MICHIGAN'S TRANSITION TO A KNOWLEDGE-BASED ECONOMY:

FOURTH ANNUAL PROGRESS REPORT

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This is Michigan Future's fourth annual report on the state's transition to a knowledge-based economy. How well Michigan does in this transition will, in large part, determine whether we get more prosperous or poorer.

As we detailed in our 2006 A New Agenda for a New Michigan report, Michigan's decline is caused, in large part, because Michigan – its citizens, enterprises and communities – has been slow to adapt to a rapidly changing global economy. Today, leading-edge communities are leaving behind the Industrial Age. They are adapting quicker and better to a more knowledge-driven and entrepreneurial economy: the flat world.

(The New Agenda report and the related A New Path to Prosperity? report are available at michiganfuture.org.)

Five years later, it is even clearer that the only reliable path to recreating a high-prosperity Michigan is to be concentrated in knowledge-based enterprises. There is a distinct pattern across the country that the states, and most importantly metropolitan areas, with the most successful economies are those that are concentrated in the knowledge-based sectors: primarily health care, education, information, financial services and insurance, and professional and technical services. Michigan is lagging the nation mainly because of our slow growth in these dynamic, higher wage sectors.

I. The National Economy

Our work is focused on how Michigan's economy is performing compared with the nation's and why. To do that we need to understand what is driving the national economy.

At the core of our work is the basic belief, since we were founded twenty years ago, that globalization and technology are mega forces that are transforming the economy. That the places that are doing best are those that are aligning with—rather than resisting—these new realities. And that most of the prosperous states and regions have increasingly knowledge-based economies.

That trend, as we detail in the remainder of this report, continues. But although it is not the topic of this report—or our work—it is important to note that the period covered in this report, 2001–2009, was noteworthy for its weakness nationally. The expansion from 2001 to 2007 was anemic, with low rates of job and income growth, largely driven by the unsustainable housing and construction bubble, and then followed by the worst downturn since the Great Depression.

From 2001 to 2009, the country basically created no new jobs. What was gained between 2001 and 2007 was lost in 2008 and 2009. And the job growth was narrowly focused primarily in health care and education, rather than the more broad-based expansion seen in all sectors of the knowledge-based economy in the Nineties.

In terms of income—our primary focus—growth was slow. And as we explore in more detail later, a lot came from transfer payments rather than employment earnings or investment income growth. Private sector employment earnings, which were 64.9 percent of total income in 2001, fell to 59.1 percent in 2009, while transfer payments grew from a 13.6 percent share in 2001 to 17.6 percent in 2009.

For the country to do well—to become more prosperous—those trends will have to be reversed. Slow private sector employment and employment earnings growth, combined with strong transfer payment growth, is not a path to a sustainable rising standard of living.

II. The Great Recession

We start with a look at where the economy has gone in this most severe downturn since the Great Depression. We understand that the economy has changed fundamentally since the start of what has come to be known as the Great Recession. It is clear that in the next expansion two of the most important drivers of the 2001–2007 expansion years almost certainly will not be repeated: the housing price bubble and high levels of consumer debt.

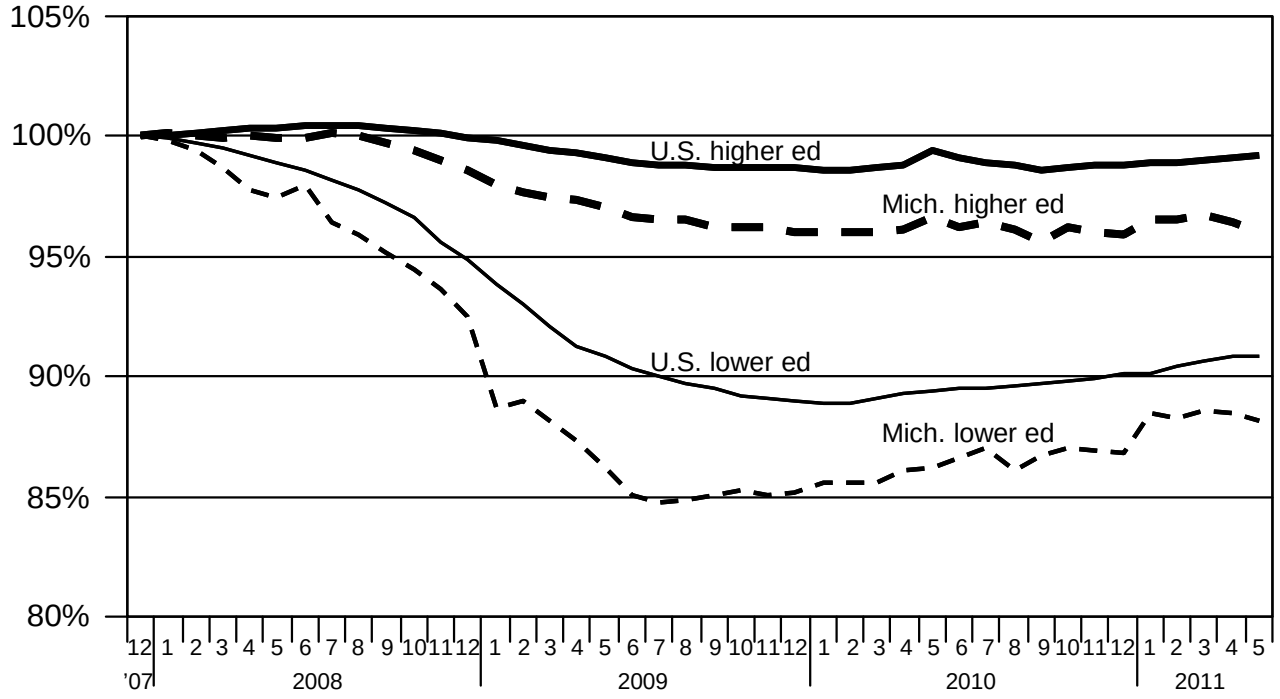
The detailed data we use for these progress reports is available only through 2009. So we need to use less precise data—sector level data from the Bureau of Labor Statistics' monthly employment reports—to get a picture of what has happened to the national economy from the start of the downturn in December 2007 through May 2011.

This covers (1) the entire Great Recession from December 2007 through June 2009, (2) the period after the recession officially ended but the nation was continuing to lose jobs until March 2010, and (3) the more than a year of recovery when we have had slow job growth.

What we found is stunning. The trends that we have written about in our previous reports have accelerated since the onset of the Great Recession. Low education attainment industries (primarily manufacturing, construction, retail, hospitality, transportation and warehousing, and temporary services) have suffered job losses of 6,439,000 compared with 546,000 in high education attainment industries (primarily the knowledge-based sectors listed above).

As depicted in Figure 1, the low education attainment industries nationally have had employment losses of more than 9 percent since the recession began, compared with less than 1 percent in the high education attainment industries. In Michigan the low education attainment industry losses are around 12 percent in low education attainment industries compared with 4 percent in the high education attainment industries.

Figure 1. Employment Growth in Lower vs. Higher Education Attainment Industries, Michigan and United States, December 2007 through May 2011



Using the same data base, we looked at the long-term trend. From January 1990 (a recession year) to May 2011, employment in low education attainment industries in the United States rose 7 percent compared with 36 percent in the high education attainment industries. So for two decades, whether the nation's economy is expanding or contracting, the American economy has been going through a profound structural transformation from an industrial to a knowledge-based economy. We are confident going forward that knowledge-based industries will continue to be where job growth is the strongest and average wages are the highest.

III. Lessons for Michigan

The inescapable conclusion is that what made Michigan prosperous in the past is no longer a path to prosperity. The knowledge-based economy is now the path to prosperity for Michigan.

There are some hard truths that Michiganians need to confront:

- Michigan's prosperity last century was built primarily on good-paying, lower education attainment jobs. Those jobs are gone forever.

- The auto industry will never again be the major engine of prosperity in Michigan. It will be substantially smaller, employing far fewer workers and paying them less, with fewer benefits.

- The decline in autos is part of an irreversible new reality that manufacturing (work done in factories) is no longer a sustainable source of high paid jobs. Nor is it a source of future job growth. Manufacturing accounts for less than 9 percent of the American workforce today.

  In Michigan, manufacturing employment fell from 897,000 in 2000 to 474,000 in 2010. Factory jobs are now 12 percent of the Michigan workforce. At the same time, the collapse of the domestic auto industry brought an end to high-paid unionized assembly jobs that had been the backbone of Michigan's 20th Century middle class. The new domestic auto industry assembly jobs now pay $14 an hour, rather than $28. So whether it's traditional Michigan industries like autos and furniture or new industries like alternative energy, factory jobs will not be a source of lots of new high paid jobs for Michiganians.

- The other industries that are often seen as drivers of the Michigan economy—farming and tourism—are also not a source of many good-paying jobs. Less than 2 percent of Michiganians work on a farm and on average it is not a high-paying industry. And tourism, although a likely source of job growth, is also a low-wage industry.

