxes. Businesses located in a given state all are subject to the same state taxes. State taxes therefore do not bear on our analysis of Brown County and metro Milwaukee. But other taxes may be relevant, including local property taxes and the 0.5 percent county sales tax option.

We can dismiss the latter as an issue: both metropolitan areas have elected to use the 0.5 percent sales tax. Milwaukee has an additional 0.1 percent tax for the stadium, and Brown County elected at the end of the 1990s to add 0.5 percent to its sales tax for the reconstruction of Lambeau Field. That 0.4 percent tax rate differential has not caused the differential employment growth, especially since the Lambeau tax was instituted late in the decade.

Property taxes could be a different story. Property taxes in the Milwaukee metropolitan area range widely from \$13 to \$32 per \$1,000 of equalized assessment in 2003 (*Milwaukee Journal Sentinel*, 2003), but that range also seems to be close to the tax rates found in Brown County communities. The high end (\$28) in Brown County is a little lower, and the low end (\$17) is a little higher (Brown County Treasurer, 2002). But most Brown County communities fall in the same property tax range as those in metro Milwaukee. Thus, property and sales tax rates have little to do with the differential growth rates in these two metropolitan areas.

Cost of Living

Taxes are certainly one element of the cost of living in a specific area. But for consumers there are many other costs, such as the basic cost of food or housing or recreation. The American Chamber of Commerce Researchers Association each quarter constructs a measure of the cost of living in over 300 cities across the country, comparing cities according to the relative, after-taxes cost of living. The national cost is set at "100." Some cities (e.g., Boston, at 133.1 percent of the average, or New York, where Manhattan comes in at 235.2 percent of the average), are usually ranked high among the most expensive places to live. The Green Bay area, by contrast, is well down the list. The cost of living in Green Bay is currently indexed at 93.9, somewhat below the national average (Table 9). (Comparisons from years before 2003 prove that the basic relationship between the two communities has been stable.) Milwaukee is indexed at 99.9, and Minneapolis-St. Paul is 112.7. Thus, the cost of living overall in metro Milwaukee is 6.1 percent higher than it is in Brown County. Owner-occupied housing in Milwaukee is much more expensive (+15.4 percent), as are rents (+27.9 percent), while health care is less expensive (-9.5 percent). Overall, Milwaukee is a more expensive place to live.

TABLE 9: COST OF LIVING INDEX, BROWN COUNTY AND METRO MILWAUKEE 2003

Brown County	Metro Milwaukee
Cost of Living index	93.9

Source: American Chamber of Commerce Researchers Association, Website, Jan 03

Employers examining what they will have to pay their workers can see, as they have, that wages and salaries can be lower in Green Bay, given the lower cost of living. Such a condition can appeal to employers, as they seek to contain their costs. In

combination with other advantages, the cost-of-living advantage makes the Brown County-Green Bay area look more appealing than Milwaukee to some employers, though not of course in all respects.

Transportation

In today's market, immediate access to Interstate highways is almost essential for most businesses. Retail firms clearly benefit from easier access to more potential shoppers. Office-based firms benefit because both employees and customers can gain ease of access. For industrial firms, good access reduces the costs of input and speeds the shipping of goods, not to mention the benefits of attracting a larger workforce. Thus, if available land is closely linked to an Interstate highway or at least a divided highway, that land should have greater value.

As noted above, land near the Interstate is usually expensive, but such land, at least in community business parks, is only about half as expensive in Brown County as it is in Milwaukee. Moreover, there is less acreage available near the Interstate system in Milwaukee, despite the many more miles of highway in the region. Milwaukee has many older areas that are difficult to reach, especially with large trucks. That makes the sites less desirable. Much of the land adjacent to the freeways has already been developed. So the new options are a bit further away from main metro centers, making them a little less desirable to many. The combination of higher cost and less desirable access may be contributing to slower growth rates in metro Milwaukee. In Brown County, fewer sites are far from an Interstate or a four-lane road.

But metro Milwaukee does seem to offer one advantage: it is 120 miles closer to national markets. That should make it a more desirable location. Still, for the mix of industries in Brown County, that time/distance difference is apparently not sufficient to limit the county's growth, even in manufacturing. One reason is that shipping rates to Green Bay are discounted because so many trucks are needed to transport paper product from Green Bay that there are always empty trucks on "back haul," heading back to Brown County. Shipping out from Brown County has no price advantages: It does, however, have the advantage of having immediate access to the largest trucking firm in the country.

Another transportation advantage for Milwaukee is its provision of superior air service. Milwaukee offers direct flights to most major cities in the United States. Services are provided by several competing carriers and all the large air cargo companies. The result is that it is easier to move passengers and cargo out of Milwaukee than out of Green Bay. The passenger advantage is thought to be especially strong, as the adage "time is money" is clearly believed by today's business people.

Role of Unions

In many areas of the United States, the presence or absence of unions has been associated with employment growth. Much recent growth in the southern United States has been in states that have few unions. Much of the growth in metropolitan Milwaukee has been in communities that have little history of unions. Milwaukee County and the City of Milwaukee, with their strong union backgrounds, have experienced little growth, while Waukesha County, with little union strength, has grown rapidly. Can the same be said for Brown County?

Our data on union representation are incomplete. But anecdotal evidence suggests that the absence of unions in the area — outside the paper industry — is one of the features that makes Brown County appealing as a business location.

Losses of Older Industries

Economies are always churning. Older businesses downsize or close. Newer businesses come and go. Jobs are being added and lost continually. Communities grow when the additions exceed the losses.

In the early 1980s many communities in the United States, and especially in the North, experienced a period in which the losses exceeded the gains. Metropolitan Milwaukee, for example, lost a net of 63,000 jobs between 1979 and 1983. The net was positive from 1983 onward. When we compare metropolitan Milwaukee and the City of Milwaukee to Brown County and Green Bay for the 1990s, we see that the net churn yielded positive gains for both cities and both metropolitan areas.

But there is no question that churning, especially the loss of jobs, hurt the growth rate of the city and region of Milwaukee in the 1990s (Table 10). Manufacturing in Milwaukee city, for example, lost a net of 10,600 jobs in the 1990s. About half of the loss can be attributed to closure; the other half can be attributed to downsizing. This indus-

try lost more jobs than any other. But several others in the city also were net losers during this period. Retail trade lost over 5,600 jobs, FIRE lost a net of 1,760, and construction dropped 1,650. Services, fortunately, came to the rescue, growing by a net of 26,400 jobs.

If Milwaukee had not lost its 10,600 manufacturing jobs, the city and region both would have had higher growth rates. If the city had also not lost 11,753 net jobs in seven other major industries, the picture in 1999 would have been more positive. Fortunately, the growth in Services more than compensated for the losses in the eight other industries. Green Bay, by contrast, did not experience these negatives. The net changes in major industries were all positive. Why did Milwaukee suffer and not Green Bay?

