

# Informing the Debate

## Changes in the Income Distribution in Michigan



**1976-2006,  
With Comparisons to  
Other States**



**Authors**  
**Charles L. Ballard**  
**and**  
**Paul L. Menchik**

**MICHIGAN STATE**  
**UNIVERSITY**

Institute for Public Policy  
and Social Research

Institute for Public Policy and Social Research at Michigan State University

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### **Authors**

Charles L. Ballard  
Professor  
Department of Economics  
Michigan State University

Paul L. Menchik  
Professor  
Department of Economics  
Michigan State University

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Charles L. Ballard and Paul L. Menchik  
Department of Economics  
Michigan State University

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## I. Introduction

In the United States in the early part of the 20<sup>th</sup> century, those at the bottom of the income distribution experienced more rapid income growth than those at the top. As a result, there was a *decrease* in the relative gap between high-income Americans and low-income Americans, and the distribution of income became substantially more equal.<sup>1</sup> From about 1950 until the early 1970s, the income distribution stayed remarkably constant. Incomes grew relatively rapidly throughout the entire income distribution, so that the income shares of different groups did not change very much.

Since the 1970s, however, the distribution of income has become dramatically more unequal in the U.S. and in some other developed countries. For example, see Atkinson (1996), Gottschalk and Smeeding (1997), and Karoly (1996). Incomes have grown rapidly at the top of the income distribution, while incomes in the middle and at the bottom have stagnated. Thus, the distribution of income in the United States has now reached a degree of inequality that has not been seen since the early 20<sup>th</sup> century.

This trend toward greater inequality has been well documented at the national level. Since most households receive all or most of their income from the labor market, it is not surprising that the increase in *income* inequality has been driven by an increase in the inequality of *labor-market earnings*. Economists have proposed several explanations for the increase in earnings inequality. The most widely accepted explanation is that there has been a sharp increase in the demand for highly skilled labor. The wage gaps between those with more education and experience and those with less education and experience have increased greatly. Other explanations include the decline in the relative strength of labor unions, the decrease in the real value of the minimum wage, the increase in immigration of low-skilled workers, and changes in corporate-governance procedures. For discussion of these trends, see Levy and Murnane (1992), Bound and Johnson (1992), Saez and Piketty (2003), Autor, Katz, and Kearney (2008), and Bakija and Heim (2009).

In contrast to the abundant literature on income-distribution trends at the national level<sup>2</sup>, relatively little attention has been paid to the trends in the various regions of the country.<sup>3</sup> In this research report, we focus on the changes in the distribution of income in the 50 states and the District of Columbia, from 1976 to 2006. We place particular emphasis on the changes in Michigan. As we shall see, the pattern of disequalization in Michigan is similar to the nationwide trend. However, during these three decades, income growth in Michigan has been slower than in the nation as a whole, throughout the income distribution.

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1. For discussion of this trend, see Goldin (1999).

2. There is also a substantial literature on the evolution of the income distribution for the entire world. For example, see Bourguignon and Morrisson (2002) and Sala-i-Martin (2006).

3. A previous attempt to estimate the changes in Michigan's income distribution from 1970 to 1990, using published Decennial Census data, appears in Landauer-Menchik and Menchik (1995).

Although we concentrate much of our attention on changes in the income distribution in Michigan, we also consider the changing income distributions in other states. We shall see that almost all of the states that border on the Great Lakes have experienced a pattern of disequalization that is roughly similar to that of Michigan. However, a few states have departed from the national trend of increasing inequality. In particular, several states in the Deep South have experienced very little increase in inequality. Some of these states actually achieved equalizing growth. Minnesota is unique among the states that border on the Great Lakes, in that the lowest parts of the income distribution in Minnesota have experienced strong income growth. As a result, inequality in Minnesota has not increased as it has in the other states of the Great Lakes region.

## **II. Trends in Per-Capita Income, in Michigan and in the United States**

Most of this report is devoted to discussion of the *distribution* of income. In other words, we are primarily concerned with the way in which the total amount of income is distributed among households. However, the average *level* of income is also important. Most people would agree that, if we were to hold constant the degree of inequality in the income distribution, it would be better to have a higher average income level. Thus, in this section, we set the stage by reviewing the trends in per-capita income, for Michigan and for the United States as a whole. Figure 1 shows the trends in real (inflation-adjusted) per-capita income for Michigan and for the entire United States. This graph goes all the way back to 1929, which is the first year for which we have good-quality data for all states.<sup>4</sup>

Figure 1 shows a clear long-term trend toward growth of real incomes, both for Michigan and for the U.S. as a whole. In Michigan, the level of real income in 2008 was about twice as high as it had been in 1965, and about four times as high as it had been in 1940. Thus, on average, the residents of Michigan are far more affluent than they were a few generations ago. However, the rate of increase in incomes has slowed down greatly. Figure 1 shows that per-capita income in Michigan has been basically flat since 2000. Inflation-adjusted incomes in Michigan did reach their all-time high in 2007, edging slightly above the previous record, set in 2000. However, the recession in 2008 pushed incomes back down to their lowest level since 1999.

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The nominal income data are from the Bureau of Economic Analysis of the U.S. Department of Commerce. See <http://www.bea.gov/regional/spi/default.cfm?satable=summary>. The nominal incomes are adjusted for inflation according to the Personal Consumption Expenditures deflator. This price deflator is also provided by the Bureau of Economic Analysis. See Table 1.1.4 at <http://www.bea.gov/national/nipaweb/SelectTable.asp?Selected=N>.

**Figure 1**  
**Inflation-Adjusted Per-Capita Personal Income,**  
**In Michigan and in the United States, 1929-2008**

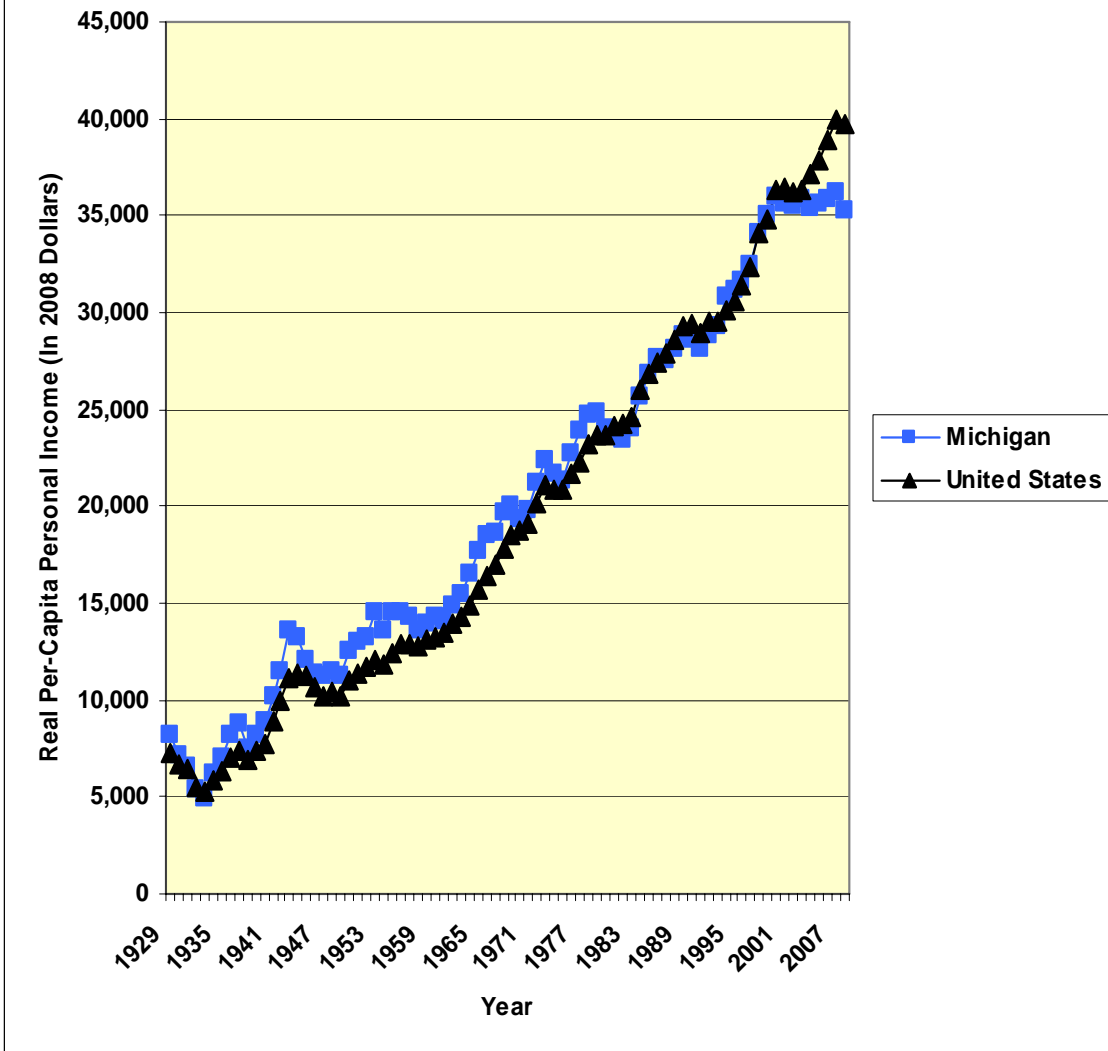
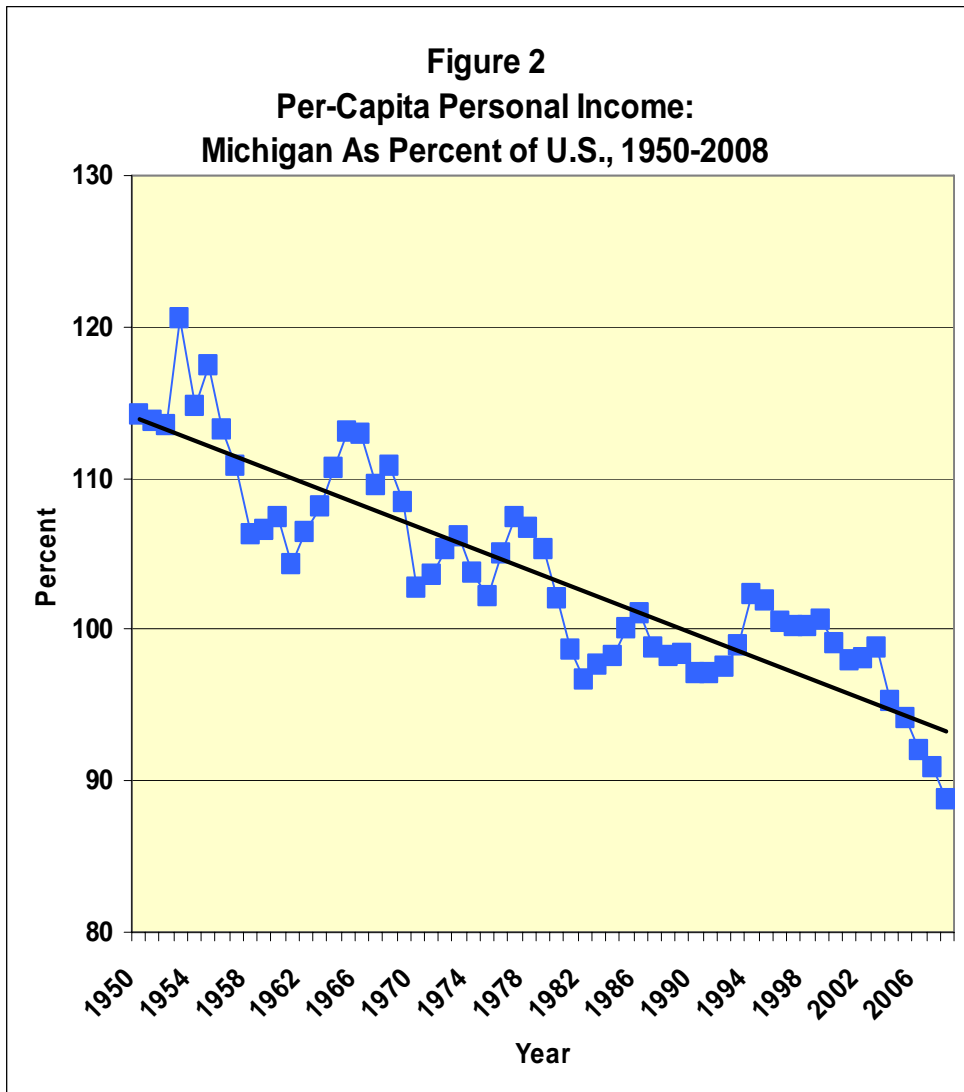


