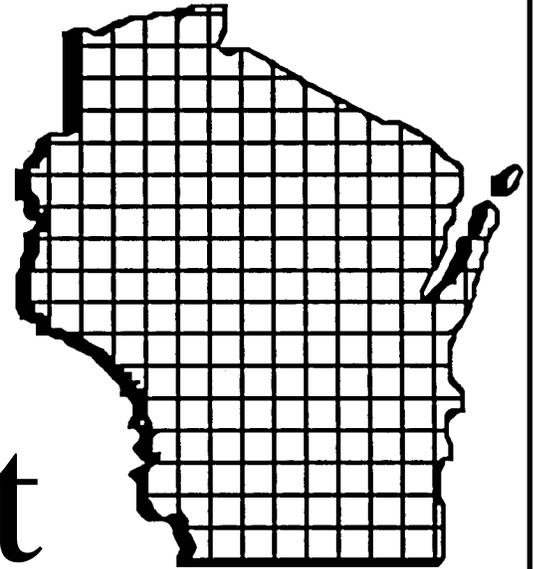


Wisconsin

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Research
Institute
Report



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WISCONSIN'S QUIET CRISIS

*Why Building a "New" Milwaukee Economy
Matters to Wisconsin*

REPORT FROM THE PRESIDENT:

This is an extremely important study. It is an examination of Milwaukee's economy. The authors are George Lightbourn, former Secretary of Administration for the State of Wisconsin and now a senior fellow at the Institute and Stephen J. Agostini, the former Budget Director for the City of Milwaukee.

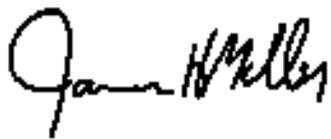
The purpose of this research was to examine Milwaukee's economy over the last thirty years. The results are, at a minimum, troubling. Milwaukee, which for a century had one of the strongest urban economies in the country, now trails the economies of most of the top fifty American cities. More dramatically, its economic decline has had an adverse effect on the entire state of Wisconsin. The authors estimate that Milwaukee's lack of growth, eroded tax base and subsidies from the rest of the state increase Wisconsin's taxes by 3%.

In addition, Milwaukee's educational system, which is heavily subsidized by taxpayers from the entire state, is in shambles. The Milwaukee Public Schools now receive over \$700 million a year from the state. Yet the state requires little accountability for student performance from this system that receives so much from Wisconsin taxpayers.

This study raises an interesting challenge: Will the Milwaukee economy continue to erode? It seems that Milwaukee has a major choice to make. Continue on the path of economic decline and become like Cleveland and Detroit, or reinvent itself and begin to move toward the successes of cities like Minneapolis and Chicago?

The timing of this study could not be better. The next mayor of Milwaukee, more than anyone else in the Wisconsin, will be charged with answering those questions. Whoever is elected in April will have to face some very difficult decisions. Whether to lead Milwaukee on a continued path toward mediocrity or to transform a twentieth century economy into a twenty-first century economy, which can spur growth and help not only the city, but also the region and the state.

This study establishes that there is a definite inter-connection between all three economies. Milwaukee is at the center of either the problem or the future success of Wisconsin. All this will depend on whether the next mayor has the backbone to reassess the future direction of the city.



James H. Miller

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WISCONSIN'S QUIET CRISIS

Why Building a "New" Milwaukee Economy Matters to Wisconsin

GEORGE LIGHTBOURN
STEPHEN J. AGOSTINI

	Page
EXECUTIVE SUMMARY	1
INTRODUCTION	4
BREW CITY'S ECONOMY IN HISTORICAL PERSPECTIVE	5
BREW CITY GOES FLAT: MILWAUKEE'S ECONOMY, 1970-2000	6
WHY DID MILWAUKEE DECLINE?	9
MILWAUKEE'S IMPACT ON THE METRO AND STATE ECONOMIES	16
OTHER STUDIES OF THE MILWAUKEE ECONOMY	21
RECOMMENDATIONS AND FINAL OBSERVATIONS	24
CONCLUSION	26
APPENDIX 1 — DESCRIPTIONS AND STATISTICAL DETAIL FOR REAL PER CAPITA INCOME MODELS	28
APPENDIX 2 — CITIES, METROPOLITAN AREAS AND STATES USED IN MODELS	35
NOTES	36

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EXECUTIVE SUMMARY

Milwaukee is a city at an economic crossroads. Having now survived thirty years of slow, steady economic decline, what does the future hold for Milwaukee? This report shows that, without fundamental changes, its economy will become more like Detroit and less like Minneapolis.

This study calls on the incoming mayor to provide a sense of urgency in reviving the city's economy. Once one of America's economic giants, Milwaukee has fallen to 44th among the nation's 50 largest cities in per capita incomes.

Fortunately, Milwaukee has a strong foundation on which to base an economic turnaround. It is an attractive city on Lake Michigan with a natural beauty accentuated by dozens of parks and a fine new art museum. It has relatively low crime for a city of its size. Property owners have experienced healthy valuation increases (averaging 7% in 2002) and the downtown has seen a number of new housing developments. Many technology-related businesses have located in Milwaukee and its performing arts rival those of much larger cities.

In addition, there has been some positive economic news in recent months. Census data show that during the five years between 1995 and 2000, 579 more college graduates moved into the region than moved out. Also, Roundy's Foods decided to locate its 500 corporate jobs in downtown Milwaukee rather than in a suburban location.

Yet, despite isolated pieces of positive news, this report shows that much needs to be done to repair the Milwaukee economy. It is an economy that has undergone a quiet crisis that has been thirty years in the making. The downward slide of the Milwaukee economy has stunted the growth of the metro economy and has served as a brake on the state's economy as well. All of Wisconsin has a stake in Milwaukee's economic renewal.

Documenting the decline

The economic health of a city is difficult to judge from year to year since changes tend to be slight. That is why this study examines Milwaukee in a broader context. It compares the Milwaukee of 2000 with the Milwaukee of 1970. We selected 1970 because that was a time when the city's economy was near its zenith. It also compares Milwaukee with its peer group, the 50 largest American cities. Both comparisons reveal a city in quiet crisis.

This study notes that Milwaukee, once a part of America's economic backbone, is now among a handful of cities experiencing decline.

- Milwaukee's population shrank by 145,000 since 1970, dropping the city's current population ranking among cities (19th) to its lowest point since 1880.
- Milwaukee residents have incomes that are \$5,400 (in 1999 dollars) below the U.S. average.
- The number of employed residents declined by 44,000 since 1970.

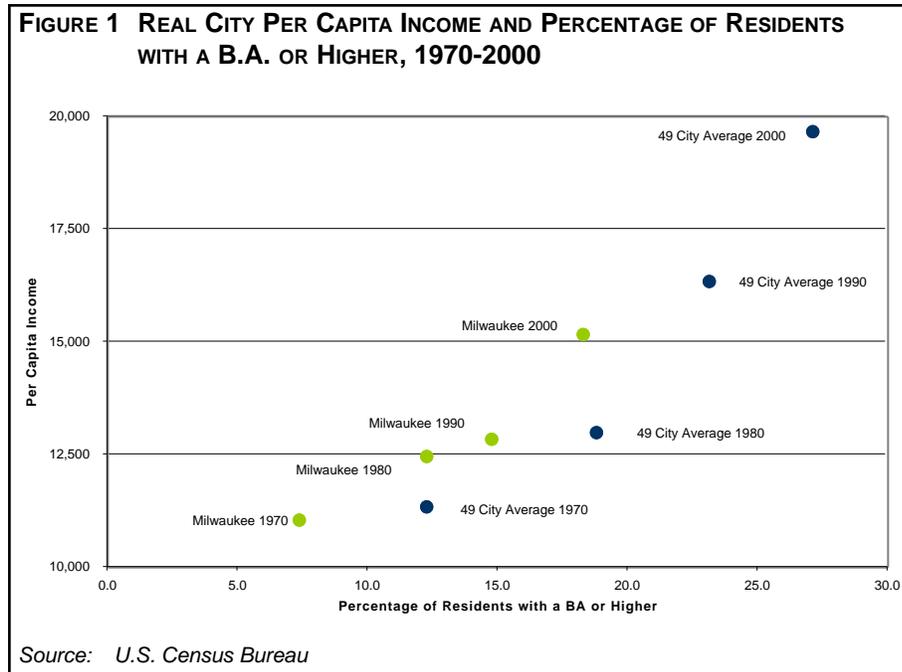
The study contrasts Milwaukee with prosperous American cities that have seen their population, incomes and employment grow. Most disturbing is the finding that, unless Milwaukee makes significant changes, the future will see Milwaukee become an increasingly smaller and poorer city.

This study focuses primarily on economic activity in the *city* as opposed to the more traditional analysis of the metro economy. While it is true that the city is linked to the metro economy (a linkage reinforced in this study), we found that a weak central city economy almost always leads to a weak metro economy. This study shows that, as the city of Milwaukee became smaller and poorer, the growth of the metro economy was stunted. Analyzing only the metro economy can mask serious problems that affect economic growth, problems housed in the central city. Finally, many of the actions required to reenergize the economy fall to elected officials, the key player being the mayor of Milwaukee.

Causes for the decline

This study contends that success in contemporary American cities is directly related to the educational attainment of its population. Figure 1, which uses per capita income as the measure of economic success, shows that

Milwaukee comes up far short on both per capita income and education. In 2000, only 18% of Milwaukee's residents had college degrees, compared to 27% for the average large city. Milwaukee, with 109,000 college graduates among its residents, would have needed 54,000 more just to resemble an average city in 2000. That number will climb in the coming years as education becomes more important for economic success.



The educational attainment of Milwaukee's children is also deficient. Low test scores (90% of 8th graders cannot do math) and high dropout rates (40% of freshmen do not graduate) do not bode well for either the students emerging from Milwaukee Public Schools (MPS) or the businesses needing an educated work force. Milwaukee is home to a generation of underachievers who have few prospects of attaining middle class incomes. It is nearly impossible to envision an economic renaissance for Milwaukee with such poor educational performance from its children.

Impact on metro and state economy

The malaise of the city's economy has stunted the growth of the entire Milwaukee metro economy. In recent years the four-county metro area has experienced net out-migration. Between 1995 and 2000, a period when America experienced nearly unprecedented growth, metro Milwaukee saw 9,000 more people moving out than moving in. Metro Milwaukee has become less important to the nation's economy in contrast with the increasing share experienced by metro areas surrounding successful cities. The shrinking share of the U.S. economy has meant a loss of \$15 billion in earnings to the metro and the state economies.

The city's economic sluggishness has also affected state government finances. In 1980 Milwaukee sent more tax money to Madison than it received back in the form of aids. By 2000 that picture had been completely reversed, with the city receiving 32% more in aids than it generated in state tax revenue. As a result state taxes are 3% higher than they would be had Milwaukee's tax base not eroded.

Observations and recommendations

Milwaukee's incoming mayor will lead a city at a crossroads. The city must make big, fundamental changes if further decline is to be prevented. Milwaukee's heritage as a blue collar, working-class city is now working against economic growth. Today's successful cities have a smaller blue-collar population and a higher proportion of their residents with college degrees and creative abilities. Milwaukee must break from its past and concentrate on being a city to which the creative class is drawn. It must target income growth and not just job growth, a strategy that will lead to both higher incomes and likely more jobs. Economists have shown this strategy benefits all metro residents including those in the central city — one recent study argues that each 1% growth in per capita incomes yields a 1% reduction in poverty.

The study concludes with a series of observations on how to renew the Milwaukee economy. Among the ideas put forward are:

- Milwaukee leaders must acknowledge the decline of the city's economy.
- The city must elevate its aspirations, striving to become a top echelon American city.
- The city must add 5,300 college-educated residents each year from now until 2020 just to become an average city.
- Milwaukee must measure its progress through income growth, not just job growth.
- Additional taxes will not be required. However 1/2 of the proceeds from the state's gaming compact with the Potawatomi should remain in Milwaukee. This could generate over \$500 million for Milwaukee over the next twenty years. This will be essential in developing the key elements of a new economy such as research parks, technology centers and venture capital funding.
- MPS student performance and attendance must be targeted for improvement. Existing school funding must be independently analyzed and reallocated to target student performance and attendance.
- The school system should be merged with the city and the mayor should be held responsible for improved performance.
- State funding should be tied to student performance. While this report does not suggest reducing funding to MPS, the state can no longer afford to provide funding without regard to how effective it is in improving student performance.

The turnaround of the Milwaukee economy will not occur quickly. The city faced a similar malaise in 1945 when community leaders came together to address the "degeneration of Milwaukee." That effort, which became the Greater Milwaukee Committee, yielded many of the physical upgrades still evident in Milwaukee today. Just as all of Milwaukee now benefits from the foresight of those leaders in 1945, future generations will benefit from the action of today's leaders in preparing the roadmap for a new Milwaukee economy.

*What is bad about falling behind, or falling further behind is not that second is a bad place to be . . . What is bad about falling behind is that the world's industrial leaders provide an easily viewable benchmark of how things might have been different and of how much better things might have been.*¹

INTRODUCTION

There is a quiet crisis in Wisconsin. This crisis, which has developed over the last thirty years, is so quiet that few Wisconsinites are aware of it or recognize it. Yet this crisis affects everyone who lives or works in Wisconsin. That quiet crisis is the deterioration of Milwaukee's economy.

Studying the decline of a city is akin to studying plate tectonics, since change occurs slowly over decades. Yet, a review of the data reveals that Milwaukee is quite a different place today than it was in 1970. Much of the economic activity that distinguished and propelled the city's economy in 1970 has departed, either to the suburbs or other parts of the globe. What exists in Milwaukee today are remnants of this recent past, a city with a labor force and economic mindset still built around manufacturing, not the information and technology based "new" economy that emerged in the 1990s. The current Milwaukee reality is that once high-paying factory jobs are gone, replaced with lower-paying service jobs. The Milwaukee economy and workforce, ideally suited for traditional manufacturing, has not adjusted to this reality. The result is a city in decline.

This study documents a decline of the city's economic fortunes that is pronounced and unmistakable. The study includes several indicators, all of which document the thirty-year decline. What caused the decline? Although there are many potential explanations for Milwaukee's decline, this study argues that it is strongly associated with the emerging mismatch between the educational attributes of the city's labor pool and the educational characteristics needed to succeed in the new global economy.

While Milwaukee's declining economic fortunes clearly matter to its residents, is this decline of any consequence to its suburbs or the state as a whole? Does the decline of Milwaukee's economy make a difference beyond Milwaukee's borders? The answer is yes. We found that a declining large city economy significantly dampens the economic growth of its encompassing metropolitan area. We also found that the entire state, not just the metro area, has a stake in the economic future of Milwaukee. Though Wisconsin as a whole prospered in the 1990s, Milwaukee's performance constrained Wisconsin's statewide economic growth by hindering the economic growth of the Milwaukee-Waukesha metropolitan area. These findings are not just based on an analysis of the metro Milwaukee region. These findings are based on an analysis of the economies surrounding the nation's fifty most populous cities. The Milwaukee metro area and the state will have difficulty achieving their full economic potential until the Milwaukee economy is righted.

Education emerges as the key to future economic prosperity for Milwaukee. Consequently, the study also explores whether Milwaukee's students of today will be prepared for the work that will lead to prosperity. While most of America has long since recognized the economic value of an education, most Milwaukee children have strayed away from educational achievement. In reviewing the education statistics for this study a sense of hopelessness emerges from the tables and charts documenting test results for Milwaukee's children.

We would remind the reader that the focus of this study is the economy of Milwaukee. While Milwaukee's economy is in decline, much about the city is positive. It is an attractive city on Lake Michigan with a natural beauty accentuated by dozens of county parks and a fine new art museum. It has relatively low crime for a city of its size. Property owners experienced healthy increases in property values, on the average of seven percent in 2002. Many technology-related businesses have located in Milwaukee. The central city has become home to many new housing developments, reversing a trend of housing disinvestments that lasted many decades, and its performing arts rival those found in much larger cities. In spite of these attributes, Milwaukee remains in an economic tailspin.

Perhaps the most troubling aspect of this study is the finding that Milwaukee's economy is likely to worsen rather than improve. The forces that led to the preceding thirty years of decline will prove inexorable without determined efforts to reverse the current course. The study outlines a number of steps we believe will help turn the Milwaukee economy in a positive direction.