TABLE 10 NET CHANGE IN EMPLOYMENT BY INDUSTRY, CITY OF MILWAUKEE AND CITY OF GREEN BAY, 1991-1999

Industry	Employment 1999		Change 91-99	
	Green Bay	Milwaukee	Green Bay	Milwaukee
Agri & Mining	297	480	71	-124
Construction	4,474	7,159	1,727	-1,653
Manufacturing	21,882	55,931	4,537	-10,609
Trans/Utilities	6,751	18,677	1,478	-1,102
Wholesale trade	5,366	16,977	821	-646
Retail trade	18,061	41,324	2,640	-5,641
FIRE	3,690	32,503	788	-1,764
Services	28,336	123,780	7,913	26,389
Government	4	30	4	30
Total Private	88,861	296,861	19,979	4,880
% Private	91%	87%		
Government	9,421	45,757	1,188	-823
Total	98,282	342,618	21,167	4,057

Source: ES202 Database, UWM CUIR

Part of the answer has to do with the age and composition of the employers involved and part has to do with different levels of specific industry demand. Milwaukee, for example, did add new buildings, but new construction occurred mostly in the suburbs. As a result, some construction companies decided to move their offices closer to the predominant work sites — or suburban contractors got more jobs than those located in the city. Either way, the city lost employment and the suburbs gained. Retail trade changed. More sales occurred in big box retail sites. These facilities could operate with fewer employees per dollar of sales, and they tended to be located on larger lots more available in the suburbs. Both factors led to less retail employment in the city. Green Bay, by contrast, had open land and captured more of the new retail outlets. Also, the faster growing population required more new construction and more retail outlets. The expanded highway system increased the draw of Green Bay shopping. And the inexpensive “back haul” rates on trucks allowed national stores to ship goods to Green Bay at a lower cost than the location would indicate.

Another part of the answer is that Milwaukee was home to several older businesses, businesses that did not do what businesses needed to do to compete effectively in the 1990s. Louis Allis could not compete and closed its doors, laying off some 230 workers at the end. (At its high point Louis Allis employed about 2,300 workers.) The Falk Company could and did compete, but it invested in capital equipment and made do with fewer workers. In 1979 Falk employed 3,300 workers in Milwaukee. Today it employs about 800. Long-time Milwaukee industrial firms like Briggs and Stratton still exist. But to build engines today, Briggs and Stratton requires fewer than one-third the number of employees in Milwaukee than it used a decade ago. The scale of such firms is rarely matched in Green Bay. So the loss of jobs in Green Bay did not match that in Milwaukee.

Milwaukee also has been disadvantaged by a widespread perception that it is an undesirable place in which to do business. The main concern for potential investors is higher crime rates, but the concern also has an aesthetic dimension: the area is rundown. That is not an image that many businesses are willing to embrace. They want to be surrounded by success to prove to others that they are part of that success. Such is the appeal of many new industrial parks.

Green Bay does not have large areas of derelict buildings. In fact, it is hard to find any areas of deterioration in Green Bay — industrial, commercial, or residential. Employers may still wish to locate in the most desirable neighborhoods, but the image-cost of locating in less desirable areas is not high; it does not push many employers out. The result is that few jobs are lost in the city due to building condition and neighborhood quality.

Moreover, Green Bay is home to some industries that are difficult to re-site. Where might one go to site a slaughterhouse today? It is very difficult, if not impossible, to do so. The corporate answer, then, is to make do with the locations one has and to expand in those locations if demand requires. Such has been the case in Green Bay. Two large food processors, for example, have been revitalized by new owners who invested in old plants and built the businesses, in place. Again, by contrast, Milwaukee downsized facilities such as the stockyards, losing related employment.

Industry Mix

When the computer industry surged in the 1990s, some communities surged with it, thanks to local firms capable of building on the incredible growth in demand for computer-related goods and services. Similarly, some communities benefited from the strength of their local telecommunications firms. Certain industries in each time period have thrived and taken their communities with them.

For most communities, however, growth comes from a wide mix of industries, only some of which are gaining substantially. About metropolitan Milwaukee and Brown County, we need to know the degree to which each has a concentration of industries and to what degree that concentration was growing rapidly in the 1990s. To explore these questions, we employ a technique called location quotients (LQs). LQs are generated (1) by creating ratios of employment in the local industry X to total local employment, and (2) by comparing those ratios to another one: the ratio of national employment in industry X to total national employment. If an area's employment in industry X is similar to the nation's (that is, it has the same role relative to total local employment as national employment in that industry has to total national employment), then it will generate an LQ of 1.0. If an industry, say citrus fruits, is lower in Milwaukee than in the nation, it will have an LQ of less than one. If the industry is small-engine manufacturing, then Milwaukee will have an LQ of considerably greater than 1. High LQs can be good for an area, as long as those are the industries that are growing.

Table 11 shows the largest location quotient industries in metropolitan Milwaukee for 1999. The LQs are ranked from largest to smallest, revealing the most highly concentrated employment in each metropolitan area. Milwaukee has several very large LQs. By far the largest is that of Motorcycles, Bicycles, and Parts. This industry is led by Harley-Davidson. Since it is the only major motorcycle company based in America, it should have a very high LQ. The second measure regarding growth and impact is also positive. The firm had a very good decade and did add jobs in Milwaukee. The industry as a whole, one that involved several firms related to motorcycles, bicycles, and parts, added 1,271 jobs in metro Milwaukee in the 1990s. That concentration turned out to be a positive experience for the area.

The second-most concentrated industry, Leather Tanning and Finishing, yields a very different story. Yes, the industry has been highly concentrated in Milwaukee (with an LQ of 14.86), but it is an industry that has fast been disappearing here and in the rest of the United States. Milwaukee employment in the industry has dropped further since 1999, as the major employers closed their local tanning operations. Thus, a high LQ here is not a positive sign for the Milwaukee economy, as the loss of 384 jobs in the 1990s indicates.

The third most common industry, Engines and Turbines, has been a staple of the Milwaukee economy for decades. Small engines for lawn mowers, snow blowers, and outboard motors have been associated with Milwaukee for many years. Names like Briggs and Stratton, Evinrude, Johnson, and Tecumseh have long histories in Milwaukee. Such firms constituted a growth industry for at least half a century. But that trend has abated. Factories have closed

TABLE 11 LARGEST LOCATION QUOTIENTS OF THREE-DIGIT INDUSTRIES, METRO MILWAUKEE, 1999

1999 Rank	SIC	Industry	1999	Employment change 91-99
1	375	Motorcycles, Bicycles, and Parts	23.019	1,271
2	311	Leather Tanning and Finishing	14.860	-384
3	351	Engines and Turbines	11.595	-2,935
4	362	Electrical Industrial Apparatus	9.700	545
5	332	Iron and Steel Foundries	5.741	878
6	635	Surety Insurance	5.537	-197
7	361	Electric Distribution Equipment	5.141	-4
8	336	Nonferrous Foundries (Castings)	4.963	203
9	353	Construction and Related Machinery	4.508	-288
10	317	Handbags and Personal Leather Goods	4.433	-497
11	275	Commercial Printing	3.936	4,596
12	279	Printing Trade Services	3.884	-33
13	346	Metal Forgings and Stampings	3.637	936
14	356	General Industrial Machinery	3.624	-45
15	354	Metalworking Machinery	3.589	593
16	415	School Buses	3.291	-52
17	384	Medical Instruments and Supplies	3.139	60
18	285	Paints and Allied Products	2.995	107
19	342	Cutlery, Handtools, and Hardware	2.947	7
20	671	Holding Offices	2.836	820

Source: ES202 Database, UWM CUIR

or downsized. Foreign competition has grown dramatically as foreign plants have spread to many new locations. We retain a high industry concentration here, but that outcome is worth less and less in terms of employment. In fact, during the 1990s, the area lost over 2,900 jobs in this concentration of activity.

As we look at Table 11, we can see many entries in which the industry had a high LQ — *and* lost employment between 1991 and 1999. That pattern suggests that Milwaukee has specialized in what are now declining industries. There are exceptions, such as Commercial Printing and Motorcycles and Bicycles. But net job growth from the top 10- and top 20-highest LQ industries in Milwaukee amounted to -1,408 and +5,581, respectively. Having highly concentrated industries in Milwaukee did not provide much help during the 1990s. Nine of the 20 most highly concentrated industries lost employment in the 1990s, and another four added fewer than 250 jobs each.