Figure 1 also reveals that, while per-capita incomes in Michigan were above the national average throughout the middle decades of the 20<sup>th</sup> century, they have fallen below the national average in many of the years since the early 1980s. Since 2000, per-capita incomes in Michigan have barely kept up with inflation. After the nation emerged from the 2001 recession, real per-capita incomes increased at a much stronger pace in the United States as a whole than in Michigan. As a result, even though the level of per-capita income in Michigan reached an all-time *high* in 2007, the ratio of Michigan income to the national average reached an all-time *low* in the same year. The recession of 2008 caused incomes to fall across the country, but the decline was worse than average in Michigan. Thus, the ratio of Michigan income to the national average set another record low in 2008.

Figure 2 shows the decline in Michigan incomes relative to the national average. This graph goes back to 1950, because the trend is easier to see if we exclude the years of the Great Depression and the Second World War. Figure 2 shows per-capita income in Michigan, expressed as a percentage of per-capita income in the entire United States. Thus, if a state were exactly at the national average, it would have a value of 100 on the vertical axis in Figure 2.

Figure 2 shows that, in the 1950s and 1960s, Michigan incomes were typically 10 to 15 percent *above* the national average. By 2008, per-capita income in Michigan had fallen to about 11 percent *below* the national average. Figure 2 also includes the trend line that best fits the data. The line shows that, on average over this period of more than half a century, Michigan has lost about one percentage point relative to the national average every three years. Regardless of the way in which income in Michigan is distributed, this long-term trend is a matter of great concern for the citizens of Michigan. If average incomes in Michigan were to continue to fall relative to the national average at this pace for another generation, Michigan would be one of the poorest states in the country, if not the poorest.



### III. Trends in the Distribution of Income, in Michigan and in the United States

Now that we have reviewed the trends in the *level* of income, we turn to the *distribution* of income.

Note that the preceding data on the level of income were on a *per-capita* basis. In other words, the data used in Figures 1 and 2 were calculated by taking the total amount of personal income, and dividing by the number of people. From now on, however, we will be looking at data for *households*. Most households consist of a single person living alone, or of a group of family members living together. The household data are from the Current Population Survey (CPS). Specifically, we use the March Current Population Survey's Annual Social and Economic Supplement.<sup>5</sup>

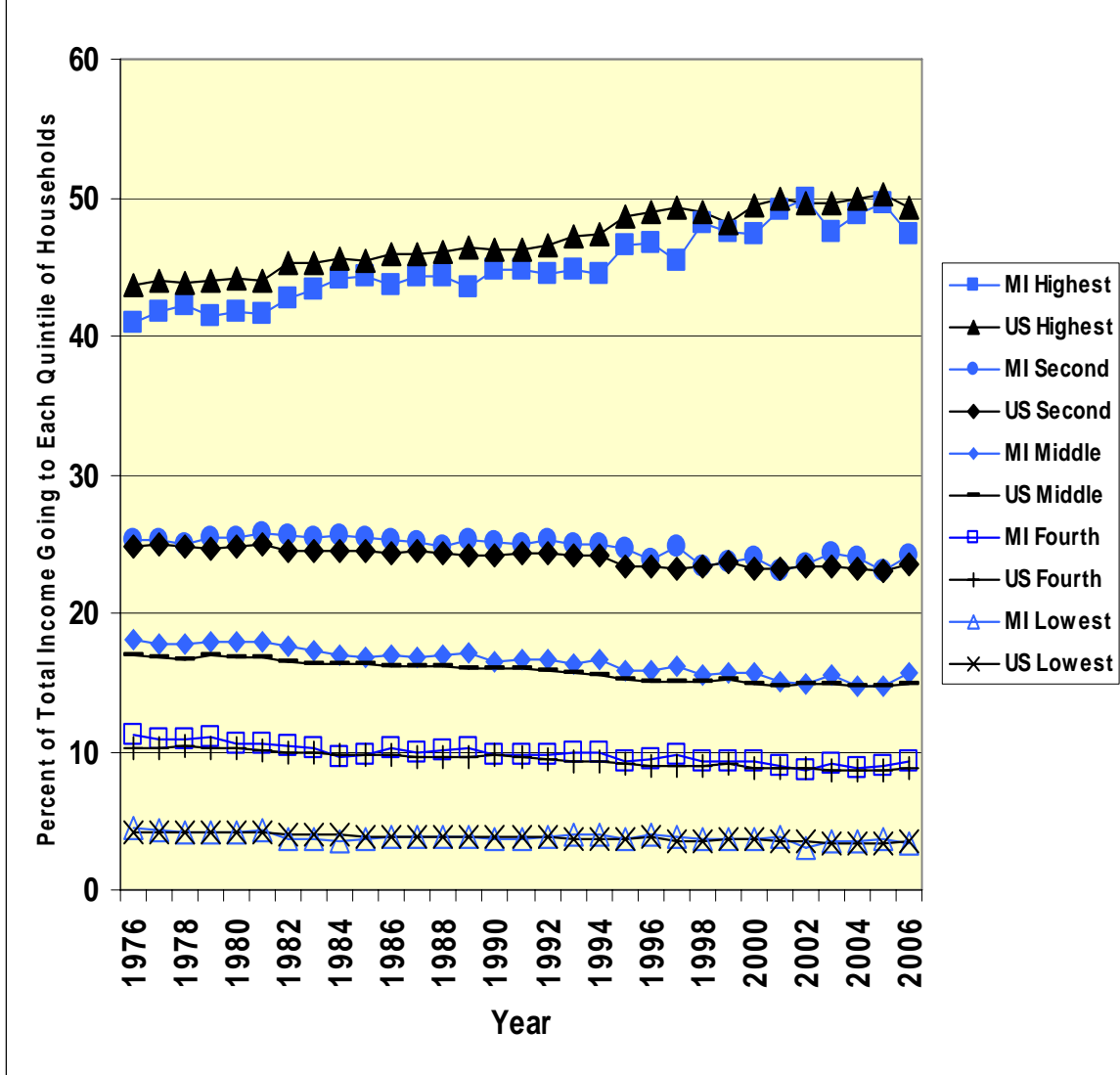
Information on the distribution of income can be presented in a wide variety of ways. One way is to show the shares of total income received by each of the five "quintiles," where each quintile includes 20 percent of the households. Figure 3 shows the shares of total income going to each of the five quintiles from 1976 to 2006, for Michigan and for the entire United States. This figure contains five pairs of graph lines. In each pair, the data for Michigan are represented by light-colored symbols, and the data for the United States are represented by darker symbols. As we scan down from the top of the graph to the bottom, we move from the highest-income quintiles to the lowest-income quintiles.

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5. In an attempt to avoid identification of individuals, the CPS uses a set of techniques known as "topcoding." As a result, we have used extrapolation procedures employed by others to estimate the incomes of the households with the very highest incomes. Fortunately, these procedures are only necessary for a very small number of households in our sample.



**Figure 3**  
**Quintile Shares in the Income Distributions,**  
**For Michigan and the United States, 1976-2006**



In Figure 3, the trend toward greater inequality can be seen most easily by looking at the top two lines. These two lines represent the shares of total income going to the top 20 percent of households, for Michigan and for the U.S. as a whole. In Michigan in the late 1970s, the highest-income 20 percent of households received about 41 or 42 percent of the total income in the state. By the middle of the first decade of the 21<sup>st</sup> century, the top 20 percent of households were receiving almost 50 percent of the total income in Michigan.

This increase in the share of the top quintile represents a massive shift in way in which incomes are distributed among Michigan’s households. Total personal income in Michigan was about \$333 billion in 2006, about \$346 billion in 2007, and about \$353 billion in 2008.<sup>6</sup> Thus, if today’s personal income in Michigan were distributed in the same way that Michigan personal income had been distributed in the 1970s, the top 20 percent of Michigan households would be receiving about \$25 billion less every year, and the bottom 80 percent of Michigan households would be receiving about \$25 billion more every year.

For most of the period shown in Figure 3, the top quintile’s income share for the U.S. as a whole was slightly higher than the top quintile’s share in Michigan. In other words, the income distribution was slightly more equal in Michigan than in the entire United States. However, by the end of the period, the income shares for the top quintile in the U.S. and Michigan were very similar.

The income shares of the five quintiles have to add up to 100 percent. Thus, if the top quintile increased its share of the total income, at least one other quintile had to have received a shrinking share. In fact, Figure 3 shows that *all* of the other four quintiles suffered a reduction in share during this period.