To be clear, we are not advocating that Michigan abandon these industries. They are and will be important parts of the Michigan economy, especially in rural communities, and as such deserve support. But they are not a path to high prosperity or a broad middle class. If the Michigan economy of the future is built on a base of factories, farms, and tourism, we will be a low prosperity state.

The world has changed fundamentally. We either adjust to the changes or we will continue to get poorer compared with the nation. As the data in this report make clear, the new path to prosperity is the broad knowledge-based economy.

Human capital is the asset that matters most to knowledge-based enterprises. Michigan's fundamental economic challenge is that we rank 36th in the proportion of adults with a four-year degree. States without concentrations of talent will have great difficulty retaining or attracting knowledge-based enterprises, nor are they likely to be the place where new knowledge-based enterprises are created.

Michigan has lagged in its support of the assets necessary to develop the knowledge-based economy at the needed scale. Building that economy is going to take a long time, and it will require fundamental change. But we believe it is the only reliable path to regain high prosperity. The choice we face is, do we do what is required to build the assets needed to compete in the knowledge-based economy or do we accept being a low prosperity state?

IV. Our New Agenda framework

The development of our new agenda started with the question "where do we want to go from here?" Our answer: a high-prosperity Michigan—a place with a per capita income consistently above the national average in both national economic expansions and contractions.

High prosperity is different from the most often used measure for economic success, low unemployment. We believe that the goal should be to create an economy with lots of good-paying jobs, a place with a broad middle class where there is a realistic chance for families to realize the American Dream. There are many areas across the country with lower unemployment, but they also have low incomes. That isn't success to us.

Table 1 compares Oklahoma and Minnesota, two states with virtually identical unemployment rates. If unemployment is your goal, they are equally successful. But if your goal is income, the choice is clear. You want to be like Minnesota.

Table 1 also includes data for Alabama. In previous reports we used Alabama as the comparison state. From 2006 through 2008, Alabama and Minnesota had similar unemployment rates. As with Oklahoma, Minnesota had substantially higher income and a lower poverty rate. We argued that Michigan should want to become more like Minnesota rather than Alabama. In 2010, Alabama's unemployment has grown to 9.5 percent. It's even clearer now that we want to be more like Minnesota than Alabama. Unfortunately, the path we have been on is making Michigan more like Alabama than Minnesota.

Table 1. Michigan Compared with Alabama, Minnesota, and Oklahoma

State	Per Capita Income, 2009	Unemployment Rate, 2010	Poverty Rate 2009	Bachelor's Degree or More, 2009
U.S.	$39,635	9.6%	14.3%	27.90%
Alabama	$33,411	9.5%	17.5%	22.03%
Minnesota	$41,854	7.3%	11.0%	31.50%
Michigan	$34,315	12.5%	16.2%	24.59%
Oklahoma	$35,837	7.1%	16.2%	22.73%

Michigan enjoyed high per capita income for most of the last century. As recently as 2000, we were 18th in per capita income. Now we are consistently below the national average in both upturns and downturns. In 2009, we were 13 percent below the national average. This is the lowest Michigan has been since the federal government started collecting data in 1929.

We use per capita income as our metric of economic well being because it is the most comprehensive and reliable estimate of income of a community's residents. It includes all wages and salaries, self-employment income, investment income from dividends, interest, and rent, as well as transfer payments. It includes employer and government payments for health care and retirement. It does not include capital gains.

We then asked, "What characterizes those areas across the country with high prosperity?" We found that there are two paths to high prosperity. One, for a small number of states, is high energy or grain (largely for ethanol) prices. The other path, which applies to most states, is that:

- they are over-concentrated, compared with the nation, in the proportion of wages coming from knowledge-based sectors;
- they have a high proportion of adults with a four-year degree;
- they have a big metropolitan area with even higher per capita income than the state; and
- in that big metropolitan area, the largest city has a high proportion of its residents with a four-year degree or more.

Our basic conclusion: What most distinguishes successful areas from Michigan is their concentrations of talent, where talent is defined as a combination of knowledge, creativity, and entrepreneurship. Quite simply, in a flattening world where work can increasingly be done anyplace by anybody, the places with the greatest concentrations of talent win.

Rich Karlgaard, publisher of Forbes magazine, summed it up best:

> Best place to make a future Forbes 400 fortune? Start with this proposition: The most valuable natural resource in the 21st century is brains. Smart people tend to be mobile. Watch where they go! Because where they go, robust economic activity will follow.

In this report we want to (1) see if this pattern continues to hold true across the country and (2) measure how well Michigan and its largest metropolitan areas are doing in each of these areas.

We collected data for states and the fifty-five metropolitan areas with population of one million or more plus Lansing and Madison, Wisconsin. We think it's important to understand the characteristics of those places with high prosperity before we explore the performance of Michigan and its largest regions.

V. The knowledge-based economy

Before we explore the data, we should define what we mean by knowledge-based industries. We define the knowledge-based part of the economy as those industries where the proportion of employees with a bachelor's degree or more is at least 30 percent (110 percent of the national average of adults with a bachelors degree or more).

For this report we apply this standard to NAICS industries at the six- digit level. Where applicable, we combine public and private sector workers into a single industry. This is what we mean by high education attainment industries and knowledge-based industries. We use the terms interchangeably.

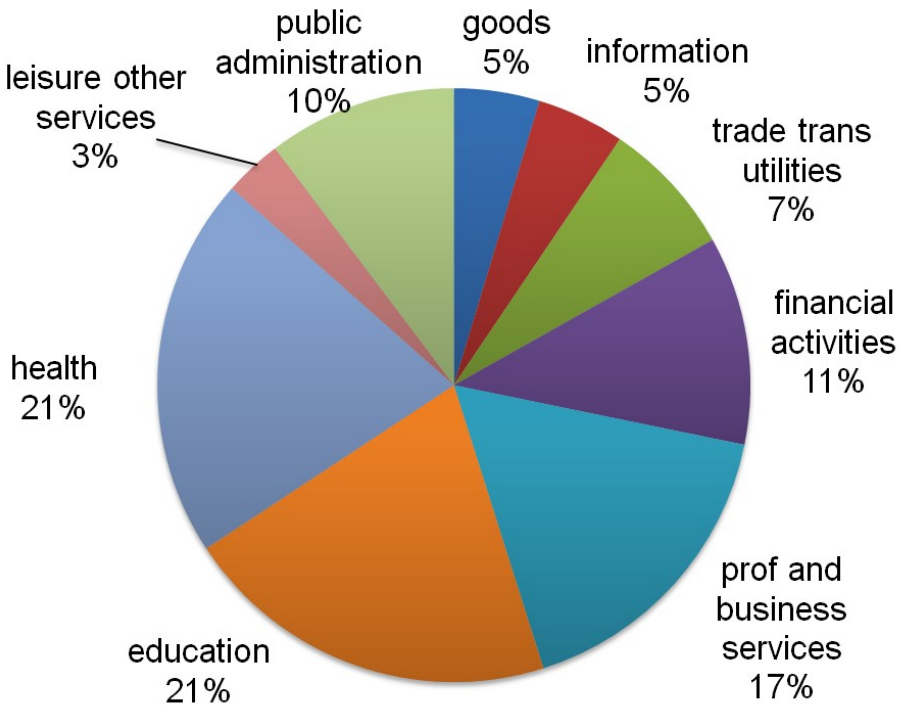
(The procedure we use in determining high education industries is detailed in the end notes. The high education attainment industries are listed in the end notes as well.)

It is important to note that workers in management as well as pre- and post-production occupations in such important Michigan industries as motor vehicles, office furniture, and chemicals are no longer considered part of the manufacturing industry. They are now accounted for in the knowledge-based industries, primarily in management of companies and professional and technical services.

As can be seen in Figure 2, national employment in the high education attainment industries is highly diversified across the economy. It is not narrowly focused in industries commercializing new technologies.

These industries are concentrated in, but not limited to, five broad sectors of the economy: information; finance and insurance; professional and technical services (including management of companies); health care, and education. In fact, health care and education, which have dominated job growth this decade, account for 42 percent of the employment in the knowledge-based economy.

Figure 2. U.S. High Education Attainment Industries, 2009



Across the country, states and regions are focusing their economic development efforts on a few technology-based industries (primarily information technology, the life sciences, alternative energy and/or green technology), based on the belief that these are the drivers of future growth.

The data lead us to believe that this narrow focus on new technologies is unlikely to be the best economic growth strategy. That's because it is the broad knowledge-based economy where most of job growth is occurring and where most of the good-paying jobs are located in the American economy. The high education attainment industries we have identified in 2009 were 46 percent of national employment and 60 percent of the wages earned by American workers. The average wage in these industries is nearly $60,000 as compared with just above $33,000 in all other industries.

Maybe most important, the high education attainment industries were the only part of the economy to add jobs in America from 2001 to 2009. Those industries had job

growth of 5.8 percent compared with job losses of 5.8 percent in the low education attainment industries.