Looking ahead, it appears that many of these same industries (for example, engines and turbines, tanning, foundries, leather goods, metal forgings, various types of machinery, and the like) are likely to provide even fewer net additions to the Milwaukee economy in the next decade. Growth has not been and will not be strong in the industries in which Milwaukee has developed special advantages. Most of the former winners for Milwaukee are not going to be the leaders in the next decade. These industries once brought wealth to Milwaukee, and some still do. But their contribution is diminishing yearly. These must be replaced by new industries if Milwaukee is to be able to overcome the decline it has experienced in much of its economic base.

Brown County's experience is somewhat different (Table 12). It also has several industries with high LQs. In fact, four are dramatically higher than the highest in Milwaukee. But 15 of the top 20 industries in Brown County have yielded gains in employment for the area. And none of the losers lost more than 150 jobs in the 1990s — in contrast to Milwaukee, where 10 of the most concentrated industries collectively lost 4,305 jobs.

TABLE 12 LARGEST LOCATION QUOTIENTS OF THREE-DIGIT INDUSTRIES, BROWN COUNTY, 1999

1999 Rank	SIC	Industry	1999	Employment change 91-99
1	315	Leather Gloves and Mittens	52.239	-24
2	262	Paper Mills	41.316	464
3	253	Public Building & Related Furniture	30.427	1,069
4	276	Maniford Business Forms	28.163	510
5	355	Special Industry Machinery	15.080	790
6	202	Dairy Products	11.841	-22
7	493	Combination Utility Services	11.184	-146
8	632	Medical Service and Health Insurance	8.008	1,106
9	261	Pulp Mills	5.612	74
10	373	Ship and Boat Building and Repairing	5.492	528
11	207	Fats and Oils	5.266	60
12	385	Ophthalmic Goods	5.155	-90
13	263	Paperboard Mills	4.881	3
14	201	Meat Products	4.609	977
15	941	Admin. Of Educational Programs	4.189	137
16	267	Misc. Converted Paper Products	4.064	-75
17	203	Preserved Fruits and Vegetables	3.843	116
18	421	Trucking & Courier Services, Ex. Air	3.441	2,026
19	641	Insurance Agents, Brokers, & Service	3.370	1,638
20	244	Wood Containers	3.212	36

Source: ES202 Database, UWM CUIR

Some of the Brown County concentrations have done little for county growth. Admittedly, Gloves and Mittens are very highly concentrated in Brown County, since much of this industry has moved overseas. The contribution was a loss of 24 jobs in the 1990s. But industries such as Public Building and Related Furniture, Medical Service and Health Insurance, and Trucking & Courier Services have contributed substantially to the area's employment growth. On the other hand, the highly visible paper industry has contributed little to growth in employment, with Pulp Mills, Paperboard Mills, and Miscellaneous Paper Products in combination netting zero growth.

In all, the top 20 industries, as ranked by location quotient, yielded Brown County 9,177 net new jobs in the 1990s. That is more than one quarter of the area's growth. In Milwaukee the top 20 industries added only 5 percent of the area's net growth. Concentrations of industry can boost an economy or not, depending on the mix of those industries. The Green Bay area gained from its concentrations, while Milwaukee barely did. The specific mix of concentrated industries is a major reason why Brown County and Green Bay grew so much faster than Milwaukee in the 1990s.

INDUSTRY GROWTH DUE TO UNIQUE LOCAL CHARACTERISTICS

Since having a high concentration in an industry is not necessarily good, we need to consider other measures of what is occurring in an economy. One such measure is provided by a tool for economic analysis called "shift-share analysis." This device allows one to identify reasons for growth or losses in employment. The reasons are differentiated as being due to national economic trends (growth or decline in the national economy), national employment

trends in each particular industry, and unique characteristics of the local area that influence employment in a particular industry. A viewer is able to see the relative roles of the three contributors to growth or decline.

For example, an industry such as Air Transportation (SIC 451) that grew by close to 6,000 jobs in Milwaukee can be seen (Table 13) to have grown dramatically because of unique conditions in Milwaukee: it is the headquarters for Midwest Express Airlines and a growing center for Skyway Airlines. The growth in the national economy contributed very little to the employment growth of Air Transportation in Milwaukee, as did the stable national trend in employment in airlines.

TABLE 13 FASTEST GROWING THREE-DIGIT INDUSTRIES AND THEIR SOURCES, METRO MILWAUKEE 1991-1999

3-digit SIC	Short Title	Change	National Share	Industry Mix	Regional Share
736	Personnel Supply Services	16,479	2,531	16,605	-2,658
737	Computer and Data Processing Services	8,682	1,376	8,394	-1,088
451	Air Transportation, Scheduled	5,939	210	631	5,098
806	Hospitals	5,255	5,767	-4,348	3,836
275	Commercial Printing	4,596	1,887	-1,466	4,175
821	Elementary and Secondary Schools	4,048	6,477	498	-2,927
801	Offices & Clinics of Medical Doctors	3,972	1,801	1,511	660
832	Individual and Family Services	2,951	859	1,105	987
836	Residential Care	2,468	711	898	859
602	Commercial Banks	2,367	1,696	-2,097	2,768
581	Eating and Drinking Places	2,257	8,102	1,672	-7,517
835	Child Day Care Services	2,249	610	1,417	223
738	Miscellaneous Business Services	2,104	1,616	2,588	-2,099
822	Colleges and Universities	1,941	2,863	-973	51
874	Management and Public Relations	1,877	508	1,360	9
308	Miscellaneous Plastic Products, NEC	1,874	864	105	905
799	Misc. Amusement, Recreation Services	1,865	774	1,422	-331
734	Services to Buildings	1,799	1,236	307	256
504	Professional & Commercial Equipment	1,712	1,110	140	461
805	Nursing and Personal Care Facilities	1,655	2,582	626	-1,552

Source: ES202 Database, UWM CUIR

In Milwaukee only one industry among the 20 fastest-growing three-digit industries in the area is located on the list of those with a high concentration (LQ) in Milwaukee. All the others that have grown rapidly are more commonly shared with other areas of the country. That diversity of industries, the opposite of heavy concentrations, is often a healthier prescription for a growing economy. It helps to have some concentrations, but a broad mix is usually a positive for employment growth. Nevertheless, some industries do benefit from characteristics present in particular economies. Employment growth may be, as in the case of printing, caused by the growth of a company led by a high-profile individual. Or, in the case of air transportation, it may be caused at least in part by the growth of a high-profile airline and expansion of air service in Milwaukee.

There are two ways to examine shift share results. One is to list the fastest-growing industries and then determine what factors contributed to their growth. This is the most common approach. A second is to list the industries in descending order of growth by the scale of the growth contributed by local factors. This approach focuses on those industries that have special conditions locally aiding their expansion; it provides a different picture of the economy. Because of the different insights each can yield, both lists will be examined here.

The first (see Table 13) is constructed with the fastest growing industries in the Milwaukee region in the 1991-1999 period. Far and away the largest grower was SIC 736, Personnel Supply Services, the largest component of which is Temporary Help Supply Services. With the industry practically having been born in Milwaukee, thanks to Manpower, Inc., one might think it would gain regional share because of the local characteristics that led to its birth. That was not the case. Almost all of the growth can be attributed to the growth of this industry nationally. Temporary Help in particular was a dramatic growth area across the country. Many employers changed the way they do business because of the availability of "temps." This national trend is what carried growth in Milwaukee. The regional share was actually negative. One might have expected the opposite, except that employers in the city of Milwaukee lost employment in industries such as manufacturing that have come to rely on temporary help as a way to screen new job applicants.