We believe the city is at a crossroads in its history. Milwaukee's leaders, in concert with state and metro leaders, can continue to watch the city's slow descent downward to becoming a problem city, like Detroit, or they can begin now to embrace the changes needed to restore Milwaukee to its place among successful and great American cities.

A once-great manufacturing center, Milwaukee has adhered to an old measure of economic growth; the number of manufacturing jobs. While many other cities have evolved into centers of creativity and technology, Milwaukee remains diligent in searching for the next manufacturing plant or the next light industrial park that will yield the jobs that made Milwaukee famous. This strategy is unlikely to yield the growth needed to create an economically prosperous Milwaukee.

Successful cities have leaders in business and government who understand that radical new approaches to city development are required. Milwaukee is about to experience a change in leadership for the first time in sixteen years. Much of what we are suggesting as solutions will require the incoming city leadership to adopt a fresh approach. Much of Milwaukee will need to be taken out of its comfort zone if the city is to succeed in addressing the problems we have documented.

All too often at the state level there is a divide between Milwaukee and out-state interests. Issues affecting Milwaukee are seen as competing with the needs of the balance of Wisconsin. Sometimes this is manifest in a partisan split and sometimes it is simply a rural/urban split. However, this study suggests state policy makers must understand that all of Wisconsin will benefit from efforts to improve Milwaukee's economy.

Milwaukee cannot afford to live on its past accomplishments. We found a city suffering from complacency, one that is quick to explain why its performance is lagging yet hesitant to move to a new model of development. The most common refrain we heard in researching this report is that "things aren't so bad." We are not the first observers to note this attitude: Milwaukee historian John Gurda notes the same complacency. He observed that Milwaukee practiced:

a learned conservatism (which) has created a social climate that can be toxic to new ideas. Milwaukeeans share an inherent complacency, a stubborn insistence that things are basically all right and don't need fixing until they are broken beyond repair.²

BREW CITY'S ECONOMY IN HISTORICAL PERSPECTIVE

No city begins its economic development equation from a blank slate. Every great American city is built on its own unique historical foundation. Milwaukee has over 150 years of rich history, a history full of diverse people and industries, and some of the most interesting politics in America.

John Gurda, in his book *The Making of Milwaukee*, recorded the most complete history of Milwaukee.³ Based on that chronicle, the city's past can be divided into three eras. The first era began in the 1830s when the city was formed. From the beginning Milwaukee was a city whose success was dependent on its geographical location. A safe harbor on Lake Michigan allowed Milwaukee to become a key interface between the agricultural hinterland and the eastern United States. Although the state's license plates proclaim Wisconsin to be "America's Dairyland," in the early stages of development the state's chief crop was wheat and Milwaukee was the largest shipper of wheat in the world.

Milwaukee was not only a convenient port; it became the focal point in a labyrinth of rail lines crisscrossing Wisconsin. These rail lines were largely developed by business leaders in Milwaukee who understood the economic value of Wisconsin's hinterland and who knew that railroads were a key to tapping that economic potential. When the soil became exhausted from producing wheat, Milwaukee entrepreneurs stood ready to assist the state's movement to other endeavors, including meat-packing, tanning and brewing.

During that time, Milwaukee attracted a significant European immigrant population, especially Germans. Gurda notes that, at the same time the new city was developing, many Germans were seeking a refuge from the economic distress and the agricultural challenges of their homeland. Milwaukee thrived, fueled by its location and the steady flow of immigrant workers. Early Milwaukee even challenged its neighbor to the south, Chicago, for superiority.

The second era of the city's history began in the latter part of the nineteenth century and lasted for nearly eighty years. The transformation of Milwaukee in its second era was profound, marked by a move to industrial development, especially manufacturing. Advancing beyond being just a place that shipped goods, Milwaukee became a city that truly added value to goods. While milling, brewing and tanning were industries that held on from the first era, the city became a world leader in everything from steam engines to electrical controls. Milwaukee was a model of a diversified economy, no doubt a key reason why this second phase lasted eighty years.

Milwaukee's economic development in this era was attributable to several key entrepreneurs and a continued ample supply of immigrant workers. The close proximity of many entrepreneurs to one another seemed to contribute significantly to Milwaukee's growth as an industrial center. Some of Milwaukee's top companies including Harnischfeger, A.O. Smith, Allen Bradley, Nordberg and Kearny and Trecker developed roots within blocks of one another over a brief twenty-year period.

Industry was not just a part of Milwaukee, it **was** Milwaukee. According to Otto Falk, the long-time head of Allis Chalmers, "the city of Milwaukee glories in a forest of factory chimneys rather than commercial skyscrapers." Milwaukee was comfortable being a manufacturing city, home to high-skilled, high-paying manufacturing jobs. In 1910 fully 56.9% of the adult males worked in Milwaukee's industries.

Milwaukee's industrial growth continued through the first half of the twentieth century. America relied on Milwaukee's production, especially during each of the two world wars. During World War II many of the city's manufacturers doubled or tripled their output. Industries expanded and added workers in unprecedented numbers, funded in part by the federal government. While early growth was fueled by the immigration of unskilled European labor, after World War I immigration quotas caused industry to turn to African-Americans and Hispanics to supply the unskilled labor.

The third era of Milwaukee's development began in the 1960s and lasts to this day. It marked a significant change for Milwaukee, underscored by the decline of the manufacturing sector. Old-line industries began disappearing, either ceasing business altogether or being purchased by larger businesses headquartered in other cities. In general, manufacturing moved to cities or countries where labor costs were lower. This was traumatic for a city in which generations had worked in its factories, many of which were now disappearing. This third era was also marked by a change in Milwaukee's demographics. The most pronounced trend was for middle-income residents to move out to suburban communities, a departure that left the city increasingly poor.

Milwaukee is a very different city today than it was during these earlier eras. The people are different, the jobs are different, and the expectations for the future are different. In the broad sweep of history the city stands either in the midst of the third era, in which case, further economic erosion should be expected. Or, it could be on the cusp of the beginning of a new era marked by adaptation to new circumstances and a different economic base.

BREW CITY GOES FLAT: MILWAUKEE'S ECONOMY 1970-2000

Are we better off today? That question has made and unmade presidents. It is a powerful question because it evokes a visceral response. Is Milwaukee better off today than it was in prior years? Is it keeping pace with its peers, the other 49 most populous cities in the U.S.? In this section we present data to help answer this question. We look at population, income and employment to gain insight into the change in Milwaukee's economy.

Population

Population change provides a quick and telling impression of a community's vitality. It indicates how successful a community is in comparison to similar places that compete with it for labor and jobs. Why? Some researchers have found that population growth and income growth "move together,"⁴ suggesting that population change is the ultimate lagging indicator of a city's economic well-being.

Communities experiencing dramatic population growth, like San Jose's growth of 338% between 1960 and 2000,⁵ succeed because they possess the attributes and amenities that are attractive to migrating residents, employers, and economic activity. In contrast, cities with a consistently shrinking population, like Detroit, tend to fade as economic activity — whether an employer or resident — "exits" for more attractive and thriving destinations.⁶ Cities with consistently declining populations are less economically competitive because they have diminishing value in our market economy.

The 2000 decennial Census of Population showed that Milwaukee was home to 596,000 residents, a decline of 31,114 or 5% from the 1990 Census. This most recent ten-year decline is the continuation of a trend that began in the 1960s. It was in 1960 when Milwaukee reached its highest population of 741,000 residents. Figure 2 illustrates the decline from 1970 and compares it with the average growth for the other 49 most populous U.S. cities.

(Interestingly, the city's 2000 population of 596,000 was similar to the census count in 1940 when the city was still adding population.) The contraction in population has lowered Milwaukee's standing among America's big cities: it was the nation's 11th largest city in 1960, and is now 19th, the city's lowest ranking since 1880.

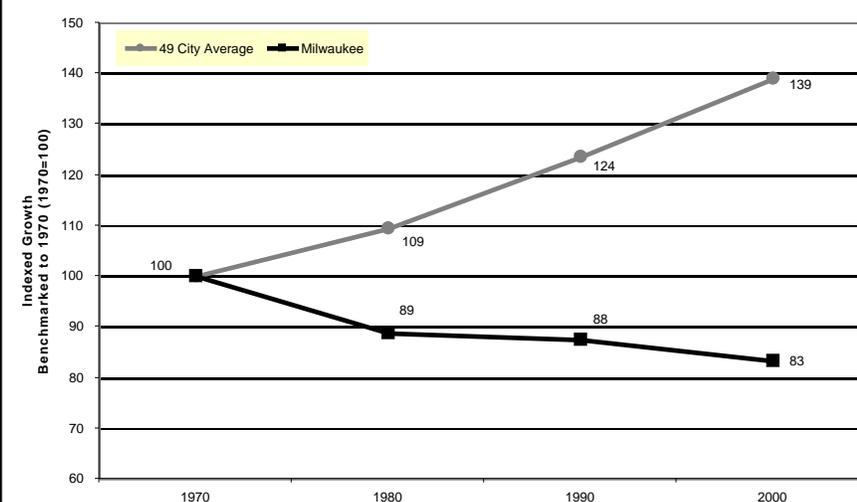
Per Capita Income

While population change is generally indicative of underlying economic trends, income, specifically per capita income, is a better measure of a city's economic vitality.⁷ Measuring changes in per

capita income provides us with the ability to observe trends in a city's economic growth over time,⁸ as well as a city's performance relative to other cities and the nation as a whole. Using this indicator, one can see how Milwaukee has undergone a pronounced decline since 1970.

In 1970 Milwaukee's economic performance was about the average for the U.S.'s largest cities: its per capita income was 96% of the average of the other 49 big U.S. cities in 1970, ranking it 30th among all 50 cities.⁹ While clearly not the best economic performer among large cities in 1970, Milwaukee was close to the average and certainly far from the worst (El Paso). Thirty years later, Milwaukee was in a starkly different situation: by 2000

FIGURE 2 CITY POPULATION GROWTH, MILWAUKEE AND AVERAGE FOR THE OTHER 49 MOST POPULOUS U.S. CITIES, 1970-2000



Sources: U.S. Census Bureau; Campbell Gibson, "Population of The 100 Largest Cities and Other Urban Places in the United States: 1790 to 1990"

TABLE 1 REAL CITY PER CAPITA INCOME AND REAL CITY PER CAPITA INCOME RANKINGS, 1970 AND 2000 (IN 1996 DOLLARS)

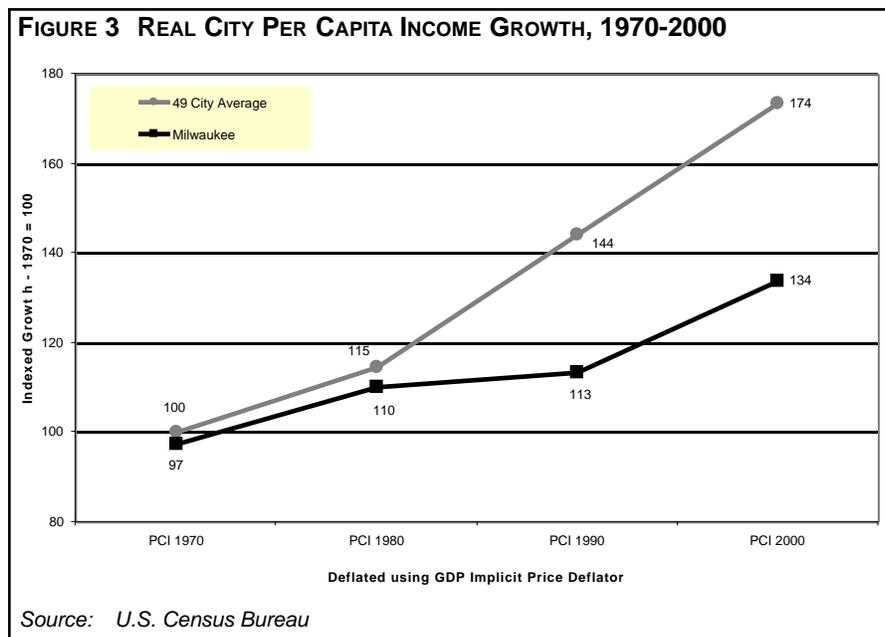
Rank	City	1970	Rank	City	2000
1	San Francisco	\$14,759	1	San Francisco	\$32,329
2	Seattle	\$14,040	2	Seattle	\$28,353
3	Long Beach	\$13,706	3	Washington, D.C.	\$26,812
4	Los Angeles	\$13,685	4	Charlotte	\$25,094
5	Honolulu	\$13,675	5	San Jose	\$24,976
<i>49 City Average</i>		\$11,316	<i>49 City Average</i>		\$19,648
29	Milwaukee	\$11,025	44	Milwaukee	\$15,138
46	Memphis	\$9,625	46	Miami	\$14,153
47	St. Louis	\$9,539	47	Fresno	\$14,042
48	New Orleans	\$9,370	48	Detroit	\$13,768
49	San Antonio	\$8,362	49	El Paso	\$13,461
50	El Paso	\$8,290	50	Cleveland	\$13,370

Source: U.S. Census Bureau

Milwaukee's per capita income had negatively and significantly, diverged from its peers, as Table 1 and Figure 2 illustrate. In 2000 Milwaukee's real per capita income (indexed to 1970 using the real price deflator) stood at \$15,138, a full 23% below the average city per capita income. Milwaukee has become one of the six poorest big cities in the nation. This is a startling change from Milwaukee's relative economic position in 1970.

Employment

We examined employment using two measures. The first is the number of jobs, data for which are only available at the county level. Between 1970 and 2000, the total number of U.S. jobs increased by 88%. Some areas of the country surpassed this performance, in some instances generating job growth that doubled the total number of jobs in the region. Unfortunately, Milwaukee County¹⁰ was not one of these areas: its annual job growth between 1970 and 2000 averaged 0.6%. This is less than one-quarter of the national employment growth. What caused this poor job growth? The loss of 77,360 manufacturing jobs was so significant that even a sizable increase in service jobs over the thirty years, proved insufficient to lift Milwaukee County's growth rate to anything approaching the national average.



Our second measure of employment is the number of residents employed. As Figure 4 illustrates, while most cities were experiencing significant growth in the number of residents employed, Milwaukee saw a decline. Between 1970 and 2000, the total number of employed Milwaukee residents declined by 15%, from 300,931 to 256,473. The loss of residential employment occurred primarily in manufacturing, where only 49,282 residents were employed in 2000, compared to the 98,545 in 1970. This decline in residential employment was particularly striking when compared with the experience of

other large U.S. cities between 1970 and 2000: the average city **increased** residential employment by 60%, a sharp contrast to Milwaukee's 15% **decrease**.¹¹ Only six cities lost a greater percentage of residential employment over this period — Detroit (41%), St. Louis (38%), Cleveland (37%), Baltimore (28%), Philadelphia (24%), and Washington, DC (22.4%).

The residential employment losses had an important consequence for the city — employment losses helped propel population contraction. City population losses appear to mirror residential employment loss. A city that lost residential employment between 1970 and 2000 typically experienced population losses over this time frame as well — of the ten cities that experienced residential employment losses, nine suffered population losses and only one (Miami) realized a gain in population while losing residential employment. As Milwaukee learned between 1970 and 2000,

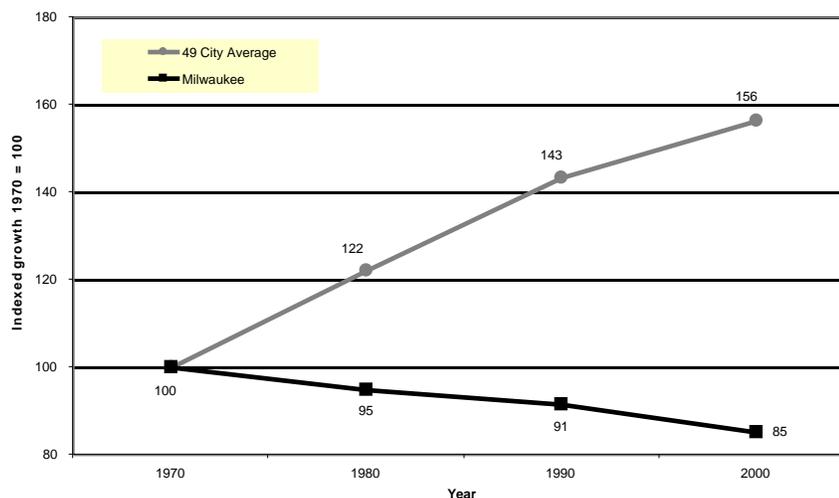
changes in demand and technology will shift the comparative advantages and disadvantages of particular regions, and . . . some regions will lose population to others as labour markets respond to these shifts."¹²

Summary

Is Milwaukee better off today than it was in prior years? On most measures Milwaukee is decidedly worse off economically today than it was thirty years ago. Its shrinking population signaled the city's substantial economic diminishment over the last thirty years. In 1970 Milwaukee looked like the average large and economically successful U.S. city — its average resident enjoyed income levels akin to those of other large cities and its prominence as a U.S. manufacturing hub promised sustained economic viability. Thirty years later, Milwaukee

looked like the handful of shrinking and economically faltering large U.S. cities — its economic base significantly altered by the transformation of the U.S. economy in the 1980s and 1990s, and its average resident receiving an income demonstrably lower than the average American and the average big city resident.