The lines in Figure 3 bounce around somewhat, because of sampling variation and/or transitory factors. Thus, it may be possible to discern the trends more clearly by looking at the data over five-year intervals. In Table 1, we show the shares of total income for each of the five quintiles in Michigan, for selected years. Table 1 shows that the top quintile increased its share during every five-year period except the most recent one, and the second and middle quintiles suffered a reduction in share during every five-year period except the most recent one. Over the three decades shown in Figure 3 and Table 1, there was an increase of more than 20 percent in the share of income received by the top quintile of Michigan households. The fourth quintile (which includes households that might be called solidly middle class or upper-middle class) suffered a slight decrease in its income share. The lowest quintile in the Michigan income distribution suffered a decrease of about 20 percent in its share of the total income received by Michigan residents.

**Table 1**  
**Income Shares for Quintiles in the Michigan Income Distribution, for Selected Years**

<b><u>Quintile</u></b>	<b><u>1976</u></b>	<b><u>1981</u></b>	<b><u>1986</u></b>	<b><u>1991</u></b>	<b><u>1996</u></b>	<b><u>2001</u></b>	<b><u>2006</u></b>
Top	40.9%	41.6%	43.7%	44.8%	46.7%	49.1%	47.4%
Fourth	25.3%	25.8%	25.3%	25.0%	23.9%	23.1%	24.2%
Middle	18.1%	17.9%	16.9%	16.7%	15.9%	15.1%	15.7%
Second	11.2%	10.5%	10.2%	9.8%	9.5%	9.0%	9.3%
Bottom	4.5%	4.3%	3.9%	3.7%	4.0%	3.8%	3.4%

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6. These are *nominal* values, i.e., they have not been adjusted for inflation. As we have seen, if these were adjusted for inflation, they would show a decrease between 2007 and 2008. The trends shown in Figure 1 were for real, inflation-adjusted incomes.

Table 1 and Figure 3 show the income shares for each of the five quintiles, but they do not look at the way in which income is distributed *within* each quintile. In fact, the increased share for the top quintile has been highly concentrated among the households with the *very* highest incomes. Figure 4 shows that the increased share for the top quintile in Michigan can be attributed entirely to the top five percent of households. While the top five percent of Michigan households have been increasing their share, the share going to the bottom half of households has declined.

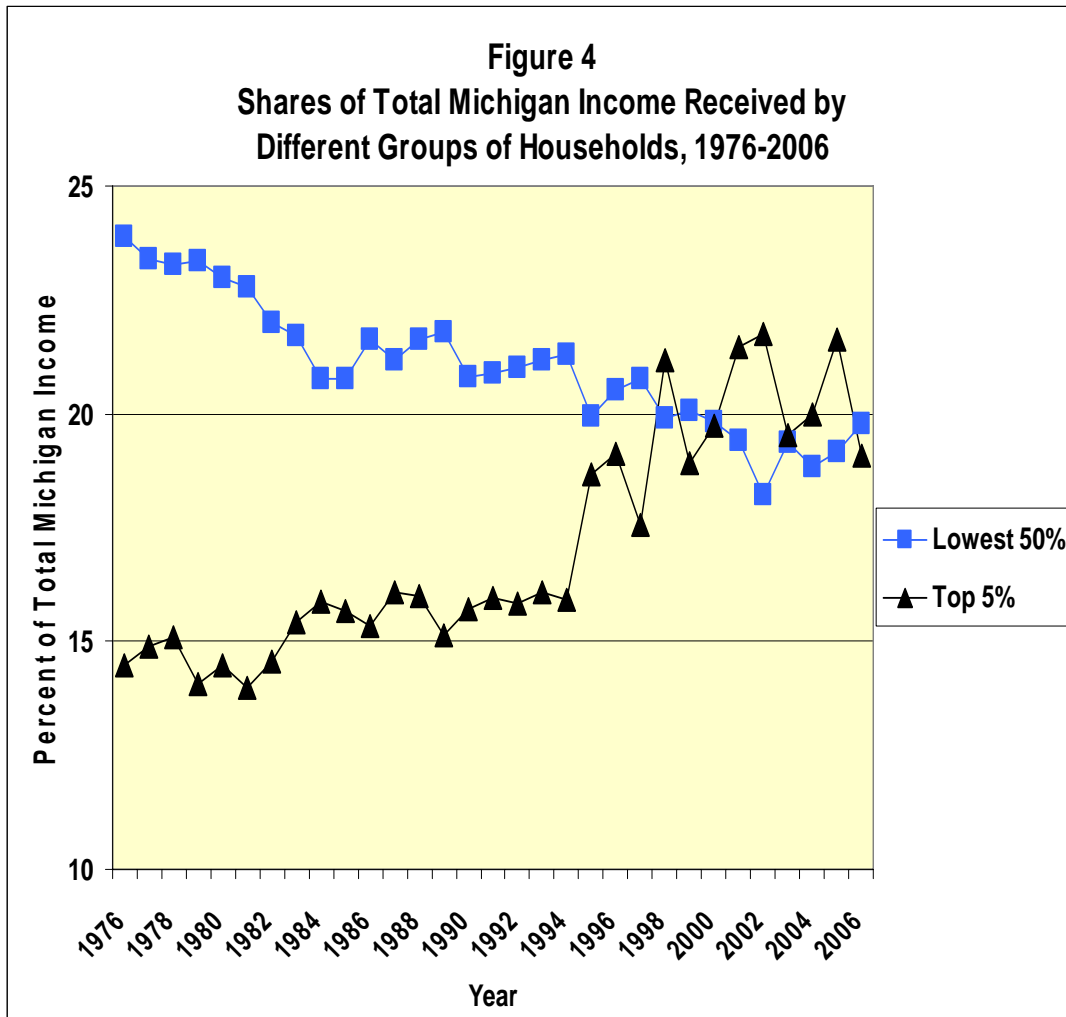


Figure 4 shows that, in the 1970s and 1980s, the bottom 50 percent of households had substantially more total income than the top five percent. In some recent years, however, the top five percent of households have actually had more income than the bottom 50 percent.

It should be noted that the data used in Figure 4 are from an annual survey of about 2000 households. With a sample of this size, the top five percent of households are represented by only about 100 households. If we were to try to study the top one percent, or the top one-tenth of one percent, or the top one-hundredth of one percent, we would run into severe data limitations. In fact, the research by Saez and Piketty (2003), using a different data set, suggests that much of the increase has accrued to the top one percent, and even to the top one-hundredth of one percent.

Before we conclude our discussion of Figure 4, two things should be noted. First, the income shares have a tendency to move in an uneven fashion. This is due primarily to the relatively small size of the sample on which the graph is based. As the sample size gets smaller, issues of sampling variability become more important. The fluctuations in the share of the top five percent tend to be larger than the fluctuations in the share of the bottom 50 percent, partly because the data for the bottom 50 percent are based on a sample that is ten times as large as the sample that generated the data for the top five percent. In spite of the sampling variability, however, our view is that Figure 4 tells a compelling story. The second point is that Figure 4 shows the changes in income shares for Michigan alone. It is reasonable to ask whether the trends in Michigan are similar to the trends for the nation as a whole. We do not show the corresponding graph for the entire United States in this report, but if we were to show the trend for the United States as a whole, the picture would be very similar to the one for Michigan in Figure 4.

Bakija and Heim (2009) take a detailed look at the phenomenal increases in income for the top one-tenth of one percent of U.S. households. In 1981, these households received about two percent of all of the country's income. By 2006, the portion going to the top one-tenth of one percent of households had increased to about eight percent of all U.S. income! Bakija and Heim do not break down their data by state. Thus, we cannot say for certain whether the top one-tenth of one percent in Michigan has done as well, relatively, as the top one-tenth of one percent in the rest of the country. Nevertheless, the results presented by Bakija and Heim (for the entire United States) are consistent with the data shown in Figure 4 (for Michigan): For a generation, an extremely large portion of the income growth has gone to those with very high incomes.<sup>7</sup>

Figures 3 and 4 show the income shares received by different groups of households. This is an interesting and useful way in which to present information on the income distribution.

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7. In addition to the calculations for the United States, Bakija and Heim also make the same calculations for France and Japan. They find that the top one-tenth of one percent of households in France and Japan did *not* enjoy the same kind of phenomenal income growth that was enjoyed by their counterparts in the United States. Thus, it is difficult to attribute this trend in the U.S. to globalization, since the economies of France and Japan have been subject to many of the same global influences as the U.S. economy. It is also difficult to attribute the trend to the increased rate of return to education, since the educational attainment of the French, Japanese, and American workforces are somewhat similar. The increased rate of return to education has been very beneficial to millions of middle-class and upper-middle-class Americans, but we must look elsewhere for an explanation of the astonishing income growth at the very top. Bakija and Heim show that Chief Executive Officers have a very large presence in the top one-tenth of one percent of American households. It is possible that there has been a change in the "social norms" governing the behavior of these groups. In other words, it may be that it has always been possible for CEOs to grant extraordinary rewards to themselves, but that the last few decades have seen a breakdown in the social constraints that once convinced the CEOs to leave more for their employees.

However, economists have long seen the value of summarizing information about the entire income distribution, using a single number. A number of these summary measures have been developed over the years. The most widely used summary measure is the “Gini Coefficient” or “Gini Index” or “Gini Ratio”, named for the Italian economist Corrado Gini. (See Gini (1912).)

If the distribution of income were completely equal, the Gini Coefficient would be zero. If the distribution of income were extremely unequal, so that one household had all of the income, the Gini Coefficient would be approximately one. Between these two extremes, an increase in the Gini Coefficient is associated with an increase in inequality.

Figure 5 shows the trends in the Gini Coefficient, for Michigan and for the United States as a whole, from 1976 to 2006.