Computer and Data Processing Services also grew dramatically over the 1990s. Again it was the combination of a growing national economy and strong growth in the computer services industry nationally that were responsible for the addition of close to 8,700 jobs in the region. The unique aspects of the region reduced the total gains by almost 1,100 jobs, suggesting that the local conditions were not a positive factor for SIC 737. What that says is that, because of local conditions, less use was made of this industry in Milwaukee than would have been expected, had it operated as had the national economy. That is not a positive for Milwaukee.

On the other hand, Air Transportation, Scheduled grew dramatically, largely because of the regional share component, the unique circumstances here. National trends would have suggested modest (631) growth. But the expansion of Midwest Express, a national airline in Milwaukee, Skyway, its feeder, and air service generally to Mitchell Field helped to change the outcome dramatically.

Hospitals, Commercial Printing, and Commercial Banks grew in Milwaukee largely because of unique circumstances here. Unfortunately for Milwaukee, these three and Air Transportation were the only industries among the 20 fastest-growing that added at least 1,000 jobs because of unique circumstances in the area. Seven others did receive a boost in employment due to local conditions. But in all, 7 of the 20 industries were fast-growing despite the negative regional share. So 11 industries benefited from regional conditions, 2 were virtually unaffected, and 7 grew more slowly because of local conditions. One might conclude that the best industries on which to bet are those with the large gains attributable to local conditions. On the other hand, if national trends are moving in the opposite direction, that may make succeeding with these industries more challenging.

In total, these 20 fastest-growing industries did not contribute much to the economy because of unique local conditions. The net growth attributable to their "regional" share was only 2,118 jobs or 2 percent of total metro growth. In aggregate, the growth in Milwaukee was not carried by any special conditions among the fast growers. It was conditions nationally in these industries that carried the day. Milwaukee benefited. This suggests that there is little in Milwaukee to build on within these 20 industries by taking advantage of local conditions, with a couple of exceptions.

Table 14, by contrast, shows the industries that grew the fastest because of favorable local conditions. Collectively, local conditions added 28,376 jobs to Milwaukee, comparable to 27 percent of the area's net growth. Some of the locally generated gains in employment were partially negated by national forces within these same industries, lowering the scale of their contributions to the local economy. But the list does show which industries benefited the most from local conditions. Whether one should bet on these industries is another question, especially since 12 of them had a negative sign on the industry mix, showing that national industry trends would indicate a lower level of employment locally.

Although there is some overlap, the list shown in Table 14 is quite different from the one in Table 13. Overall, 15 industries listed in Table 14 are different. In Table 14 we find Air Transportation at the top, not Personnel Supply Services. And Table 14 lists nine industries in manufacturing, not two. Milwaukee has gained employment in a number of industries that have been declining nationally. Some 12 of the 20 in Table 14 suggest by the negative sign in the Industry Mix column that job gains should be more modest. For a variety of reasons Milwaukee has added a number of jobs in these industries despite national trends.

TABLE 14 FASTEST GROWING INDUSTRIES, LISTED BY LARGEST GROWTH ATTRIBUTED TO LOCAL CHARACTERISTICS, METRO MILWAUKEE, 1991-1999

3-digit SIC	Short Title	Change	National Share	Industry Mix	Regional Share
451	Air Transportation, Scheduled	5,939	210	631	5,098
275	Commercial Printing	4,596	1,887	-1,466	4,175
806	Hospitals	5,255	5,767	-4,348	3,836
602	Commercial Banks	2,367	1,696	-2,097	2,768
362	Electrical Industrial Apparatus	545	1,689	-2,326	1,182
832	Individual and Family Services	2,951	859	1,105	987
308	Miscellaneous Plastic Products, NEC	1,874	864	105	905
671	Holding Offices	820	204	-265	880
836	Residential Care	1,271	310	101	859
375	Motorcycles, Bicycles, and Parts	2,468	711	898	859
332	Iron and Steel Foundries	878	726	-681	832
881	Private Households	1,482	252	440	790
209	Misc. Food and Kindred Products	682	173	-192	701
501	Motor Vehicles, Parts, and Supplies	1,105	469	-45	681
472	Passenger Transportation Arrangement	996	301	20	676
286	Industrial Organic Chemicals	591	88	-167	670
801	Offices & Clinics of Medical Doctors	3,972	1,801	1,511	660
367	Electrical Components and Accessories	872	287	-65	650
331	Blast Furnace and Basic Steel Products	579	58	-102	623
506	Electrical Goods	1,066	558	-37	544

Source: ES202 Database, UWM CUIR

If economic development efforts were to focus heavily on promoting those industries listed in Table 13, it might not be the best policy. With the exception of Offices and Clinics of Medical Doctors, it appears that almost all of the large gainers in the private sector are in industries that seem to be losing employment or barely holding their own nationally. These may not be good bets.

Then again, if Milwaukee has certain advantages, it should certainly try to exploit them. But it is hard to see large employment gains coming in, for example, Motorcycles or Commercial Banks or even Air Transportation, given the current shape of that industry. Hospital employment is likely to continue to grow, as the population of the area ages. But many of the other areas are questionable for the future, and they have not provided the level of growth for Milwaukee that a collection of industries that had gained for all three reasons would have. Milwaukee grew slowly because 60 percent of its fastest-growing industries (in terms of the contribution of regional share) were bucking national trends. Nevertheless, these industries and local conditions did contribute in the 1990s, even though they may not continue to do so in the 21st century.

Brown County's story is quite different. Tables 15 and 16 contain lists like those in Tables 13 and 14. Table 15 ranks industries by their net contribution to the Brown County economy. Thus, Eating and Drinking places added the most jobs, 2,640. This industry grew for all three reasons, the largest being growth in the national economy, which generated additional disposable income to be spent on food and drink. Unique regional factors virtually matched the national trend for economic growth in terms of scale of contribution. The national trend in the industry, however, would suggest only modest growth in this industry.

TABLE 15 FASTEST GROWING THREE-DIGIT INDUSTRIES AND THEIR SOURCE, BROWN COUNTY, 1991-1999

3-digit SIC	Short Title	Change	National Share	Industry Mix	Regional Share
581	Eating and Drinking Places	2,640	1,201	248	1,191
421	Trucking & Courier Services, Ex. Air	2,026	748	-380	1,658
641	Insurance Agents, Brokers, & Service	1,638	209	-73	1,502
736	Personnel Supply Services	1,596	220	1,444	-68
799	Misc. Amusement, Recreation Services	1,566	100	184	1,282
738	Miscellaneous Business Services	1,323	195	312	816
821	Elementary and Secondary Schools	1,211	816	63	332
632	Medical Services and Health Insurance	1,106	403	590	113
253	Public Building and Related Furniture	1,069	123	275	671
201	Meat Products	977	290	-2	689
355	Special Industry Machinery	790	368	-117	539
737	Computer and Data Processing Services	595	19	116	460
373	Ship and Boat Building Repair	528	115	-242	655
171	Plumbing, Heating, Air-Conditioning	520	176	243	102
276	Manifold Business Forms	510	158	-235	587
835	Child Day Care Services	481	79	184	217
154	Nonresidential Building Construction	476	86	-2	392
262	Paper Mills	464	1137	-2,267	1,594
275	Commercial Printing	461	146	-113	429
806	Hospitals	446	918	-692	220

Source: ES202 Database, UWM CUIR

Nevertheless, the top 20 industries did add some 13,381 jobs to the Brown County economy that were attributable to unique local conditions. Unlike Milwaukee where the regional share accounted for only 2 percent of the area's growth, the unique aspects of Brown County accounted for 38 percent of the area's 35,000 net addition of jobs. In all but one of the 20 industries, the regional share is positive.