The same is true for average wages. Corrected for inflation, the average wage in high education attainment industries rose 4.8 percent between 2001 and 2009 compared with a decline of 1.3 percent in the low education attainment industries.

VI. What we investigated

Most of this report is an update on the data included in our first three annual progress reports. We have made three data changes from past reports.

- For most metrics, we report both 2009 data and the change from 2001 to 2009. This year, we adjust the data for inflation. For states, we used the four regional CPIs; for the metro areas, we used the CPI for the specific area if available, and if not, we used the regional CPI for the appropriately sized metro area. In general, this adjustment to real dollars has the effect of enhancing the income growth of southern and Midwest states and regions.

- We have eliminated data on net movers. The more we looked at the data, the less reliable it seemed to us. Although we believe that the movement of college-educated adults is important to the success of states and regions, we don't have confidence that the available data are reliable.

- We have added data on the change in average real wages from 2001 to 2009 for both the higher education attainment and lower education attainment industries.

Appendix A1 has all the updated data we collected for the fifty states plus the United States and the District of Columbia. Appendix B1 has the same data for the fifty-five metropolitan areas (CSAs where available) with populations of one million of more plus Lansing, Michigan, and Madison, Wisconsin. Appendix B2 has the same data for Michigan's smaller metropolitan areas plus we have added data from some comparison regions.

What is brand new in this report is data on the components that make up per capita income. We got interested in the components when we had difficulty explaining some state income growth rates that were concentrated in neither high education attainment industries nor college-educated adults.

We collected data for this report on six components of per capita income:

- Employment earnings (both wages and employer paid benefits) from natural resources (mining, agriculture, forestry, and fishing) private sector employers.

- Employment earnings from all other private sector employers.

- Employment earnings from government (local, state, federal, public schools, and public universities and colleges) employers.

- Dividends, interest, and rent.

- Transfer payments. These are payments made by government to or on behalf of individuals. They include Social Security, Medicare, Medicaid, TANF cash benefits, food stamps, veterans' benefits, tuition support like Pell grants and subsidies for college loans, the Earned Income Tax Credit, etc. The one change we made to the official statistics is that we include farm subsidies in transfer payments (not private sector earnings).

- Social insurance taxes and residential adjustments. These are subtractions from income for taxes paid by both individuals and employers for items like Social Security, Medicare, and unemployment insurance, as well as adjustments for people who live in one state or region and work in another. The category is needed to balance income totals, but has little or no analytical value.

We report on both 2009 per capita income by component for states and regions and change in per capita income corrected for inflation from 1989 to 2009. We chose 1989 as the base year because we are primarily interested in the long-term structural changes occurring in the American economy.

Appendix A2 covers components of 2009 per capita income for states. Appendix B3 covers the same for the metropolitan areas (except that we cannot distinguish natural resource earnings for the metro areas) we looked at. Appendix A3 covers growth in the components of income for states and Appendix B4 does the same for the metropolitan areas.

In the body of the report we mainly focus on the share of income from the various components rather than the 1989–2009 growth rates, in part because there is too much to cover in one report. We think the basic information on the share of income that comes from each component is very significant and we want to call attention to those findings. But also because we want to take more time to understand growth by component. The patterns are not obvious to us. We will do a future report on that.

With that as a backdrop, let’s turn our attention now to the data, starting with an update on the data from our previous reports.

VII. What we found: state data

We present data for Michigan and the top ten states in 2009 for per capita income In Table 2. The same data for the six Great Lakes states is shown in Table 3. (Appendix A1 has all the data we collected for states. The end notes list the sources for our data.)

Table 2. Performance of Ten States with the Highest Per Capita Income, Compared with Michigan, 2009

	Personal Income Per Capita	% Change (2009$)	% Wages High Ed	Bachelor's Or More	Households under $25K	Households over $75K
United States	$39,635	5.05%	60.34%	27.90%	24.70%	31.86%
Connecticut	$55,296	1.93%	65.05%	35.59%	18.32%	44.81%
New Jersey	$49,980	1.35%	65.39%	34.50%	17.80%	45.92%
Massachusetts	$49,653	1.17%	68.18%	38.23%	20.48%	42.78%
Wyoming	$48,302	27.70%	47.94%	23.77%	20.96%	32.31%
Maryland	$48,247	9.71%	66.98%	35.69%	16.00%	46.14%
New York	$46,516	5.46%	69.47%	32.40%	24.12%	36.62%
Virginia	$44,057	8.98%	65.83%	33.99%	19.49%	39.29%
Alaska	$43,212	10.88%	56.14%	26.56%	14.68%	44.34%
Washington	$42,870	7.72%	60.97%	31.04%	20.41%	36.40%
New Hampshire	$42,646	–1.38%	61.34%	32.00%	18.51%	39.27%
Michigan	$34,315	–3.07%	55.78%	24.59%	27.38%	26.99%

Table 2 clearly shows, with two exceptions, that high-prosperity states continue to be characterized by high concentrations in knowledge-based industries as well as the proportion of adults with four-year degrees or more. The exceptions are Wyoming and Alaska. Their path to prosperity is based predominantly on high energy prices.

The other eight are all above the national average in share of wages from high education attainment industries and all are above the national average in the proportion of adults with bachelor's degrees or more. With respect to the share of wages from high education attainment industries, six of the eight are in the top ten states. The other two are ranked 12th and 13th. For the proportion of adults with bachelor's degrees or more, the alignment is even stronger—seven of the eight are in the top ten. The other is 11th. In fact, of the top 15 states in college attainment, thirteen are also in the top fifteen in per capita income. (The other two are 16th and 21st.)

Michigan, on the other hand, lags the national average in all the metrics, substantially behind the eight high-prosperity/high-knowledge-based states.

It is interesting to note that none of the high-prosperity/high-knowledge-based states are at the top in terms of per capita income growth from 2001 to 2009. Commodity-based states dominate the top ten. The highest-ranked high-prosperity/high-knowledge-based state is Maryland at 15th.

Growth rates are a traditional way to measure success. Many assume that they are predictive of future results. It will be interesting to watch as we go forward whether the 2001–2009 per capita growth rates are reflective of a long-term trend away from the patterns we have identified.

Our best guess is that the proportion of adults with a bachelor's degree or more is a far better predictor of future prosperity. In a flattening world, human capital will continue to grow in value. Per capita income growth rates, on the other hand, even over a period as long as eight years, are likely to be more reflective of temporary events than long-term structural trends.

As a measure of whether a knowledge-based economy is generating a broad middle class, we include data on share of households with income below $25,000 and share of households with income $75,000 and more.

There is widespread concern that the decline of good-paying factory jobs will mean the days of a mass middle class in America are coming to an end. There are many who believe that those who own and/or lead enterprises, the most talented athletes and entertainers, and those with advanced degrees will be the winners, while the rest of us see a declining standard of living.

We wrote in our New Agenda report that far more likely is a change in the nature of good-paying jobs, not their decline, and that middle-class employment in the future will come primarily in the high education attainment industries. This is consistent with America's past. As the American economy has evolved, the nature of good-paying work has changed. But the pattern is that as we get more productive, our per capita income goes up.

Nearly 32 percent of American households in 2009 had incomes of $75,000 or more. (Median household income is around $50,000.) Each of the eight states with both high per capita income and high concentrations in knowledge-based industries are in the top eleven in the nation in proportion of households with income of $75,000 or more. And all have a smaller proportion than the nation of households with income of $25,000 or less. Of the high-prosperity/high knowledge-based states, seven are in the bottom eleven of states of households with income of $25,000 or less. (New York is 22nd from the bottom.) So in the states where the knowledge-based economy is strongest, there are relatively more higher income and fewer lower income households than in the nation.

As displayed in Table 3, the same patterns hold true for the Great Lakes states. The two states above the national average in per capita income—Illinois (14th) and Minnesota (15th)—are also the top-ranked Great Lakes states in share of wages from high education attainment industries and proportion of adults with a bachelor's degree or more.

Table 3. Performance of Great Lakes States, 2009

	Personal Income Per Capita	% Change (2009$)	% Wages High Ed	Bachelor's Or More	Households under $25K	Households over $75K
United States	$39,635	5.05%	60.34%	27.90%	24.70%	31.86%
Illinois	$41,856	6.82%	59.95%	30.59%	23.02%	34.86%
Minnesota	$41,854	6.28%	62.08%	31.50%	20.93%	34.89%
Wisconsin	$37,373	5.16%	51.97%	25.66%	23.48%	29.54%
Ohio	$35,408	2.50%	54.98%	24.12%	27.38%	26.56%
Michigan	$34,315	–3.07%	55.78%	24.59%	27.38%	26.99%
Indiana	$34,022	2.74%	49.92%	22.52%	25.93%	25.80%

Among the Great Lakes states, Illinois and Minnesota also have the highest proportion of households with incomes $75,000 and more and the smallest proportion of households with incomes under $25,000. They also had the highest per capita income growth of the Great Lakes states, and both were above the national average from 2001 to 2009 (as was Wisconsin).