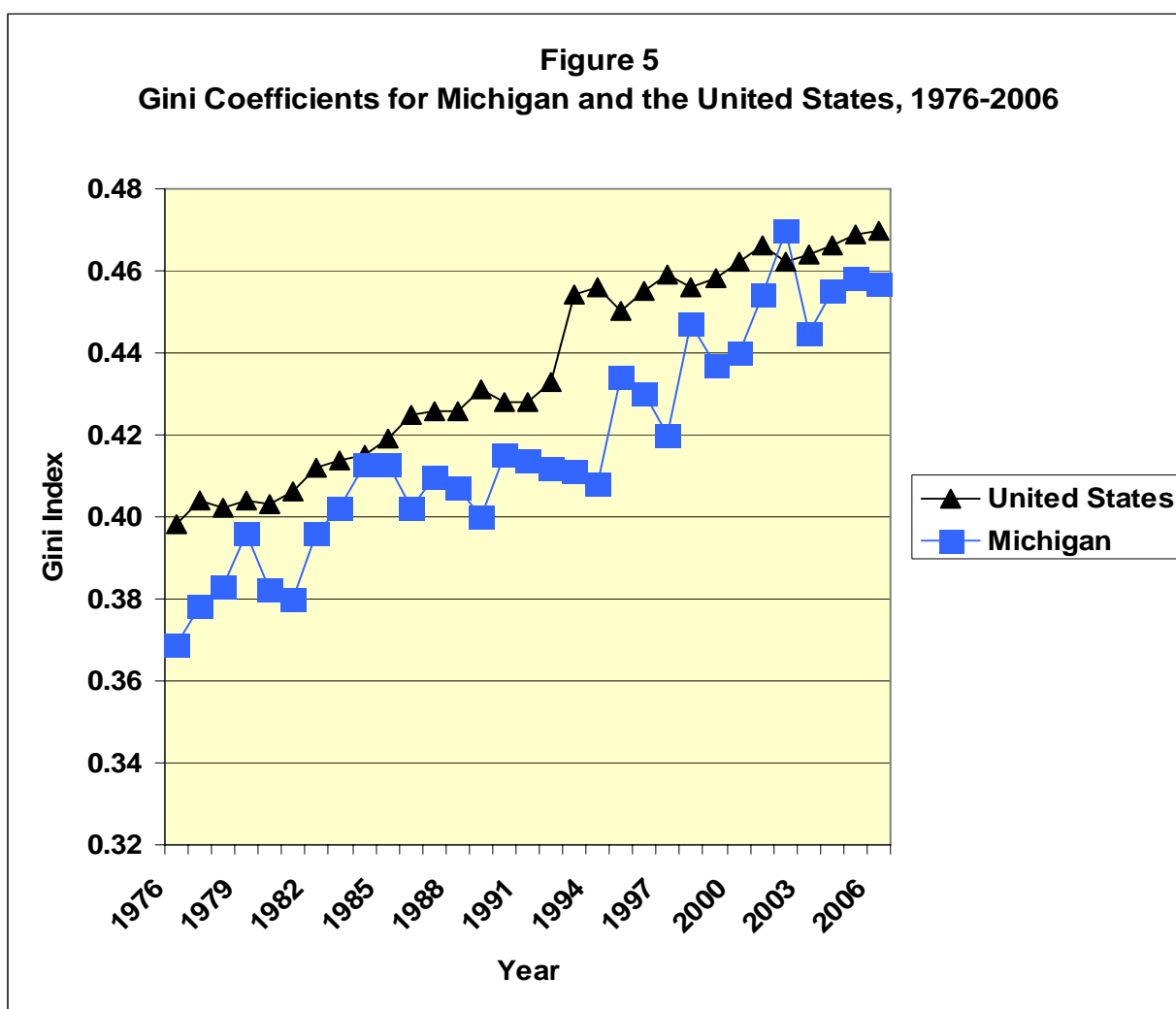


Figure 5 shows that the Gini Coefficient for the U.S. as a whole has been somewhat higher than the Gini Coefficient for Michigan, for most of the 30-year period studied here. In other words, the distribution of income has been slightly more unequal for the U.S. than for Michigan. However, in recent years, the gap between the U.S. Gini Coefficient and the Michigan Gini Coefficient has been fairly small, and in one of the years shown here, the Gini Coefficient for Michigan was actually larger than the Gini for the entire United States. In other words, in the three decades studied here, the distribution of income in Michigan has always been characterized by a degree of inequality that was fairly similar to that of the entire United States (although Michigan has typically been slightly more equal), and the differences between the inequality in Michigan and the inequality in the entire U.S. have diminished over time.

#### IV. Changes in the Level of Income at Different Points in the Income Distribution

Until now, we have either considered changes in the *level* of income over time, or we have considered changes in the *distribution* of income over time. However, it is especially useful to look simultaneously at changes in *both* the level and the distribution of income. We do this in Figure 6 and subsequent figures.

In Figure 6, we show the change in inflation-adjusted income<sup>8</sup> for a household at a given place in the income distribution, between the late 1970s and the early part of the 21<sup>st</sup> century.<sup>9</sup> At the left end of Figure 6, we make the comparison for the 10<sup>th</sup> percentile of the income distribution. A household at the 10<sup>th</sup> percentile is a relatively low-income household, for which 10 percent of households have a lower income and 90 percent have a higher income. In a typical year, a household at the 10<sup>th</sup> percentile would be close to the poverty line. As we move from left to right in Figure 6, we move up the income scale, eventually reaching the 90<sup>th</sup> percentile.<sup>10</sup> Figure 6 shows that, over this period of 30 years, the households in the bottom half of the income distribution in Michigan have seen very little improvement in their real incomes.<sup>11</sup>

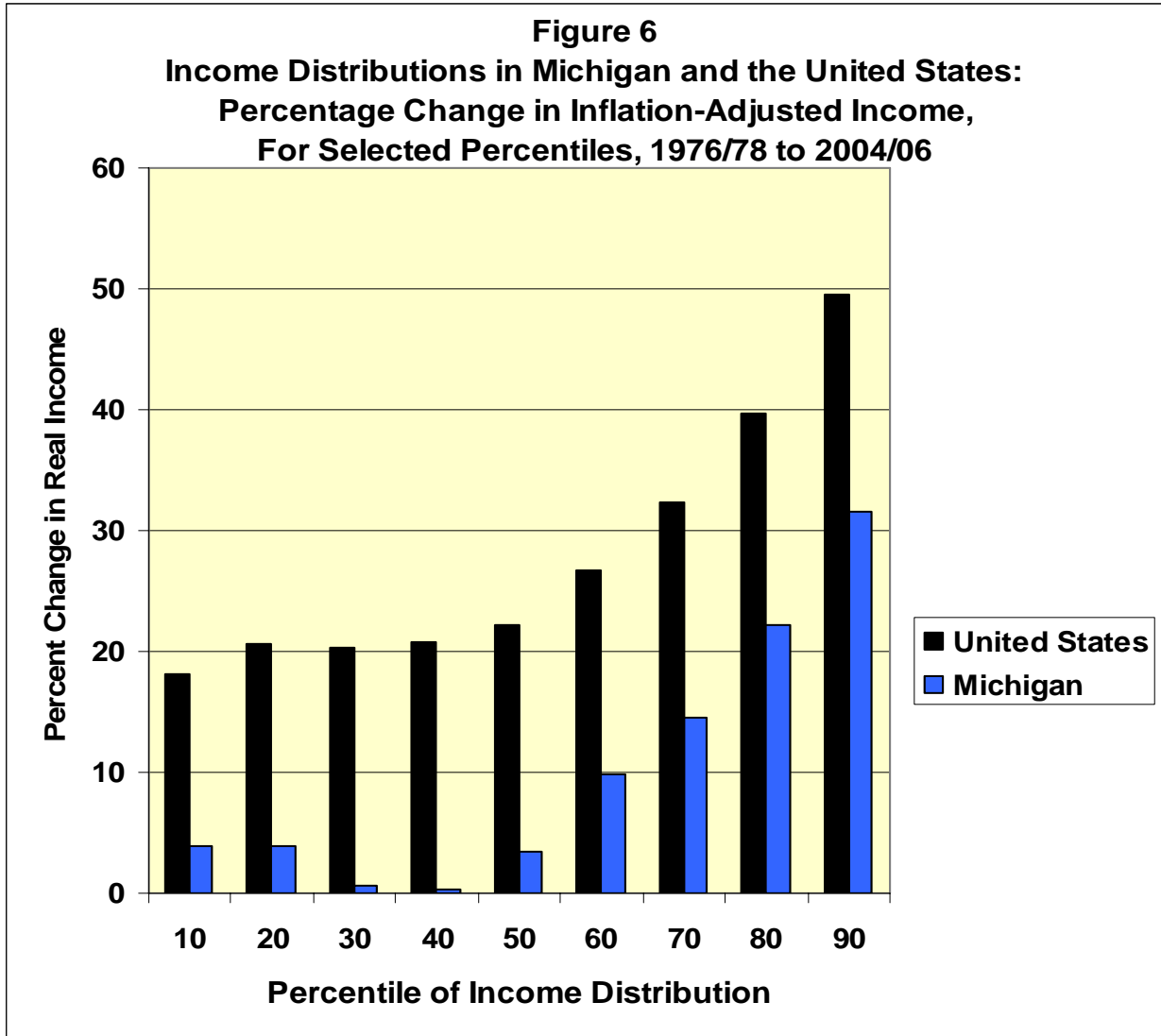
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8. Figure 6 shows the changes in inflation-adjusted income for Michigan and for the U.S. as a whole. As mentioned earlier, we adjust for inflation by using the Personal Consumption Expenditures deflator for the United States, as calculated by the Bureau of Economic Analysis of the U.S. Department of Commerce. Thus, we assume implicitly that the rate of inflation is the same for Michigan as for the rest of the country. We do this because a reliable state-specific price index is not available. However, it is unlikely that the results are biased substantially because of this assumption.

9. We compare the average for 2004-2006 with the average for 1976-1978, in order to reduce any biases that might be introduced as a result of sampling variability in any particular year.

10. Note that we are not tracking particular households over time. Some of the people who are in the sample in 2006 were not born yet in the 1970s, and some who were in the sample in 1976 had passed away before the turn of the century. Moreover, people who were alive throughout this entire period may have moved to a different place in the income distribution. Nevertheless, we believe that Figure 6 provides us with very useful information about the changes in the income distribution.

11. In fact, this was a time when the labor-force participation of women was increasing substantially. Thus, some low-income and middle-income households in Michigan may have experienced slow income growth, despite an increase in the number of workers in the household.



For example, for households at the median of the Michigan income distribution (*i.e.*, the 50<sup>th</sup> percentile), real income grew by only about 3.4 percent. This is *not* an increase of 3.4 percent per year, which would actually be a robust rate of growth. Rather, this is an increase of 3.4 percent over the entire period from 1976 to 2006. That works out to a minuscule annual rate of growth of about one-ninth of one percent. The lowest increase shown in Figure 6 is for households at the 40<sup>th</sup> percentile, where the increase in real income is about one-fourth of one percent from 1976 to 2006. That is consistent with an annual growth rate of less than one-hundredth of one percent per year. Essentially, households in this portion of the Michigan income distribution did not experience any change in their real income over the three decades covered by this study.