This condition was fortunate for Brown County, since the industry mix portion was negative in 10 of the industries. This suggests that Green Bay would not have done as well in these industries if it had relied on national industry trends. But only one of these, Paper Mills, was a large negative, and in all but two cases, Paper Mills and Hospitals, local conditions were such that they more than compensated for national industry trends.

The net effect is that local conditions contributed a good deal to the gains made in the fastest-growing industries. That was a plus for Brown County and an important reason for the county's growth in the 1990s. Local conditions were favorable to many of these fastest-growing industries.

Table 16 lists industries by growth attributable to local characteristics. It shows five industries that do not appear on Table 15. Four of these five grew in large measure because of unique local conditions. None contributed more than 435 jobs over the 1990s. So virtually all of the names on the list are there because of the strength of local conditions. That factor helped to increase the rate of employment growth in Brown County over the 1990s. On the other hand, growth would have been even faster if 11 of these industries had been industries that were growing nationally, rather than the opposite. But Brown County was fortunate to have sufficient strength in its local conditions to create growth nonetheless.

TABLE 16 FASTEST GROWING INDUSTRIES, LISTED BY LARGEST GROWTH ATTRIBUTABLE TO LOCAL CHARACTERISTICS, BROWN COUNTY, 1991-1999

3-digit SIC	Short Title	Change	National Share	Industry Mix	Regional Share
421	Trucking & Courier Services, Ex. Air	2,026	748	-380	1,658
262	Paper Mills	464	1,137	-2,267	1,594
641	Insurance Agents, Brokers, & Service	1,638	209	-73	1,502
799	Misc. Amusement, Recreation Services	1,566	100	184	1,282
581	Eating and Drinking Places	2,640	1,201	248	1,191
738	Miscellaneous Business Services	1,323	195	312	816
201	Meat Products	977	290	-2	689
253	Public Building and Related Furniture	1,069	123	275	671
373	Ship and Boat Building Repair	528	115	-242	655
276	Manifold Business Forms	510	158	-235	587
355	Special Industry Machinery	790	368	-117	539
737	Computer and Data Processing Services	595	19	116	460
356	General Industrial Machinery	445	39	-27	433
275	Commercial Printing	461	146	-113	429
154	Nonresidential Building Construction	476	86	-2	392
508	Machinery, Equipment, and Supplies	426	184	-107	350
821	Elementary and Secondary Schools	1,211	816	63	332
872	Accounting, Auditing, & Bookkeeping	408	63	25	320
633	Fire, Marine, and Casualty Insurance	294	51	-53	297
473	Freight Transportation Arrangement	277	1	1	275

Source: ES202 Database, UWM CUIR

One industry jumps out because of the scale of the national industry number. That is Paper Mills. The expectation that national trends would cause the loss of over 2,200 jobs suggests that this is not a healthy industry. Locally, it grew modestly for the decade, but the future is not as bright. Several firms in the industry have been explicit about their intention to discontinue investment in local facilities. Georgia Pacific has said it wants to move production to the west. It is pained by the regulatory climate in Wisconsin and is not even considering further capital infusion in Brown County. Such statements and the industry trend toward over-capacity bode ill for Brown County. The meager growth of 464 jobs in the 1990s may well be followed by sizeable job losses in the next decade.

Two other rapidly growing industries in the 1990s also look questionable for the next decade. Both Trucking and Insurance bucked national trends in the 1990s by growing as rapidly as they did in Brown County. In those industries Brown County did well because of three entrepreneurs. It is certainly possible that these individuals and their firms may continue to grow at their present locations. Others in the industry may decide to locate elsewhere. Brown County has appealed uniquely to certain entrepreneurs who have insisted on locating themselves and their businesses there. Supporting conditions, such as the work force and wage rates, have certainly helped. But whether the supporting conditions will continue to suffice remains to be seen.

Amusements have grown largely because of the Oneida Casino and related developments. Some say that this development has fostered greater tourism in the area, thus helping to increase employment in the next fastest-growing industry, Eating and Drinking Places. Whether these industries will grow as dramatically in the next decade is doubtful; it really depends in part on whether the casino is allowed to expand further.

The Development of Intellectual Property

One major contributor to the growth of economies is the development of new knowledge. A measure of that factor is patents. To the extent that an economy generates more patents issued to individuals and firms over time, one could suppose that it will also generate greater employment and income in that region. To see if that is the case with Milwaukee and Green Bay, we tracked patents issued for the 1990-1999 period. Sample years and a total appear in Table 17.

**TABLE 17 NUMBER OF PATENTS ISSUED BY COUNTY AND YEAR
1991-1999**

	1990	1995	1999	Total 1990-1999
Brown County	21	31	43	323
Metro Milwaukee	411	451	530	4,369
Milwaukee County	126	126	142	1,207
Ozaukee County	51	55	46	501
Washington County	66	61	58	556
Waukesha County	168	209	284	2,105

Source: U.S. Office for Patent and Trademark Information, April 2000

Table 17 reveals the absolute number of patents issued, by county, to the five counties under examination. The numbers show fluctuation year to year, by county, and in the collective Milwaukee metro area. Most notable is the total number of patents issued in Brown County versus metro Milwaukee. Over the 10-year period, 323 patents were issued to applicants from Brown County, and 4,369 were issued to applicants in metro Milwaukee. In other words, Milwaukee applicants were awarded 13.5 times as many patents as applicants in Brown County. In an econ-

omy that is only six times larger, that 13.5 figure suggests that much more intellectual property is being developed in Milwaukee and that we should be seeing more economic gains in Milwaukee than in Green Bay.

Obviously, that is not the case, as measured by employment. Brown County employment grew at more than twice the rate of employment in Milwaukee. What this may suggest is that metro Milwaukee should be doing better at taking advantage of the new ideas developed. On the other hand, the higher wages and incomes generated in Milwaukee suggest that perhaps some of this intellectual property has been used — but that it has resulted in substitution of capital for labor or for other forms of productivity enhancements.

New Business Starts

Another hypothesis is that Brown County had relatively more new business starts in the 1990s than did metro Milwaukee. In order to examine this point, we had to find some measure of new starts. The one database available came from the Department of Financial Institutions (DFI) of the State of Wisconsin (2003). The DFI maintains a database on all new business incorporations by geographic area. The incorporations are tracked over time. The data are not perfect because some individuals never report the location of their business activity, only the community of initial incorporation. Nevertheless, the data do give a reasonable impression of the level of new business activity.

**TABLE 18 NEW BUSINESS INCORPORATIONS, BY YEAR AND PLACE
BROWN COUNTY AND METRO MILWAUKEE
1991, 1995, AND 1999**

	1991	1995	1999
Brown County	208	250	241
Metro Milwaukee	2,147	2,316	1,410
Proportion in Brown	9%	10%	15%
Proportion in Metro	91%	90%	85%

Source: Wisconsin Department of Financial Institutions, Special Run, January 2003

The data show a huge difference in the absolute number of incorporations in the two communities, regardless of the year. Brown County's numbers run between 208 and 241, while metro Milwaukee numbers vary from 1,410 to 2,316. In terms of the ratio we have used previous-

ly, Milwaukee began the decade with incorporations occurring at almost 10 times the rate observed in Brown County. By mid-decade the ratio was still more than 9:1 in favor of Milwaukee. However, by 1999 the level of incorporations in Milwaukee had dwindled, while they remained relatively stable in Brown County; the new ratio was about 6:1, comparable to the employment ratios.

