

THE ECONOMIC IMPACTS

|OF| county population changes in michigan



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full report



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The Economic Impacts of County Population Changes in Michigan

THE LOSS OF POPULATION TRANSLATES INTO THE LOSS OF ADDITIONAL ECONOMIC ACTIVITY. WHEN PEOPLE MOVE OUT OF TOWN, THE ANCILLARY SERVICES THEY USUALLY DEMAND ARE NO LONGER NEEDED, LEAVING THE COMMUNITY FURTHER COMPROMISED. THIS IS PARTICULARLY SO AS THE ECONOMY TRANSITIONS TO ONE WHERE CONSUMERS ARE INCREASINGLY CONSUMING SERVICE GOODS. AS PEOPLE RELY MORE ON SERVICES, THE ECONOMIC IMPACT OF THEIR DEPARTURE REACHES FAR DEEPER INTO THE COMMUNITIES THEY LEAVE BEHIND.

Executive Summary

Background

The state of Michigan faces significant economic challenges as a result of substantial losses in manufacturing jobs. Most Michigan counties have experienced economic stagnation or decline, and many have lost population due to dwindling job opportunities. In fact, Michigan, as a whole, lost 9,388 people between 2005 and 2006, 34,088 people between 2006 and 2007 and an additional 46,368 people between 2007 and 2008. This three-year total equals 89,844, by far the highest loss of population of any state in the nation for the same period. Considering the current global and nationwide economic crises, these losses may continue to worsen. The decline in population is expected to have further impacts on local economies through the erosion of demand for services that are an increasing part of the state's economy. These collateral economic impacts of population on local economies are the subject of this report.

While Michigan gained population from 2000 to 2005, some 31 of its 83 counties actually lost population during that period. Michigan itself experienced a declining population in the 2005-2008 time period, when 63 of Michigan's counties lost population. For

the 2000-2005 period, the five counties with the greatest population losses were Wayne (-36,978), Saginaw (-3,585), Berrien (-2,421), Huron (-1,996) and Bay (-1,626). For the 2005-2008 period, such urban counties as Wayne (-74,254), Genesee (-10,323), Saginaw (-5,712), Oakland (-3,703) and Ingham (-2,806) lost population. The fact that the counties that have lost population encompass such cities as Detroit, Saginaw, Flint, Benton Harbor and Bay City, suggests that urban Michigan will continue to face significant challenges as the ripple effects of population loss manifest themselves on the local economy. These urban areas have traditionally been the engines of state economic development. Cities losing population must grapple with maintaining service levels in the face of dwindling tax revenues. With depleted resources, their abilities to transform themselves to regain vitality are compromised.

One important policy question that relates to population loss is: "When people move, what do they take with them?" They take economic activity with them. While many of the people who move out of a "people exporting" county moved to nearby counties in-state, the losses in economic activity from the "exporting" location cannot be ignored. This report explores which economic activities are collaterally



impacted by the movement of people, and generates estimates of the economic costs of population loss. It specifically focuses on selected counties that have lost significant population and all other counties that have lost some population.

Estimated Effects of Population Loss on Income, Indirect Business Taxes, Employment and Economic Output

The collateral losses in labor and property-type income, employment and economic output from a community as a result of population loss include the following:

- Money spent on services and, therefore, associated service-related jobs, wages, rent, mortgage payments and economic output.
- Taxes related to these losses, including state income tax, local income and property taxes and sales taxes on those goods that will no longer be bought; and sales taxes on those services that are taxable but that will no longer be taxed.

Those 31 Michigan counties that lost population in the 2000-2005 period are estimated to have experienced losses of:

- \$246 million in labor income,
- \$164 million in property-type income,
- 7,327 jobs and
- \$790 million in economic output.

Those 63 Michigan counties that lost population in the 2005-2008 period are estimated to have experienced losses of:

- \$585 million in labor income,
- \$346 million in property-type income,
- 15,855 jobs and
- \$1.9 billion in economic output.

Estimated Effects of Population Loss on Property Values

Population losses are also expected to have property value (home equity) impacts, with implications for the wealth base of communities.

The losses in labor income, jobs and economic output in the state came largely from Wayne County.

The departure of people translates into an excess supply of residential units (owned or rented). Such excess supply drives down the value of homes and erodes the net worth of families and businesses. The estimated losses in property values are provided below for those Michigan counties that lost population. These losses are in addition to income, indirect business taxes, employment and output losses.

Those 31 counties that lost population between 2000 and 2005 are estimated to have experienced:

- \$ 1.38 billion in home equity value loss.

Those 63 counties that lost population between 2005 and 2008 are estimated to have experienced:

- \$ 2.49 billion in home equity value loss.

These property value losses associated with population loss alone are substantial. Even accounting for population gains in some counties, a net of \$2.43 billion is estimated to have been lost in property values in Michigan between 2005 and 2008, due to population loss alone. These losses add another layer of constraint on the financial health of property owners and on future prospects for economic growth.

Estimated Effects of Population Loss on Tax Revenues

The loss of population translates into lost service-related jobs and employment, resulting in lost federal, state and local taxes.

For those 31 counties that lost population from 2000 to 2005, the estimated losses were:

- \$60 million in federal tax revenues and

- \$56 million in state and local tax revenues.

For those 63 counties that lost population from 2005 to 2008, the estimated losses were:

- \$142 million in federal tax revenues and
- \$132 million in state and local tax revenues.

Overall, Michigan experienced a net loss of \$90 million in federal taxes and \$84 million in state and local taxes between 2005 and 2008. State and local tax losses could not be separated in the research. However, it appears that local units of government in those counties losing population lost significant tax revenues from the local economy.

Estimated Sectoral Impacts of Population Loss

Service activities should dwindle when population is lost. Service is an important part of the Michigan economy, and local services tend to dominate service activities within a given community. Therefore, when population dwindles, local services dwindle. Those services that are provided locally are the most important. The sectors particularly affected for the 2000-2005 and the 2005-2008 time periods are as follows.

With respect to loss in output, the following were the most impacted sectors:

- Owner-occupied dwellings
- Food service and drinking places
- Real estate establishments
- Private hospitals
- Offices of physicians, dentists and other healthcare providers
- Wholesale trade
- Monetary authorities and depository credit intermediaries
- Power generation and supply
- Motor vehicle and parts dealers
- Insurance carriers

For labor income, the impacts were more evenly

distributed. The most impacted sectors were:

- Offices of physicians, dentists and other healthcare providers
- Private hospitals
- Food service and drinking places
- Wholesale trade
- Motor vehicle and parts dealers
- Real estate establishments
- Food and beverage stores
- Legal services
- Nursing and residential care facilities
- Monetary authorities and depository credit intermediaries

Offices of physicians, dentists and other healthcare providers accounted for over 10% of the losses in labor income for the 2005-2008 time period.