FIGURE 4 RESIDENTIAL EMPLOYMENT GROWTH, MILWAUKEE AND 49 OTHER MOST POPULOUS U.S. CITIES, 1970-2000



Source: U.S. Department of Housing and Urban Development State of the Cities Data Systems

WHY DID MILWAUKEE DECLINE?

How is it that Milwaukee has fallen so far off the pace of economic growth enjoyed by most large cities over the last thirty years? What are the factors that have driven economic growth in cities during that time, and what are likely to be the factors that will drive future economic growth? How important is the K-12 school system in fueling growth?

There are enormous differences between successful and unsuccessful cities. Successful cities are marked by population increases and dramatic increases in income. Unsuccessful cities are falling behind in population growth and income. Significantly, the gap between cities on the rise and cities in decline is growing.

Earlier in the twentieth century Milwaukee and several other cities prospered because their businesses were the best at producing big things that people could see and touch. The prowess of Milwaukee's manufacturing industries was what identified the city globally. More recent economic growth in the U.S. has been fueled by businesses where success is based on ideas. For example, the value of software is not related to the material from which it is made, but from the ideas and talent that went into the product. The success of a growing number of businesses is attributable to their capacity to manufacture ideas that increase productivity and improve living standards. Further, the application of technology to manufacturing has diminished the importance of workers. One study by the Chicago Federal Reserve Bank noted, "it is not the disappearance of manufacturing, but rather strong increases in productivity that are limiting demand for workers."¹³

This move toward ideas is what has fueled the growth in the U.S. economy in the past decade. This is the "new" economy. Cities that have recalibrated their economies to accommodate new economy businesses are more prosperous. While all cities understand that they need to move in the direction of the new economy model, many are slow to make the change. As a result, they are falling further and further behind.

Emerging Economic Growth Theory and Its Application to Cities

Economists have documented the elements that make up this new economy. While conventional theory held that accumulations of capital, both physical and financial, were the critical elements in generating economic growth, more recent research argues that these conventional theories about economic growth have proven inadequate in explaining growth.¹⁴ According to these new theories, dramatic differences in productivity have caused national incomes to diverge so significantly that “there are huge and growing differences in GDP(Gross Domestic Product) per capita.”¹⁵

What is the driving force behind these dramatic differences in productivity? According to this new research, the accumulation of knowledge, best exemplified in the level of education of residents (or human capital),¹⁶ is the primary driver of productivity increases, particularly when it is “technological knowledge”¹⁷ that helps a country “invent and acquire further technological expertise today.”¹⁸ Economic growth, this research has demonstrated, occurs in places that possess highly educated residents who employ technology to create the innovations that enhance productivity.

Does this cross-national research on economic growth have any relevance for our understanding of Milwaukee’s decline, or the growth of cities generally? Yes.

In many respects . . . the story of growth in cities is similar to that of the growth of countries. Since cities’ differences are not created by different savings rates, or different labor force endowments, our results suggest that higher education levels influence later growth not through savings but through influencing the growth of technology.”¹⁹

A formidable branch of economic research has emerged, offering a persuasive and consistent picture of the determinants of economic growth in U.S. cities over the last four decades.²⁰ Two dominant factors have emerged from this research as the key variables for explaining the economic growth of U.S. cities. First, economic research has provided persuasive evidence that **past performance is a good guide to future performance**: “there is an extremely strong relationship in city growth across decades. Cities that grew fast in the 1980s grew fast in the 1990s. While there are some exceptions . . . this is an extremely strong relationship.”²¹ Second, **the level of human capital has proven to be a critical driver of growth**: high human capital cities grow, both in income and population, while low human capital cities contract and stagnate.²²

Edward Glaeser and Jesse Shapiro also discovered that it is not only the college-educated population that determines a city’s economic status. Reducing high school dropouts also has a positive effect on a city’s economy. Their analysis found that as the share of the population that are high school dropouts fell by 10%, the expected growth rate of the city rose by 3.9%.²³ Cities with fewer high school dropouts also grow and become more prosperous.

The importance of human capital is becoming more important over time: “Skilled communities rise — unskilled communities fall.”²⁴ However, the types of skills that foster growth today are different from earlier in the century. The role of formal education is much more important in the new economy: The more educated the population, the more human capital exists in a city and the more prosperous the city will be. Where cheap land and cheap labor once fueled urban growth, now the education of citizens is the prime growth factor, and cities with low human capital continue to fall further behind more educated cities. In reviewing the 2000 census data Glaeser and Shapiro speculate that:

because we learn from our neighbors, being around skilled workers may be valuable and may have become more valuable as we enter into a more skill-intensive era. Finally, less well-skilled workers may be associated with more social problems, and these social problems may deter prospective residents.²⁵

Those cities that were prosperous will continue to be prosperous, and those that were declining are likely to continue their decline. This might suggest that little can be done to improve a city’s economic status; an alternative premise is that a very different approach to economic development is needed, one that incorporates an understanding of the new thinking regarding economic growth.

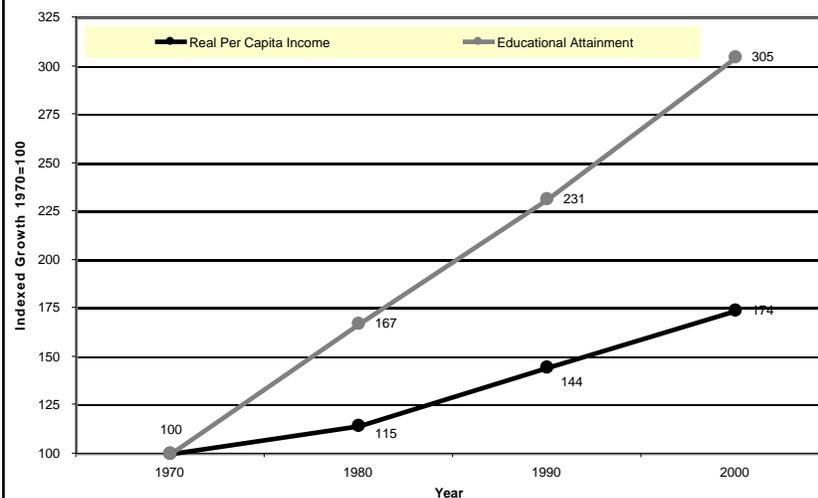
An Economic Model of City Income

The work done by economists provides a useful framework for understanding the differences in economic growth between cities. However, we sought to more fully understand why Milwaukee diverged from the other 49 largest American cities (as of 2000) in real per capita income growth between 1970 and 2000. To do this we assembled data on these cities between 1970 and 2000.

Our analysis revealed a strong relationship between real city per capita income (PCI) and the educational attainment of the city population. In the period between 1970 and 2000 the average city saw its real PCI grow while also seeing an increase in the percent of its population with a B.A. or better, as is shown in Figure 5. Statistically, the correlation between income and education in these cities over this period is 0.859.

However, this relationship for the average city belies the fact that in every city there is a unique relationship between education and income. For example, we wondered why Seattle has been so successful. To better understand the relationship between education and real per capita income, we applied the “new” theoretical framework — that economic growth in cities can be explained by prior growth and increases in human capital levels — to the experience of the largest 50 cities in 1990 and 2000. We created an econometric model to test the relevance of this framework for cities and isolate the impacts of education and other factors on PCI. The model is described in detail in Appendix 1.

FIGURE 5 AVERAGE GROWTH IN REAL PER CAPITA INCOME AND EDUCATIONAL ATTAINMENT FOR THE 50 MOST POPULOUS U.S. CITIES, 1970-2000



Source: U.S. Census Bureau

The model generated three key findings:

- **An above average increase in city human capital leads to real per capita incomes that are higher than average.** Cities that increased their percentage of residents with a B.A. by 1% between 1990 and 2000 (i.e., increasing the percentage of the population with a B.A. from 4.5% to 5.5%) realized a real per capita income that was 2.68% higher than the average city in 2000.
- **Cities with prior city human capital levels that were higher than average also enjoyed higher real per capita incomes.** A city that enjoyed a resident B.A. population that was 1% higher than the average city in 1990 (i.e., its percentage of the population with a B.A. was 19% rather than 18%) enjoyed real per capita incomes that were 1.9% higher than the average city.
- **Real per capita incomes were higher in those cities that enjoyed higher than average growth in real per capita incomes 10 years earlier.** A city that experienced income growth between 1980 and 1990 that was 1% higher than average (65% rather than the city average of 64%) realized real per capita income that was 0.15% higher than average city real per capita income in 2000.

We were also struck by evidence that **the increase in a city’s per capita income generated from a larger B.A. population in one decade will continue, although somewhat diminished, into a subsequent decade.** To understand this concept, a review of Seattle’s experience between 1980 and 2000 is helpful. Seattle is far above average in both education and income. In 1980, 28.1% of Seattle’s population held college degrees compared to 18.7% in the average city in our sample. During the 1980s the college-educated proportion of Seattle’s population grew by 9.8% compared to the 4.4% increase in the average city. We isolated the impact of Seattle’s variance from the average on the city’s per capita income in 1990 and 2000. This contributed greatly to Seattle’s higher income growth, not only in 1990, but also in 2000.

Filtering out other changes (including subsequent changes in educational attainment) we estimate that the above average increase in the B.A. population between 1980 and 1990 accounts for 41% of the \$4,900 variance between Seattle’s per capita income and the per capita income for the average city in 1990. However, the impact extends beyond 1990. The higher increase in Seattle’s B.A. population in the 1980s also accounted for 26% of Seattle’s higher than average per capita income in 2000.

This effect suggests that cities where a greater share of the population than average hold a college degree gain a significant advantage in future economic growth because changes in human capital levels alter a city's per capita income outcome for the foreseeable future. Our explanation for this is that the educational profile of a city changes the very nature of the city: having a more educated population enhances the productivity of a city, leading to increased commerce, wealth and income.

For Milwaukee, unfortunately, this effect works in the opposite direction. In 2000, Milwaukee's per capita income was 23% below the income of the average city in our sample. Our model suggests that more than one-quarter of this variance is explained by the fact that between 1980 and 1990 Milwaukee increased its population with a B.A. by 2.5%, far below the 4.5% increase experienced by the average city. The remaining three-quarters of Milwaukee's variance with average city income in 2000 is explained by the city's inability to: 1) add the average percentage of B.A.'s between 1990 and 2000 as the average city did; 2) attain the average percent of B.A.'s found in the average city in 1990; and 3) keep pace with average city income growth between 1980 and 1990.

This analysis suggests an important lesson for Milwaukee. Economic recovery will be doubly difficult. Not only must Milwaukee become more like other cities in the educational profile of its residents, it must also overcome its past economic profile. It is not enough that the push for economic recovery is an uphill challenge; it must also be done into a stiff head wind.

The findings presented here support the view that the higher the educational attainment of a population living in a city, the higher that city's per capita incomes. By increasing the percent of residents holding a college degree, a city can improve its wealth. If Milwaukee falls further behind other cities in the percent of its population having a college education, its income will remain substantially lower than the income attained in most other cities.

Model of Future Milwaukee

The model constructed for this study is useful not only in explaining the cause of the differences between cities; it can also be used to estimate what the future holds for the Milwaukee economy. What will it take for Milwaukee to become an average large American city as it was in 1970? The model reveals how difficult it will be for Milwaukee to attain that status. It will have to overcome some substantial hurdles:

- The average city will continue to grow, increasing its population by 1.2% annually.²⁶
- The average city will continue to increase the percent of its population holding a college degree from 27% in 2000 to 33% in 2010 and 40% in 2020.²⁷
- Milwaukee is burdened with very low current incomes, a fact that will work against any efforts to become more like other successful cities.

Thus if Milwaukee is to become more like the average city it will have to aim for an ever rising target.

First let's examine what is likely to happen to the Milwaukee PCI without significant changes. Our base case model for Milwaukee assumes that in 2010 the city will see an increase in the share of its population holding a college degree from 18% to 22.6% (the same growth experienced in the 1990s). Under this scenario in 2010 Milwaukee will have added 18,000 college-educated residents to the 109,000 that reside there in 2000. Under this scenario the city would see its real PCI increase 17% from \$15,138 to \$17,776. The good news is that an increase of this size is likely to keep pace with inflation. The bad news is that, under this scenario, Milwaukee's PCI would remain approximately 21% below the average large city's per capita income, in all likelihood keeping it in the bottom 10% of American cities and with a per capita income far below the national average.

One side benefit of this city growth model is that it enables us to project what it would take for Milwaukee to reach a PCI that is the average of the 49 other largest cities. One alternate scenario to the base case scenario outlined above would place Milwaukee on a path to reach the average large city PCI by 2020. To do this the city would have to add 5,300 more college-educated residents each year, bringing the total to 204,500 by 2020. Fully 36% of the city's population would hold college degrees by 2020, double the rate in 2000. (This assumes that the city's population declines by an additional 5% between 2000 and 2010, to 566,000, and then remains static between 2010 and 2000.) This is our estimate of what will be required to overcome both the current deficiency in college-educated residents and the city's current lower income base.

This forecast gives a clear sense of the task before Milwaukee. If Milwaukee aspires to move closer to the average city in terms of PCI, it will have to become a very different city. It must move beyond its working class roots. Adding 5,300 college educated residents annually will require a concerted effort on the part of government, business and community organizations. Implicit in a forecast of this magnitude are the following changes:

- More college graduates will move to Milwaukee from both U.S. and foreign campuses.
- The out-migration from metro Milwaukee will end.
- The economic base of the city will shift away from manufacturing toward technology and other creative-based industries.
- The educational deficiencies of the city's K-12 system (detailed in the next section) will be reversed.

Can it be done? Yes. For example in the 1990s Austin, Texas added an average of 10,500 college educated residents each year. Five other cities with less than one million in population added between 5,900 and 10,000 college educated residents annually in the 1990s, as is highlighted in Table 2. These are all cities with growing populations and rising incomes. For Milwaukee to enter that league of cities substantial changes will be required. However, if the avenue of adding to the number of college-educated residents of Milwaukee is rejected, it should be expected that the city will continue to become smaller. It will also likely see its income grow far below the growth experienced in other cities.

TABLE 2 INCREASE IN B.A. POPULATION FOR SELECTED CITIES WITH POPULATIONS UNDER 1 MILLION 1990-2000

	Population 2000	B.A.'s 1990	B.A.'s 2000	Increase in B.A.'s 1990-00
Austin	656,562	160,174	265,251	105,077
Charlotte	540,828	112,445	196,861	84,416
Portland	529,121	113,266	172,493	59,227
San Francisco	776,733	253,386	349,530	96,144
San Jose	894,943	197,909	282,802	84,893
Seattle	563,374	195,662	265,913	70,251

Source: U.S. Census Bureau

Milwaukee Schools and the Milwaukee Economy

Any discussion of the economy of a modern city must address the education system, if only to assess the potential for a "home-grown" increase in human capital. We did not expect to allocate a significant amount of space in this study to Milwaukee's education system, since our primary focus is the city's economy. However, the statistics on the performance of Milwaukee school children is so disturbing, and the implications so important to any attempts at increasing the city's stock of human capital, that we have deviated from our plan and have included a lengthier discussion of Milwaukee Public Schools.