VIII. What we found: regional data

Economies are regional. States and municipalities are political jurisdictions, they are not economic units. State economies can best be understood as the sum of their regional economies.

This is illustrated when you look at the wide variation in economic success of metropolitan areas within the same state (some that actually spill over into surrounding states). As an example, of the regions with population of one million or more, San Jose, California, has the highest per capita income ($56,120). Fresno ($30,108), also in California, is last. Almost all states have some regions that are doing well economically and some that aren't. Regions within states also tend to have widely different industrial compositions, which is a major driver of economic well being.

Appendix B1 has all the data we collected for the fifty-five metropolitan areas with populations of one million or more as well as Lansing, Michigan, and Madison, Wisconsin. Appendix B2 has similar data for Michigan's smaller metropolitan areas; and for the first time, some comparison regions for Michigan's smaller metropolitan areas. We focus on metropolitan areas of one million or more because this is where the knowledge-based economy and adults with a bachelor's degree or more are concentrating.

Many futurists expected the opposite. In a flat world where more and more work can be done anyplace, many predicted an economic resurgence in smaller metropolitan and even rural areas. The pattern as shown in Table 4 is the opposite: big metropolitan areas are where knowledge-based industries and college educated adults have concentrated.

The larger the metropolitan area, the better the performance on all of our metrics except per capita income growth. Most surprising to us is that the largest metropolitan areas not only have the highest proportion of households with incomes of $75,000 or more, they also have the smallest proportion of households with incomes under $25,000.

Table 4. Performance of Metro Areas by Size Category, 2009 (Note that a few relatively small metro areas where some of the data were missing were left out of the table)

	No. Metros	Population	Pers, Income Per Capita	% Change (2009$)	% Wages High Ed	Bach. or More	House-holds under $25K	House-holds over $75K
United States		307,006,550	$39,635	5.05%	60.34%	27.90%	24.70%	31.86%
3.0 million or more	17	127,640,616	$44,840	2.64%	64.21%	33.30%	20.56%	38.98%
1.0 to 3.0 million	38	65,783,707	$37,673	3.88%	57.38%	27.87%	24.50%	30.24%
500,000 to 1.0 million	45	29,923,264	$35,632	7.17%	54.36%	25.09%	26.02%	28.09%
200,000 to 500,000	88	27,236,774	$35,551	11.00%	52.44%	24.07%	27.85%	26.29%
Under 200,000	122	16,552,464	$33,609	10.89%	51.16%	22.52%	28.99%	23.97%

The big metro advantage in per capita income has declined from 2001 to 2009. It remains to be seen whether this is a reversal of the pattern of big metro dominance in the knowledge-based economy or a consequence of a decade of slow growth with anemic non commodities private sector growth.

Table 5 presents data on the top ten metropolitan areas with populations of one million or more in 2009 per capita income as well as metro Minneapolis (11th), Chicago (12th), Pittsburgh (15th), the nine-county Detroit region, and the seven-county Grand Rapids region.

Chicago and Minneapolis are the most prosperous regions among the Great Lakes states. We have added Pittsburgh as a comparison. Many find it a possible model because it is a cold weather region and it has gone through a restructuring (with the collapse of the steel industry) similar to what we are going through with the auto industry. (For a detailed description of Pittsburgh's turnaround, see our Third Annual Progress Report at michiganfuture.org)

The data show the same patterns as for states. The high-prosperity metropolitan areas are characterized by high concentrations in knowledge-based industries as well as the proportion of adults with four-year degrees or more. Only Houston deviates somewhat from the pattern. Houston, of course, is an economy that does particularly well when energy prices are high.

Table 5. Performance of the Ten Highest Income Metro Areas in the United States (population of at least 1 million), plus Minneapolis, Chicago, Pittsburgh, Detroit, and Grand Rapids, 2009

	Personal Income Per Capita	% Chai (2009$)	% Wages High Ed	Bachelor's Or More	Households under $25K	Households over $75K
United States San Jose-San Francisco-Oakland, CA (CSA)	$39,635	5.05%	60.34%	27.90%	24.70%	31.86%
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV (CSA)	$56,120	1.97%	70.61%	41.37%	16.32%	49.57%
New York-Newark-Bridgeport, NY-NJ-CT-PA (CSA)	$53,529	5.50%	74.15%	42.52%	14.04%	51.43%
Hartford-West Hartford-Willimantic, CT (CSA)	$52,242	1.06%	70.38%	35.63%	20.96%	43.25%
Boston-Worcester-Manchester, MA-RI-NH (CSA)	$49,504	5.79%	64.77%	33.27%	18.98%	43.44%
Seattle-Tacoma-Olympia, WA (CSA)	$48,794	2.86%	67.73%	37.50%	19.78%	43.31%
Houston-Baytown-Huntsville, TX (CSA)	$48,508	7.80%	64.60%	35.55%	17.33%	41.37%
San Diego-Carlsbad-San Marcos, CA (MSA)	$46,239	10.60%	56.24%	27.70%	22.92%	35.65%
Denver-Aurora-Boulder, CO (CSA)	$45,706	4.00%	64.71%	34.56%	18.98%	40.33%
Philadelphia-Camden-Vineland, PA-NJ-DE-MD (CSA)	$45,161	0.26%	66.71%	38.54%	19.86%	39.18%
Minneapolis-St. Paul-St. Cloud, MN-WI (CSA)	$45,125	5.69%	65.44%	31.27%	21.40%	39.51%
Chicago-Naperville-Michigan City, IL-IN-WI (CSA)	$44,704	2.90%	64.01%	36.22%	17.82%	40.32%
Pittsburgh-New Castle, PA (CSA)	$44,073	5.45%	61.13%	33.17%	20.84%	38.26%
Detroit-Warren-Flint, MI (CSA)	$41,909	8.39%	61.04%	27.52%	27.19%	27.76%
Grand Rapids-Muskegon-Holland, MI (CSA)	**$37,083**	**–5.17%**	**59.08%**	**26.74%**	**26.32%**	**30.33%**
	$31,676	**–4.01%**	**46.65%**	**25.09%**	**24.46%**	**26.65%**

With the exception of Houston, all are substantially above the national average on both metrics. And all ten are substantially better than the nation on both the proportion of households with incomes greater than $75,000 or more and the proportion of households with incomes less than $25,000.

The pattern we found in our previous reports, that high-prosperity states have big metropolitan areas with even higher per capita income than the state, holds true. Except for Wyoming and Alaska, each of the top ten states includes at least one of the top ten metropolitan areas.

So metropolitan Detroit and, to a lesser degree, metropolitan Grand Rapids and metropolitan Lansing are the main drivers of a prosperous Michigan. In fact, it is hard to imagine a high-prosperity Michigan without an even higher-prosperity metropolitan Detroit.

In Table 6 we present the same data for the four-county Lansing region and metropolitan Madison, because mid sized metropolitan areas with major universities (and in many cases, state capitals) also are places where the knowledge-based economy is growing.

Table 6. Performance of Lansing and Madison Metro Areas, 2009

	Personal Income Per Capita	% Change (2009$)	% Wages High Ed	Bachelor's Or More	Households under $25K	Households over $75K
United States	$39,635	5.05%	60.34%	27.90%	24.70%	31.86%
Lansing-East Lansing-Owosso, MI (CSA)	**$33,273**	**3.38%**	**65.33%**	**29.09%**	**25.15%**	**27.89%**
Madison-Baraboo, WI (CSA)	$42,456	5.58%	63.61%	38.90%	20.59%	35.95%

Clearly the Lansing region is lagging. Metropolitan Madison follows the same pattern as the other high-prosperity states and regions. In many ways its performance is extraordinary. Its per capita income is exceeded by only thirteen of the fifty-five metropolitan areas with populations of one million or more.

As can be seen in Tables 5 and 6, Michigan's three largest regions clearly trail the most successful metropolitan areas across the country. Building a strong knowledge-based economy in metropolitan Detroit, Grand Rapids, and Lansing is the central challenge we must meet if we are to create a high-prosperity Michigan.

In Table 7, we present the same data for Michigan's smaller metropolitan areas. (More detailed data for each is provided in Appendix B2.) They are all low in per capita income, per capita income growth, college education attainment, and share of wages from knowledge-based industries, with two exceptions: Kalamazoo is above the national average in the proportion of adults with a four-year degree or more, and Battle Creek grew faster than the nation in per capita income from 2001 to 2009.