The ratios in 1991 and 1995 strongly suggest that much more was happening in the Milwaukee economy. Thus, even if there is a lag between incorporation and the addition of employees, we would expect to see more rapid employment growth in Milwaukee than in Brown County. But as we have seen, the net growth was occurring elsewhere. Perhaps the number of incorporations is not a good measure; it includes shell corporations and may reflect intentions rather than real businesses. But given the differential, one would still expect to see more growth coming from Milwaukee. Brown County, by contrast, was very stable over the 1990s. There was no "exuberance." The community just kept adding new firms at a very steady rate.

The data are a bit incomplete regarding what has happened since 1999. But if we project the trend in both communities to learn what is likely to have happened in 2001, we find that the number of new incorporations in metro Milwaukee dropped to about 1,060, while those in Green Bay dropped slightly to 231. Milwaukee's new incorporations since 1995 dropped more than 45 percent, while those in Brown County declined a mere 9 percent. Again it appears that the Brown County economy is stronger and will remain that way as a portion of these new incorporations become viable employers.

CITY OF GREEN BAY VERSUS THE CITY OF MILWAUKEE

As should be clear by now, the cities of Green Bay and Milwaukee play different roles in their respective markets. Green Bay is home to approximately 72 percent of the employment in Brown County, whereas Milwaukee can now claim 41 percent of Milwaukee-area employment. Green Bay employment and population grew by about 27 percent and 6 percent, respectively, while Milwaukee's employment grew by 4 percent and its population declined by 5 percent in the 1990s. Much of the success of Brown County can be attributed to the strength of Green Bay. But its suburbs grew even more rapidly (by 55 percent), adding 13,725 jobs.

Why did the City of Green Bay grow so much more than the City of Milwaukee? That is difficult to answer completely, but many of the factors reviewed to this point seem to apply. Green Bay and Brown County both gained employment because of general factors that were conducive to employment growth. These included lower-priced workers, lower-priced land, lower construction costs, faster population growth, higher labor force participation rates, and more significant entrepreneurs, to name a few.

But Green Bay also grew rapidly because of several additional factors, factors that were not matched in Milwaukee. These factors included sizeable amounts of undeveloped land, a city policy to develop and sell hundreds of acres of that land at about half the market rate, a city government that prided itself on knowing when it should step aside and let businesses do what they need to do. (Milwaukee admitted to having had a problem in this area, and subsequently worked hard to streamline its development approval process.)

Green Bay is not characterized by deteriorated areas likely to scare off business investment; it has benefited from the expansion of several highways, and it has a better entrepreneurial climate with more highly visible entrepreneurial successes. The better climate is evidenced by many examples of private capital investing in local enterprises, a major initiative by the Chamber of Commerce to spur entrepreneurship, and a population that is independently minded, inclined to support the entrepreneurial efforts of others. The City of Green Bay also has been home to few declining industries, unlike Milwaukee, which experienced employment losses in all but one major industry (see Table 10) in the 1990s. These factors together make it likely that Brown County and Green Bay would grow faster than Milwaukee.

Some of these points warrant further elaboration. Green Bay, for example, has been aggressive about growth through land development. The City created and marketed its 653-acre I-43 Industrial Park. Milwaukee in the 1990s did not have 653 acres in one site. In fact, its land bank emptied at mid-decade, and the City now is hard pressed to come up with an undeveloped site of more than 30 acres. Land availability does make a difference, especially for employers seeking raw land for construction. Also, the land that is available in Milwaukee is not near an expressway. The land near expressways was developed years or decades, ago. Potential users must therefore be willing to accept some delay in getting to and from the expressways. More important, though, is the absence of available undeveloped land.

Formerly used land is available in larger quantities in Milwaukee. But this land is usually poorly located with respect to expressways, and it confronts potential users with real and potential costs for environmental liability passed along from previous users. As the DNR and EPA develop procedures to expedite new uses of this land, it may be redeveloped on a grander scale than has occurred to date. Today, however, land that seems to be well located — in the Menomonee River Valley, for example — is sitting idle. The City of Milwaukee must be more aggressive in its taking title to, cleaning up, and marketing if this land is to find its way back to private use in the near future.

Green Bay and Milwaukee have both created and used some programs intended to induce private investment in its community. But in Wisconsin local governments are limited in what they can do to reduce costs to businesses. The one tool that has made a difference is tax incremental financing (TIF). The TIF mechanism enables communities to invest in infrastructure development at the outset and over time recover the expenditure through the increment in property taxes paid on the development. Both communities have used the technique.

Milwaukee has tended to use TIF plans to foster downtown redevelopment, plus one long-term effort in the Menomonee Valley. Green Bay has used TIF plans for development of green fields. Milwaukee has used TIF plans on developments that have sold land at market value. Green Bay has used them to cover its own development costs plus a little more. This approach has allowed Green Bay to sell fully improved land for less than the private market rate. It then recovers its outlay through the tax increment and encourages development on its lands. The result is sale of land in the City's business park that is markedly less expensive than land available in Milwaukee or on the private market in Green Bay, as noted above. This practice has helped stimulate growth in employment in Green Bay. The technique has helped in Milwaukee as well, but there it has applied to projects of a different type and on a different scale.

It must be noted, however, that only a quarter of the growth of over 21,000 jobs in Green Bay came from new development in the business park in Green Bay. A good portion of the growth was generated by expansion on the part of existing employers or from new employers that bought existing sites. Thus, while the claim of much more land to develop rings true, it is far from sufficient to explain the bulk of the difference in growth rates between the two communities.

An expected factor that has not made a difference in growth rates is the property tax rate. Land and buildings may be less expensive in Green Bay, but both Green Bay and Milwaukee have similar property tax rates. Therefore, we must conclude that differences in tax rates have not been responsible for the faster growth in Green Bay.

Green Bay worked with its suburbs to keep its large employers in the area. In the 1990s several municipal executives elected in Brown County proved to be aggressive political drivers truly focused on economic development. This was a key to their administrations. Land availability was part of the equation: all of the larger communities did have available land in their industrial parks. They all offered the land at about the same, below-market price. But more important were the relationships built between governments and businesses. One Green Bay observer noted: "I believe that the ability of local government and industry to not only work together, but to know when to stay out of each other's way is perhaps the best explanation for this growth. . . . It is not a coincidence that this job growth occurred simultaneously with very strong political leadership in our larger communities."

There is a strong anti-government culture in Green Bay and Brown County that permeates business dealings with the local governments. Business leaders want most to be left alone. Accordingly, they tend not to look to government for help. Government units understand this and step out of the way, where they can. A somewhat similar attitude has been expressed by Mayor Norquist in Milwaukee. He has stated repeatedly that the City should not be subsidizing

private development. His stand is not universally respected, given the many problems besetting the city. His reluctance may have slowed development and redevelopment, but his approach is not very different from that found in Green Bay, aside from the emphasis there on taking title to, developing, and selling land at a below-market rate. Given the comparable, hands-off attitude associated with both places, that attitude should probably not be taken as an explanation of Milwaukee's lagging growth rates.

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The FBI annually tracks seven types of crime in communities across the country. The FBI combines counts of these seven crimes to create a "Uniform Crime Report." With this report it creates a "crime rate" that takes into account population size and allows comparisons across communities of different sizes. In 1999 the FBI crime rate figure for Green Bay was 4,342; for Milwaukee it was 7,929. The Milwaukee crime rate was 83% higher than Green Bay's. Green Bay ranked 375th and Milwaukee 102nd on the list of all cities with populations of 40,000 or more persons.² That may well have made a difference in the relative appeal of each community to potential and current employers.