However, the picture changes substantially when we get above the median. As we go up the income scale, each succeeding group has a larger increase in income. For Michigan households at the 90<sup>th</sup> percentile of the income distribution, inflation-adjusted incomes increased by about 31.6 percent.

In Figure 6, the lighter bars represent the changes in real income for households at selected points in the Michigan income distribution. The darker bars show the changes in real income for households at selected points in the income distribution for the entire United States. When we compare the two, we see that income growth in Michigan was slower than the national average, throughout the entire income distribution. At any point in the income distribution, real income in the U.S. as a whole grew by about 15 percentage points more than real income at the same point in the Michigan income distribution. Thus, the patterns of disequalization in Michigan and in the entire U.S. were very similar, with higher-income households experiencing much more rapid income growth than lower-income households. During the three decades covered by Figure 6, Michigan and the U.S. had very different rates of income growth, but each experienced a rapid increase in the gap between households at the top of the income distribution and those in the middle and at the bottom.

In the next few pages, we will see that many states had a pattern of disequalization that is very similar to the pattern in Michigan, although the residents of most states experienced more rapid rates of income growth than were experienced by residents of Michigan. However, we shall also see that some states had different patterns.

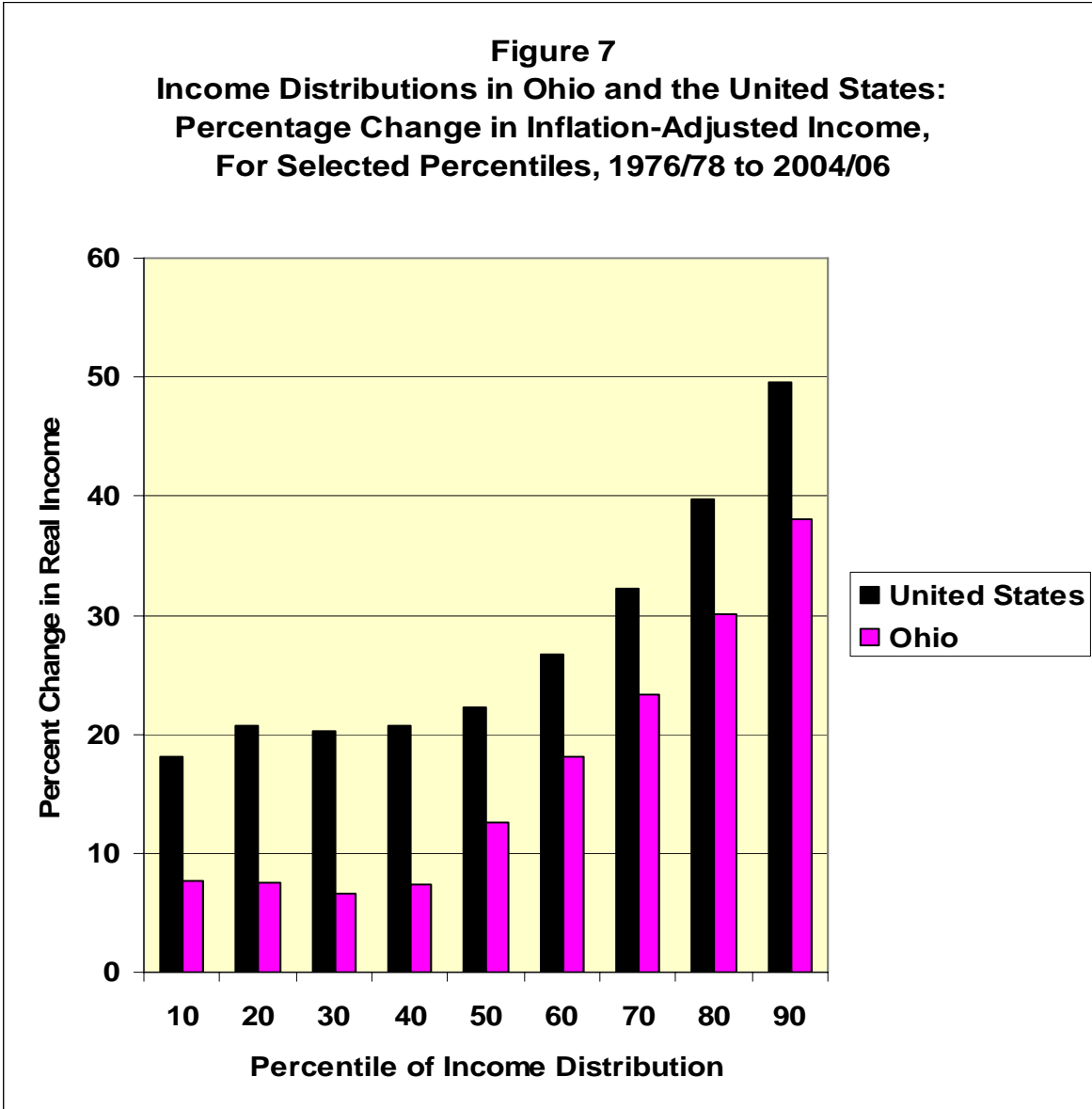
We begin with other states that border on the Great Lakes. Many states in this part of the country are similar to Michigan, in the sense that their economies have relied on manufacturing to a greater extent than the national average. States that have disproportionately large manufacturing sectors have faced significant challenges in recent decades, because manufacturing's share of the United States economy has diminished substantially in the last half century. Thus, it is perhaps not surprising that many of the other states in the Great Lakes region have experienced patterns of income growth that are similar to those in Michigan.

In Figure 7, we show the same information as in Figure 6, except that Figure 7 compares Ohio and the United States, whereas Figure 6 compared Michigan and the United States. In some ways, Ohio is as similar to Michigan as is any other state. Thus, it may not come as a surprise that the income trends in Ohio are quite similar to those in Michigan. For the 30 years covered by our data, we have seen that income growth in Michigan was slower than income growth for the U.S. as a whole, throughout the entire income distribution. The same is true for Ohio. The Buckeye State also has a pattern of disequalization that is very similar to that of Michigan.

The difference between Ohio and Michigan is that, over the 30-year period studied here, income growth was a bit faster in Ohio than in Michigan. If we compare Figure 6 and Figure 7, we see that real incomes at any given point in the income distribution grew about five percentage points faster in Ohio than at the corresponding point in the Michigan income distribution. However, when it comes to an overall assessment of the changes in the income distribution since the 1970s, our judgment is that the similarities between Ohio and Michigan far outweigh the differences.



**Figure 7**  
**Income Distributions in Ohio and the United States:**  
**Percentage Change in Inflation-Adjusted Income,**  
**For Selected Percentiles, 1976/78 to 2004/06**

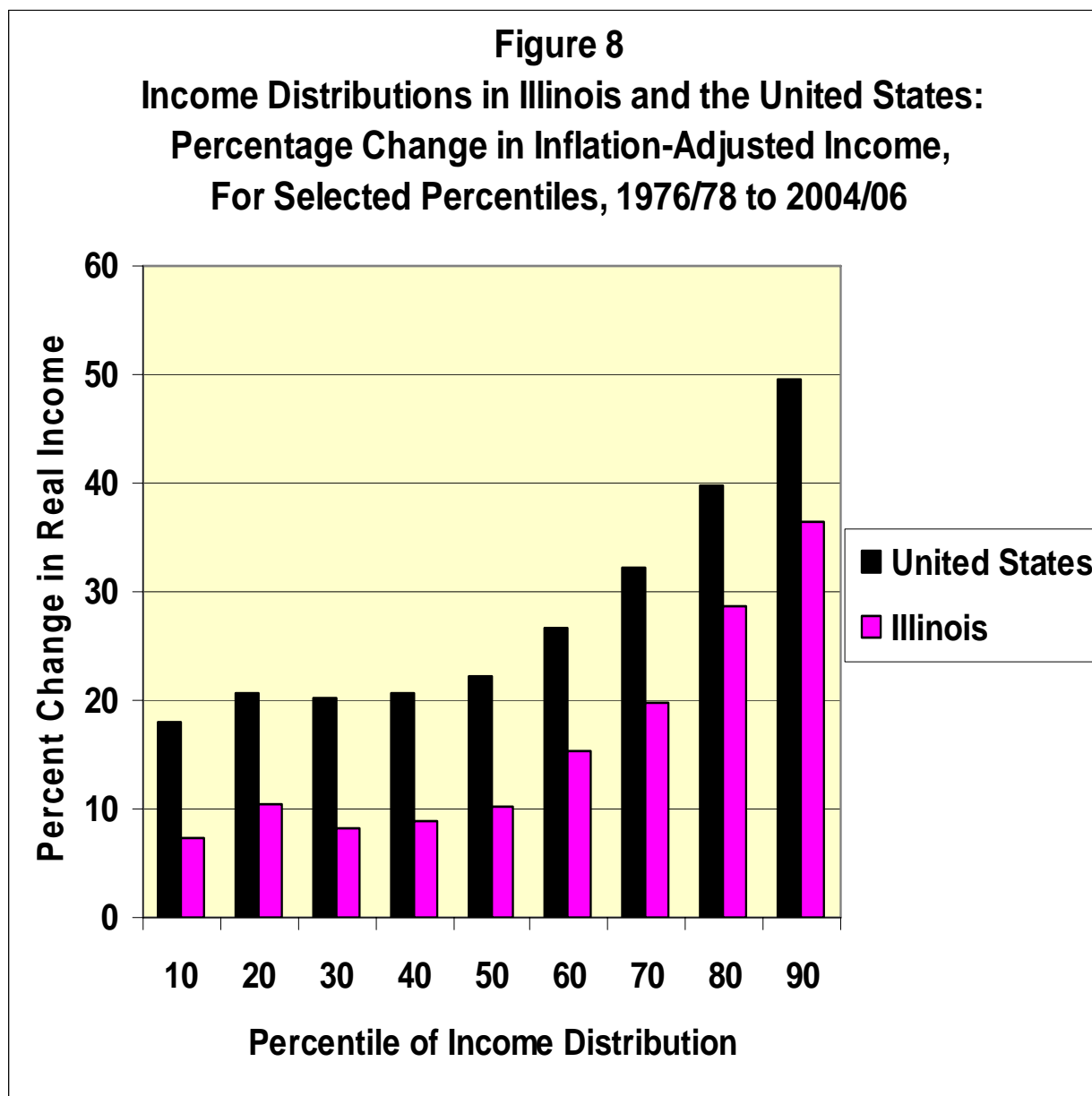


Next, we turn to Illinois, which is the largest state in the Great Lakes region.<sup>12</sup> Figure 8 compares Illinois and the U.S., just as Figures 6 and 7 made the comparison for Michigan and Ohio, respectively. In Figure 8, we see that income growth for Illinois residents has been remarkably similar to income growth for Ohio residents, over the 30-year period of our study.