Table 7. Performance of Michigan's Smaller Metro Areas, 2009

	Personal Income Per Capita	% Change (2009$)	% Wages High Ed	Bachelor's Or More	Households under $25K	Households over $75K
United States	$39,635	5.05%	60.34%	27.90%	24.70%	31.86%
Kalamazoo-Portage, MI MSA	$33,075	2.26%	57.12%	29.32%	32.69%	25.51%
Saginaw-Bay City-Saginaw Township North, MI CSA	$30,496	–1.25%	49.42%	18.01%	30.22%	21.06%
Niles-Benton Harbor, MI MSA	$33,507	4.04%	45.50%	24.09%	33.76%	22.99%
Jackson, MI MSA	$29,488	–0.84%	47.49%	18.77%	25.14%	24.35%
Battle Creek, MI MSA	$32,227	6.61%	46.16%	19.58%	30.76%	19.40%

IX. What we found: Michigan

A. Per capita Income

Obviously the Michigan economy has been dreadful so far in the new millennium—an unprecedented ten consecutive years of job loss, near the bottom of the national rankings in both employment and per capita income growth.

During the national expansion, many referred to Michigan's economy as a single-state recession. We believe that Michigan's experience during the 2001–2007 expansion is far better characterized as a single-industry recession. Or more accurately, a single portion of an industry recession. Despite all our efforts for decades to diversify, the domestic auto industry was still the engine that drove the Michigan economy.

Almost for sure, the low point for Michigan for the foreseeable future will be 2009, the year of the collapse of the domestic auto industry. As the auto industry restarts, we likely will do somewhat better than the nation for a few years, but the old pattern of a prosperous Michigan driven by good times for the Detroit Three are gone. A growing domestic auto industry will not return Michigan to high prosperity.

What we are working on at Michigan Future is what comes next. Our work is designed to identify what a high-prosperity Michigan economy looks like when the domestic auto industry is no longer the preeminent engine of economic success. Our goal: Michigan on a path that will better position its citizens to succeed in a flattening world economy.

The national data we have just reviewed makes clear that high prosperity is occurring chiefly in those places where knowledge-based enterprises across many sectors are concentrating. They are concentrating in areas with a high proportion of adults with a bachelor's degree or more.

In 2000, at the end of the boom years, Michigan still ranked 18th in per capita income. We were 34th in bachelor's degree attainment. In many ways, 2000 marked the end of an era when you could have high prosperity with low education attainment. No more! In 2009, Michigan ranked 37th in per capita income, an unprecedented drop of 19 places

in a relatively short nine-year period. We were tied for 36th in bachelor's degree attainment.

In Table 8 we present an overview of the data we previously presented for Michigan and its two largest regions. All rank low in the share of wages from high education attainment industries and the proportion of adults with a bachelor's degree or more.

Table 8. Ranking of Michigan, Detroit, and Grand Rapids among Their Peers, 2009 (1 is highest, 50 or 55 is lowest)

	Income Per Capita	% Change 2001–09	Share of Wages In High Ed Industries	Share of Population 25+ with Bachelor's or More
Michigan	37	49	30	36
Detroit-Warren-Flint, MI (CSA)	41	54	31	39
Grand Rapids-Muskegon-Holland, MI (CSA)	54	51	54	44

Metropolitan Detroit is declining rapidly. Its per capita income was 15th in 2005, now it's 41st, down from 28th just one year earlier. An astonishing decline! Metropolitan Grand Rapids, which many believe is Michigan's most successful region, is declining from very low levels. It was 49th in 2005, now it's 54th. Both regions have low rankings in the proportion of adults with a four-year degree and share of employment earnings from knowledge-based industries. In the later statistic, metro Grand Rapids is next to last. As we saw in Table 6, the story is basically the same for the Lansing region, which trails metropolitan Madison by a substantial margin on most of our metrics.

In our report three years ago, we wrote that our best guess was that unless we substantially increased the proportion of college-educated adults in Michigan—particularly in our biggest metropolitan areas—the state would continue to trend downward in the per capita income rankings toward the mid-thirties. That prediction came true in one year. This is a stunning collapse of what historically was one of the most prosperous states in the nation.

Our basic belief is that over the long term, per capita income in Michigan and its regions will be consistent with their rankings in the proportion of adults with a four-year degree or more.

B. Employment

In addition to the data on per capita income, we have collected data on employment—the traditional measurement for economic growth. In Table 9 we present employment growth from 2001 to 2009 for the nation, for Michigan, and for its three largest metropolitan areas.

Table 9. Employment Change by Educational Attainment, 2001–09, United States, Michigan, and Michigan Metro Areas

Industry Group	United States	Michigan	Detroit CSA	Grand Rapids CSA	Lansing CSA
All industries	–1,027,888	–701,220	–444,432	–65,930	–26,066
(percent)	–0.79%	–15.66%	–18.14%	–11.06%	–11.07%
High education attainment industries	3,250,809	–87,449	–64,637	4,284	–767
(Percent)	5.83%	–4.97%	–6.33%	2.18%	–0.69%
Low education attainment industries	–4,278,698	–613,771	–379,794	–70,214	–25,299
(Percent)	–5.79%	–22.59%	–26.58%	–17.55%	–20.46%

We have divided the economy between the high education attainment industries and other industries. The data clearly show the preeminence of the high education attainment industries in employment growth. Michigan lagged the nation substantially.

Last in employment growth overall as well as employment growth in high education attainment industries, Michigan and its three largest metropolitan areas all suffered heavy job loss in the low education attainment industries. This includes the severe loss of manufacturing jobs, particularly in the domestic automotive industry.

It is important to note that the national pattern of better performance in the high education attainment industries holds true for Michigan as well. Employment in the low education attainment industries fell off a cliff: down an astonishing 23 percent. In the high education attainment industries the loss was 5 percent. The loss of jobs in the

knowledge-based industries we believe is due in large part to the decline in employment in the knowledge-based portions of the domestic auto industry.

All three of Michigan's largest metropolitan areas saw substantial job losses during the national expansion. All suffered very large job losses in the low education attainment industries, ranging from 17.5 percent in metro Grand Rapids to 26.6 percent in metro Detroit, the epicenter of the domestic auto industry. Metro Detroit also lost 6.3 percent of its high education attainment industry jobs

C. Wages

In Table 10 we look at average wage data by industry category. The pattern: high-paying work is concentrating in the high education attainment industries, both nationally and in Michigan. Nationally the knowledge-based industries average wage is more than $26,000 above the low education attainment industries.

Table 10. Wages by Educational Attainment, 2009, United States, Michigan, and Michigan Metro Areas

Industry Group	United States	Michigan	Detroit CSA	Grand Rapids CSA	Lansing CSA
All Industries	$45,558	$43,645	$48,145	$39,128	$41,878
High Education Attainment Industries	$59,926	$54,964	$59,645	$48,292	$51,595
Low Education Attainment Industries	$33,383	$34,646	$37,662	$33,560	$30,907
% Change in Average Wage 2001–09 (2009$)					
All Industries	3.84%	–1.16%	–1.45%	–0.30%	3.91%
High Education Attainment Industries	4.75%	3.29%	2.66%	5.00%	8.76%
Low Education Attainment Industries	–1.28%	–9.52%	–10.85%	–6.63%	–8.70%

Michigan’s low education attainment industries—which include most of manufacturing—have wages that are now just above the national average. A year ago they were about ten percent above. So Michigan is no longer a high-wage state in the low education attainment industries, a major change. The high-paying, low-skill jobs which have been the backbone of middle-class Michigan are now gone, almost certainly for good.

By comparison in the high education attainment industries, Michigan's wages are more than 8 percent below the national average. And the gap is even wider than that in metro Grand Rapids and Lansing. Our best guess is that the higher average wages in the high education attainment industries in metro Detroit are concentrated in the knowledge-based parts of the auto industry. Also, we think, it is likely that metro Detroit wages in the other high education attainment industries are below those of most big metropolitan areas.

Historically Michigan has had high average wages in low education attainment industries. Higher wages have been widely viewed as a competitive disadvantage for Michigan in retaining manufacturing jobs. In a big change, Michigan's average wages in low education attainment industries in 2009 haves fallen to the around the national average.

In the knowledge-based sectors of the economy—where most of the job growth and good-paying jobs are—Michigan has a lower average wage than the nation. This could be a competitive edge for Michigan.

X. What we found: central cities

We quoted Rick Karlgaard earlier. His central insight is that where smart people choose to live and work, robust economic activity will follow. This means that retaining and attracting talent becomes the key to building a high-prosperity economy. In this final section we will look at metrics on where talent is concentrating.

As we saw in Table 4, talent is concentrated in the nation's largest metropolitan areas. In our previous work, we found that in high-prosperity metropolitan areas, the largest city has a high proportion of residents with a bachelor's degree or more. In Table 11, we present data on college attainment for the top ten regions, plus Minneapolis, Chicago, Pittsburgh, Detroit, and Grand Rapids, as well as the largest city in each region.