Indirect business tax losses were most prominent in the following sectors:

- Owner-occupied dwellings
- Real estate establishments
- Wholesale trade
- Motor vehicle and parts dealers
- Food service and drinking places
- Electric power generation and supply
- General merchandise stores
- Food and beverage stores
- Building material and garden supply stores
- Clothing and clothing accessories stores

The employment impacts were felt the most in the following sectors:

- Food service and drinking places
- Offices of physicians, dentists and other healthcare providers
- Private hospitals
- Food and beverage stores

- General merchandise stores
- Nursing and residential care facilities
- Wholesale trade
- Motor vehicle and parts dealers
- Real estate establishments
- Non-store retailers

Much of the above losses are related to services that are provided in the local economy, as local residents consume many services that are collateral to their local existence (dining, housekeeper, lawn service, drycleaners, doctors, lawyers, etc.). In an increasingly service-oriented economy where people are more apt to move, these services are also more likely to move with them. The potential for population loss to further erode an economy should be cause for concern for economic development professionals.

Implications

The above estimated impacts suggest the need to give strong consideration to important population retention and attraction strategies in order to (1) close the gap between city capacity or cost of providing services and economic activity or city revenues; and (2) “right-sizing” or “down-sizing” cities in order to bring city finances and cost of services in line with demand for services. In addition to policies to attract companies and jobs, increasingly, states are focused on attracting knowledge workers. Our findings suggest that the attraction of population in general may itself offer some benefits as it creates economic activity.

The reasons for population loss also need to be better understood. The role of the service sector and the collateral losses due to population loss must be well understood in developing strategies for an economic turnaround. For example, the expansion of tourism brings visitors into town, who would patronize the local services sector without necessarily having much impact on the basic fundamentals of a town, other than economic vibrancy. Similarly, strategies to

attract immigrants could enhance job creation and entrepreneurial activity.

The big questions, of course, are how endogenous is population, what will attract population, and can population be attracted without creating jobs first? Will attracting population increase enough jobs to meet the increased demand of jobs? These and other population attraction and retention-related policy and strategies are the subject of an upcoming LPI report on drivers of population movement.

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Part 1: Introduction

TODAY, POPULATION LOSS TRANSLATES INTO GREATER LOSS OF SERVICE-RELATED JOBS, WHICH IN MICHIGAN IS ESPECIALLY PROBLEMMATIC GIVEN THIS SECTOR'S PROMINENCE IN THE OVERALL ECONOMY.

1.1 Background

Currently, the state of Michigan faces serious economic challenges, largely caused by the substantial loss of manufacturing jobs. The overall national economic downturn has exacerbated the situation. For at least two consecutive years, Michigan has led the nation in unemployment and has had a net loss in total population. While some counties have experienced increases in population, many Michigan counties are losing population, partly to other states.

Recently, Michigan's county-level population losses have accelerated to the point where the state, as a whole, lost population. According to the most recent U.S. census estimates, from 2005 to 2008, Michigan lost 89,844 people. From 2005 to 2006, the state lost 9,388 people; from 2006 to 2007 it lost 34,088 people; and from 2007 to 2008, an additional 46,368 people were lost. Rhode Island, the only other state losing population between 2006 and 2008, lost 5,855 people from 2006 to 2007 and 2,348 people from 2007 to 2008. The increasing population decline in Michigan gives credence to the idea of the long-term and systemic nature of the population loss phenomenon. Though the trend of population loss in Michigan has been generally known, the economic costs to counties and the state has not been well understood.

Local economies are becoming increasingly dominated by service and other non-manufacturing activities. Therefore, population loss now translates into greater loss of subsequent service-related jobs. Today, a significant percentage of wages in Michigan is tied to the service sector. For the year 2007, for example, while

the manufacturing sector generated about \$54.1 billion in wages and other income, the non-manufacturing sectors contributed over \$208.2 billion (which includes services, government, mining, utilities, etc.). Within the broader area of services, retail and wholesale services generated about \$29.1 billion in wages and other income; healthcare-related services generated about \$27.5 billion; professional and technical services generated about \$27.1 billion; finance and real estate services contributed about \$18.9 billion; and information and transportation services generated about \$12.5 billion (Bureau of Economic Analysis, 2007). Most of these services are local to the state, and many are locally delivered within a region, county or community. Therefore, a significant proportion of the spending of families that move out of a region moves out along with them, potentially creating a downward spiral in economic activity.

In the "Old Economy,"¹ which was manufacturing dominated, the precursors to and primary determinants of economic success were largely traditional growth drivers, such as capital accumulation and fixed manufacturing assets, physical infrastructure to support a manufacturing-oriented economy, quality skill-based labor to maximize manufacturing productivity, managerial capacity to manage these, and access to exhaustible natural resources to be transformed into durable and non-durable manufactured goods. These factors tended to be spatially fixed so that places pre-endowed with these assets had strong potential to achieve economic prosperity and retain economic

1. LPI's *Chasing the Past* full report provides descriptions of the "Old Economy" and the "New Economy."

activity. However, in the “New Economy,” which is increasingly service-oriented, economic success is driven more by human capital and the ability to attract new growth (Florida, 2002). New Economy growth factors include patient and venture capital, private equity and capital, entrepreneurship, talent and knowledge workers (Adelaja et al., 2009). These are increasingly concentrating in places with social, economic, creative and other alluring assets (Adelaja et al., 2009).

So, when population moves, it is increasingly caused by the movement of the drivers of success in the New Economy. More than ever before, imbalances in alluring assets drive population movement as people seek a better quality of life. When they move, people pull with them their demand for services, which crystallizes in economic activity and job creation in their new location.

1.2 Objectives

The main goals of this report are as follows:

- To inform policy makers at the state and local levels, and the public in general, about the costs and economic impacts of population loss to local economies in Michigan.
- To explore the magnitude of these impacts and the possible need for policies and strategies related to population retention and attraction, in addition to the currently utilized job attraction and retention strategies.

1.3 Report Outline

This report contains nine parts. Part 2 of this report first explains the nature of population dynamics in Michigan. It presents population change numbers, net migration numbers and net immigration numbers. Part 3 provides a conceptual analysis of the impacts of population loss on a community. It is followed by Part 4, which provides economic impact estimates for the 2000-2005 and the 2005-2008 time periods. Part 4 focuses on the leading counties in population loss, all counties that lost population, all counties that gained

population, and the net for the state of Michigan. Detailed county-level analyses are provided for those counties that experienced significant population losses. Part 5 provides the housing value impacts of population change in Michigan counties. Part 6 provides the federal, state and local government tax revenue impacts of population change. Finally, Part 7 provides concluding comments and some policy recommendations. Part 8 includes an appendix with population fluctuation maps for the United States. Part 9 is the listing of references.

Part 2: Trends in Population Change in Michigan

MICHIGAN'S AVERAGE COUNTY POPULATION CHANGE DECLINED FROM A GAIN OF 795 PEOPLE IN 2001 TO A LOSS OF ABOUT 560 PEOPLE BY 2008. THE AVERAGE COUNTY POPULATION GROWTH IN MICHIGAN (WHICH IS NOW NEGATIVE) WAS WELL BELOW THE NATIONAL AVERAGE AND DECLINING,

2.1 County Average Population Change

Figure 2.1 shows the trend, since the year 2000, in average county population change both in the U.S. and Michigan. It reveals what has happened to the average county, instead of the state in general. Aside from a modest decline between 2001 and 2002, the national average county population change has remained relatively steady through 2008, with an average gain of around 865 people per year. Michigan's average county population change, however, has declined ever since 2001 (from a gain of about 795

people in 2001 to a loss of nearly 560 people by 2008). The gap between the national and Michigan averages is obviously widening, suggesting a decrease in average county population change in the state.