At every place in the income distribution, the growth of real income in Illinois is within a few percentage points of the growth of real income in Ohio. Thus, throughout the entire income distribution, income growth in Illinois has typically been about five percentage points faster than income growth in Michigan, and about ten percentage points slower than in the U.S. as a whole.

12. According to Census data for 2008, Illinois had a population of about 12.9 million, compared with about 11.5 million in Ohio and 10.0 million in Michigan. See <http://www.census.gov/popest/states/NST-ann-est.html>.

Several other nearby states are also characterized by a very similar pattern, with slower income growth than the national average throughout the income distribution, along with a pattern of disequalization that is similar to that of the entire United States. The pattern for Wisconsin is very similar to the patterns for Illinois and Ohio. The residents of Indiana and Pennsylvania experienced slightly faster growth rates than those of Illinois, Ohio, and Wisconsin, especially in the upper reaches of the income distribution. But neither Indianans nor Pennsylvanians experienced faster growth than the national average at any point in the income distribution.



In summary, most of the states that are geographically close to Michigan have a fairly similar pattern of income growth. In Illinois, Indiana, Ohio, Pennsylvania, and Wisconsin, income growth rates in the last 30 years have been faster than in Michigan (throughout the entire income distribution) but slower than the national average (again, throughout the entire income distribution). The combined population of the six states mentioned so far is nearly 60 million, which comes to nearly 20 percent of the population of the United States. Thus, the pattern of slow growth and disequalization that we see in these states has to be seen as an important part of the overall picture. However, some other states have experienced different patterns of income growth. We begin by considering California. It is very difficult to ignore California in any study of regional trends in the United States, since California's population is estimated to be more than 36 million; nearly one in every eight Americans is a resident of California.

**Figure 9**  
**Income Distributions in California and the United States:**  
**Percentage Change in Inflation-Adjusted Income,**  
**For Selected Percentiles, 1976/78 to 2004/06**

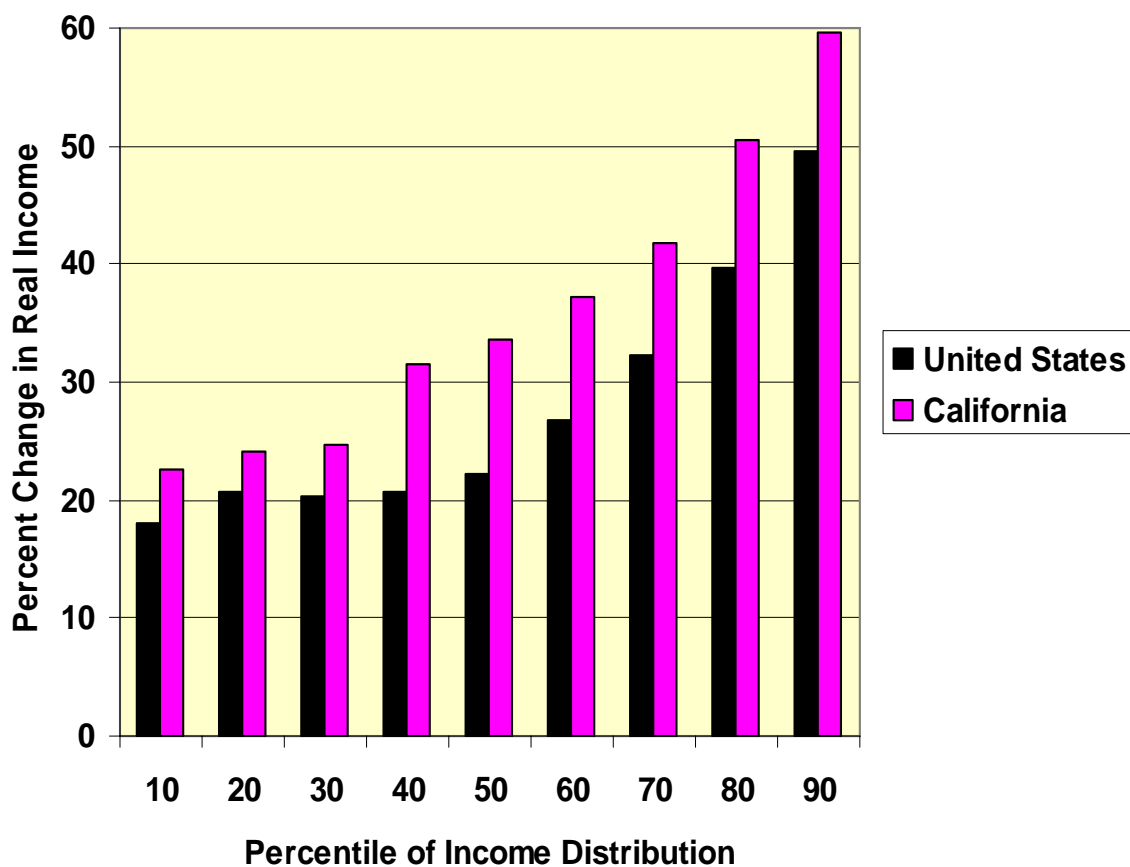
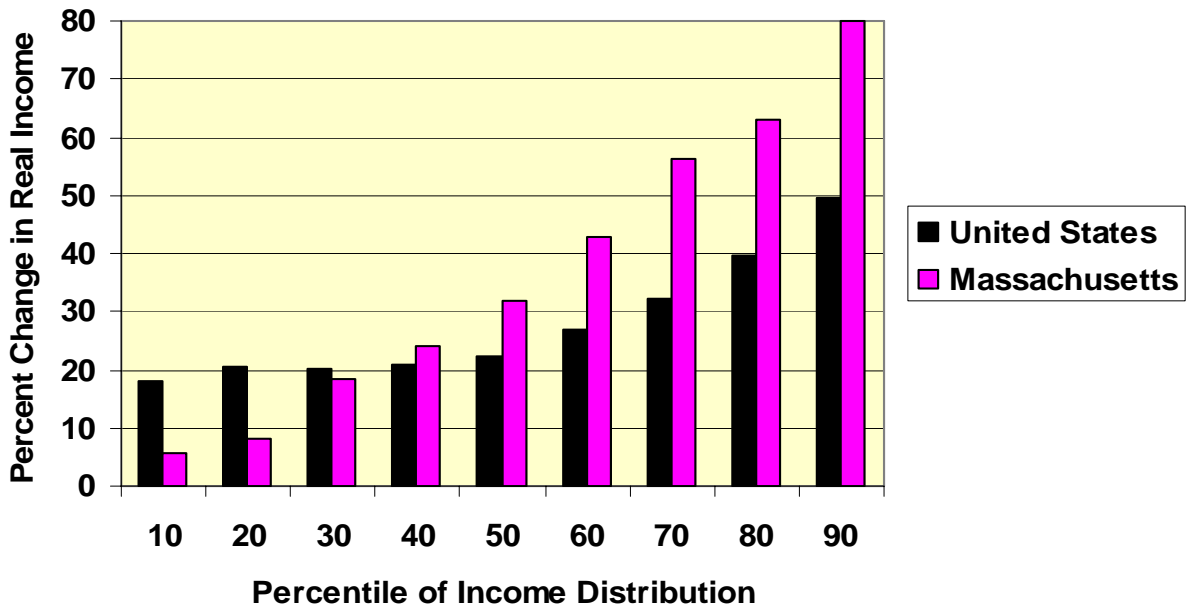


Figure 9 shows the same information for California that was shown for selected Midwestern states in Figures 6-8. The income distribution in California has disequalized, in a way that is reminiscent of the disequalization in the Midwestern states. However, whereas the states of the Great Lakes region had *slower* growth than the national average, throughout the entire income distribution, California had *faster* growth than the national average at every point in the income distribution.

The fourth most-populous state, Florida, has a pattern of income growth that is somewhat similar to that of California. In Florida, as in California, the rate of income growth exceeded the national average throughout the entire income distribution. In fact, the overall rate of growth was stronger in Florida than in California. Real income growth from 1976 to 2006 exceeded 30 percent everywhere in the Florida income distribution, and the 90<sup>th</sup> percentile in Florida saw real income growth of more than 60 percent.

So far, we have mentioned eight states, which are home to about three-eighths of the U.S. population. In each of these eight states, the benefits of income growth have been distributed unequally, with substantially slower growth at the bottom of the income scale, and much higher growth at the top. Also, in each of these eight states, income growth has either been slower than the national average throughout the income distribution, or faster than the national average throughout the income distribution. However, in some important states, growth has been even more disequalizing than we have seen so far. In these states, which are located primarily in the Northeast, the lowest income groups have experienced *slower* income growth than the national average, while the highest income groups have experienced income growth that is *faster* than the national average. This trend is shown in Figure 10, which depicts the income changes in Massachusetts.

**Figure 10**  
**Income Distributions in Massachusetts and the United States: Percentage Change in Inflation-Adjusted Income, For Selected Percentiles, 1976/78 to 2004/06**



In the last 30 years, the earnings gap between those with a college degree and those without a college degree has skyrocketed. This means that the households at the top of the income distribution have done very well in nearly every state, and this is especially true in the states in which college-educated workers make up a larger fraction of the labor force. In recent years, the percentage of the labor force with at least a Bachelor’s degree has been higher in Massachusetts than in any other state. This is reflected in Figure 10. This figure shows that the income growth at the 90<sup>th</sup> percentile of the income distribution has been *much* faster in Massachusetts than in the United States as a whole. A household at the 90<sup>th</sup> percentile of the U.S. income distribution in 2004-2006 had a real income about 50 percent higher than a household at the 90<sup>th</sup> percentile of the U.S. income distribution in 1976-1978. However, if we make the same comparison at the 90<sup>th</sup> percentile of the income distribution for Massachusetts, we find real income growth of about 80 percent!<sup>13</sup> Massachusetts households at the 50<sup>th</sup>, 60<sup>th</sup>, 70<sup>th</sup>, and 80<sup>th</sup> percentiles also fared much better than their counterparts in the income distribution for the entire United States.

13. Because of the very rapid income growth at the 90<sup>th</sup> percentile in Massachusetts, the vertical axis in Figure 10 goes all the way up to a real-income increase of 80 percent. In Figures 6-9, the vertical axis went up only to 60

However, as we go lower in the income distribution, the advantage of Massachusetts households over the national average disappears. At the 10<sup>th</sup>, 20<sup>th</sup>, and 30<sup>th</sup> percentiles, income growth for Massachusetts households was smaller than income growth for households in the corresponding place in the U.S. income distribution.