In Milwaukee's golden age of manufacturing, a worker possessing a high school diploma — or less — could earn a middle class income in one of the many plants dotting the city landscape. Those days are gone. The sons, daughters and grandchildren of yesterday's factory worker will require decidedly more education and training to achieve today's middle class income. Earning is tied to learning, both learning in the school setting and learning in the job setting. Employers who pay middle class wages will not hire workers who have limited learning skills. Only in low-paying service-sector jobs are employers willing to settle for employees with minimal education.

How well are Milwaukee Public School (MPS) children prepared for the higher standards of today's work place? The preparation of MPS students is stunningly disappointing. They perform very poorly in the skills required in the business workplace and many take the ultimate step of dropping out of school. In the midst of Wisconsin's largest city is a potential labor force that is not prepared for the demands of today's jobs. This is a brain drain of the worst kind.

Education Linked to Earning

In a major study, Frank Levy and Richard Murnane identified the skills that the jobs of the new economy require.²⁸ In their book *Teaching the New Basic Skills*, Levy and Murnane note that the nature of frontline work, such as making cars or processing insurance claims, now requires the use of math, team building, and discretion. Today’s entry-level workers equipped with only a high school diploma must attain skills beyond those acquired in the traditional classroom. The specific skills identified by Levy and Murnane include a ninth-grade level of reading and math, problem solving, oral and written communication, an ability to work in groups, and some facility with personal computers.

While many economic development initiatives focus on college-educated workers, there remains an important role for high school graduates. Milwaukee’s economic growth will require an ample supply of high school graduates who possess both basic skills and an ability to continue learning. Harley Davidson, one of Milwaukee’s most prominent employers, especially of blue-collar workers, understands the need for every worker to continue learning. Their employee handbook states, “All employees are expected to demonstrate a willingness to continually learn.”²⁹ This concept was an important element in the turnaround of the company.

While the high school diploma is not the academic credential it once was, having a diploma still impacts future earning capacity. Those having received a high school diploma were shown to earn \$421 per week compared to \$303 earned by those without the diploma. (Those having a college degree earned \$760 per week.) This is a 39% pay differential.³⁰ The difference in earning capacity between a high school dropout and a college graduate is more than \$400 per week, or \$20,000 per year. Given the low educational attainment of Milwaukee’s children, this difference certainly contributes to Milwaukee’s mediocre human capital level and lagging per capita income.

MPS Student Performance

To learn how well the students of Milwaukee are being prepared for the jobs of the future, we examined a number of factors. (To be fair, MPS exhibits features found in many urban school systems.) MPS is a system with a high incidence of poverty (73% of fourth graders qualify for free or reduced lunch³¹), a high incidence of unwed pregnancies (63% of births in Milwaukee are to single mothers, the fourth highest nationally³²), and a minority population that represents the majority of students in the school system (82% of the MPS student population³³).

To measure student performance, we used data from the standardized tests administered to all Wisconsin public school students in grades four, eight and ten. The tests measure proficiency in reading, language, math, science and social studies. That data are shown in Table 3. To provide a reference point for the MPS data, we have also included the statewide results.

Table 3 shows that on the fourth grade reading test only 55% of MPS students scored at a level of proficient or better. A similar percentage of fourth grade students were proficient in language and social studies. However, less than 50% of MPS fourth graders were proficient in math and science. This weakness worsens in higher grades.

**TABLE 3 2002 FOURTH, EIGHTH, AND TENTH GRADE TEST DATA
MILWAUKEE PUBLIC SCHOOLS AND WISCONSIN AVERAGES**

Subject	4th Grade % Proficient		8th Grade % Proficient		10th Grade % Proficient	
	MPS	WI	MPS	WI	MPS	WI
Reading	55	79	41	74	26	60
Language	53	73	46	70	28	62
Math	42	69	10	44	11	43
Science	45	77	19	60	13	48
Social Studies	56	82	40	79	26	65

Source: Wisconsin Department of Public Instruction

On the eighth grade test, the percentage of MPS students scoring as proficient or better on math dropped to a mere ten percent. Stated differently, **ninety percent of MPS eighth graders failed to demonstrate proficiency in math**. Science proficiency is similarly disappointing, with proficiency dropping to 19% among eighth graders and 13% among tenth graders. In every projection of worker skills that will be needed for the future, math and science skills are essential. As it stands today, very few MPS students attain the necessary academic skills for their own economic well-being, let alone the economic well-being of the city.

Test results in reading, language and social studies also show a significant decline by the tenth grade, although not quite as pronounced as the decline of math and science scores. By the tenth grade only 26% of students demonstrate proficiency in reading and social studies, while 28% demonstrate proficiency in language.

In addition to low test results, there are other disturbing indicators of the quality of tomorrow's workforce in Milwaukee. One is attendance. MPS is a school system marked by high truancy. Truancy in MPS (as measured by an unexcused absence for all or part of five days or more during a semester) runs at 36% in elementary school, 54% in middle school and 72% in high school. Clearly, many students in high school see attendance as optional.

With such high truancy rates it follows that MPS would have low graduation rates. In the 2001-02 school year fully 2,889 MPS students dropped out of school. One of the authors of this study recalls his father-in-law, probably reluctant to attend yet another ceremony, questioning why such a fuss is made over high school graduations. "What's the big deal?" he would ask, "Everyone graduates from high school." He would not recognize Milwaukee, where in 2001-02 the MPS graduation rate stood at 60% (compared to a statewide average of 91%). Although this rate is troubling, it represents a marked improvement of the 50% graduation rate seen as recently as 1996-97.

How do MPS students feel about higher education? While most of the poorest performers choose to leave high school, of those that remain, only 37% take the ACT test (compared to 57% statewide). Those who take the ACT produce an average score of 18.2, falling well below the state average of 22.1.

Only 48% of MPS seniors responding to a survey indicated that they plan to attend either a four-year college or a two-year technical school. Continuing education and retraining long ago became a standard expectation in many industries, yet over half of those students making it to the end of their high school program in MPS see taking even the initial step as out of the question. There is clearly a divergence between the expectation of employers and the aspiration of students.

It would be almost understandable to become resigned to the poor performance of Milwaukee's public school students. However, such resignation would imply that future economic growth in Milwaukee would occur by working around the low performance of MPS students. Not only would the city continue to have an inadequately trained workforce, it would continue to see the growing costs associated with low educational attainment, including poverty, drugs and crime. More pointedly, it is hard to see how Milwaukee will ever reach the targets for residents with a B.A or higher we described above if MPS seniors cannot attain the basic credential required for college enrollment — a high school diploma.

The grim academic performance indicated by these MPS test results suggests that something deeper than social or pedagogical factors must be in effect. It would seem that there is an inadequate value being placed on education. Some part of this culture might be explained by the "vicious circle" facing many urban children. As explained by Ralph Whitehead Jr.,

The shortfall in reading and math has two damaging consequences that combine in a vicious circle: Given what they see in their pool of job applicants, employers are reluctant to hire new high school graduates for upgraded jobs. Given the visible failure of those in school ahead of them to get good jobs, students in junior high and early high school believe that what they do in class has no value."³⁴

This analysis is not meant as an indictment of MPS. Nor is it meant to critique the validity of any particular education policy initiative. This report is an evaluation of the economic status of Milwaukee and the prospects for the future. In this context, the school system is only one of many factors affecting future economic growth. Yet, education is such a vital component of the equation for economic success and the performance of MPS students is so grim, it is nearly impossible to imagine how Milwaukee might gain economic success without significantly improving the achievement of its public school students.

The current state of K-12 education in Milwaukee exists in spite of the fact that the school system spends \$10,671 per student and the city is one of the most fertile environments for educational reform in America. A critical deficiency is the lack of a clear focus on educational outcomes. Even for those who would advocate additional spending, it is far from clear where more money could be spent that would result in improved attendance and higher test scores.

It is an unfortunate trait of government that funding is provided for well-intentioned programs without serious follow-up to measure how well the original objective is being met. While the state has instituted standardized testing, no effort has been made to link the many programs funded with state dollars with student performance. Which of the many programs are effective and, more important, which are not? Without answers to these questions state government will continue to provide over \$700 million of aid to MPS with no serious expectation that student performance be improved.

Can Milwaukee rebuild its economy without significantly improving the performance of MPS students? Probably not, yet student performance is not likely to improve on a large scale without radical systemic changes in both Madison and Milwaukee.

MILWAUKEE'S IMPACT ON THE METRO AND STATE ECONOMIES

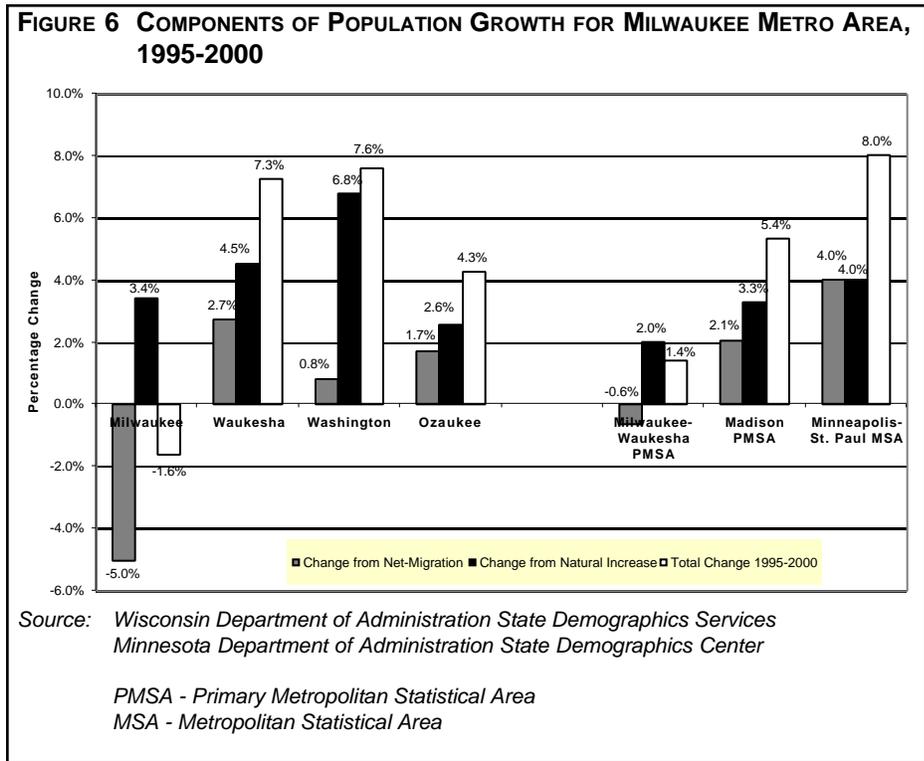
In this section we describe how Milwaukee's lack of growth has affected the economy of the metro area and the economy of Wisconsin. We have examined this relationship from two perspectives. One is a statistical analysis of the relationship between large urban economies and the economies of the metro areas and states within which they exist. The second is the impact on the budget of Wisconsin state government.

The Metro Milwaukee Economy, 1970-2000

Population

Between 1990 and 2000, the metro Milwaukee area gained 67,003 people, or almost 5%. This growth, however, masked a worrisome fact: the metro area's population growth between 1990 and 2000 ranked 42nd among the 48 metro areas containing one of the country's 50 most populous cities.³⁵ The other 47 metro areas averaged population growth of 19%, almost four times greater than the Milwaukee metro area.

The difference in population growth over the thirty years since 1970 is even starker: between 1970 and 2000 the Milwaukee-Waukesha metro area grew by only 7%, while the other 47 metro areas experienced an average population growth of 73%. Not surprisingly, the Milwaukee metro area ranks 43rd among these metro areas in population growth since 1970.³⁶



The population losses in the city of Milwaukee noted earlier have clearly depressed the metro area's population growth. However, the region's comparatively poor population growth is not simply the result of Milwaukee's population contraction. A slightly closer inspection of the Milwaukee-Waukesha metro area's population growth between 1995 and 2000 suggests a more troubling explanation for the metro area's lagging population growth — an inability to attract new migrants.

The metro area has not attracted sufficient migrants from other areas in Wisconsin or outside the state to compensate for the

flight of people from Milwaukee. Data compiled by Wisconsin's Demographics Service Center show that between 1995 and 2000, the metro Milwaukee area had a net out-migration of 8,964, a trend fueled largely by the exodus of Milwaukee County residents from the region. (Overall, the population of the region increased during this period due to changes from births and deaths.) In contrast, the Minneapolis-St. Paul and Madison, Wisconsin metro areas had significantly higher percentages of people moving in than leaving over this same time period. Figure 7 illustrates these points.

The low population growth in metro Milwaukee is reflected in median rents, one "proxy" measure of a region's attractiveness. In 1970 real median rent for the area ranked 15th among our 48 metro areas; by 2000 the Milwaukee metro area had dropped to 33rd. This suggests that the region has had comparatively lackluster demand for its housing stock when viewed against the other 47 metro areas — an indicator consistent with our finding that migrants are bypassing the region.

Income and Other Economic Activity

A review of income, earnings and employment for the metro area reveals two different pictures. An analysis of PCI shows that incomes in metro Milwaukee are reasonably healthy. In 2000, the real PCI for metro Milwaukee was \$30,777, 1.8% above the average for other 47 metro areas in our database. While this represents a relative decline since 1970 when it was 6.6% above average, it is still somewhat surprising given what we know about the economy of the city of Milwaukee.

However, while incomes have held up, the relative size of the metro Milwaukee economy is shrinking. For example, its share of the U.S. economy has declined from 0.77% in 1970 to 0.59% in 2000. Had metro Milwaukee maintained its share of the U.S. economy, it would have produced an additional \$15.2 billion in personal income in 2000. That is income that has located somewhere else. Metro Milwaukee missed out on the expansion of the U.S. economy that has occurred since 1970.

It is instructive to relate the metro Milwaukee experience with the experience of two metro peers from the 1970s. In 1970 the Seattle, Milwaukee and San Diego metro areas ranked 17th, 18th and 19th respectively in their share of total U.S. personal incomes. Figure 7 shows the decline of the Milwaukee metro economy contrasted uncomfortably with the growth of its two former peers.

The decline is also evident in employment statistics. In the 1970-2000 period, while the nation increased employment by 88%, metro Milwaukee grew by just 54.5%. (From the data presented earlier, it is evident that all of the growth occurred in suburban Milwaukee.) Not only did employment growth not keep up with national job growth, wage growth was also sluggish. In 1970, real wages per job in the metro Milwaukee region exceeded the US average real wage per job by 8%. Thirty years later the situation had changed markedly: in 2000 the

region had real wages per job that were 2% below the US average. Low job growth combined with low wage growth in large part explains why the metro Milwaukee economy was left out of the expansion of the national economy.