The average county net domestic migration is presented in Figure 2.2. This is an indicator of the net changes between domestic in-migration and out-migration. With respect to county net domestic migration, the national county average would be zero. For Michigan, the average county net domestic migration has increasingly become negative. In relative terms,

Figure 2.1: County Average Population Change



Michigan lost population to counties in other states. For 2002, Michigan counties, on average, lost a net of 422 people to counties in other states. This number increased from a net loss of nearly zero in 2000 to an average county net loss of 480 people by 2004 and 891 people by the end of 2006. By 2008, the average county net internal migration in Michigan scored a net loss of 1,316 people.

The average county net international migration, yet another indication of population movement, is presented in Figure 2.3. Net international migration, for the U.S. and Michigan, increased significantly from 2000-2001. United States counties peaked around 382 people and Michigan counties around 281 people. From 2001-2003, it declined to 262 people for U.S. counties and 226 people for Michigan counties. Since 2003, the net international migration has been fluctuating around 280 people for U.S. counties and about 213 people, dropping to 200 for 2007 and

2008 for Michigan counties. It, therefore, appears that Michigan has recently remained constant in attracting immigrants, but underperforms when compared with the county average for the rest of the nation.

Table 2.1 shows the top 25 counties in the U.S. in population loss for the 2000-2005 period. It is based on Census Bureau U.S. population estimates. For this period, the estimates show that Wayne County, MI, ranked 5th in county population loss in the country (loss of 36,978 people). Twelve of the top 25 counties in the U.S. in population loss were from the states of Michigan, Ohio and Pennsylvania. Given the high number of counties with population loss in the “Rustbelt” region, this particular economic environment may pose unique challenges to be addressed.

Table 2.2 provides the list of the top 25 U.S. counties in population loss for the more recent 2005-2008 period based on Census estimates. Wayne County (with a

Figure 2.2: County Average Net Domestic Migration

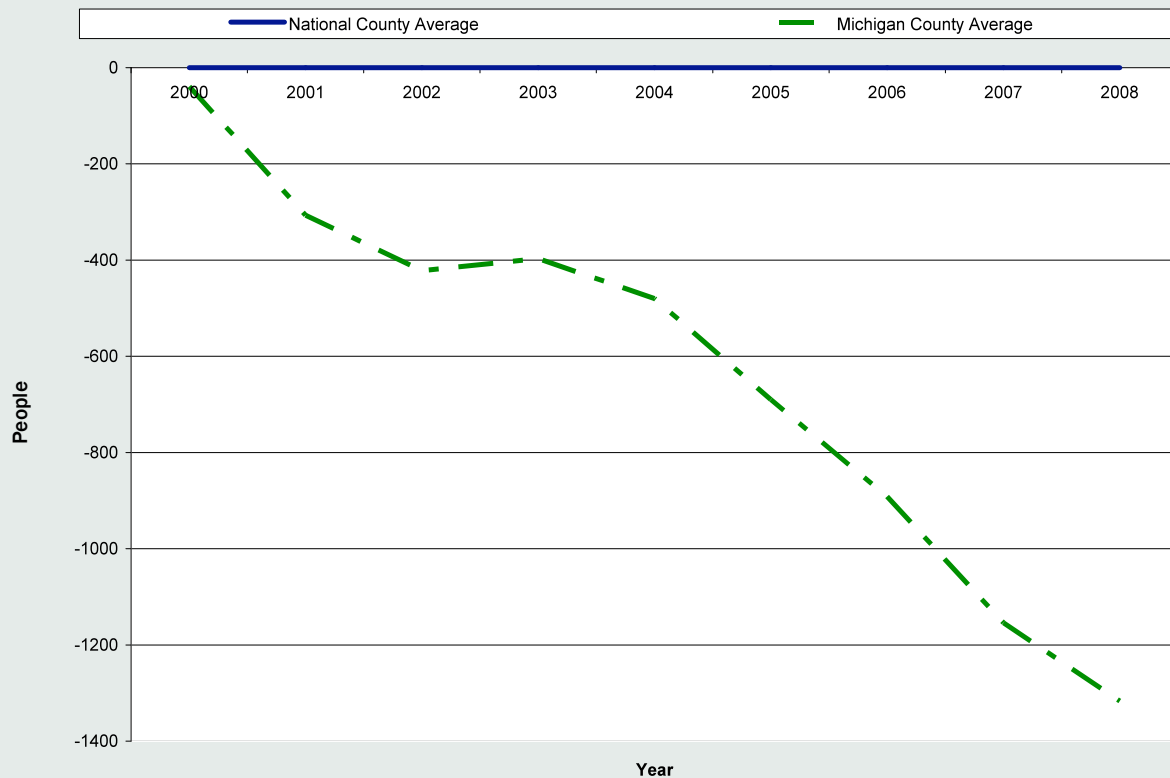
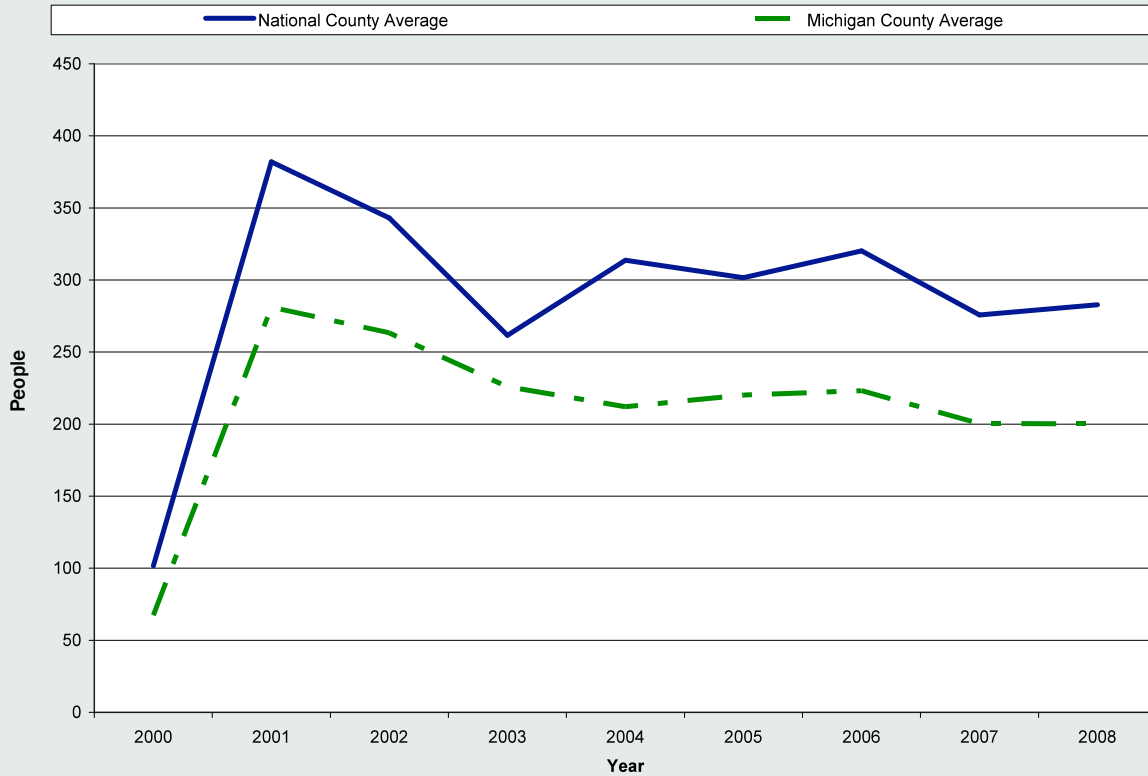