Table 11. Educational Attainment in Selected Metro Areas and Their Primary Central City, 2009

	Per Capilta Income	Bachelor's Degree or More	
		Metro Area	Central City
San Jose-San Francisco-Oakland, CA (CSA)	$56,120	41.37%	35.65%
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV (CSA)	$53,529	42.52%	48.47%
New York-Newark-Bridgeport, NY-NJ-CT-PA (CSA)	$52,242	35.63%	34.00%
Hartford-West Hartford-Willimantic, CT (CSA)	$49,504	33.27%	12.27%
Boston-Worcester-Manchester, MA-RI-NH (CSA)	$48,794	37.50%	44.69%
Seattle-Tacoma-Olympia, WA (CSA)	$48,508	35.55%	56.01%
Houston-Baytown-Huntsville, TX (CSA)	$46,239	27.70%	40.80%
San Diego-Carlsbad-San Marcos, CA (MSA)	$45,706	34.56%	41.34%
Denver-Aurora-Boulder, CO (CSA)	$45,161	38.54%	40.35%
Philadelphia-Camden-Vineland, PA-NJ-DE-MD (CSA)	$45,125	31.27%	23.19%
Minneapolis-St. Paul-St. Cloud, MN-WI (CSA)	$44,704	36.22%	42.35%
Chicago-Naperville-Michigan City, IL-IN-WI (CSA)	$44,073	33.17%	33.09%
Pittsburgh-New Castle, PA (CSA)	$41,909	27.52%	32.59%
Detroit-Warren-Flint, MI (CSA)	**$37,083**	**26.74%**	**12.45%**
Grand Rapids-Muskegon-Holland, MI (CSA)	**$31,676**	**25.09%**	**27.26%**

Except for Hartford, and to a lesser degree Philadelphia, the pattern of high education attainment in the largest city of high-prosperity regions holds true. Detroit's low concentration is particularly worrisome. Quite simply, vibrant central cities matter!

Most college-educated households, like the rest of America, live in the suburbs. But a growing proportion of college-educated households—mainly those without children—are choosing to live in central-city neighborhoods. This is particularly true for the most mobile segment of the population—young college graduates without children. (See our Young Talent in the Great Lakes report at michiganfuture.org for details.)

What is different over the past decade or so is that suburban growth in high-prosperity metropolitan areas is now accompanied by growth in their central cities. The evidence is that the most successful regions across the country are those where both the suburbs and central cities are prospering.

XI. What we found: sources of personal income

A. The nation

Now we turn our attention to new data not offered in our past reports. As we discussed earlier, our previous analysis has been focused almost exclusively on jobs and income that comes from employment—both public and private. The data are clear: we are in an era of long-term structural shift of jobs and employment earnings toward knowledge-based industries and occupations. The states and regions that align with this trend will benefit greatly.

But it is also clear that there are other ways in which residents of states and regions earn income. Employment earnings are a major, but not the only, components of personal income. And that other income benefits not only individuals and households, but the whole community, as folks spend their income.

We decided that we could provide a more complete picture by looking at all components of what makes up personal income. As we explored earlier, it is clear that some states have achieved high prosperity because of high energy prices. So in this section we look at employment earnings from three sources: natural resources (mining, agriculture, forestry, and fishing) private sector employment earnings; all other private sector employment earnings; and government employment earnings (which along with local, state, and federal government includes public school districts, universities, and colleges). In addition, we look at investment income from interest, rent, and dividends; transfer payments, and adjustments due to social insurance taxes and people living in one jurisdiction and working in another.

We present data for 2009 as well as growth from 1989 to 2009. Like all the growth data in the report, it is corrected for inflation using the CPI for the four regions of the nation.

What we found is quite surprising. Table 12 presents the breakdown of 2009 per capita income and share of per capita income by sources of personal income growth from 1989 to 2009, corrected for inflation for the same six components of income for the country and Michigan.

Table 12. Source of Personal Income and Change in Personal Income Per Capita, 2009 and 1989-2009 (2009$), United States and Michigan

	2009	2009 Share	2009$ Rank	1989–2009 (2009$)	1989–2009 Share
United States	$39,635	100.00%	N.A.	$7,797	100.00%
Private nat. res. earn.	$669	1.69%	N.A.	$90	1.15%
Other private earn.	$22,758	57.42%	N.A.	$3,423	43.90%
Government earn.	$5,233	13.20%	N.A.	$922	11.83%
Dividends, int., rent	$7,143	18.02%	N.A.	$720	9.23%
Transfer payments	$6,984	17.62%	N.A.	$3,105	39.82%
Soc. ins. tax & res adj	–$3,153	–7.95%	N.A.	–$463	–5.94%
Michigan	$34,315	100.00%	37	$3,962	100.00%
Private nat. res. earn.	$240	0.70%	37	–$11	–0.28%
Other private earn.	$19,545	56.96%	32	–$170	–4.29%
Government earn.	$4,060	11.83%	47	$643	16.22%
Dividends, int., rent	$5,499	16.03%	41	–$105	–2.64%
Transfer payments	$7,737	22.55%	12	$3,713	93.69%
Soc. ins. tax & res adj	–$2,766	–8.06%	N.A.	–$107	–2.71%

Employment earnings from all employers (public and private) accounts for 72 percent of the country's personal income. Non-natural resources private sector employment earnings are only 58 percent of personal income nationally. Transfer payments are nearly 18 percent. And if you combine transfer payments and government employment earnings, you find that 31 percent of national personal income is paid for with government revenue.

When it comes to real growth from 1989 to 2009, transfer payments have been a major source of real personal income growth over the past two decades—up nearly 40 percent, nearly as large as the 45 percent growth in private sector employment earnings growth. To us this is quite worrisome and almost certainly unsustainable.

B. Michigan

The Michigan data is both surprising and quite troubling. Employment earnings from all employers (public and private) accounts for 70 percent of Michigan's personal income. Non-natural resources private sector employment earnings are only 57 percent of the state's personal income. Transfer payments are more than 22 percent. And if you combine transfer payments and government employment earnings, you find nearly 38 percent of Michigan's personal income is paid for with government revenue.

Michigan in 2009 ranks low in all three categories of employment earnings as well as dividends, interest, and rent. Michigan is 14 percent below the national average in non-natural resources private sector employment earnings. The only component where Michigan does better than the nation (12th) is personal income per capita from transfer payments.

Most worrisome is the growth data. For two decades, the only personal income growth in Michigan came from components paid for with government revenue, overwhelmingly transfer payments. Real private sector employment earnings actually declined. Although real government employment earnings increased, Michigan fell in 2009 to 47th in that category.

C. Other states

We urge readers to look through the detailed data we have collected on states in Appendices A2 and A3. There is too much data to cover in this report. But for those interested in particular states and/or a more thorough understanding of how the population of states earn their living, the data are quite revealing. Our guess is that it will change readers' understanding of how a state's economy is working. It did ours.

What we focus on here is non-natural resources private employment earnings. It is an essential ingredient in any state or region being prosperous in the long term, and it is what policy makers at the state and local level are primarily focused on when they put forward economic development policy and programs.

In Table 13, we list the top ten states in 2009 non-natural resources private employment earnings per capita. Except for Delaware, all of the top ten states are also high college attainment states. (Delaware is one of the top ten states in proportion of earnings from high education attainment industries, which suggests that many of its college-educated workers may live in a different state.)

What is fascinating is how many of these states are not in the top ten in total per capita income (see Table 2). Five of the top ten states in per capita income do not make this top ten.

Table 13. Top Ten States in Non-Natural Resources Private Earnings Per Capita, 2009

	Personal Income	Non-Natural Resources Private Earnings	Share of Personal Income	% Bachelor's Degree or More
United States	$39,635	$22,758	57.42%	27.90%
Connecticut	$55,296	$33,070	59.80%	35.59%
Massachusetts	$49,653	$32,957	66.37%	38.23%
New York	$46,516	$29,479	63.37%	32.40%
New Jersey	$49,980	$28,554	57.13%	34.50%
Minnesota	$41,854	$26,029	62.19%	31.50%
Delaware	$39,597	$25,792	65.14%	28.75%
Illinois	$41,856	$25,789	61.61%	30.59%
New Hampshire	$42,646	$25,546	59.90%	32.00%
Colorado	$41,895	$25,515	60.90%	35.88%
California	$42,395	$24,795	58.48%	29.90%

Wyoming falls from 4th to 39th. Not only is it the state with the highest personal income from natural resources but it also is way above average in government employment earnings and dividends, interest, and rent. Maryland falls from 5th to 12th, mainly because of very high government earnings. The other metro D.C.-dominant state, Virginia, goes from 7th to 11th. (The net commuting of people to jobs in Washington, D.C., also brings the ranking of Maryland and Virginia down.) Alaska declines from 8th to 26th due to a combination of high natural resources and government earnings. And Washington State falls from 9th to 14th due to high government earnings and high investment income.

The five states that move into the top ten on non-natural resources private employment earnings are: Minnesota (5th from 15th), Delaware (6th from 19th), Illinois (7th from 14th), Colorado (9th from 13th), and California (10th from 11th.)

In Table 14, we list the bottom ten states in 2009 non-natural resources private employment earnings per capita. Once again, the proportion of adults with a four-year degree is aligned with the results. Except for Montana (21st), all are low education attainment states. Not only is the level of non-natural resources private employment earnings per capita low, but so is the share of each of these states' personal income that comes from non-natural resources private employment earnings per capita. Five of the ten are below 50 percent.