Thus, those at the top of the Massachusetts income distribution fared relatively better than their counterparts in the income distribution for the entire United States, and those at the bottom of the Massachusetts income distribution fared relatively worse than their U.S. counterparts. In other words, from the 1976 to 2006, Massachusetts experienced a much sharper disequalization than did the U.S. as a whole.

Connecticut, Maryland, New Jersey, and New York also became more unequal at a faster rate than the national average. In each of these states, the top income groups fared better than the national average, and the bottom income groups fared worse than the national average. At the 10<sup>th</sup> percentile in New York, income growth was even weaker than at the 10<sup>th</sup> percentile in Michigan.<sup>14</sup>

Thus far, we have mentioned 13 states, which are home to more than half of the U.S. population. In some of these states, the pattern of disequalization is very similar to the pattern for the nation as a whole; in others, the disequalization is even more pronounced than for the national average. However, we have not yet discussed a single state in which there is *not* a strong trend toward income disequalization. As it turns out, however, some states managed to avoid the national trend toward a more unequal income distribution. One of these is Georgia, which is represented in Figure 11.

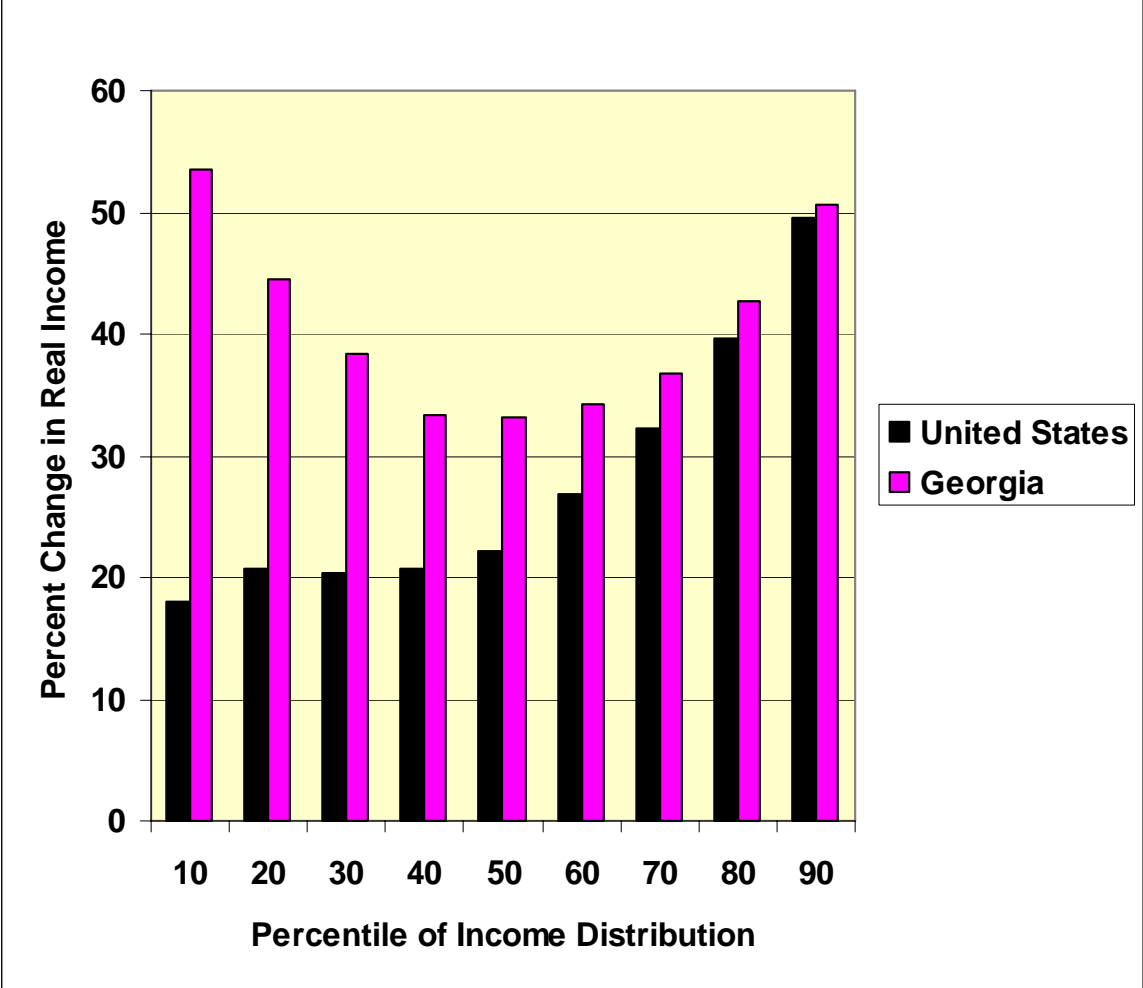
Figure 11 shows that the rate of income growth in Georgia was faster at the 90<sup>th</sup> percentile than in the middle of the income distribution. This pattern is similar to what we have seen in every other state we have considered so far. However, Georgia's pattern of income growth is dramatically different in the lower half of the income distribution. For the United States as a whole, the income growth rates are lowest at the bottom of the income distribution. By contrast, in Georgia, households at the 10<sup>th</sup> percentile experienced real income growth of more than 50 percent, which is higher than the growth at any other place in the income distribution. In Georgia, as we move from the lowest income strata to the middle of the income distribution, the rate of income growth actually declines. Thus, even though Georgia experienced some *disequalization* at the top, it had a very substantial *equalization* at the bottom.

Several other Southern states experienced income-growth patterns that were similar to those in Georgia. These include Arkansas, Louisiana, and Mississippi. For example, when we consider households at the 20<sup>th</sup> percentile of the income distribution, real incomes grew by more than 40 percent in Arkansas, Georgia, Louisiana, and Mississippi, compared to only about 20 percent in the U.S. as a whole.

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14. The District of Columbia has a pattern of disequalization that is similar to those of the northeastern states we have just mentioned. In fact, real incomes actually declined at the 10<sup>th</sup> percentile. However, we are reluctant to place too much emphasis on the results from D.C., since it has a population of fewer than 600,000, and since it is relatively easy for people to stay in the D.C. metropolitan area while migrating into and out of the District.

**Figure 11**  
**Income Distributions in Georgia and the United States:**  
**Percentage Change in Inflation-Adjusted Income,**  
**For Selected Percentiles, 1976/78 to 2004/06**

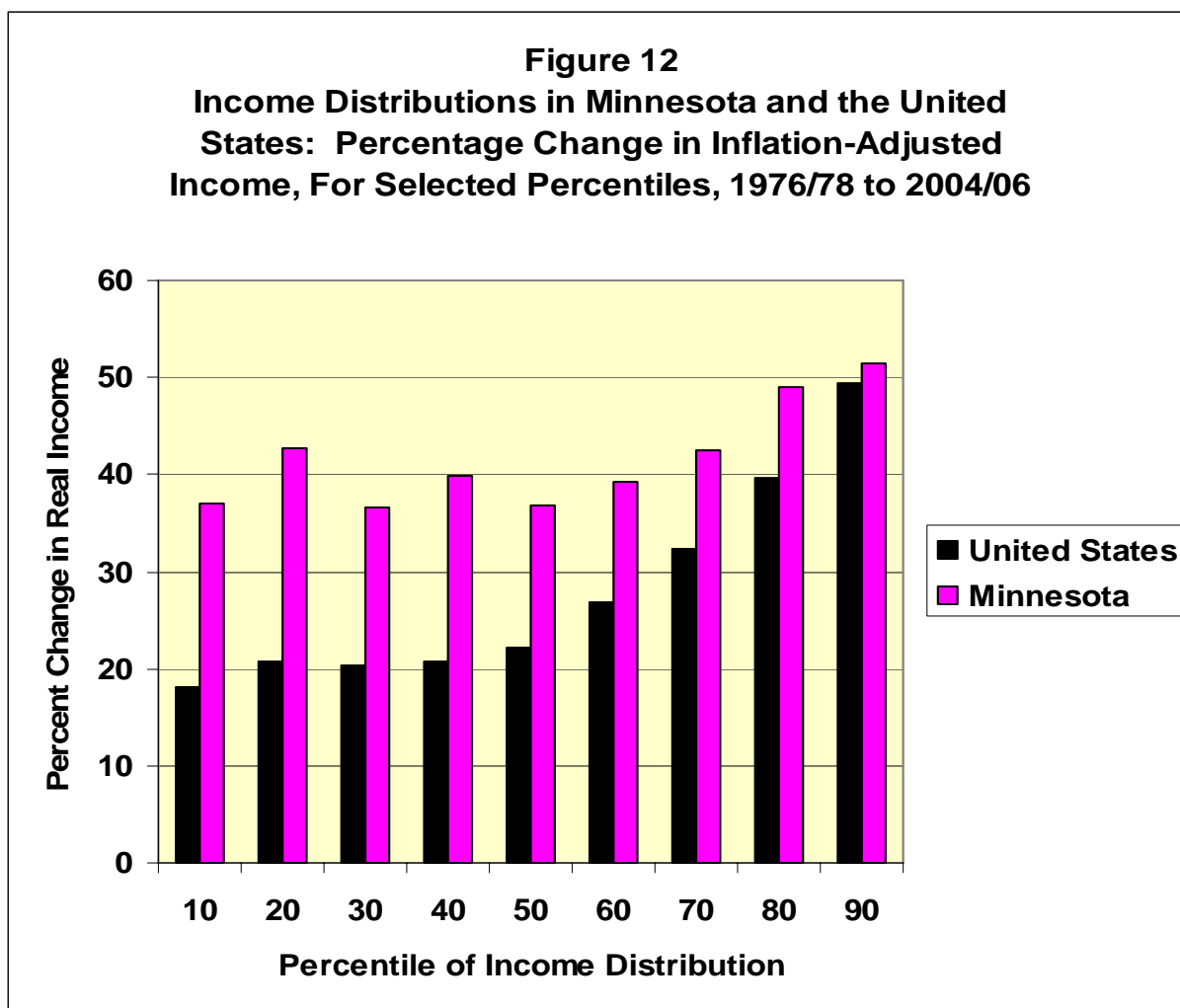


All of these states are above the national average in the percentage of the population who are African American. (Arkansas is a few percentage points above the national average, while in Georgia, Louisiana, and Mississippi, the proportion of the population that is African-American is more than twice the national average.) On average, the earnings of blacks are below the earnings of whites throughout the United States. However, the earnings gap has decreased somewhat for the entire nation, and our analysis of the labor-market earnings of blacks and whites indicates that the relative improvement in the economic status of African Americans has been relatively larger in the Deep South than in much of the rest of the country.<sup>15</sup>

15. It is important to emphasize that the incomes of African Americans in the Deep South are still lower than the incomes of white Southerners, on average. Many blacks in the South still have a standard of living that is substantially lower than that of most other Americans. However, it appears that the economic situation of black Southerners may have improved relatively rapidly in the last few decades, on average. In other words, many black Southerners are not well off, but they are relatively less badly off, when compared with black Southerners of a generation ago.