An additional crime figure is available for Milwaukee but not Green Bay. That is a comparison of the central city with its suburbs with regard to violent crimes. In 1999 the violent crime rate in the city of Milwaukee was 7.6 times higher than it was in its suburbs. In fact, on a list of the city and suburbs of the 50 largest cities in the U.S., the Milwaukee suburbs were the second safest place of the 100 places (50 cities and their suburbs) while the City ranked 62nd.³ Milwaukee was safer than many other central cities, but given the local city/suburban difference, it should not be a surprise that the suburban employment grew more quickly than Milwaukee's.

The second additional difference between Green Bay and Milwaukee that has likely affected employment growth is that related to education. We saw above that the metro area of Green Bay has a slightly higher proportion than metro Milwaukee of high school graduates among its adults. The difference in high school graduation rates between Milwaukee and Green Bay, however, is much more pronounced. In the 1998-99 academic year, the high school graduation rate was 89.6% in Green Bay and 56.0% in Milwaukee. That difference should make Green Bay more attractive to employers.

A related measure is the level of student achievement as measured on standardized tests. Again Green Bay students did markedly better than those in Milwaukee. Taking 10th grade scores for the same 1998-99 school year, we find that 68% of the Green Bay students achieved one of the top two designations, "proficient" or "advanced" on the reading test. Some 42% achieved those levels on the math component. By contrast, 31% of the Milwaukee students scored at the high end on reading and 10% scored in the top two categories in math (www.dpi.state.wi.us). These profound differences must have a negative impact on the economy of the city of Milwaukee and help to explain the difference in growth rates between Milwaukee and Green Bay.

Luck

Although many professionals are reluctant to admit it, luck sometimes plays a critical role in economic development. Many communities have been built or bolstered on the basis of luck. Seattle was lucky when a Harvard dropout (Bill Gates) happened to return to his hometown to grow a world-class business. Michael Dell went to college in Austin and decided to stay there. Eli Lilly happened to grow up in Indianapolis. George Pullman went to Chicago as a cabinetmaker and became interested in improving sleeping cars for the railroads. The list goes on. Many businesses developed as they did because the individuals involved happened to live there. Most of these individuals did not move to find the perfect location; that may have happened later with subsequent plants. But in many cases they created or implemented their enterprise where they lived at the time.

In a smaller community like Brown County, it does not take many successful individuals to have a positive impact on the economy. Don Schneider of Schneider Transport and Logistics grew up in Green Bay. He took over a small trucking firm started by his father. He was able to grow it dramatically and create some of the most sophisticated logistics in the industry. Shopko was founded locally and expanded from there. The same can be said for insurance. Two individuals are responsible for the very rapid employment growth in insurance in Green Bay. They founded, grew, and sold two companies; then they started a third. In all, their firms have supplied more than 5,000 jobs to current Brown County employment. If one uses a multiplier to account for the jobs created indirectly, the number is markedly greater. There is no particular reason for these successes in Brown County, other than the individuals who were in Brown County and wanted to stay there.

Milwaukee has historically benefited from the same sort of luck. Harry Quadracci was a local resident who had a different vision about how a printing firm could be run. He created thousands of jobs in acting on his vision. Terry Anderson of Omni Tech decided that he could make computers as well as anyone else, and he proceeded to do so.

Roy Reiman decided that there was a market for rural-oriented magazines and created a publishing empire meeting this need. The firms in question are not ones that had to be located in Milwaukee. But because the individuals were here, they built their firms here. There was no big government program that helped. There was no particular advantage inducing the entrepreneurs to locate their firms here. But because of the vision and hard work of the individuals involved, the Milwaukee area has benefited greatly.

A community can increase its odds for success by making the business climate more supportive of entrepreneurs. This is an important step. It can make a difference. But some of the success to date has come in spite of a less than supportive business climate. And it is clear that a favorable business climate is not enough in itself. North and South Dakota are regularly touted as having great business climates, but neither state has been markedly successful in generating new business starts.

It is the individuals that matter. Then it is the opportunities. Communities can help, although they cannot ensure that business starts or business growth will occur. Brown County did make an explicit policy decision in the mid-1980s to promote entrepreneurship. Its Chamber of Commerce started Advance, an incubator and training center. In the years since its start, it has nurtured and grown 105 companies that succeeded well enough to outgrow the incubator. Some 85 percent are still in operation, contributing an estimated 900 to 1,000 jobs to the local economy. Milwaukee, by contrast, has undertaken some independent efforts to foster entrepreneurship, but none on the scale of Advance. None can point to having nurtured at least 3 percent of the region's employment growth. (The 3 percent figure may underestimate the role of Advance, since several of the incubated companies were bought by or merged with other firms and became more difficult to track.)

Regarding support for entrepreneurship, it has been reported that banks in Brown County, while conservative, have gone the proverbial extra mile to help small businesses finance their development. These banks have the highest per capita use of the Small Business Administration backed loans of any area of the state. The banks share the risk but have been willing to make the extra effort needed to help secure financing. Brown County has also benefited from the prevalence of local private equity. Many individuals have made money in local businesses and in the sale of companies such as Fort Howard Paper. Several have quietly invested in local ventures that have yielded additional jobs and incomes in the community. Since this private capital is not easily measured, we can only surmise from anecdotes that this has helped the local economy grow more rapidly.

CONCLUSION

By most measures, we would expect Brown County to have added relatively more employment in the 1990s than the Milwaukee area. By a three-to-one (24 to 8) margin, Brown County had conditions that seemed more conducive to employment growth than Milwaukee. Some of these conditions were created by design, but others were more serendipitous.

Table 19 provides a quick summary of the many factors explored above. These factors are not all equal in their influence on the local economy, but all contributed. The preponderance of factors that favor Brown County strongly suggests that we should not have been surprised by its success. The factors that mattered most are probably the rapidly growing labor force, less expensive factors of production, the good luck that comes with being home to several industries that grew rapidly elsewhere in the nation during this period, the minimal incidence of declining industries, and the great fortune to have some very successful entrepreneurs who were committed to living in Brown County.

Brown County and its center city, Green Bay, did very well economically in the 1990s. Both benefited from many factors acting in their favor. The result was very rapid employment growth. Unfortunately, the area is not immune to the general slowdown that is affecting the nation today. Brown County's conditions are not as bad in terms of unemployment rate or job loss as metro Milwaukee's condition is. But Brown County has suffered an increase in its unemployment rate, a loss of jobs or at least a flat rate of job growth, and a rising vacancy rate in warehouses and industrial buildings. It is having difficulty hanging onto its younger, college-educated citizens. Whether the conditions that made its economy so successful in the 1990s will serve it well in the current decade remains to be seen. Its population and labor force can be positives, but at the moment both factors have also have boosted unemployment. Its lower costs, industry distribution, and many amenities should generate continued growth, but that growth is likely to be concentrated in lower-paid jobs.