A comparison with the Minneapolis-St. Paul metro area helps put the sluggishness of the metro Milwaukee economy in perspective. Figure 8 shows that, in 1970, the average real wage in metro Milwaukee was only \$500 behind

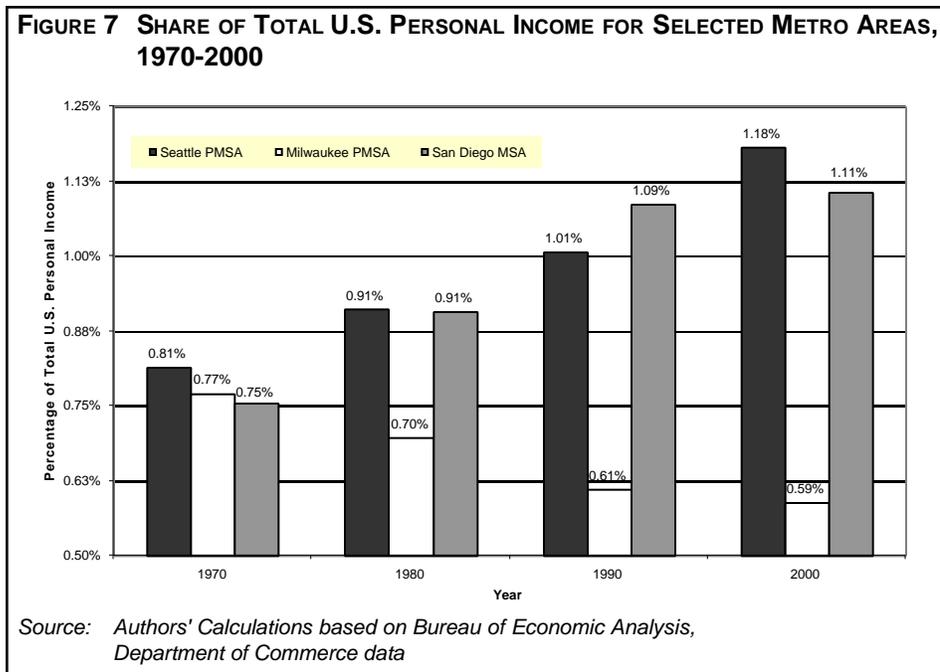
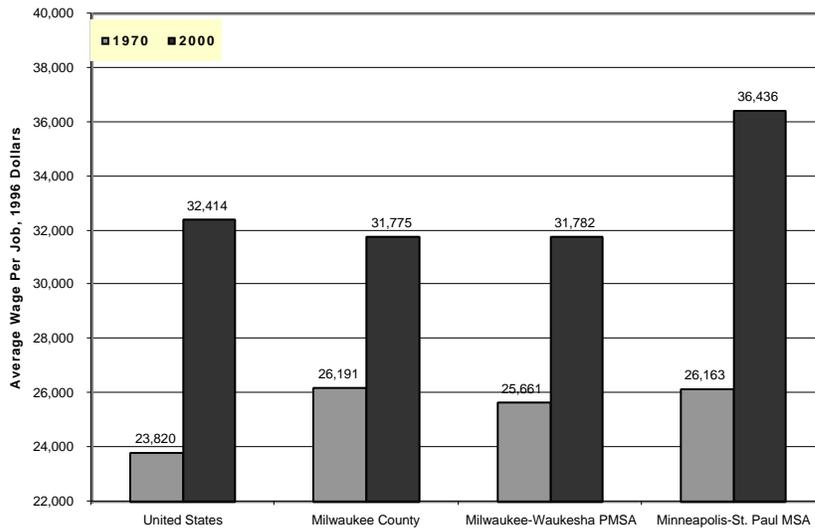
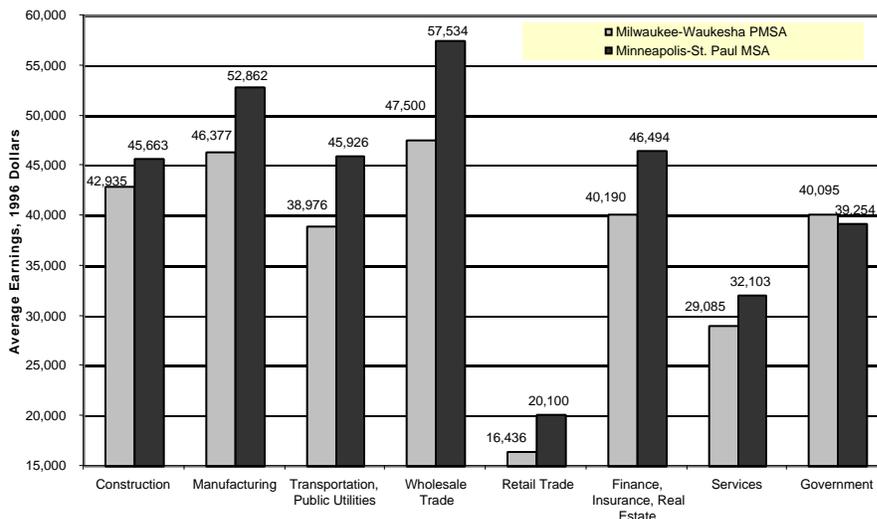


FIGURE 8 AVERAGE REAL WAGE PER JOB FOR THE U.S. AND SELECTED AREAS, 1970-2000



Source: Bureau of Economic Analysis, Department of Commerce

FIGURE 9 MILWAUKEE AND MINNEAPOLIS AREA EARNINGS PER JOB BY INDUSTRY, 2000



Source: Authors' Calculations Based on Bureau of Economic Analysis, Department of Commerce Data

the wage in the Minneapolis-St. Paul region. Thirty years later in 2000 that gap had grown to over \$4,600. In addition, Figure 9 shows that for every industry except government, job earnings in the Minneapolis-St. Paul region exceed those in metro Milwaukee. It is possible to surmise that similar jobs will pay more in metro Minneapolis-St. Paul than in metro Milwaukee. It is little wonder why metro Minneapolis-St. Paul realized a net 4% in-migration while metro Milwaukee was experiencing a 0.6% net out-migration in the 1995-2000 period.

How Big Cities Influence Metro Area Growth

Growth in the Milwaukee metro economy has clearly been lackluster when compared to the nation or former metro area peers. Did Milwaukee's performance cause this falloff? To answer this question, we modeled the relationship between city economic activity and metro area growth. Our model used data from the 48

largest metro areas (Appendix 1 provides a description of the model).

The principal finding from this model of metro area real per capita income is that increase in a core city's real per capita income does lead to an increase in the metro area's real per capita income. We estimate that a 1% increase in city per capita income will increase metro area per capita income by 0.20%.³⁷

For the Milwaukee metro area we found growth in the economy to be restrained because of the low percent (18%) of city residents holding college degrees compared to the average city in our data base (27%). Specifically, in 2000 the metro PCI was 5.3% lower than it would have been if Milwaukee had the same portion (27%) of its residents holding college degrees as the average city. If this education profile gap remains, the city will continue to act as a drag on the metro economy.

Milwaukee and the State Economy

Over the ten years between 1990 and 2000 Wisconsin's economy, measured using per capita income, outperformed the economies of the United States and most other states. During these ten years the Wisconsin economy grew by 56.4%, slightly better than the 52.1% growth in per capita income achieved nationally, and a growth rate that ranked 13th among US states.³⁸ This was good news for a state that had its economic foundations profoundly shaken by the economically bleak 1980s.

However, this good news about Wisconsin's recent economic performance is tempered by the state's inability to return to the national average of per capita income. In 1980, Wisconsin residents enjoyed a real per capita income equal to the national average; in 2000 Wisconsin per capita income had fallen to 5% less than the U.S. average.

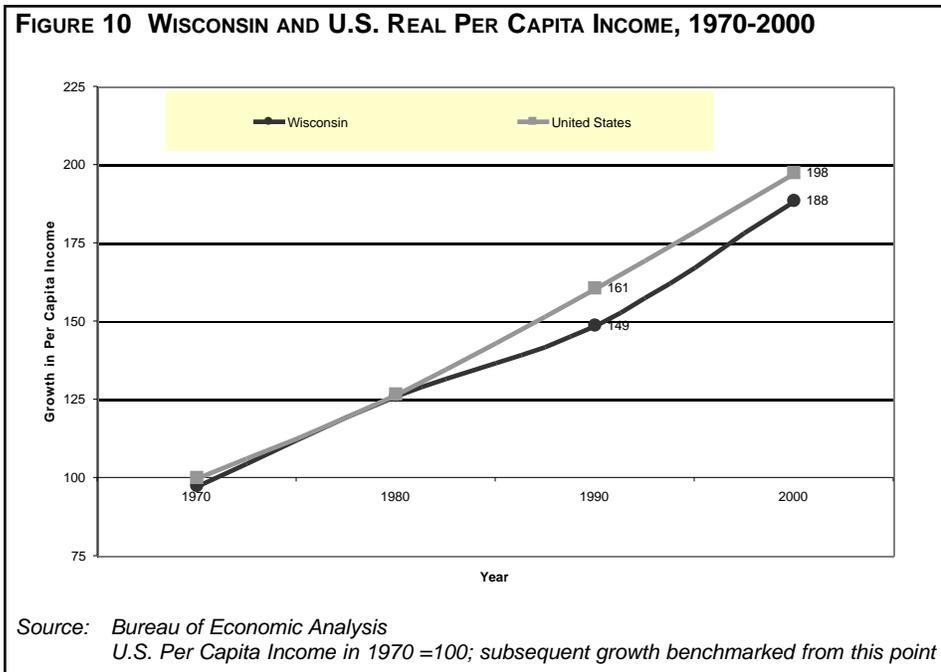
Did Milwaukee influence state growth by constraining metro growth? To answer this we created an additional model for state per capita income growth in those states that contain one of the nation's 50 most populous cities. Our hypothesis is that state PCI is influenced by the PCI of our 48 metro areas, which (as we have argued) are in turn influenced by the PCI of their core cities. Our findings from the model of state real per capita income parallel our findings for our metro area model. (See Appendix 1 for a description of the state

model.) The model not only confirms that metro area real per capita income does affect state real per capita income, it also demonstrates the linkage between a large city's economic success and the success of its state. We estimate that a 1% increase in metro area per capita income will increase state per capita income by 0.32%.

Our analysis suggests that the constrained PCI growth in metro Milwaukee served to constrain the state's overall economic growth. Indirectly, Milwaukee's economic decline is serving as a "brake" on state-wide economic growth by limiting growth in the state's largest and most critical metropolitan area. More specifically, our modeling revealed that in 2000 Wisconsin's PCI was 1.8% lower due to the lower percentage of college graduates in metro Milwaukee.

Wisconsin's missing \$15 billion

We also calculated the potential impact if the metro Milwaukee share of national personal income had remained at 0.77% rather than declining to 0.59%. In other words, what difference would it have made if metro Milwaukee had fully participated in the expansion of the U.S. economy over the past thirty years? Our estimate is that the metro Milwaukee economy would be generating \$15.2 billion per year more than it did in 2000. This would move Wisconsin up in national rankings of PCI from 20th to 13th. For those concerned with Wisconsin's state budget gap the additional earnings would translate into approximately \$675 million per year in additional state revenue. It is easy to see that if metro Milwaukee had attained a constant share of the expansion of the U.S. economy, today Wisconsin would today be a wealthier state faced with very different issues.



Milwaukee and State Government Finances

Another place where Milwaukee's economy impacts Wisconsin is in the state's budget. Milwaukee, being the state's economic engine, would be expected to be the key generator of revenue for the state budget. While that was the case in the past, it is no longer true.

Where are state tax dollars generated and where are they spent? Former Secretary of Transportation Lowell Jackson, in testimony before the Legislature's Joint Finance Committee, commented colorfully on the redistribution of transportation revenues by stating, "If we sent the dollars back where they came from there wouldn't be a paved road north of highway ten." It is generally understood that Wisconsin tax dollars are redistributed, but to what extent?

The Department of Revenue publishes an annual report that relates where state revenue comes from to where it is spent. Although the report, entitled "Taxes, Aids and Shared Taxes," was discontinued between 1980 and 1996 the information in the pre-1980 and the post 1996 report are comparable and thus valid for this analysis. (This analysis only includes the general fund revenues in the report.)

Two points must be made regarding the expenditure data in this report. First, the data only includes direct aids to Milwaukee. While it is known that a good portion of the cost of the Department of Corrections and Health and Family Services are for Milwaukee residents, none of these costs are included in the analysis. We have intentionally been conservative in defining expenditures. Second, some of the data on aids is derived by Department of Revenue analysts, especially the data regarding county aids.

Table 4 shows data from the period prior to 1980 and the period after 1996 when the report was re-instituted in 1996. The most significant finding is that in 1980 and earlier, the city of Milwaukee contributed more to the state government in the form of taxes paid than it received in state aids. In 1980 Milwaukee generated \$406.6 million to the state treasury and received \$343 million in aids. The city was receiving 16% less in aids than it was generating in state taxes.

When the Department of Revenue once again began issuing the analysis in 1996 the picture had been reversed. In 1996 aids to Milwaukee exceeded revenue generated there by \$181.5 million. By 2000, the most recent year for which this report was prepared, Milwaukee's negative contribution to the state budget had risen to \$268.8 million. Milwaukee was receiving nearly 32% more in state aid than it was generating in revenue.

What caused the turnaround from the 1980 report to the 2000 report? Although the *amount* of state aids to Milwaukee rose significantly, the city's *share* of local aids remained in the range of 15% to 17% of total state aids. Thus, even though aid programs came and went and nearly every local assistance program underwent significant changes, the share to Milwaukee remained rather stable. However, examining the share of state revenues emanating

**TABLE 4 STATE TAXES GENERATED IN MILWAUKEE COMPARE TO STATE AIDS TO MILWAUKEE
(IN MILLIONS OF NOMINAL DOLLARS) ³⁹**

Year	Statewide Revenues	Milwaukee Revenues	%	Statewide Aids	Milwaukee Aids	%	Difference Between Revenues and Aids	Aids as % of Revenues
1970	1,154.9	202.7	17.5	789.2	126.8	16.1	75.9	62.6
1975	2,009.7	300.2	14.9	1,608.8	275.4	17.1	24.8	91.7
1980	3,029.8	406.6	13.4	1,962.6	343.1	17.4	63.5	84.4
1996	8,307.8	737.6	8.9	5,570.2	919.1	16.5	-181.5	124.6
1997	8,953.7	811.7	9.1	6,384.9	999.9	15.6	-188.2	123.2
1998	9,476.0	844.6	8.9	6,609.6	1,064.9	16.1	-220.3	126.1
1999	10,521.4	907.2	8.6	6,861.9	1,081.1	15.7	-173.9	119.9
2000	10,042.0	843.3	8.4	7,295.7	1,112.1	15.2	-268.8	131.9

from the city of Milwaukee reveals a different picture. Although state government received 17.5% of its revenue from the city in 1970, thirty years later that share had been cut almost exactly in half. By 2000 only 8.4% of state revenue came from Milwaukee.

Since few changes were made to state tax policies, the reduction in the share of state revenue from Milwaukee is almost certainly related to the decline of the city's economy. This decline is manifest in the loss of population, described earlier in this paper, as well as a drop in per capita personal income in Milwaukee relative to the state as a whole. In 1970 Milwaukee's per capita personal income was 80% of the state average; in 2000 it stood at just 57% of the state average.⁴⁰ Finally, the reduction in revenue was likely related to the continued movement to the suburbs. Increasingly, people earning wages in the city chose to live in the suburbs.

This last point is bolstered by a review of the metro area. A review of the four county metro area shows that in 1980 the metro Milwaukee area was a \$563 million net contributor to the state budget. By 2000 that had risen to \$1.1 billion. Thus, the metro area is paying a full 50% more into the state budget than it is receiving in state aids. This points out that, overall, the Milwaukee metro area remains the key engine for the state budget. It also accentuates the economic decline of the core of the metro area, the city of Milwaukee. While the overall metro area looks healthy by this one measure, that picture of health belies economic decline within the city borders.

What's the problem with a lagging city economy if the metro region remains healthy? For one thing, the taxes everywhere in Wisconsin, including in the collar counties, are somewhat higher than they would be if Milwaukee's economy had remained strong. For example, in 2000 taxpayers beyond the borders of the city were paying \$269 million more in state taxes than if Milwaukee were breaking even in the state budget. This equates to approximately a 3% higher tax rate.

OTHER STUDIES OF THE MILWAUKEE ECONOMY

It is also useful to understand how contemporary economists view the deficiencies in the Milwaukee economy. Two important studies outlined below offer some insights. Both studies suggest that Milwaukee break from its past and move forward in a targeted way that has led other cities to economic prosperity.

The Rise of the Creative Class

The Rise of the Creative Class is Carnegie Mellon University Professor Richard Florida's book examining economic development in the contemporary American city.⁴¹ While Glaeser and others have documented the importance of human capital in the economic development equation, Florida takes a more targeted look at the concept. He describes the importance of the creative class, consisting of scientists, engineers, software programmers, writers, architects and artists, and the creative economy to economic success for America's cities.

Florida's key finding is that the location of the creative class enhances local economies. Whereas local communities have traditionally focused on luring business, Florida's research suggests that they would be better served by trying to lure members of the creative class. Cities should focus on recruiting people, not businesses.

Florida developed a ranking of major American metropolitan centers based on their population of the creative class. Cities ranking highest in the creative class index (those having the highest percentage of workers in the creative class) include Washington D.C., Raleigh-Durham, Boston and Austin. Milwaukee ranks 39th of the 49 areas in his index. He contrasts the creative class with the working class (construction, installation and maintenance, production and material movement) and the service class.