Table 14. Bottom Ten States in Non-Natural Resources Private Earnings Per Capita, 2009

	Personal Income	Non-Natural Resources Private Earnings	Share of Personal Income	% Bachelor's Degree or More
United States	$39,635	$22,758	57.42%	27.90%
Oklahoma	$35,837	$17,114	47.76%	22.73%
Alabama	$33,411	$17,094	51.16%	22.03%
Kentucky	$32,258	$17,092	52.99%	20.98%
Montana	$34,828	$16,663	47.84%	27.38%
South Carolina	$32,505	$16,599	51.07%	24.33%
Idaho	$31,857	$16,397	51.47%	23.89%
Arkansas	$32,315	$16,308	50.47%	18.85%
New Mexico	$33,267	$15,367	46.19%	25.34%
West Virginia	$32,080	$14,450	45.04%	17.27%
Mississippi	$30,401	$14,012	46.09%	19.60%

Finally, let's return to the Minnesota and Alabama comparison we have been following for years. We chose Minnesota because it is the most prosperous Great Lakes state. Cold weather too. And Alabama both because it and Minnesota had similar unemployment rates when we started these annual reports, and because it is the prototypical low-tax southern state that has attracted a lot of foreign auto plants and that many have argued should be the model for Michigan. We have added data for Indiana as well, because it has been for decades the Great Lakes state that many have urged Michigan to use as a model.

The results are rather surprising. Minnesota is not only a high-prosperity state overall, but even more so in private sector earnings. It is low in both government employment earnings and transfer payments. Alabama is almost the exact opposite—in the bottom ten in both overall per capita income and private sector employment earnings, but high in both government employment earnings and transfer payments. Indiana is a low-income state on each metric.

Combined government employment earnings and transfer payments are 38 percent of Alabama's per capita income, 7 percentage points above the national average. For Indiana, the two components are 31 percent of the state's per capita income, at the national average. For Minnesota, the two components are 28 percent of per capita income, 3 percentage points below the national average.

Table 15. Source of Personal Income and Change in Personal Income Per Capita, 2009 and 1989-2009 (2009$), Alabama, Indiana, and Minnesota

Area/Source	Personal Income	Share	Rank (2009$)	Change 1989-2009 (2009$)	Share 1989-2009
Alabama	$33,411	100.00%	41	$8,135	100.00%
Private nat. res. earn.	$531	1.59%	24	–$154	–1.89%
Other private earn.	$17,094	51.16%	42	$3,042	37.40%
Government earn.	$5,276	15.79%	20	$1,126	13.85%
Dividends, int., rent	$5,378	16.10%	43	$712	8.76%
Transfer payments	$7,449	22.30%	15	$3,837	47.16%
Soc. ins. tax & res adj	–$2,317	–6.94%	N.A.	–$428	–5.27%
Indiana	$34,022	100.00%	40	$6,028	100.00%
Private nat. res. earn.	$467	1.37%	26	$128	2.13%
Other private earn.	$20,089	59.05%	31	$2,339	38.81%
Government earn.	$3,800	11.17%	50	$777	12.88%
Dividends, int., rent	$4,968	14.60%	46	–$342	–5.68%
Transfer payments	$6,831	20.08%	31	$3,340	55.40%
Soc. ins. tax & res adj	–$2,133	–6.27%	N.A.	–$214	–3.55%
Minnesota	$41,854	100.00%	15	$10,373	100.00%
Private nat. res. earn.	$639	1.53%	20	–$114	–1.10%
Other private earn.	$26,029	62.19%	5	$6,101	58.82%
Government earn.	$4,658	11.13%	36	$978	9.43%
Dividends, int., rent	$7,614	18.19%	15	$1,322	12.75%
Transfer payments	$6,891	16.47%	30	$3,052	29.43%
Soc. ins. tax & res adj	–$3,977	–9.50%	N.A.	–$966	–9.31%

Minnesota experienced greater personal income growth than the other two, once again particularly in private sector employment earnings. On that metric, over two decades Minnesota rose from 12th to 5th, while Alabama fell from 38th to 42nd and Indiana declined from 23rd to 31st. Once again, contrary to their reputations, Minnesota fell in the rankings in both government employment earnings and transfer payments, while Alabama went up in both and Indiana fell in government employment earnings but rose in transfer payments.

Maybe most important, the major contributor to Minnesota's growth over two decades has been from private sector employment earnings, not transfer payments as in both Alabama and Indiana—more evidence that Michigan should want an economy like Minnesota's rather than either Alabama's or Indiana's.

D. Regions

Once again we urge readers to look at the Appendices for more detailed information on the composition of each region's income. Appendix B3 has the 2009 data. Appendix B4 has the data on growth by component from 1989 to 2009.

In Table 16, we look at the composition of per capita income by size of metro area. What is most noteworthy is that the largest metros (those with populations of 3 million or more) are even more dominant in private sector employment earnings than overall employment earnings. The basic pattern is that the larger the region, the greater the private sector employment earnings and the smaller the government employment earnings and transfer payments.

Once again, most likely contrary to conventional wisdom, smaller metros, not big metros, are where the proportion of personal income from government revenue is the highest. For regions with populations of 200,000 or less, over 40 percent of their income comes from a combination of government employment earnings and transfer payments. For regions of 3 million or more it is 26 percent.

Table 16. Metropolitan Areas, Components of Personal Income Per Capita 2009, By Size of Region

CSAs, non-CSA MSAs	No. of Metros	Population	Pers. Income	Private Earn. (%)	Govt. Earn. (%)	Div., Int., Rent (%)	Trans. Pmts. (%)	Soc Ins Tax Res Adj (%)
3 million+	17	127,640,616	$44,840	64.16	11.86	18.31	14.26	–8.59
1–3 million	38	65,783,707	$37,673	60.21	13.53	17.07	18.14	–8.95
500,000 to 1.0 million	45	29,923,264	$35,632	54.94	14.37	17.86	20.01	–7.19
200,000 to 500,000	88	27,236,774	$35,551	52.88	16.34	18.37	20.39	–7.97
<200,000	122	16,552,464	$33,609	51.19	17.98	16.97	22.44	–8.58

In Table 17, we look at the change in per capita income by component from 1989 to 2009. Same pattern for the biggest metros, they have the largest growth in private sector employment earnings and the lowest growth in both government employment earnings and transfer payments. Below the biggest metros, private sector employment earnings growth is not aligned by size of metro. But for income funded by government

revenue—both government employment earnings and transfer payments—the pattern is the smaller the metro, the bigger the growth in per capita income.

Table 17. Metropolitan Areas, Change in Personal Income Per Capita 1989–2009 (2009$), By Component and Size of Metro Area

CSAs, non-CSA MSAs	No. of Metros	Population	Pers. Income	Private Earn. (%)	Govt. Earn. (%)	Div., Int., Rent (%)	Trans. Pmts. (%)	Soc Ins Tax Res Adj (%)
3 million+	17	127,640,616	$8,383	56.02	8.27	10.37	32.20	–6.86
1–3 million	38	65,783,707	$7,312	48.76	9.58	6.22	43.31	–7.86
500,000 to 1.0 million	45	29,923,264	$7,253	37.05	13.11	8.36	46.57	–5.09
200,000 to 500,000	88	27,236,774	$8,643	39.85	15.99	11.31	39.82	–6.97
<200,000	122	16,552,464	$8,230	35.79	19.06	9.07	44.40	–8.32

We conclude our look at data with details on Michigan's three largest metros along with Minneapolis and Madison. Table 18 has the 2009 and 1989–2009 growth data for the Detroit, Grand Rapids, and Minneapolis CSAs. Table 19 has the same data for Lansing and Madison.

Table 18. Source of Personal Income and Change in Personal Income Per Capita, 2009 and 1989–2009 (2009$), Detroit CSA, Grand Rapids CSA, and Minneapolis CSA (Rank of 1 is best, 55 is worst)

Area/Source	Personal Income	Share	Rank (2009$)	Change 1989-2009 (2009$)	Share 1989-2009
Detroit CSA	$37,083	100.00%	41	$3,747	100.00%
Private earn.	$22,723	61.28%	35	–$542	–14.47%
Government earn.	$4,103	11.07%	40	$731	19.51%
Dividends, int., rent	$5,938	16.01%	41	–$104	–2.77%
Transfer payments	$7,783	20.99%	8	$3,727	99.46%
Soc. ins. tax & res adj	–$3,465	–9.34%	N.A.	–$65	–1.73%
Grand Rapids CSA	$31,676	100.00%	54	$3,700	100.00%
Private earn.	$20,396	64.39%	46	$889	24.03%
Government earn.	$2,877	9.08%	55	$440	11.90%
Dividends, int., rent	$4,887	15.43%	52	–$55	–1.47%
Transfer payments	$6,355	20.06%	32	$2,993	80.89%
Soc. ins. tax & res adj	–$2,839	–8.96%	N.A.	–$568	–15.34%
Minneapolis CSA	$44,704	100.00%	11	$9,105	100.00%
Private earn.	$30,330	67.85%	8	$5,131	56.35%
Government earn.	$4,786	10.71%	27	$805	8.84%
Dividends, int., rent	$8,047	18.00%	13	$1,304	14.32%
Transfer payments	$6,189	13.85%	39	$2,824	31.01%
Soc. ins. tax & res adj	–$4,648	–10.40%	N.A.	–$958	–10.52%

Obviously, Michigan's three biggest metros are struggling, metro Detroit the most. What is surprising is that both metro Detroit (35th) and Grand Rapids (46th), although still low, rank higher in private sector employment earnings than overall per capita income. Both are very low in government employment earnings. Grand Rapids is also low in transfer payments, Detroit far higher (8th).