Figure 2.3: County Average Net International Migration



loss of 74,254 people) ranks 2nd in county population loss in the nation, behind only Orleans Parish (which experienced Hurricane Katrina during this time-period). Other Michigan counties on the list include Genesee County (12th in the country with a loss of 10,323 people) and Saginaw County (23rd in the country with a loss of 5,712 people). These numbers indicate that some counties in Michigan were hit very hard by population losses, and they stand out compared to other counties nationwide.

The fact that the Michigan counties that have lost significant population encompass such cities as Detroit, Saginaw and Flint suggest that urban Michigan faces major challenges and will most likely continue to face more as the economic effects of population loss continue to ripple through our economy. These urban areas of Michigan have traditionally been at the center of state economic development. Today, cities with declining population must struggle with the task of maintaining service levels in the face of dwindling tax

revenues. Given municipalities' depleted resources, this could further compromise their abilities to transform themselves to regain prosperity.

Table 2.1: Top 25 Counties in Population Loss in the U.S.
(2000-2005)

State	County	Population Change
Illinois	Cook County	-88,125
Ohio	Cuyahoga County	-68,424
Pennsylvania	Philadelphia County	-60,400
Pennsylvania	Allegheny County	-49,079
Michigan	Wayne County	-36,978
Louisiana	Orleans Parish	-29,628
New York	Erie County	-25,517
Missouri	St. Louis County	-16,484
Ohio	Montgomery County	-14,589
Minnesota	Ramsey County	-14,158
California	San Mateo County	-12,489
New Jersey	Essex County	-12,122
Ohio	Mahoning County	-11,886
Maryland	Baltimore city	-11,090
New Jersey	Hudson County	-10,479
Ohio	Lucas County	-8,596
Ohio	Trumbull County	-8,005
Pennsylvania	Luzerne County	-7,924
West Virginia	Kanawha County	-7,235
Pennsylvania	Beaver County	-6,057
California	Santa Cruz County	-5,997
Texas	Jefferson County	-5,908
Pennsylvania	Cambria County	-5,834
Pennsylvania	Westmoreland County	-5,618
Mississippi	Washington County	-5,403

Table 2.2: Top 25 Counties in Population Loss in the U.S.
(2005-2008)

State	County	Population Change
Louisiana	Orleans Parish	-143,193
Michigan	Wayne County	-74,254
Ohio	Cuyahoga County	-41,499
Louisiana	St. Bernard Parish	-27,168
Pennsylvania	Allegheny County	-17,484
Mississippi	Harrison County	-17,296
New York	Erie County	-14,903
Maryland	Prince George's County	-14,736
Louisiana	Jefferson Parish	-14,667
Florida	Pinellas County	-13,876
Florida	Broward County	-12,472
Michigan	Genesee County	-10,323
Ohio	Montgomery County	-9,849
Pennsylvania	Philadelphia County	-9,755
New Jersey	Essex County	-9,514
Missouri	St. Louis County	-7,987
Ohio	Mahoning County	-7,691
Louisiana	Plaquemines Parish	-7,289
Rhode Island	Providence County	-6,953
Ohio	Lucas County	-6,002
Mississippi	Hancock County	-5,948
Ohio	Trumbull County	-5,794
Michigan	Saginaw County	-5,712
Louisiana	Vernon Parish	-4,591
Georgia	Liberty County	-4,445

Part 3: When People Move, What Do They Take With Them?

THE LOSS OF JOBS TRANSLATES INTO SUBSEQUENT LOSSES IN SUPPORTIVE SERVICES AND RELATED ECONOMIC ACTIVITY. THE INCREASED FREE-FLOW OF JOBS, PEOPLE AND INCOME MEANS THAT PLACES, WHICH ARE ECONOMICALLY VULNERABLE, ARE EVEN MORE EXPOSED WHEN THEY LOSE POPULATION.

3.1 Population Movement: Old vs. New Economy

As indicated in Part 1, when a person or family moves from one location to another, some economic activities move along with them. In the Old Economy, when people largely followed job opportunities that were typically associated with the cities and towns with an existing endowment of manufacturing infrastructure, the number of additional jobs that could follow such people when they moved would have been more limited than in today's New Economy environment. Many towns were defined largely by their manufacturing prowess. They produced significant manufactured goods that fed into the vast network of goods that were traded nationally and internationally. Local economies enjoyed long-term stability as short-term instabilities eventually self-corrected. In the Old Economy, when an inordinate number of people moved out, others simply moved in to replace them, if the job market was strong, with perhaps little long-term losses to the local economy. If the job market was weak, the cyclical nature of the economy allowed most local communities to rebound.

In the New Economy where services have come to represent a larger share of the economies of places, the loss of jobs translates into greater subsequent losses in supportive services and related economic activity. The increased free-flow of jobs, people and income means that places that are economically vulnerable are even more exposed when they lose population. Buoyant places have the benefit of being population attraction and destination points, and service jobs follow them. Indeed, the literature suggests that knowledge jobs

follow knowledge workers who are increasingly choosing where they wish to live rather than just following jobs to places with little appeal (Florida, 2002).

3.2 Spending and Impact on Services

So, what specifically leaves when a community loses people due to job losses and other factors?

- Money spent on services and, therefore, associated service-related jobs, wages, rent, mortgage payments and economic output.
- Taxes related to these losses, including state income tax, local income and property taxes, and sales taxes on those goods that will no longer be bought; and sales taxes on those services that are taxable but that will no longer be taxed.

Various sectors are particularly affected, including domestic trade, home construction, real estate rentals, foreign trade, healthcare services, food service and drinking places, wholesale trade, insurance and financial services, and entertainment activities, such as movie theatres. In a service-oriented economy where people are more apt to move, the services they utilize are also more likely to shift with them.

Part 4: Estimated Economic Impacts of Population Change In Michigan

THIRTY-ONE MICHIGAN COUNTIES LOST POPULATION DURING THE 2000-2005 TIME PERIOD, BUT SINCE THE STATE EXPERIENCED AN INCREASE IN POPULATION OVERALL, THE ECONOMIC GAINS OVERSHADOWED THE LOSSES. HOWEVER BETWEEN 2005-2008, 58 COUNTIES LOST POPULATION, ALONG WITH THE STATE. FOR PLACES THAT LOST POPULATION, THE COUNTY-LEVEL ECONOMIC IMPACTS WERE NEGATIVE AND PROBABLY DEVASTATING, DEPENDING ON THE MAGNITUDE.