Milwaukee's ranking on the creative class is low because a larger share of its population is in the working class. For example, while Boston counts 17% of its population as among the working class, Milwaukee's working class makes up 29% of the population. Milwaukee is a working class city, a finding that fits with the general perception and heritage of the city. While this vibrant working class once led to economic prosperity, that is no longer the case today. In fact, Florida points out the growing disparity between working class cities and creative class cities.

We tested Florida's assertion by using a simple correlation between Florida's metro area creative class index and the metro PCI. The correlation is 0.645, suggesting a strong relationship between a high score in the creative index and high PCI. Creative class cities also appear to be economically healthier cities.

Whether or not one agrees with Professor Florida's specific measures, his message bears serious consideration. Attention must be placed on attracting the creative class if Milwaukee hopes to gain economic success. Clearly the cities where creative people want to live are different than other cities. Also, creative people want to live in communities where other creative people live.

(Milwaukee has a leg up on other cities in that it was one of the first places to pay attention to the Florida message. The Metropolitan Milwaukee Association of Commerce has hosted Professor Florida on two occasions and was one of the first cities to bring his message to the business community.)

Florida has specific suggestions for cities wishing to attract the creative class. Most involve creating a "people climate" which is marked by openness and diversity. This will require the city to be unrestrictive and easy for new residents to become acclimated. Whereas under the old model of economic prosperity, membership in exclusive clubs and organizations was something to which most professionals aspired, Florida suggests the creative class looks to reside where everyone belongs immediately upon locating in the city. Cities that thrive tend to be open to people of all ages, races and backgrounds. It is that diversity, and the ability to mix with a diverse population that makes these cities attractive.

Florida quotes Kirk Watson, Mayor of Austin:

Austin has benefited from a convergence between technology and our laid-back, progressive, creative, lifestyle and music scene. The key is that we continue to preserve the lifestyle and diversity, which enables us to lure companies and people from places like the Silicon Valley.

Milwaukee also needs to attend to the creative individual's housing needs and recreational needs. Kahler Slater, a prominent Milwaukee architecture firm, has developed a comprehensive model inspired by Florida's research. This model is based on the concept that people make decisions on where to locate based on a city's ability to meet their needs in all three facets of their lives: living, working and recreating. The firm has a comprehensive list of improvements to be made to transform Milwaukee into a city that will be attractive to the creative class. Many of their concepts are low cost or no cost. They are aimed at changing the fundamental nature of the city. Included among the dozens of suggestions are:

- Increased downtown shopping
- Affordable housing for young professionals
- Develop Park East and Pabst properties as distinct neighborhoods, adding to urban diversity
- Refurbish and renovate Cathedral Square
- Create a music district
- Improve Milwaukee schools and locate charter schools downtown

Florida also suggests that cities must plan for and invest in areas that increase the creative economy. This includes research parks and incubators, venture capital for emerging businesses, and research and development. Also, the city must place a premium on education from top to bottom. A city that places a premium on the educational attainment of its citizens will be the type of place the creative class will seek to live.

Metropolitan New Economy

The liberal-leaning Progressive Policy Institute, which has focused on analyzing the transformation of the U.S. economy, reviewed the economies of the 50 largest metropolitan areas in the U.S. *The Metropolitan New Economy*, authored by Robert Atkinson and Paul Gottlieb, examines the degree to which metro areas have adapted to the new economy.⁴² The study notes the late twentieth century move to a knowledge-based economy will be as profound a development as the emergence of the manufacturing economy in the late nineteenth century. Metro areas that have shown themselves to be slow to adapt to the new economy have seen their growth stunted.

They developed a ranking of the 50 metro areas based on five broad measures:

- Knowledge jobs in the metro area
- Globalization of the economy (export of products)
- Digital nature of the economy (telecommunication infrastructure and use)
- Economic dynamism (number of jobs in fast growing firms and job churn)

- Innovation capacity (high tech jobs, patents, venture capital and academic research and science and engineering degrees)

Although different from the creative economy measure in Florida's work, these measures attempt to gauge the fundamentals of the new economy. Many of the cities that score high under the creative economy measures also score well under the *New Metropolitan Economy* measure. Topping the list are San Francisco, Austin, Seattle, and Raleigh-Durham. The Milwaukee metro area ranks 40th of the 50 areas studied. Milwaukee ranks in the lower half for all five of the measures studied.

Atkinson and Gottlieb recommend that cities take a targeted approach to economic development, similar to Florida's recommendations. Economic growth will come to places that:

- Foster innovation in the metropolitan infrastructure, in its institutions and in the individuals that live there. This would include support for research parks, incubators and linkages between universities and local businesses.
- Create a culture of training and innovation, elements that are absent in low-income cities. A good school system is important to provide workers for new economy businesses, as well as being an amenity in drawing knowledge-workers to an area. They suggest that an economic development dollar would be better spent on workforce skills and improving the quality of life than on providing tax breaks to prospective businesses.
- Focus not on job growth, but income growth.

Atkinson and Gottlieb note that it is more important to businesses in the new economy to locate in areas having a culture of ideas and talented people than in a place where it is simply cheap to do business. Further, they note that it is more important to attract people (probably the creative class) than it is to attract companies. Cities should provide a good physical environment, and government should be a partner, not the principal driver, in changing the area's economic development focus. These are concepts that challenge many traditional economic development strategies.

Summary

Recent research on the changing nature of urban economies does not portray Milwaukee as a city that has adapted well to the new economy. It is a city that does not possess sufficient human capital. It is a city dominated by a working class rather than a creative class. For Milwaukee to improve its future, it must be willing to move beyond that working class orientation.

Experts in urban economies suggest significant changes will be needed in cities like Milwaukee that have not yet adapted to the realities of the new economy. It must become a city that is viewed as welcoming all types of residents. It must become a city with a positive reputation for its educational orientation. It must become a city that consistently supports the knowledge industry, which will be important to both prospective employers and prospective residents. Finally, the public and private sectors must be prepared to implement the changes, such as those identified by Kahler Slater, in making Milwaukee a place where people want to live, work, and recreate.

It is reasonable to ask what such a significant change in strategy would mean for the central city residents. Would they benefit from the change? For an answer we can look to the important work published by Matthew Drennan in which he studied the impact of the new information economy on American cities.

Drennan found that "when the per capita income of a metropolitan area is higher, central city poverty rates will be lower."⁴³ Specifically he found that a 1% increase in metro PCI would yield a 1% drop in central city poverty. Just as the metro economy is linked to the success in the city, so too is the central city economy linked to the metro economy. Drennan observes:

During the first Clinton campaign for the presidency, in 1992, it was reported that desks at the campaign headquarters had a sign saying "It's the economy, stupid." In light of this analysis and the study by Jargowsky (1997), I think that all the nonprofit community development corporations working in inner cities and all the municipal agencies charged with improving the life chances for the city poor should have the same sign in their offices.

Milwaukee historically has been a conservative city. This conservatism has served the city well in the past. However, in order to progress in the new economy it must be prepared to break out of its conservatism and aggressively develop a strategy to attract the creative class to increase the city's human capital. Leadership in the public and private sector must be prepared to oversee the remaking of Milwaukee.

RECOMMENDATIONS AND FINAL OBSERVATIONS

Statistics in this study might lead one to conclude that Milwaukee's fate is sealed. After all, the city has experienced thirty years of economic decline and the key predictor of future economic growth is past economic growth. In all probability, Milwaukee's economy will indeed decline further without significant changes. The city will become smaller and poorer, which will not only bode poorly for Milwaukee but for the economy of the entire state. At some point in the future it will become a noticeable crisis requiring hugely expensive reclamation steps.

This study does not include a recipe for economic recovery. There is none. Each city has taken its own path to develop its economy. Milwaukee cannot become Seattle, nor should it try to. Furthermore, successful cities have their own unique characteristics. Seattle is quite different from Boston or Austin.

Yet one thing all successful cities share is an ability to adapt to the new economy. None cling to past successes. Further, they number among their residents a high proportion of college graduates. The research presented here points to the strong relationship between the educational profile of a city and the economic prosperity of the city. As one recent study concluded:

If you had to pick a single "egg" to create the "chicken" of fast per-capita income growth, you could do no better than to focus on your region's education level — its stock of human capital.⁴⁴

Having a goal of elevating the educational profile of city residents suggests a very different approach to economic development. The goal of job growth becomes subordinate to income growth. It is imperative to make the city attractive to a college-educated population, which involves providing the right amenities as well as the right jobs.

We have outlined the magnitude of the change required. Milwaukee will have to increase the number of college graduates by 5,300 every year from now until 2020 to reach the projected average income of the other 49 cities by then. The magnitude of the deficiency of college graduates is alarming and points out clearly the task before Milwaukee. By 2020 36% of the city's population must hold college degrees. If that goal is met, not only will the city be revitalized, the metro area will grow and Wisconsin will be a wealthier state.

Below we have listed some of our observations about Milwaukee and its economic future.

1. **Public and private sector leaders must shake off the notion that the Milwaukee economy is generally OK - it is not.** Although there is much positive about city life in Milwaukee, we have shown data that document a significant economic decline. Leadership must look beyond the Calatrava, the RiverWalk, condo developments in the downtown area and critically evaluate the city's future. What will yield the growth that once made the city a national economic powerhouse?
2. **Milwaukee must elevate its aspirations.** In our discussion with a number of business and government leaders we often heard how it is not right to compare Milwaukee to economic leaders like Austin or San Francisco or Seattle. One leader even told us that, in comparing Milwaukee to the Twin Cities, it is more relevant to compare Milwaukee to St. Paul than it is to compare it to Minneapolis. Unless Milwaukee is prepared to learn from the current crop of successful cities and aspire to attain similar economic growth, it will likely never attain the success of those cities.
3. **All of the key players must be dedicated to significantly changing the focus of the development of the Milwaukee economy.** This includes leaders in state and local government, the business community and Milwaukee community groups. It is essential that the incoming mayor be the catalyst to bring together the key parties to focus on the future economic development of Milwaukee.
4. **Milwaukee leadership must, at a minimum, become open-minded to novel approaches to development.** We fear that the city's increasingly risk-averse culture has made it less open to the novel and untried approaches to development and growth that will be necessary to reverse the city's decline. Successful cities have each taken a unique and, for their time, risky approach to pump-priming development. Austin's active courtship of Sematech, San Jose's massive tax increment investment in the downtown, and Seattle's public funding for downtown retail parking are some of the examples of how city leaders moved against conventional wisdom to ignite growth in their cities. Milwaukee leaders need to consider similarly unconventional approaches in order to ignite growth in their city.

5. **Milwaukee must create a roadmap to change the city's economic focus.** This plan should have the following elements:
 - a. **Target a knowledge-based economic strategy.** The Wisconsin Technology Council has developed a broad strategy outline in *Vision 2020 A Model Wisconsin Economy*, which should be used to guide the recasting of Milwaukee's economy. Their ideas include creating research centers of excellence and technology clusters, and making joint venture capital investment using private capital and public pension funds.
 - b. **Focus on income growth, not job growth.** This is a very different strategy for Milwaukee. However, this approach recognizes that all jobs do not contribute equally to the city's economy and therefore, only those that yield income growth should be targeted.
 - c. The city should make a concerted effort to **attract the creative class**. The two initiatives outlined above will go a long way to make that happen. In addition, the model created by Kahler Slater architects includes "igniters" that are tangible actions to be taken to make Milwaukee creative class friendly.
6. The reorientation of the Milwaukee economy can be done without the use of large amounts of additional public funding. However, **existing public sources will need to be targeted to meeting the goals of the Milwaukee roadmap**. Two sources are identified here, there are undoubtedly others:
 - a. **Proceeds from the gaming compact with the Potawatomi.** The recently renegotiated compact yielded an annual fee to the state of approximately \$30 - \$35 million. It is reasonable to expect that up to 1/2 of the proceeds would remain in Milwaukee to assist in developing the local economy. This would yield approximately \$15 million - \$17 million per year, or \$500 million - \$575 million over a twenty-year period (assumes a 5% annual growth in casino activity). This could be made available to develop key elements of a new economy such as research parks and the support of university research directed at the new technology focus of the Milwaukee economy.
 - b. **Tax Incremental Financing.** Milwaukee city government has a heritage of conservative fiscal management. This has served the city well and has yielded austere city budgets. However, this conservatism has been extended to the city's use of debt finance, specifically TIF financing. We feel that the city should be prepared to more aggressively apply TIF financing, side-by-side with private financing, to develop the infrastructure needed to make Milwaukee a technology center. This would result in an increase in technology jobs and an increase in Milwaukee's per capita income.
7. **The performance of MPS students must be significantly improved.** This study documented the poor performance of MPS students. Traditionally, educational performance issues have been addressed with assigning blame to various parties and a call for additional spending. This report will do neither. Rather, we suggest the following systemic changes to put the right measures in place to lead to improved student attendance and performance.
 - a. **Measurement.** An effort should be made to measure the performance of individual schools and the many programs funded at MPS. Chicago offers an example in the *Consortium on Chicago School Research* which is an independent body consisting of academics, school officials, reform leaders and the public. Its sole mission is to evaluate school performance. This single focus represents a model of analytic urgency that is lacking in Milwaukee. (UW-Madison's Center for the Study of Systemic Reforms in MPS provides a good base.) It would also help identify resources that could be reallocated to improve attendance and performance. The Chicago Public School system has realized improved student performance and attendance, particularly among high school students.
 - b. **Standards.** Academic standards must be high and tailored to the needs of Milwaukee businesses. This will benefit the community and the students. MPS and the Metropolitan Milwaukee Association of Commerce should partner in setting educational standards.
 - c. **Merge MPS into the City of Milwaukee.** Milwaukee should recognize, as many cities have recognized, the link between the quality of schools and the quality of the city. To this end state law should be changed to require the mayor of Milwaukee to appoint members of the school board and the school superintendent. This will provide a single point of responsibility for the quality of Milwaukee schools and will provide more stability to school leadership (eight different superintendents have served MPS since 1986). In addition, when the merger is complete all state aid should be made available to the

mayor. The mayor should have the flexibility to apply the funding where it is most essential, either to schools or city purposes.

- d. **State funding tied to performance.** State funding should be provided to MPS with the expectation that it will be used to improve attendance and student performance. It is amazing that state government sends over \$700 million per year to support MPS with none of the funding dependent on performance. We would suggest that, if attendance and test scores remain low, up to 10% of state aid to MPS should be placed in escrow (funding should not be reduced). It would be released to MPS only to support spending that can be proven to improve attendance and academic performance.
- e. **Reallocation of existing funding.** The mayor should focus on the effectiveness of existing MPS programs. All existing program funding should be available to reallocate to efforts to increase attendance and student achievement. For example, the \$36 million currently spent on integration-related busing costs within MPS (this does not include the cost of busing students to suburban districts) should be further evaluated to determine whether additional funds could be redirected to boost attendance and to improve the performance of MPS students. It is understood that even raising the specter of redirecting busing funds will strike an old nerve. However, this is exactly the type of discussion required if Milwaukee is to improve its economic prospects. While busing has achieved the goal of improving the racial mix among suburban schools, (according to the Legislative Audit Bureau) the primary goal of MPS, the education of its students, is found wanting. Further, since MPS is a school district consisting of 82% minority students, it is reasonable to ask which of the two goals, integration or education, is more important. Or, stated differently, should the scarce education dollar best be spent busing students or improving their attendance and their educational attainment?
- f. **State government priorities.** State government, the largest funding source for MPS, is largely focused on educational inputs: aid amounts, class size, school choice, etc. A higher priority must be placed on student performance. State government must focus all of its efforts on improving student performance including education funding and educational reforms. In addition, the talent of the University of Wisconsin should be focused on improving MPS student performance. The Board of Regents should focus the talent of the faculty and students throughout the UW system on improving the performance of MPS students. There is no more urgent proving ground for the Wisconsin Idea than the performance of MPS.