In terms of change from 1989 to 2009, both metro Detroit and Grand Rapids were very dependent on transfer payments for real per capita income growth. Transfer payments were an astonishing 99 percent of metro Detroit growth and 81 percent for Grand Rapids. Like Michigan, metro Detroit experienced a decline over twenty years in real private sector employment earnings. Contrast that with Minneapolis, which got 56 percent of its personal income growth from private sector employment earnings and only 31 percent from transfer payments.

Lansing's performance follows the basic pattern of the state's two biggest metros, low private sector employment earnings and growth. Only 16 percent of the region's two-decade personal income growth came from private sector employment earnings as compared with 70 percent from transfer payments.

The performance of all three Michigan metros looks particularly weak when compared with Minneapolis and Madison, two Great Lakes metros doing terrific with high overall per capita incomes and substantial growth, driven by private sector earnings growth.

Table 19. Source of Personal Income and Change in Personal Income Per Capita, 2009 and 1989-2009 (2009$), Alabama, Indiana, and Minnesota

Area/Source	Personal Income	Share	Change 1989–2009 (2009$)	Share 1989-2009
Lansing CSA	$33,273	100.00%	$5,352	100.00%
Private earn.	$16,672	50.11%	$829	15.50%
Government earn.	$7,769	23.35%	$1,195	22.32%
Dividends, int., rent	$4,796	14.41%	$2	0.03%
Transfer payments	$6,952	20.89%	$3,721	69.53%
Soc. ins. tax & res adj	–$2,916	–8.76%	–$395	–7.39%
Madison CSA	$42,456	100.00%	$11,060	100.00%
Private earn.	$26,376	62.13%	$8,209	74.22%
Government earn.	$8,154	19.20%	$1,390	12.57%
Dividends, int., rent	$7,838	18.46%	$1,449	13.10%
Transfer payments	$5,630	13.26%	$2,346	21.21%
Soc. ins. tax & res adj	–$2,133	–6.27%	–$214	–3.55%

XII. A path to a high-prosperity Michigan

To us there are two clear messages from the data we have just reviewed: (1) for Michigan to return to prosperity it must focus on accelerating employment earnings, particularly from the private sector; and (2) to accomplish that, the key ingredient is talent. Quite simply, in a flattening world, economic development priority one is to prepare, retain, and attract talent.

There are no quick fixes; the Michigan economy is going to continue to lag the nation for the foreseeable future. But there is a path back to high prosperity. As is laid out in our New Agenda report, we believe the framework for action is:

- Building a culture aligned with (rather than resisting) the realities of a flattening world. We need to place far higher value on learning, an entrepreneurial spirit, and being welcoming to all.

- Ensuring the long-term success of a vibrant and agile higher education system. This means increasing public investments in higher education. Our higher education institutions—particularly the major research institutions—are the most important assets we have to develop the concentration of talent needed in a knowledge-based economy.

- Creating places where talent—particularly mobile young talent—wants to live. This means expanded public investments in quality of place, with an emphasis on vibrant central-city neighborhoods.

- Transforming teaching and learning so that it is aligned with the realities of a flattening world. All of education needs reinvention. Most important is to substantially increase the proportion of students who leave high school academically ready for higher education.

- Developing new public and, most important, private sector leadership that has moved beyond a desire to recreate the old economy as well as the old fights. Michigan needs a leadership that is clearly focused, at both the state and regional level, on preparing, retaining, and attracting talent so that we can prosper in the global economy.

End Notes

Data on personal income and its components comes from the U.S. Department of Commerce, Bureau of Economic Analysis http://www.bea.gov/regional/index.htm#state retrieved May, 2011.

We used the 5 percent PUMS sample data maintained at the University of Minnesota. Steven Ruggles, Matthew Sobek, Trent Alexander, Catherine A. Fitch, Ronald Goeken, Patricia Kelly Hall, Miriam King, and Chad Ronnander. Integrated Public Use Microdata Series: Version 3.0 [Machine-readable database]. Minneapolis, MN: Producer and distributor, Minnesota Population Center, 2004. http://usa.ipums.org/usa/

The information on employment and wages by industry are from the U.S. Department of Labor, Bureau of Employment Statistics, Quarterly Census of Employment and Wages http://www.bls.gov/cew/home.htm, accessed in November 2010. When the employment and wage data was masked due to publication disclosure rules, estimates were generated using procedures developed at the Institute for Research on Labor, Employment, and the Economy, University of Michigan.

The basic information on which industries were identified as high education attainment industries was derived from the 2000 Census one percent micro data sample. The Census data allocated employed individuals among 230 industries using the 1997 NAICS industry definitions. Our industry employment data, at the six digit NAICS level, however, was based upon the 2002 NAICS definitions for the 2001 to 2006 data, and for the 2007–2009 data on the 2007 NAICS definitions.

These differences in the industry codes introduced a complication into our allocation procedure. For example, since the 2000 Census data did not include the industry category "wholesale trade, electronic markets and agents and brokers (NAICS 425)" we had to arbitrarily allocate this industry, and chose to place it in the high education attainment category. Also, in certain cases we arbitrarily allocated part of an industry to low or high education attainment based upon our judgment of the activity of that detailed industry. For example, the Census data set included information on the NAICS industry

5121 (motion pictures and video industries) only as a whole, but using our judgment we categorized one of its sub-industries, NAICS industry 51213 (motion picture and video exhibition) as a low education attainment industry, while categorizing the other component industries of NAICS 5121 as high education attainment industries.

Information on Population, Educational Attainment, and Income Distribution are from the U.S. Census Bureau, American Community Survey (ACS) for 2009. http://www.census.gov/acs/www/

High education attainment industries

1131	Timber tract operations
1132	Forest nursery and gathering forest products
211	Oil and gas extraction
2211	Power generation and supply
2212	Natural gas distribution
32411	Petroleum refineries
3251	Basic chemical manufacturing
3253	Agricultural chemical manufacturing
3254	Pharmaceutical and medicine manufacturing
3256	Soap, cleaning compound, and toiletry manufacturing
3259	Other chemical product and preparation manufacturing
334	Computer and electronic product manufacturing
3364	Aerospace product and parts manufacturing
3391	Medical equipment and supplies manufacturing
4234	Commercial equipment merchant wholesalers
4242	Druggists' goods merchant wholesalers
4246	Chemical merchant wholesalers
425	Electronic markets and agents and brokers
443112	Radio, TV, and other electronics stores
44312	Computer and software stores
44313	Camera and photographic supplies stores
44611	Pharmacies and drug stores
451211	Book stores
4541	Electronic shopping and mail-order houses
481	Air transportation
486	Pipeline transportation
51 except 51213	Information except motion picture and video exhibition
52 except 52212 & 52213	Finance & insurance except savings institutions & credit unions
531	Real estate
533	Lessors of nonfinancial intangible assets
54	Professional and technical services
55	Management of companies and enterprises
5611	Office administrative services
5612	Facilities support services
61	Educational services
621 except 6216	Ambulatory health care except home health care services
622	Hospitals
6241	Individual and family services
6242	Emergency and other relief services
711	Performing arts and spectator sports
712	Museums, historical sites, zoos, and parks
813 except 81393	Membership associations and organizations except labor unions
921 except 92115	Executive, legislative, and general except tribal government
92211	Courts
92213	Legal counsel and prosecution
fed & state 92212	Federal & state government police protection

Appendices available on separate page links at michiganfuture.org:

Appendix A1: Current Data for States

Appendix A2: Personal Income Per Capita by Major Component by State, 2009

Appendix A3: Change in Personal Income Per Capita by Major Component by State, 1989 to 2009, 2009$

Appendix B1: Current Data for CSAs and MSAs with a Population of over 1 Million

Appendix B2: Current Data for Smaller Metro Areas in Michigan Compared with Similar Metro Areas in the United States

Appendix B3: CSAs and MSAs with a Population of over 1 million, Personal Income Per Capita by Major Component, 2009

Appendix B4: CSAs and MSAs with a Population of 1 Million or More, Change in Personal Income Per Capita by Major Component, 1989 to 2009, 2009$