**TABLE 19 SUMMARY RESULTS OF THE MANY MEASURES OF ECONOMIC ACTIVITY
BROWN COUNTY AND MILWAUKEE, 1991-1999.**

	Brown County	Metro Milwaukee
Potential Factors Affecting Economic Growth		
Younger Workforce	***	
Growing Young Adult Population	***	
Faster Growing Population	***	
Higher Rate of Immigration	***	
Faster Rate of Growth of the Labor Force	***	
Higher Rate of Labor Force Participation	***	
Higher Percentage of College Graduates		***
Higher Percentage of High School Graduates	***	
Higher Proportion of Minorities		***
Higher Rate of Minority Population Growth	***	
More Acres of Land Available for Development		***
Higher Proportion of Available acres Immediately Next to I-Road	***	
Less Expensive Land	***	
Less Expensive Construction Costs	***	
Less Expensive Industrial Rents	***	
Lower Hourly Wage Rates	***	
Lower Average Earnings per Worker	***	
Lower Cost of Living	***	
Lower Property and Sales Tax Rates	---	---
Fewer jobs (relative and absolute) lost to firm death and downsizing	***	
Lower Proportion of Private Sector Jobs Unionized	***	
Larger Number of Patents per 100,000 Persons		***
Larger Number of Incorporations per 100,000 Persons		***
Closer to National Markets		***
Higher Personal Incomes		***
Lower Poverty Rate	***	
Higher Proportion of Expanded Highway Links in the 1990s	***	
More and More Direct Air Service		***
Unique Local Conditions Led to Greater Job Growth	***	
Greater Diversity of Industry Growth	***	
Highly Concentrated Industries Grew Rapidly	***	
Greater Emphasis on Entrepreneurship	***	
Better Luck	***	

*** Signifies the community with that condition; --- means no difference

Brown County started the decade of the 1990s with lower wages, salaries and income, and ended the decade lagging even further, on these measures, behind Milwaukee. Lower labor costs likely contributed to employment growth. But at the same time these lower costs deter growth in other service and retail jobs, personal assets, and the attraction of a better-educated work force. College-educated workers are increasingly being attracted to opportunities in larger cities, especially to cities where salaries are substantially higher.

Other factors calling the future into question for the Green Bay area include the limited number of new incorporations there over the decade and the very limited number of patents issued there over much of the decade. Both of these factors are likely to affect economic growth. Milwaukee proved in the 1990s that these factors are not necessarily related to growth, but over the long haul they probably will make a difference.

The Green Bay area was lucky that it had several entrepreneurs whose efforts were very successful in the 1990s. The success rate was far higher than would be expected from the limited number of incorporations otherwise observed there. To have continued growth, however, the Green Bay metro area is likely to need more entrepreneurs with new ideas to create more new jobs.

One of the area's strongest advantages is its emphasis on entrepreneurship. This must be further strengthened, as it is clearly the source of much of the area's growth. Overall success for the area will depend upon success by more homegrown businesses. That will require more homegrown businesses to be started. The pieces for this are in place, as is an independent spirit that spawns such efforts. But assistance in the form of management advice, financing, and moral support will be necessary for even the most independent. That is what should be pursued on a larger scale.

Metro Milwaukee, on the other hand, has less going in its favor. It did grow in the 1990s, but not nearly as fast as the rest of the state, nor as fast as Brown County. Employment in Milwaukee is concentrated in many industries that are declining locally. The central city is barely holding its own. When the area that is home to 40 percent of the area's population is not an employment growth engine, it makes the task of regional growth that much more difficult. It can occur, as suburban Detroit can attest. But growth is far easier if it includes all geographic elements of a metropolitan area. The private and public sectors of Milwaukee must become much more aggressive if the city and region are to expand at least as quickly as the rest of the state. In actuality, as the economic engine for the state, Milwaukee needs to grow even faster.

As has been noted, a major factor in Green Bay's growth has been the emphasis there on entrepreneurship. This has been an explicit development policy. Even more important was the fact that several individuals who wanted to start businesses started businesses there and were extremely successful. Another individual grew an existing family business into a national leader. And several other individuals invested in, revitalized, and expanded existing businesses. The climate was conducive to this activity. These several individuals added thousands of jobs to the area in the late 1980s and 1990s. Milwaukee has a similar absolute number of high profile individual entrepreneurs, but their contributions do not stand out to the same degree in the much larger Milwaukee economy.

What matters is individuals who want to start new firms or exponentially expand existing ones, along with the climate that encourages these efforts. Green Bay/Brown County appears to be ahead of Milwaukee in its emphasis on entrepreneurship. Metro Green Bay certainly benefits from recent entrepreneurial efforts. If Milwaukee is to grow and grow more rapidly, it too must put a much greater emphasis on inducing more individuals to start new businesses. For Brown County the secret has been homegrown enterprise. The same recipe is very likely the only possible route to success for Milwaukee.

For both communities, the growth and skill-levels of the respective workforces will continue to be vitally important. Brown County was able to continue its rapid growth because of substantial immigration as well as natural growth. Milwaukee did not benefit to the same degree. In rate of labor force growth, Brown County came out ahead. It also came out ahead in terms of the addition of young adults. What it suffers from is a modest number of college graduates residing in the community. If Brown County is to continue its growth and enhance it with better-paying jobs, it must become more attractive to a better-educated population. Milwaukee has had an advantage on this factor, but to date it has not been enough of an advantage to make a huge difference.

Both communities face questions about the future of manufacturing. Brown County is especially vulnerable in the paper industry. With some large firms not re-investing in their plants, future employment is likely to be lower, perhaps substantially lower. The Milwaukee area has not added any net manufacturing employment over the last seven years. In the most recent years the net trend is negative. If the economy is to thrive, the remaining manufacturers must become more competitive, even if that means reductions in employment. That is one of the region's great-

est challenges. Employers must be convinced to invest in capital equipment and a more educated workforce. The combination will keep firms competitive longer.

The Milwaukee economy is in greater transition than Brown County's economy. Milwaukee has more "mature" industries, industries that have concentrated here but are now declining nationally. Production can continue here and firms can succeed, but only if companies make investments in capital equipment and people. Unless production can be done less expensively here, it will disappear, as it has elsewhere in the United States.

Milwaukee had advantages in the 1990s that appear not to have been sufficiently exploited. Its many patents and its numerous incorporations should have led to greater economic growth. Perhaps there is a lag effect, and the results will come. But given recent economic numbers, that does not appear likely. The area needs to work to nurture start-ups for more and more viable new businesses, to exploit the intellectual property that it and others have developed, and to invest in and upgrade its workforce — to both expand the numbers and improve its productivity.

The prescription is metro-wide. But it holds especially for the city of Milwaukee. The state's largest underutilized labor force resides there. Ample space for start-ups exists. Hundreds of acres of land potentially suitable for redevelopment are available. But it will take a concerted, aggressive effort by many public and private actors to realize the potential inherent in these conditions. In the 1990s these assets were underutilized. Neither Milwaukee nor the state can afford to ignore them in the 21st century.

The city of Milwaukee must also more concordently address two large problems: crime and low levels of student achievement. These play critical roles in the city's and metro area's economies. Current outcomes must be deemed unacceptable, and greater efforts must be made to reduce crime and substantially increase student achievement.

Acknowledgement

I would very much like to thank Ryan J. Horton for his able assistance in constructing the tables for this report.

NOTES

1. Ideally, we would use 1999 numbers for such analysis. But since the Census occurred in April of 2000, we must defer a year. There should be little difference between 1999 and early 2000, and since we are comparing two areas subject to the same general economic forces, we can assume that no great differences would occur that would substantially change the relationship between the two economies. Besides, the use of Census numbers allows easier comparison because the figures cover the entire metro area.
2. The data from the FBI were assembled on a web site for others to access. The title of the report is: *Crime Rates for U.S. Cities, 1999, Population 40,000 and above*. It can be found at: <www.delmar.edu/socsci/rlong/data/city1999.htm>
3. This comparison was done by a private analyst. It is titled: *Rank U.S. Central City and Suburban Violent Crime Rates for 1999*. This is available at <<http://www.demographia.com/db-crimev99r.htm>>

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