Given the relationship between the Milwaukee economy and the economy for Wisconsin, it would seem to be in the interest of every taxpayer in Milwaukee and Wisconsin to attack the problem of the Milwaukee schools. Yet the issue dominating the discussion of education in Wisconsin is not the performance of the children in the state's largest school system but rather the formula for distributing state aids. One has to wonder why policy leaders espousing economic development for Wisconsin have not been more proactive regarding the performance of Milwaukee's next generation of workers. Without the support for improved MPS student performance, throughout the Capitol in Madison and throughout Milwaukee, it is unlikely that improvements will be realized. This scenario would place future economic growth in Milwaukee at serious risk.

CONCLUSION

How much better off would Wisconsin, the Milwaukee metro area and Milwaukee have been if Milwaukee had enjoyed greater economic success and growth over the last thirty years? One need only look across the border to Minnesota (and Minneapolis) to see one "easily viewable benchmark of how things might have been different and how much better things might have been."⁴⁵ What would have been the implications of this better growth for state fiscal policy over the last thirty years, and more pointedly, the last three years? In all likelihood, Wisconsin state government would be choosing between glide paths to fiscal balance, not the abrupt landing facing the state for the foreseeable future.

Our view is that the city's economy is not "broken beyond repair" and that leadership can alter the city's social climate so it is not "toxic" to new ideas. Time, though, is of the essence. The city, metro area and state can ill afford to spend another decade trying to recapture Milwaukee's once thriving manufacturing base. Radical measures are needed to recast the city's economy. Residents of the city, metro area and state deserve the chance to be as prosperous as their Minnesota neighbors.

This report does not advocate significantly increasing public spending to improve Milwaukee. We feel that adequate resources exist, although reallocation of some existing spending might be in order. We also maintain that if action is delayed, it is likely that significant increases in public funds, at all levels of government, will be required to rescue the city's troubled economy.

Too often at the state level there is a divide between Milwaukee and out-state interests. Issues affecting Milwaukee are seen as competing with the needs of the balance of Wisconsin. Sometimes this manifests itself in a partisan split and sometimes it is simply a rural/urban split. However, this study suggests that all of Wisconsin will benefit from efforts to improve Milwaukee's economic circumstances.

Turning around the city's economy will require both urgency and patience. Urgency to begin the job now, since waiting until the future will only put Milwaukee further behind the list of America's economically successful cities, while placing future policymakers further behind the curve. Patience is required, since the economic turnaround will likely take two decades or longer. This kind of patience has paid dividends for those cities, like San Jose, Seattle, and Portland that saw the need to change and took action. Hopefully, Milwaukee will look back at this time as the beginning of its twenty-first century renaissance.

APPENDIX 1 DESCRIPTIONS AND STATISTICAL DETAIL FOR REAL PER CAPITA INCOME MODELS

City Real Per Capita Income Model

Does the new economic growth theory hold for the 50 most populous U.S. cities generally and Milwaukee specifically? To answer this question, we assembled an extensive data set for these cities between 1970 and 2000. We also created a statistical model, using observations of city per capita income in 1990 and 2000, to test the proposition that prior city growth and high human capital levels are critical determinants of economic growth in the U.S.'s largest cities.

Appendix 2 lists the 50 cities included in this analysis. Our model, which relies on 100 observations (a pooled data set of the experience of our 50 cities in 1990 and 2000), utilizes city per capita income, population, educational attainment, city unemployment rate, African-American population, and Hispanic population data taken from the U.S. Census Bureau (<http://factfinder.census.gov>),⁴⁶ and the U.S. Department of Housing and Urban Development's State of the Cities Data Systems (<http://socds.huduser.org>), as well as implicit price deflator data taken from the Bureau of Economic Analysis web site (<http://bea.gov>). Weather data is from the Weatherbase web site (<http://www.weatherbase.com>). A dummy variable for U.S. region was constructed for the model (1=northeast; 2=south; 3=mid-west; 4=west). All dollar figures are expressed using 1996 dollars.

In its original form we expected real per capita income to be determined by past city economic growth, city specific economic conditions, measured using city unemployment, city weather, region of the U.S. and human capital. We were also curious about the influence of sizable minority populations, principally African-American and Hispanics, on real per capita income levels.

In order to address the concerns of potential multi-collinearity that arose over an early formulation of this city growth model, we used three variables that require some explanation. First, we measured past real city per capita income growth using the change in real city per capita income for that city 10 years earlier (i.e., the change between 1970-1980 and the change between 1980-1990). For example, the change in real per capita income between 1980 and 1990 for Milwaukee was \$383. This value (\$383) was then used as a predictor of Milwaukee real per capita income in 2000. These values were calculated for each city in 1980 and 1990 and then used to predict real city per capita income in 1990 and 2000, respectively.

The high correlation (0.9 in our sample, and significant at the 1% level) between real per capita income in a given year (e.g., 2000) and the percentage of residents with a B.A. or higher in that same year calls into question the direction of causality — that is to say, does a high level of educational attainment give rise to high real per capita incomes, or does a high real per capita income give rise to a high educational attainment level? To address this question of causality, we used the educational attainment of the city population 10 years earlier (e.g., 1980) to predict real city per capita incomes for our year of interest (i.e., 1990). For example, Milwaukee's percentage of the population with a B.A. or higher in 1990 (14.8%) was used as a predictor for Milwaukee real per capita income in 2000.

We also wanted to know if (and to what extent) a change in the percentage of city residents with a B.A. or higher over 10 years (e.g., between 1990 and 2000) influenced real per capita income at the end of that decade (i.e., 2000). So we calculated the change in the percentage of residents with a B.A. or higher for each city between 1980 and 1990 and 1990 and 2000 and used this to predict real per capita income in 1990 and 2000 respectively. For example, Milwaukee's percentage of residents with a B.A. or higher increased by 3.5% in 2000 (from 14.8% in 1990 to 18.3% in 2000); this value was used to predict Milwaukee's real per capita income in 2000 of \$15,138.

We should add one last note to the specification of this city growth model. After some deliberation, we discarded an approach that utilized residential employment by industry as a city income predictor for two reasons. First, the changes in classification from Standard Industry Classification (SIC) basis to the more recent North American Industry Classification System (NAICS) in 1998 has made industry comparisons over our time period difficult. Second, this data, while providing an accurate depiction of the number of city residents employed in a particular industry for that particular year does not reflect the total number of jobs or total employment in any given city in any of those years. Given these limitations, we felt uncomfortable using this variable as a predictor for real per capita income.

Our initial modeling incorporated those independent variables from our list of eight that demonstrated statistically significant correlations with city real per capita income in these 50 cities in 1990 and 2000: four of these variables exhibited significant correlations (significant at the 1% level) with our dependent variable, real city per capita income, while one variable exhibited a correlation which was significant at the 5% level. Appendix 1 Table 1 presents the descriptive statistics for these variables. Appendix 1 Table 2 provides the correlations for these variables. The five variables correlated at the 1% and 5% levels were subsequently regressed (using an “enter all” or “forced” method) against real city per capita income:

- a) Past real city per capita income growth, measured using the change in real city per capita income for that city 10 years earlier (either 1980 or 1990).
- b) City educational attainment, measured as a percentage of residents with a B.A. or higher, 10 years earlier (1980 or 1990).
- d) The change in the percentage of residents with a B.A. or higher in the city.
- e) The city unemployment rate, in percent.
- f) The city African-American population, in percent.

The variable for the African-American population did not prove significant at either the 1% or 5% levels and was dropped from the specification. When this variable was removed from the model, the variable for city unemployment was no longer significant at the 1% or 5% levels. A stepwise regression was used to provide a check of this final model specification. Our final specified model met the statistical tests for significance and fit: using OLS, the adjusted R-squared for the model was 0.80 and all variable coefficients were significant at the 1% level. Appendix 1 Table 3 provides the specific statistics for this final model.

The results from our modeling suggest that real per capita income for 1990 and 2000 in our sample of cities was indeed explained by educational attainment, both the previous level and the most recent change. This finding echoes previous findings on city growth and underscores the importance of post-high school education for city economic growth. Cities that lack this key ingredient for future growth will be challenged to generate future economic growth. Similarly, the modeling underscores the importance of past economic growth as an indicator of future economic growth. In this respect, the economic past may indeed be economic prologue for cities: those cities that have failed to grow in the immediate past, like Detroit, are unlikely to grow as robustly as currently successful cities, like Seattle, in the immediate future. The implications of this finding are clear and discouraging. They also reinforce our view that policy-makers in those poor performing cities must clearly leverage education as the means to improve future economic growth.

APPENDIX 1

TABLE 1 DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
City PCI, 1990 and 2000	100	10702.00	32329.00	17901.5200	3765.36835
City residents with B.A. or higher, 1980 and 1990	100	6.40	37.90	20.8600	6.22280
Change in city residents with B.A. or higher, 1980-90 and 1990-00	100	-.20	10.00	4.1370	2.10198
African American Population, %	100	1.20	81.20	23.6280	19.48207
Hispanic population, %	100	.70	76.60	17.0020	17.00650
City January low temperature	100	13.00	73.00	40.6200	12.52858
U.S. region	100	1.00	4.00	2.8600	1.00524
City Unemployment Rate 1990 and 2000	100	2.80	19.70	7.4940	2.74119
Change in real city PCI 1970-80, 1980-90	100	-208.75	7572.76	2467.1838	1579.75030
Valid N (listwise)	100				

APPENDIX 1

TABLE 2 CORRELATIONS

	1 City PCI	2 City B.A. % 10 Yrs. Earlier	3 City PCI as % US Change	4 Change in City B.A. %	5 African-American Population
City PCI	1	0.839**	0.723**	0.579**	-0.225*
City B.A. % 10 Yrs. Earlier	0.839**	1	0.677**	0.440**	-0.343**
City PCI Change 10 Yrs. Earlier	0.723**	0.677**	1	0.258**	-0.196
Change in City B.A. %	0.579**	0.440**	0.258**	1	0.016
African-American Population	-0.225*	-0.343**	-0.196	0.016	1
Hispanic Population	-0.155	-0.022	-0.055	-0.347**	-0.425**
January Temperature	0.118	0.145	0.136	0.214*	-0.316**
Unemployment Rate	-0.506**	-0.540**	-0.319**	-0.245**	0.664**
U.S. Region	0.170	0.182	0.018	-0.003	-0.479**
	6 Hispanic Population	7 January Temperature	8 Unemployment Rate	9 U.S. Region	
City PCI	-0.155	0.118	-0.506**	0.170	
City B.A. % 10 Yrs. Earlier	-0.022	0.145	-0.540**	0.182	
City PCI Change 10 Yrs. Earlier	-0.055	0.136	-0.319**	0.018	
Change in City B.A. %	-0.347**	0.214*	-0.245**	-0.003	
African-American Population	-0.425**	-0.316**	0.664**	-0.479**	
Hispanic Population	1	0.439**	0.105	0.082	
January Temperature	0.439**	1	-0.158	0.199*	
Unemployment Rate	0.105	-0.158	1	-0.226*	
U.S. Region	0.082	0.199*	-0.226*	1	

** Significant at 1% level.

* Significant at the 5% level.

APPENDIX 1

TABLE 3 PREDICTING CITY REAL PER CAPITA INCOME

	Coefficient	T-Value	Significant at:
Intercept	7623	12.38	0.00
Change in Real City PCI 10 years Earlier	0.73	5.04	0.00
City Educational Attainment 10 years earlier (Percentage of residents with B.A. or higher)	308.74	7.80	0.00
Change in City Educational Attainment	492.35	5.51	0.00
Regression Summary:			
Adjusted R-Squared	0.80		
Durbin-Watson	1.79		
F-Value	134.96		
Number of Observations	100		

Metropolitan Area Real Per Capita Income Model

A number of researchers, most notably Janet Rothenberg Pack⁴⁷ and Richard Voith,⁴⁸ have detailed the important linkages that exist between the health of a core city and the corresponding health of their surrounding suburbs. Indeed, Voith has argued that a 1% increase in real core city per capita income will raise the surrounding suburbs real per capita incomes by 0.45% in a moderately sized (500,000 population) city.⁴⁹ In light of this research, we were curious about the extent to which Milwaukee affected the larger region. Specifically, we wanted to know if Milwaukee's thirty year decline translated into lower per capita income for the region. We also wanted to place this question in a broader context — do cities, whether prosperous or in decline, have a demonstrable impact on their metro area's economic growth?

To answer this question, we created an additional data set and statistical model to test the proposition that the core city per capita income of the 50 largest U.S. cities influences per capita income of their 48 corresponding metropolitan areas. Our hypothesis is that metro area per capita incomes, not surprisingly, are explained by the per capita incomes of their core city and suburban components.

A clarifying statement on data sources is required. The Bureau of Economic Analysis (BEA) does not construct per capita personal income data for entities below the county level. The Census Bureau, consequently, is the only source of comparable per capita income data across cities. Both entities do report per capita income figures for county and metropolitan areas. However, the U.S. Census Bureau per capita income data differs markedly from the per capita personal income data reported by the Bureau of Economic Analysis. Census Bureau figures report "*money income*" which is "*income in cash and its equivalents that is received by individuals.*"⁵⁰ The BEA reports personal income, which is "a more comprehensive measure."⁵¹ Also, Census data is taken from the sample of the population that completes the long-form; over time, the questions in that sample have changed.

In addition, the geographic boundaries and definitions for BEA Primary Metropolitan Statistical Areas (PMSAs) and Census Bureau Metropolitan Statistical Areas (MSAs) also differ between the two entities. The BEA maintains consistent geographic boundaries, based on county defined boundaries and county level data, for its PMSAs, over the time frame of its data series. In contrast, Census Bureau definitions and boundaries have changed with each successive census of the population, with census tracts, not counties as a defining unit of observation.⁵²

Clearly, Census reported per capita income data is different, although related, to the more comprehensive per capita income measure reported by the BEA. For our purposes we were interested in the relationship between real

city per capita income and metro area real per capita incomes. While we are aware of the differences in calculations between BEA and Census data, we still believe that the underlying relationship can be tested using the two data sets.

To test this relationship we assumed that metro area per capita incomes were a function of the per capita incomes of their core city and suburban components. Since we lacked a suburban per capita income variable, we used suburban educational attainment as a proxy for suburban per capita income for our year of interest. Metro per capita income and educational attainment in the same year (e.g., 2000) are highly correlated — in a pooled sample of 144 observations (our 48 metro areas in 1980, 1990, and 2000) the correlation between per capita income and educational attainment in the same year was 0.843. Consequently, we reasoned that suburban educational attainment would serve as a reasonable proxy for suburban per capita income. We created a suburban educational attainment variable (calculated using data from the U.S. Census Bureau and the Department of Housing and Urban Development State of the Cities Data Systems). We then looked at the correlations between our dependent variable, metro area per capita income (data from the Bureau of Economic Analysis) and the following independent variables:

- 1) Per capita income of the metro area's core city.
- 2) Educational attainment in the suburbs in 1990 and 2000.

In all we had 100 observations for our model; Appendix 1 Table 4 provides descriptive statistics for our variables. The variables had correlations with our dependent variable that were significant at the 1% level. Appendix 1 Table 5 provides the correlations for these variables. We then used these variables to predict real metro per capita income in 1990 and 2000. The final specified model met the statistical tests for significance and fit: using OLS, the adjusted R-squared for the model was 0.57, with the two variables significant at the 1% level. A stepwise regression was used to provide a check of this final model specification. Appendix 1 Table 6 provides the statistical details for this metro area per capita income model.

City per capita incomes do influence the per capita incomes of the larger geographic and more populous metro areas, although the influence of suburban income growth is greater on the metro area. Given the larger populations and geographic areas encompassed by these suburban areas, this should not come as a surprise.