As indicated above, population losses impose other economic costs, ranging from a declining tax base, reduced property values and reduced local economic performance, to further adverse economic impacts on jobs, labor income and the level and value of production (output). This part provides information on these economic impacts, as estimated for Michigan. First, it focuses on those Michigan counties with significant population loss, as well as the combination of other counties with any population loss. Second, the distribution of the total economic impact by sector is estimated. This provides a breakdown of the sectors in the identified counties that are most impacted by population declines. Third, it aggregates the total economic impacts of population loss for all counties with population loss in Michigan.

At a state level, economic impacts from losses in one area may be somewhat offset by the gains in other regions. To investigate this possible offsetting effect, the total economic impact for all counties with population increases is also estimated, followed by the net statewide economic impact—which is the difference between the total losses and total gains. While informative from a statewide perspective, the net economic impact does not adequately reveal county impacts. The analysis particularly highlights places losing significant population since that is the prime target of this study.

4.1 Methodology

The economic impact estimates are based on the translation of the population loss numbers into income

and spending withdrawn from the local economy (see Figure 4.1).

It is assumed that the characteristics of people who move out of a county are the same as the average county resident. To the extent to which knowledge workers who command higher pay and consume more services are more apt to move, the adverse effect of population loss could be even higher. Communities should be concerned that the most talented, who also have the most options and opportunities to move, may leave places that do not afford them critical assets for quality of life.

As indicated in Figure 4.1, population loss was converted to average households lost by utilizing the average county household size. The estimated average household size and Census figures on median household income were used in calculating the household income lost as a result of population (households) loss. By utilizing the IMPLAN economic impact analysis tool (a recognized procedure in estimating the economic impacts, as a result of an event—in this case population loss), the total economic impacts associated with lost population were estimated. These impacts were then traced through the effects of population loss on labor and property-related income, employment and the value of economic output in the county. They are decomposed into direct impacts (the first impacted sectors by population loss); indirect impacts (effects on other sectors, as a result of impacts on first-affected sectors); and induced effects



Figure 4.1: Estimating the Economic Impacts of Population Change in Michigan

To estimate the economic impacts of population change in Michigan, these steps were followed:

1. For both the 2000-2005 and 2005-2008 time periods, population change numbers by county in Michigan were identified from U.S. Census Bureau data.
2. These numbers were then converted to household change numbers by utilizing the average household size data from the U.S. Census Bureau as a conversion parameter.
3. To determine the total income reduction or gain associated with household change, median household income data from the U.S. Census Bureau for a given county was multiplied by the estimated number of households lost or gained.
4. Economic impacts associated with income gain or reduction (due to change in number of households) were then estimated with the IMPLAN input-output analysis tool, and impacts on total labor income, property-type income, indirect business tax, jobs and value of economic output were identified.
5. The 10 most impacted industries, based on the criteria of labor income, taxes, jobs and value of economic output changes, were also identified.

(subsequent effects due to income and consumption changes in the local economy). The total economic impact traces all these effects across interconnected sectors.

4.2 Economic Impacts of Population Change in Michigan Counties – 2000-2005 Period

Michigan, in the 2000-2005 period, generally exhibited a pattern consistent with within-state or intra-state population sprawl in the net. Thirty-one Michigan counties lost population, while 52 counties gained population during this time period. Obviously, the net impact of population changes would be positive for the entire state for the 2000-2005 time period, due to the fact that Michigan's population increased by 154,822 overall. However, for places that lost population, the economic impacts were negative, with varying magnitude. These impacts will be reviewed below.

The analysis in this section starts with estimates of economic impacts for the counties that lost more than

1,500 people (the five counties of Wayne, Saginaw, Berrien, Huron and Bay), and for all other counties that lost less than 1,500 people combined (a total of 26 counties). A breakdown of the impact by sectors is also included. Next, the estimates of economic impacts for all counties that gained population are reviewed. Finally, net impacts on the state are presented. These net impacts are expected to be positive, since the overall Michigan population was increasing. Often, however, a state will continue to have an overall positive economic impact from population increases, but if the population increases begin to decline, the positive effect will begin to decline as well. As a county begins to lose population, the economic impacts will most likely become negative.

4.2.1 Economic Impacts from County Population Losses (2000-2005)

Wayne County (with a loss of 36,978 people) experienced the 5th highest county population loss in

the country in the 2000-2005 period and 1st highest in Michigan. Saginaw County was the 2nd highest population loss county in Michigan for the time period, with a loss of 3,585 people. The 3rd highest in population loss in Michigan for the period was Berrien County (loss of 2,421 people) followed by Huron County (4th), with a loss of 1,996 people, and, finally, Bay County (5th), with a loss of 1,626 people. All other counties in Michigan that lost less than 1,500 people in 2000-2005 are grouped together to estimate an aggregate economic impact. This analysis adds to the overall picture of the total economic impact of population loss, while minimizing substantial detail that could have been necessary if county-by-county analysis were conducted for all counties with population losses (31 counties). Table 4.1 summarizes the estimated economic impacts of county-level population (household) losses in Michigan for 2000-2005:

Wayne County lost:

- 36,978 people,
- \$176,805,034 in labor income,
- \$113,358,562 in property-type income,
- 4,666 jobs and
- \$552,090,214 in value of economic output.

Saginaw County lost:

- 3,585 people,
- \$14,965,377 in labor income,
- \$10,249,509 in property-type income,
- 498 jobs and
- \$47,992,047 in value of economic output.

Berrien County lost:

- 2,421 people,
- \$9,558,583 in labor income,
- \$6,988,353 in property-type income,
- 344 jobs and
- \$31,348,338 in value of economic output.

Huron County lost:

- 1,996 people,
- \$5,221,448 in labor income,
- \$4,600,195 in property-type income,
- 233 jobs and
- \$19,641,807 in value of economic output.

Bay County lost:

- 1,626 people,
- \$6,296,596 in labor income,
- \$4,588,897 in property-type income,
- 229 jobs and
- \$20,737,581 in value of economic output.

All other counties, with population loss, lost:

- \$32,724,431 in labor income,
- \$24,609,993 in property-type income,
- 1,357 jobs and
- \$117,828,236 in value of economic output.

4.2.2 Economic Impacts by Sector from County Population Losses (2000-2005)

The nature of the economic impacts varies by county, based on the unique composition of the local economy. For example, a predominantly manufacturing-based economy would be affected differently than a predominately agricultural community. Table 4.2 presents the distributional impacts by the most affected sectors and by the categories of labor income, indirect business taxes, employment and economic output in 2000-2005. Only the top 10 largest impacts by each category for each county, or group of counties, are presented—subsequently to be referred to collectively as “counties.” Many other sectors are impacted, but to lesser extents.

The most impacted segments in terms of labor income for all population loss counties were in healthcare and food services. Of the top five population loss counties, four counties experienced the largest labor income

loss in the offices of physicians, dentists and other healthcare providers (absorbing from 10.2%, in Wayne County, to 14.3%, in Bay County, of the impact). The 2nd highest labor income loss was experienced by hospitals (absorbing 8.1% in Wayne to 11.7% in Huron County), for a total labor impact on healthcare services of 17.1% to 23.1%, depending on the county. Some 6.2% to 7.4% of the labor income impacts were in the food service and drinking places sector for all counties.