Before closing this section, we will show one more graph of real income changes at different places in the income distribution. In Figure 12, we see that Minnesota had rather strong growth throughout the income distribution. There is some disequalization in Minnesota in the top half of the income distribution, but it is less pronounced than in the U.S. as a whole. Also, there is really no trend to the growth rates in the bottom half of the Minnesota income distribution.

Minnesota and Utah are the only states in which real incomes grew by more than 35 percent in the period of our study, at every point in the income distribution. One factor contributing to this is that Minnesota and Utah are among the top states in the country in terms of the percentage of the adult population who have at least a high-school diploma. The last 30 years have been very unkind to the earnings of high-school dropouts. One factor that has helped Minnesota and Utah to maintain decent income growth at the bottom of the income scale is that they have relatively few dropouts.





## V. Michigan Residents' Perceptions of the Income Distribution

While the foregoing analysis represents the *facts* about the changing income distribution, an additional area of interest is the nature of people's *perceptions*. To measure the way in which Michigan's people perceive the changing income distribution, we employ Michigan State University's State of the State Survey.

The State of the State Survey (SOSS) is a quarterly telephone interview survey of Michigan residents. SOSS was established in 1994. Since its inception, SOSS has been a part of the Institute for Public Policy and Social Research, in Michigan State University's College of Social Science. In each round of SOSS, interviewers ask a variety of questions of a group of Michigan residents. In order to participate in the survey, a respondent must be at least 18 years of age.<sup>16</sup>

We sponsored some questions about the Michigan income distribution in the 47<sup>th</sup> round of SOSS. This survey was conducted in January, February, and March of 2008, and it included interviews with 1012 Michigan adults. In some of our questions, we asked the respondents for their opinions about how the distribution of income in Michigan had changed since about 1980. Earlier in this report, we have provided extensive documentation of the increase in income inequality in Michigan. In particular, based on Figure 6, our interpretation of the data is that there has been a substantial increase in the income gap between high-income and middle-income Michigan residents, although the gap between middle-income and low-income residents has not changed very much. If we put these two pieces together, we have a substantial increase in the income gap between high-income and low-income residents of Michigan. The purpose of our survey questions is to learn more about the extent to which the people of Michigan are aware of the increase in inequality. We find that a majority of Michigan residents are indeed aware of the changes that have occurred in the income distribution. However, it is also true that substantial numbers of residents have inaccurate impressions.

Our first question was "Since about 1980, do you think the income gap between high-income people and low-income people in Michigan has increased, stayed about the same, or decreased?" We then asked similar questions regarding the gap between high-income people and middle-income people, and about the gap between middle-income people and low-income people. The basic results are shown in Table 2.<sup>17</sup>

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16. In a typical SOSS survey, interviews are conducted with about 1000 respondents. The sample is a random sample of the Michigan population. However, before the responses can be used to generate results that are statistically meaningful, it is necessary to apply different weights to each respondent. The need to apply weights arises for a number of reasons. For example, SOSS oversamples certain regions of the state, such as the Upper Peninsula, in order to get a sample from each region that is large enough to be useful for statistical analysis. Another reason for weighting is that this is a telephone interview survey, and different households have different numbers of telephone lines. Thus, the probability that SOSS would contact a household with three telephone lines is three times as large as the probability that SOSS would contact a household with only one telephone line. The weighting procedures are carried out by Dr. Larry Hembroff. In this report, we use data from the 47<sup>th</sup> round of SOSS. Those data are available at the SOSS website, at <http://www.ippsr.msu.edu/SOSS/SOSSdatacode.htm>.

17. For each of these questions, between four percent and six percent of the respondents refused to answer, or said that they did not know the answer. The results reported here are for those who actually gave an answer to the questions.

In the first column of results in Table 2, we see that 61.1 percent of respondents believe (accurately) that there has been an increase in the income gap between Michigan residents with high incomes and those with low incomes. The next results column shows that a smaller majority believe (again, accurately) that there has been an increase in the gap between those with high incomes and those with middle incomes. In the last column of Table 2, we see the results for the question about the change in the gap between middle-income and low-income residents. Based on the results presented earlier, we would say that the most accurate answer to this question is that this gap has stayed about the same. A plurality of about 40 percent did indeed answer that this gap has stayed about the same.

**Table 2**  
**Michigan Residents' Perceptions of Changes in the Income Gaps**  
**Between Different Parts of the Michigan Income Distribution Since 1980**

<u>Response</u>	<u>High Income Vs. Low Income</u>	<u>High Income Vs. Middle Income</u>	<u>Middle Income Vs. Low Income</u>
Increased	61.1%	50.9%	32.0%
Stayed About The Same	20.5%	32.7%	40.1%
Decreased	18.3%	16.4%	27.9%

Source: Round 47 of the State of the State Survey, Institute for Public Policy and Social Research, Michigan State University.

As with so many results from surveys, these results are somewhat mixed. We find it encouraging that a relatively large portion of the Michigan public appears to be aware of the increase in income inequality. On the other hand, it is clearly true that large numbers of Michigan residents appear not to have accurate impressions about the changes that have occurred.

In addition to questions such as the ones highlighted above, the State of the State Survey asks a large number of basic demographic questions. The results to the demographic questions allow us to see whether there are differences of opinion among the various subsets of the Michigan population. In Table 3, we show some results for different groups, for the question regarding the income gap between high-income and low-income residents.

Table 3 shows that different groups of Michigan residents do perceive the changes in the income distribution differently. However, the differences are not necessarily very large in magnitude. Given the size of our sample, these differences are large enough to be statistically significant in some cases, but not all. For the groups shown in Table 3, the difference with the largest degree of statistical significance has to do with political ideology. Self-described liberals are significantly more likely to believe that the income gap has increased. However, for *each* of the ideological groups, a majority believes (accurately) that the income gap increased.

## VI. Conclusion

In this report, we have used data from the Current Population Survey to assess the changes in the income distribution from 1976 to 2006, for the United States as a whole and for many of the 50 states. For the entire country, this has been a period of increasing income inequality. The vast majority of the states have also experienced increasing income inequality. However, there are considerable differences among the 50 states in the ways in which the income distribution has evolved over this period. The main purpose of this report is to document the similarities and differences in the trends in the income distribution among the states.

<u>Group</u>	<u>Percent Answering That The Income Gap Increased</u>
Entire Sample	61.1%
Men	57.4%
Women	65.0%
Whites	61.9%
Blacks	56.7%
Conservatives	54.1%
Neither Liberal Nor Conservative	62.5%
Liberals	73.5%
Democrats	66.7%
Republicans	57.6%

Source: Round 47 of the State of the State Survey, Institute for Public Policy and Social Research, Michigan State University.

We place special emphasis on the trends in Michigan. The pattern of income disequalization in Michigan is similar to that of the U.S. as a whole, with much faster income growth at the top than in the middle or at the bottom. However, over the 30-year period covered by our study, the rate of growth of income has been slower in Michigan than in the U.S., throughout the entire income distribution. Illinois, Indiana, Ohio, Pennsylvania, and Wisconsin all show a somewhat similar pattern. The rates of income growth are higher in these states than in Michigan, but lower than in the entire United States. All of these states experienced a substantial increase in income inequality during the period of our study. California and Florida also have experienced a large increase in income inequality, although these states (unlike their counterparts near the Great Lakes) had *faster* income growth than the U.S. average, throughout the entire income distribution.

In Connecticut, Maryland, Massachusetts, New Jersey, and New York, the increase in inequality was even more dramatic than in the nation as a whole. In these states, the top parts of the income distribution experienced very rapid income growth, while the lowest income strata experienced slower income growth than the national average.

Although most states have experienced increasing inequality since the 1970s, a few states have not. Several of the exceptions are in the Deep South. In Arkansas, Georgia, Louisiana, and Mississippi, the rate of income growth at low incomes was much faster than the rate of growth at low incomes in the nation as a whole. Minnesota and Utah are two other states that have experienced relatively rapid growth throughout the entire income distribution, so that they have not had a substantial increase in income inequality.

What are the implications for policy? The answer depends on one's values, as well as on the facts presented here. However, we believe that the trends discussed in this report would provide support for the idea of using public policies more aggressively to reduce inequality.<sup>18</sup> In particular, it is interesting to note that Michigan is one of only seven states with a flat-rate income tax, in which all taxable income is taxed at the same marginal rate. (In 2008, the rate is 4.35 percent.) The flat-rate income tax used in Michigan is in contrast to the graduated income-tax systems used in the U.S. individual income tax and in the income taxes in 36 states and the District of Columbia. If Michigan were to adopt a graduated income tax, it would be possible to raise the same amount of tax revenue that is currently being raised, while giving a tax cut to the vast majority of Michigan residents who fall into the middle- and lower-income categories. In order to institute a graduated income tax in Michigan, it would be necessary to amend the state's Constitution. Thus, we do not pretend that it would be easy politically to move to a graduated income tax. However, in view of the very substantial increase in income inequality that we have documented here, we believe that a strong case can be made for a graduated income tax.

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18. This hypothesis is consistent with the results from the economic literature on optimal redistributive taxation. (See Feldstein (1973), Mirrlees (1971), and Stern (1976).) In that literature, researchers calculate the tax and transfer parameters that maximize a utilitarian social welfare function. In that context, an increase in the inequality of the before-tax income distribution is associated with the need for greater redistribution. The intuition is that redistributive tax and transfer policies can do little to improve society's overall level of welfare if the underlying distribution of income is already very equal. On the other hand, if an economy is highly unequal, redistributive tax and transfer policies have greater potential to improve social welfare, all else equal.

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**MICHIGAN STATE**  
**UNIVERSITY**

Institute for Public Policy  
and Social Research

College of Social Science  
Michigan State University  
321 Berkey Hall  
East Lansing, MI 48824-1111  
Phone:517-355-6672 Fax:517-432-1544  
Web: [www.ippsr.msu.edu](http://www.ippsr.msu.edu)  
Email: [ippsr-action@ssc.msu.edu](mailto:ippsr-action@ssc.msu.edu)

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