APPENDIX 1

TABLE 4 DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
Corresponding Metro area real PCI, 1990 and 2000	100	14338.00	54918.00	26959.6200	6157.95954
City PCI, 1990 and 2000	100	10702.00	32329.00	17901.5200	3765.36835
Suburb Educational Attainment 1990 and 2000	100	8.80	48.20	25.5690	6.73495
Valid N (listwise)	100				

APPENDIX 1

TABLE 5 CORRELATIONS

	Metro Area PCI	Suburb Educational Attainment	City PCI
Corresponding Metro Area PCI	1	0.737**	0.556**
Suburb Educational Attainment	0.737**	1	0.550**
City PCI	0.556**	0.550**	1

** Significant at 1% level.

APPENDIX 1

TABLE 6 PREDICTING METROPOLITAN REAL PER CAPITA INCOME

	Coefficient	T-Value	Significant at
Intercept	6729	3.25	0.00
Suburb Educational Attainment 10 Years Earlier (Percentage of residents with B.A. or higher)	568.51	7.56	0.00
Core City PCI	0.32	2.37	0.02
Regression Summary:			
Adjusted R-Squared	0.57		
Durbin-Watson	1.68		
F-Value	62.97		
Number of Observations	100		

State Real Per Capita Income Model

We extended our modeling once more to ascertain whether the 50 largest U.S. cities exerted an influence on their state economies through their influence on metro area economic growth. Specifically, we wanted to understand if the 48 metro areas that incorporated these 50 cities had any effect on real per capita income in the 29 states that include one of these cities.⁵³ To simplify matters we assumed that state per capita incomes were determined by the per capita incomes in the metro area containing one of the 50 largest cities and the per capita incomes in the balance of the state, i.e. real per capita incomes for that part of the state outside our metro area of interest. This last variable seemed an appropriate way to capture and incorporate state growth that was the result of activity outside of the metro area.

Our analysis used real state per capita income in 1990 and 2000 for these 29 states as our indicator of economic growth (dependent variable). Our independent variables consisted of: 1) per capita income for 1990 and 2000 for the 47 metro areas containing one of the largest cities (unfortunately we eliminated Washington, D.C. from this analysis, since it lacked a corresponding state); and the 2) the per capita income for the balance of the state (calculated using data from the Bureau of Economic Analysis) for 1990 and 2000. Appendix 1 Table 7 provides the descriptive statistics for these variables and Appendix 1 Table 8 provides the correlations.

Our specified model met the statistical tests for significance and fit: using OLS, the adjusted R-squared for the model was 0.71 and the two variables were significant at the 1% level. Appendix 1 Table 9 provides the statistical details for this state per capita income model.

The modeling does suggest that the nation's largest cities do exert an influence on their corresponding state's per capita income by influencing income growth in their corresponding metro areas. States with an under-performing city among the nation's 50 most populous cities in 1990 and 2000 did not enjoy the same income growth as states with cities performing above average in those years.

APPENDIX 1

TABLE 7 DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
State PCI, 1990 and 2000	94	17274	35582	24685.43	3825.139
PCI for Metropolitan Area Containing Core City 1990 and 2000	94	14338	54918	26871.56	6210.410
PCI Balance of the State	94	14178	34725	23135.70	4168.658
Valid N (listwise)	94				

APPENDIX 1

TABLE 8 CORRELATIONS

	State PCI	Metro Area PCI	Non-Metro Area PCI
State PCI	1	0.676**	0.724**
Metro Area PCI	0.676*	1	0.371**
Non-Metro Area PCI	0.724**	0.371**	1

** Significant at 1% level.

* Significant at the 5% level.

APPENDIX 1

TABLE 9 PREDICTING STATE REAL PER CAPITA INCOME

	Coefficient	T-Value	Significant at
Intercept	5213	3.98	0.00
MSA Per Capita Income	0.29	7.86	0.00
Non-MSA Per Capita Income	0.50	9.14	0.00
Regression Summary:			
Adjusted R-Squared	0.75		
Durbin-Watson	1.55		
F-Value	115.09		
Number of Observations	94		

APPENDIX 2 CITIES, METROPOLITAN AREAS AND STATES USED IN MODELS

City	Metropolitan Area	State
Albuquerque city	Albuquerque, NM (MSA)	New Mexico
Atlanta city	Atlanta, GA(MSA)	Georgia
Austin city	Austin-San Marcos, TX (MSA)	Texas
Baltimore city	Baltimore, MD (PMSA)	Maryland
Boston city	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH (NECMA)	Massachusetts
Charlotte city	Charlotte-Gastonia-Rock Hill, NC-SC (MSA)	North Carolina
Chicago city	Chicago, IL(PMSA)	Illinois
Cleveland city	Cleveland-Lorain-Elyria, OH (PMSA)	Ohio
Colorado Springs city	Colorado Springs, CO (MSA)	Colorado
Columbus city	Columbus, OH (MSA)	Ohio
Dallas city	Dallas, TX (PMSA)	Texas
Denver city	Denver, CO (PMSA)	Colorado
Detroit city	Detroit, MI (PMSA)	Michigan
El Paso city	El Paso, TX (MSA)	Texas
Fort Worth city	Fort Worth-Arlington, TX (PMSA)	Texas
Fresno city	Fresno, CA (MSA)	California
Honolulu CDP	Honolulu, HI (MSA)	Hawaii
Houston city	Houston, TX (PMSA)	Texas
Indianapolis city	Indianapolis, IN (MSA)	Indiana
Jacksonville city	Jacksonville, FL (MSA)	Florida
Kansas City city	Kansas City, MO-KS (MSA)	Missouri
Las Vegas city	Las Vegas, NV-AZ (MSA)	Nevada
Long Beach city	Los Angeles-Long Beach, CA(PMSA)	California
Los Angeles city	Los Angeles-Long Beach, CA (PMSA)	California
Memphis city	Memphis, TN-AR-MS (MSA)	Tennessee
Mesa city	Phoenix-Mesa, AZ (MSA)	Arizona
Miami city	Miami, FL (PMSA)	Florida
Milwaukee city	Milwaukee-Waukesha, WI (PMSA)	Wisconsin
Minneapolis city	Minneapolis-St. Paul, MN-WI (MSA)	Minnesota
Nashville-Davidson	Nashville, TN (MSA)	Tennessee
New Orleans city	New Orleans, LA(MSA)	Louisiana
New York city	New York, NY (PMSA)	New York
Oakland city	Oakland, CA(PMSA)	California
Oklahoma City city	Oklahoma City, OK (MSA)	Oklahoma
Omaha city	Omaha, NE-IA (MSA)	Nebraska
Philadelphia city	Philadelphia, PA-NJ (PMSA)	Pennsylvania
Phoenix city	Phoenix-Mesa, AZ (MSA)	Arizona
Portland city	Portland-Vancouver, OR-WA (PMSA)	Oregon
Sacramento city	Sacramento, CA (PMSA)	California
San Antonio city	San Antonio, TX (MSA)	Texas
San Diego city	San Diego, CA (MSA)	California
San Francisco city	San Francisco, CA (PMSA)	California
San Jose city	San Jose, CA(PMSA)	California
Seattle city	Seattle-Bellevue-Everett, WA (PMSA)	Washington
St. Louis city	St. Louis, MO-IL (MSA)	Missouri
Tucson city	Tucson, AZ (MSA)	Arizona
Tulsa city	Tulsa, OK (MSA)	Oklahoma
Virginia Beach city	Norfolk-Virginia Beach-Newport News, VA-NC (MSA)	Virginia
Washington city	Washington, DC-MD-VA-WV (PMSA)	
Wichita city	Wichita, KS (MSA)	Kansas

NOTES

1. J. Bradford DeLong, *Macroeconomics*, McGraw – Hill/Irwin, 2002, page. 142.
2. John Gurda, *The Making of Milwaukee*, Milwaukee County Historical Society, 1999, page 437.
3. This section is based on John Gurda, *The Making of Milwaukee*, Milwaukee Historical Society, 1999.
4. Edward A. Glaeser, Jose A. Scheinkman and Andrei Schleifer, “Economic Growth in a Cross-Section of Cities,” *National Bureau of Economic Research, Working Paper No. 5013*, February 1995.
5. Population figures for 1990 and 2000 taken from U.S. Census Bureau, *American FactFinder* web-site. Pre-1980 population figures taken from Campbell Gibson, “Population of the 100 Largest Cities and Other Urban Places in the United States: 1790 to 1990” *Population Division Working Paper No. 27*, June 1998, Population Division, U.S. Bureau of the Census, Washington D.C.
6. Albert O. Hirschman, in *Exit, Voice and Loyalty* (Harvard University Press, 1970; Boston) argues that residents of declining organizations, communities and states have two strategies available to them — the ability to voice their concerns in an effort to effect change, or the ability to exit.
7. Per capita income and per capita gross domestic product are among the most widely used and accepted measures of economic growth. Unfortunately, per capita income data for cities is only available from the decennial U.S. census of population, and the city equivalent of gross domestic product, gross city product, is not tabulated by national entities, like the Bureau of Economic Analysis, that are responsible for producing regional economic statistics. Generally, data on cities are rather limited to data collected during the census; consequently city specific data (as opposed to county or metropolitan data) are rather limited in availability, breadth, and timeliness. While there have been attempts to construct or provide alternative indicators of city economic vitality, these attempts have significant limitations and utility. See Stephen J. Agostini and Sandra J. Richardson “A Human Development Index for U.S. Cities: Methodological Issues and Preliminary Findings,” in *Real Estate Economics*, 1997, Volume 25, Number 1: pp 13-41 for a brief discussion of these issues.
8. The U.S. Census Bureau began providing estimates of per capita income in 1970, making earlier comparisons of income growth difficult.
9. Per capita income figures from U.S. Census Bureau.
10. The Bureau of Labor Statistics compiles data on jobs by county, not by city. Census Bureau data for cities compiles residential employment by place, not total jobs by place. Consequently, the best measure of total jobs for cities is the data on total jobs for those counties that contain the relevant city; in Milwaukee’s case, Milwaukee County total jobs data is the best proxy for information on trends in total city jobs.
11. Authors’ calculations using U.S. Census data from the State of the Cities Database, U.S. Housing and Urban Development website.
12. Robin Barlow “Declining Populations” in John Eatwell, Murray Milgate and Peter Newman, editors, *The New Palgrave, Social Economics*, W.W. Norton, New York, 1989, page. 12.
13. William Straus and Scott Walster, The Disappearance of Manufacturing? *Chicago Federal Reserve Letter*, June, 2003.
14. William Easterly provides an overview of the progression of economic growth theories, and the public policies that emerged from these theories, in *The Elusive Quest for Growth: Economists’ Adventures and Misadventures in the Tropics*, The MIT Press: 2001.
15. William Easterly and Ross Levine “It’s Not Factor Accumulation: Stylized Facts and Growth Models,” *The World Bank Economic Review*, Vol. 15, No. 2, 2001, page 179.
16. Edward L. Glaeser, “Cities, Information and Economic Growth,” in *Cityscape*, Volume 1, Number 1, August 1994, pages 12-13.
17. Easterly, pp. 145-193.
18. De Long, *Macroeconomics*, page 142.
19. Edward L. Glaeser, Jose A. Scheinkman, and Andrei Shleifer, “Economic Growth in a Cross-Section of Cities,” *National Bureau of Economic Research, Working Paper No. 5013*, 1995, page 17.

20. Edward Glaeser offers an overview of this research in “Cities, Information and Economic Growth.”
21. Edward L. Glaeser and Jesse M. Shapiro, “City Growth and the 2000 Census: Which Places Grew, and Why,” The Brookings Institute, May 2001, page 8.
22. Glaeser, “Cities, Information and Economic Growth” and Glaeser and Shapiro, “City Growth and the 2000 Census: Which Places Grew, and Why.”
23. Edward L. Glaeser and Jesse Shapiro, “Is There a New Urbanism? The Growth of U.S. Cities in the 1990s,” *Harvard Institute of Economic Research*, Discussion Paper Number 1925, Harvard University, June 2001, page 20.
24. Edward L. Glaeser and Jesse M. Shapiro, “City Growth and the 2000 Census: Which Places Grew, and Why,” The Brookings Institute, May 2001, page 9.
25. Edward L. Glaeser and Jesse M. Shapiro, “City Growth and the 2000 Census: Which Places Grew, and Why.”
26. Projections are based on the growth rates experienced between 1990 and 2000.
27. Projections are based on the growth rates experienced between 1990 and 2000.
28. Frank Levy and Richard Murnane, *Teaching the New Basic Skills; Principles for Educating Children to Thrive in a Changing Economy*, The Free Press, 1996.
29. Rich Teerlink and Lee Ozley, *More Than a Motorcycle*, Harvard Business School Press, Boston Mass. 2000.
30. Monthly Labor Review, U.S. Department of Labor, August 29, 2001.
31. Much of the education data in this section is from Department of Public Instruction.
32. United States Census Bureau, Census of Population, 2000.
33. Wisconsin Department of Public Instruction.
34. Ralph Whitehead Jr., “New High Schools and the New Jobs,” *The Atlantic Monthly*, September 1997.
35. We have used 48 metro areas because four of the U.S.’s 50 most populous cities are in two metro areas: Long Beach and Los Angeles are in the Los Angeles MSA and Phoenix and Mesa are in the Phoenix MSA.
36. Calculations made by the authors using data taken from the Bureau of Economic Analysis, Department of Commerce website.
37. These findings echo those found by Voith in similar research — see Richard Voith, “Do Suburbs Need Cities?” *Journal of Regional Science*, Vol. 38, No. 13, 1998, pp. 445-464.
38. Bureau of Economic Analysis, U.S. Department of Commerce, State and Regional Data.
39. It must be noted that, since source data for each municipality are not available, analysts at the Department of Revenue must derive much of the data. For example, since sales taxes are not reported by municipality, 50% of the distribution is based on population and 50% on reported income. Significantly, income tax receipts are assigned to the municipality of residence for the tax filer. Filers who earn an income in Milwaukee and live elsewhere would have their income recorded in the municipality where they live. While this could contribute to an understatement of taxes generated in Milwaukee, the fact that the method used by the department is consistent across time would validate any trend that emerges.
40. State income data are from the Bureau of Economic Analysis; city income data are from the U.S. Department of Housing and Urban Development State of the Cities Data Systems.
41. Richard Florida, *The Rise of the Creative Class*, Basic Books, New York, 2002.
42. Robert Atkinson and Paul Gottlieb, *The Metropolitan New Economy*, The Progressive Policy Institute.
43. Matthew P. Drennan, *The Information Economy And American Cities*, The Johns Hopkins University Press, Baltimore Maryland, 2002.
44. Paul D. Gottlieb and Michael Fogarty, “Educational attainment and metropolitan growth,” July 1999, *Center for Regional Economic Issues*, Weatherhead School of Management, Case Western Reserve University, page 14.
45. J. Bradford DeLong, *Macroeconomics*, McGraw – Hill/Irwin, 2002, page. 142.
46. Per capita income for data for 1970 and 1980 were taken from published Census sources.

47. Janet Rothenberg Pack, *Growth and Convergence in Metropolitan America*, The Brooking Institute Press, 2002.
48. Richard Voith, "Do Suburbs Need Cities?" *Journal of Regional Science*, Vol. 38, No. 13, 1998, pp. 445-464.
49. Voith, pp. 458-459.
50. G. Andrew Bernat, Jr. "State Personal Income and Per Capita Income Personal Income, 2002" *Survey of Current Business*, May 2003, page 17 Alternative Measures of Household Income box.
51. Ibid.
52. Robert L. Brown, Division Chief for Regional Economic Measurement, Bureau of Economic Analysis, U.S. Department of Commerce provided invaluable assistance understanding the differences between the two measures of per capita income.
53. Appendix 2 includes a listing of these states.

ABOUT THE INSTITUTE

The **Wisconsin Policy Research Institute** is a not-for-profit institute established to study public-policy issues affecting the state of Wisconsin.

Under the new federalism, government policy increasingly is made at the state and local levels. These public-policy decisions affect the life of every citizen in the state. Our goal is to provide nonpartisan research on key issues affecting Wisconsinites, so that their elected representatives can make informed decisions to improve the quality of life and future of the state.

Our major priority is to increase the accountability of Wisconsin's government. State and local governments must be responsive to the citizenry, both in terms of the programs they devise and the tax money they spend. Accountability should apply in every area to which the state devotes the public's funds.

The Institute's agenda encompasses the following issues: education, welfare and social services, criminal justice, taxes and spending, and economic development.

We believe that the views of the citizens of Wisconsin should guide the decisions of government officials. To help accomplish this, we also conduct regular public-opinion polls that are designed to inform public officials about how the citizenry views major statewide issues. These polls are disseminated through the media and are made available to the general public and the legislative and executive branches of state government. It is essential that elected officials remember that all of the programs they create and all of the money they spend comes from the citizens of Wisconsin and is made available through their taxes. Public policy should reflect the real needs and concerns of all of the citizens of the state and not those of specific special-interest groups.