The balance of income loss is distributed across many sectors in small percentages, indicating the widespread impact of population losses on income.

Indirect business taxes losses were highest in the owner-occupied dwellings sector for all counties, from a 22.6% impact in all other counties, to a 30% impact in Huron County. All counties experienced the 2nd largest impact in the real estate sector, 3rd largest in the wholesale trade sector and 4th largest in the motor vehicle and

**Table 4.1: Economic Impacts of Population Loss
(2000-2005)**

County	Impact Category	Direct	Indirect	Induced	Total
Wayne	Labor Income	-\$112,756,358	-\$34,472,209	-\$29,576,466	-\$176,805,034
	Property-Type Income	-\$78,467,778	-\$15,869,829	-\$19,020,957	-\$113,358,562
	Employment (People)	- 3,186	- 683	- 797	- 4,666
	Value of Output	-\$367,225,299	-\$95,035,677	-\$89,829,244	-\$552,090,214
Saginaw	Labor Income	-\$10,186,346	-\$2,445,174	-\$2,333,857	-\$14,965,377
	Property-Type Income	-\$7,373,233	-\$1,257,373	-\$1,618,904	-\$10,249,509
	Employment (People)	- 351	- 66	- 80	- 498
	Value of Output	-\$33,486,114	-\$7,177,843	-\$7,328,089	-\$47,992,047
Berrien	Labor Income	-\$6,589,679	-\$1,424,083	-\$1,544,821	-\$9,558,583
	Property-Type Income	-\$5,048,344	-\$806,669	-\$1,133,341	-\$6,988,353
	Employment (People)	- 244	- 43	- 57	- 344
	Value of Output	-\$22,114,848	-\$4,304,591	-\$4,928,900	-\$31,348,338
Huron	Labor Income	-\$3,790,300	-\$785,931	-\$645,217	-\$5,221,448
	Property-Type Income	-\$3,540,186	-\$488,704	-\$571,306	-\$4,600,195
	Employment (People)	- 178	- 24	- 30	- 233
	Value of Output	-\$14,627,538	-\$2,683,143	-\$2,331,126	-\$19,641,807
Bay	Labor Income	-\$4,407,753	-\$888,510	-\$1,000,334	-\$6,296,596
	Property-Type Income	-\$3,375,217	-\$479,251	-\$734,430	-\$4,588,897
	Employment (People)	- 164	- 27	- 37	- 229
	Value of Output	-\$14,918,864	-\$2,642,562	-\$3,176,154	-\$20,737,581
All Other Counties	Labor Income	-\$23,412,285	-\$4,844,857	-\$4,467,289	-\$32,724,431
	Property-Type Income	-\$17,721,487	-\$3,106,264	-\$3,782,242	-\$24,609,993
	Employment (People)	- 1,003	- 164	- 190	- 1,357
	Value of Output	-\$85,497,785	-\$16,537,549	-\$15,792,902	-\$117,828,236
Total	Labor Income	-\$161,142,720	-\$44,860,764	-\$39,567,984	-\$245,571,468
	Property-Type Income	-\$115,526,244	-\$22,008,089	-\$26,861,179	-\$164,395,510
	Employment (People)	- 5,127	- 1,008	- 1,191	- 7,327
	Value of Output	-\$537,870,449	-\$128,381,365	-\$123,386,414	-\$789,638,222

parts dealers sector (except for Berrien County). Owner-occupied dwellings, real estate and wholesale trade combined account for 45.8% (Wayne) to 53.1% (Huron County) of the indirect business taxes impact. Incorporating the 7.1% loss in the motor vehicle and parts dealers sector to Huron County means an estimated business tax loss of 60.2% for the top four sectors alone, indicating a high concentration of losses in a few sectors.

The distribution of job losses associated with the county population loss indicates that the food service and drinking places sector absorbed from 13.6% (all other counties) to 17.1% (Bay) of the job losses. Aside from Huron and all other counties, the offices of physicians, dentists and other healthcare providers sector experienced the 2nd largest impact, followed by the hospitals sector (3rd), the food and beverage stores sector (4th) and the general merchandise stores sector (5th). The remaining 62.4% to 68.7% of the employment impact is distributed across many sectors in small percentages, indicating the widespread job loss and job insecurity impacts from population loss.

Finally, with respect to the reductions in economic output associated with population losses, owner-occupied dwellings was the hardest hit sector for most counties. The greatest impact occurred in Huron county, with 17% of its output loss associated with owner-occupied dwellings, and the least impact was in all other counties, with 12.2%. Ranking in the top five for most impacted sectors in terms of loss of output are food service and drinking places, real estate, hospitals, and offices of physicians, dentists and other healthcare providers, with impacts ranging from 4% to 8.7% depending on the sector and the county.

The food service and drinking places sector ranks in the top six of most impacted sectors for all categories (labor income, indirect business tax income, employment and output) for all counties. Offices of physicians, dentists and other healthcare providers; and hospitals sectors experienced the most labor income impacts from population loss. The greatest sectoral impacts for losses

in indirect business taxes (owner-occupied dwellings), employment (food service and drinking places) and output (owner-occupied dwellings) are almost all twice as large as the 2nd greatest impacted sector. The food service and drinking places sector lost the most employment. Yet, it was ranked only 3rd in labor income losses, due to the low paying nature of the jobs (or error in tip accounting) in this sector.

4.2.3 Total Economic Impact of Population Loss for All Michigan Counties that Lost Population (2000-2005)

In summary, the total estimated economic impacts in Michigan, due to county population losses from 2000-2005, are a total loss of:

- \$245,571,468 in labor income,
- \$164,395,510 in property-type income,
- 7,327 jobs and
- \$789,638,222 in value of economic output.

These numbers include all Michigan counties that lost population. While the numbers above do not reflect the total impacts of population changes on the economy of the state, they reflect the impacts for those counties that experienced population loss. Obviously, shifts in population, even within the state, mean shifts in the spatial distribution of economic activity. To the extent to which local communities can position themselves to retain population, their economic base is less compromised. While the deterioration of property values, declining ability to provide quality public services, budgetary constraint, and the potential to adequately service debt in the future and other important community indicators may not be characteristic of the entire state, they are definitely characteristic of those places that lost population. One relevant question, therefore, is “What latitude do shrinking counties have to use placemaking strategies that attract population?” Perhaps more important is “Which population sub-groups must be targeted for population attraction strategies to yield optimal economic development benefits?”

Table 4.2: Distribution of the Estimated Economic Impacts by Sector (Top 10 for Each County Only) (2000-2005)*

Most Affected Industries (Top 10)	Wayne		Saginaw		Berrien		Huron		Bay		All Others	
	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total
Labor Income												
1. Offices of Physicians, Dentists and other Healthcare Providers	-\$18,028,730	10.2%	-\$2,080,740	13.9%	-\$1,353,340	14.2%	-\$583,219	11.2%	-\$900,128	14.3%	-\$2,788,035	8.5%
2. Private Hospitals	-\$14,365,131	8.1%	-\$1,294,986	8.7%	-\$824,919	8.6%	-\$609,877	11.7%	-\$555,856	8.8%	-\$2,813,625	8.6%
3. Food Service and Drinking Places	-\$11,771,948	6.7%	-\$1,034,889	6.9%	-\$703,544	7.4%	-\$347,241	6.7%	-\$430,324	6.8%	-\$2,018,699	6.2%
4. Wholesale Trade Businesses	-\$8,701,012	4.9%	-\$731,849	4.9%	-\$517,665	5.4%	-\$272,323	5.2%	-\$313,938	5.0%	-\$1,460,867	4.5%
5. Motor Vehicle and Parts Dealers	-\$6,111,265	3.5%	-\$530,951	3.5%	-\$339,532	3.6%	-\$281,693	5.4%	-\$280,419	4.5%	-\$1,347,546	4.1%
6. Real Estate Establishments	-\$5,816,565	3.3%	-\$560,284	3.7%	-\$386,279	4.0%	-\$273,716	5.2%	-\$257,916	4.1%	-\$1,776,824	5.4%
7. Food and Beverage Stores	-\$4,670,248	2.6%	-\$363,520	2.4%	-\$304,213	3.2%	-\$185,076	3.5%	-\$201,992	3.2%	-\$1,128,712	3.4%
8. Legal Services	-\$4,063,615	2.3%										
9. Nursing and Residential Care Facilities	-\$3,891,833	2.2%			-\$238,047	2.5%			-\$160,503	2.5%	-\$1,859,074	5.7%
10. General Merchandise Stores	-\$3,856,856	2.2%	-\$387,575	2.6%	-\$263,427	2.8%	-\$195,096	3.7%	-\$179,475	2.9%	-\$997,143	3.0%
11. Other Ambulatory Healthcare Services			-\$359,288	2.4%							-\$972,122	3.0%
12. Monetary Authorities and Depository Credit Intermediaries			-\$354,799	2.4%	-\$239,107	2.5%	-\$177,966	3.4%	-\$161,324	2.6%		
13. Automotive Repair and Maintenance - Except Car Washes							-\$153,408	2.9%				
TOTAL	-\$176,805,034	100%	-\$14,965,377	100%	-\$9,558,583	100%	-\$5,221,448	100%	-\$6,296,596	100%	-\$32,724,431	100%
Indirect Business Taxes												
1. Owner-Occupied Dwellings	-\$8,027,237	23.7%	-\$754,584	24.6%	-\$521,176	25.1%	-\$383,827	30.0%	-\$352,804	25.0%	-\$1,653,097	22.6%
2. Real Estate Establishments	-\$3,903,664	11.5%	-\$376,152	12.3%	-\$259,043	12.5%	-\$183,310	14.3%	-\$173,009	12.3%	-\$1,191,221	16.3%
3. Wholesale Trade Businesses	-\$3,583,381	10.6%	-\$301,469	9.8%	-\$213,227	10.3%	-\$112,125	8.8%	-\$129,325	9.2%	-\$601,283	8.2%
4. Motor Vehicle and Parts Dealers	-\$1,958,857	5.8%	-\$170,161	5.5%	-\$108,745	5.2%	-\$90,225	7.1%	-\$89,889	6.4%	-\$431,800	5.9%
5. Food Service and Drinking Places	-\$1,863,672	5.5%	-\$163,900	5.3%	-\$111,368	5.4%	-\$54,986	4.3%	-\$68,133	4.8%	-\$319,621	4.4%
6. Electric Power Generation and Supply	-\$1,463,258	4.3%	-\$107,977	3.5%	-\$117,701	5.7%			-\$75,444	5.4%	-\$289,116	4.0%
7. General Merchandise Stores	-\$1,346,548	4.0%	-\$135,352	4.4%	-\$91,987	4.4%	-\$68,108	5.3%	-\$62,674	4.4%	-\$348,099	4.8%
8. Food and Beverage Stores	-\$1,220,976	3.6%	-\$95,111	3.1%	-\$79,521	3.8%	-\$48,405	3.8%	-\$52,835	3.7%	-\$295,183	4.0%
9. Building Material and Garden Supply Stores	-\$890,700	2.6%	-\$96,303	3.1%	-\$66,286	3.2%	-\$31,870	2.5%	-\$45,127	3.2%	-\$243,394	3.3%
10. Clothing and Clothing Accessories Stores	-\$862,910	2.5%	-\$89,382	2.9%								
11. Automotive Repair and Maintenance - Except Car Washes					-\$50,607	2.4%	-\$34,014	2.7%	-\$32,426	2.3%	-\$179,599	2.5%
12. Gasoline Stations							-\$32,658	2.6%				
TOTAL	-\$33,893,682	100%	-\$3,069,731	100%	-\$2,077,935	100%	-\$1,277,502	100%	-\$1,409,730	100%	-\$7,318,394	100%

*Continued on next page

	Wayne		Saginaw		Berrien		Huron		Bay		All Others	
Most Affected Industries (Top 10)	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total
Employment (people)												
1. Food Service and Drinking Places	- 738	15.8%	- 76	15.3%	- 53	15.5%	- 35	15.3%	- 39	17.1%	- 185	13.6%
2. Offices of Physicians, Dentists and Other Healthcare Providers	- 299	6.4%	- 33	6.7%	- 27	7.8%	- 13	5.5%	- 16	7.0%	- 65	4.8%
3. Private Hospitals	- 293	6.3%	- 31	6.2%	- 20	5.8%	- 15	6.4%	- 12	5.4%	- 66	4.9%
4. Food and Beverage Stores	- 178	3.8%	- 19	3.8%	- 14	4.1%	- 12	5.4%	- 10	4.4%	- 59	4.4%
5. General Merchandise Stores	- 171	3.7%	- 18	3.5%	- 13	3.6%	- 9	4.0%	- 8	3.7%	- 49	3.6%
6. Nursing and Residential Care Facilities	- 138	3.0%	- 14	2.8%	- 10	2.9%	- 8	3.6%	- 7	2.9%	- 73	5.4%
7. Wholesale Trade Businesses	- 131	2.8%	- 14	2.8%	- 11	3.2%			- 7	3.0%		
8. Motor Vehicle and Parts Dealers	- 122	2.6%	- 13	2.7%			- 8	3.4%	- 7	3.0%	- 38	2.8%
9. Social Assistance - Except Child Day Care Services	- 122	2.5%	- 17	3.4%	- 11	3.3%	- 10	4.1%	- 7	2.8%	- 67	5.0%
10. Real Estate Establishments	- 116	2.5%	- 13	2.7%							- 37	2.8%
11. Non-Store Retailers					- 10	2.8%						
12. Miscellaneous Store Retailers					- 10	2.8%						
13. Child Day Care Services							- 9	3.8%			- 41	3.0%
14. Automotive Repair and Maintenance - Except Car Washes							- 7	3.1%	- 6	2.6%		
TOTAL (people)	- 4,666	100%	- 498	100%	- 344	100%	- 233	100%	- 229	100%	- 1,357	100%
Output												
1. Owner-Occupied Dwellings	- \$69,666,656	12.6%	- \$6,548,870	13.6%	- \$4,523,177	14.4%	- \$3,331,152	17.0%	- \$3,061,908	14.8%	- \$14,346,877	12.2%
2. Food Service and Drinking Places	- \$34,892,672	6.3%	- \$3,304,160	6.9%	- \$2,276,203	7.3%	- \$1,313,459	6.7%	- \$1,527,143	7.4%	- \$7,190,672	6.1%
3. Real Estate Establishments	- \$33,477,134	6.1%	- \$3,225,535	6.7%	- \$2,221,932	7.1%	- \$1,572,859	8.0%	- \$1,483,877	7.2%	- \$10,218,375	8.7%
4. Private Hospitals	- \$30,102,020	5.5%	- \$2,918,710	6.1%	- \$1,878,765	6.0%	- \$1,392,080	7.1%	- \$1,211,360	5.8%	- \$6,293,769	5.3%
5. Offices of Physicians, Dentists and other Healthcare Providers	- \$29,501,274	5.3%	- \$3,392,960	7.1%	- \$2,262,770	7.2%	- \$987,474	5.0%	- \$1,484,724	7.2%	- \$4,763,021	4.0%
6. Wholesale Trade Businesses	- \$23,157,336	4.2%	- \$1,947,856	4.1%	- \$1,377,754	4.4%	- \$724,652	3.7%	- \$835,578	4.0%	- \$3,886,756	3.3%
7. Monetary Authorities and Depository Credit Intermediaries	- \$15,572,353	2.8%	- \$1,473,792	3.1%	- \$992,228	3.2%	- \$738,994	3.8%	- \$669,944	3.2%	- \$4,035,702	3.4%
8. Electric Power Generation and Supply	- \$14,148,260	2.6%			- \$1,138,053	3.6%			- \$729,468	3.5%		
9. Motor Vehicle and Parts Dealers	- \$13,324,785	2.4%	- \$1,209,653	2.5%	- \$769,865	2.5%	- \$660,161	3.4%	- \$637,311	3.1%	- \$3,162,704	2.7%
10. Insurance Carriers	- \$13,320,075	2.4%	- \$1,291,690	2.7%								
11. State/Local Government Non-Education			- \$1,082,428	2.3%	- \$767,323	2.4%	- \$724,015	3.7%	- \$698,227	3.4%	- \$6,637,616	5.6%
12. Food and Beverage Stores							- \$493,068	2.5%				
13. Nursing and Residential care facilities											- \$3,106,596	2.6%
TOTAL	- \$552,090,214	100%	- \$47,992,047	100%	- \$31,348,338	100%	- \$19,641,807	100%	- \$20,737,581	100%	- \$117,828,236	100%

4.2.4 Total Economic Impact of Population Gains for All Michigan Counties that Gained Population (2000-2005)

Most counties in Michigan experienced an increase in population over the 2000-2005 time period. In fact, 52 counties gained population. Just as counties that lost population experienced a negative economic impact, counties that increased in population experienced a positive economic impact. The estimated economic impact of the additional people can be estimated utilizing the same methods as the economic impact of a loss in population. The analysis is location specific. Therefore, estimated impacts are based on the local economy/condition and vary by county. The estimated economic impacts associated with population gains in the 2000-2005 period are shown in Table 4.3, and are a total gain of:

- \$1,148,045,699 in labor income,
- \$754,488,175 in property-type income,
- 33,748 jobs and
- \$3,715,583,488 in value of economic output.

4.2.5 Net Estimated Economic Impacts of Population Change in Michigan (2000-2005)

Michigan has recently undergone a shift in population, including out-migration from cities in the periods from 2000-2005 and 2005-2008 and out-migration from the state in the period 2005-2008. The net economic impacts give a clearer picture of the overall effect of

Michigan's changing population. To determine the net economic impacts of population change across counties, the negative economic effects of population loss are deducted from the positive impacts of population gain. From a statewide perspective, economic losses were offset by gains because Michigan gained population from 2000-2005. The estimated net economic impacts associated with the population change from 2000-2005 (see Table 4.4) are a total gain of:

- \$902,474,231 in labor income,
- \$590,092,665 in property-type income,
- 26,421 jobs and
- \$2,925,945,266 in value of economic output.

As can be seen from the net effects above, the negative effect of counties that lost population was offset by the positive effects of population gain in many counties in Michigan in the 2000-2005 time period. Even though in the 2000-2005 time period the net economic impacts of population changes are positive, the negative economic impacts in those counties that lost significant population were indeed severe. These distressed areas may require unique policy attention and recovery and revival strategy.

Some of the costs not accounted for in our estimates include costs to emerging communities associated with accommodating new entrants—typically urban. New people are accommodated with investment in new infrastructure. Counties losing population are left with underutilized capacity, while those gaining population have to incur some new infrastructure costs. The process of leaving existing infrastructure behind, while

Table 4.3: Economic Impacts of Population Gains for All Michigan Counties That Gained Population (2000-2005)

Impact Category	Direct	Indirect	Induced	Total
Labor Income	\$695,011,350	\$232,224,707	\$220,809,650	\$1,148,045,699
Property-Type Income	\$490,643,230	\$116,716,508	\$147,128,440	\$754,488,175
Employment (People)	21,706	5,372	6,670	33,748
Value of Output	\$2,329,875,370	\$689,420,508	\$696,287,574	\$3,715,583,488

Table 4.4: Net Economic Impacts of Population Change for All Michigan Counties (2000-2005)

Impact Category	Direct	Indirect	Induced	Total
Labor Income	\$533,868,631	\$187,363,944	\$181,241,666	\$902,474,231
Property-Type Income	\$375,116,986	\$94,708,418	\$120,267,261	\$590,092,665
Employment (People)	16,579	4,364	5,479	26,421
Value of Output	\$1,792,004,922	\$561,039,142	\$572,901,160	\$2,925,945,266

investing in new infrastructure in newer communities, implies higher costs of service provision in the state in general.

4.3 Economic Impacts of Population Changes in Michigan Counties – 2005-2008 Period

4.3.1 Economic Impacts from County Population Losses (2005-2008)

Michigan experienced a net decline in population between 2005 and 2008; however, this loss was not evenly distributed across the state. During this period, Wayne County experienced the highest county population loss in Michigan—74,254 people or 28,127 households. In the U.S., it ranked 2nd only to Orleans Parish in Louisiana, which experienced significant population loss following the Hurricane Katrina disaster. Genesee County experienced the 2nd highest population loss in Michigan during this period, and ranked 12th in the nation in county population loss, with an estimated loss of 10,323 people; Saginaw County ranked 3rd in Michigan and 23rd in the nation in county population loss (loss of 5,712); Oakland County ranked 4th in county population loss in Michigan (loss of 3,703); and Ingham County ranked 5th in Michigan, with a loss of 2,806 people.

These large population losses indicate that these counties may have felt the brunt of the negative economic impacts related to population declines in the state. All counties in Michigan with a population loss of less than 2,500, between 2005 and 2008, are grouped together to estimate an aggregate economic

impact. This analysis adds to the overall picture, while minimizing substantial detail that could have been necessary if county-by-county analysis was conducted for all counties with population losses (63 of 83 counties).

Table 4.5 shows the estimated economic impacts of county-level population (household) loss in Michigan. The top five counties in population loss are presented first, followed by the aggregate of the remaining counties with lost population, and finally the total of all counties that lost population. Due to these population losses, the estimated economic impacts in the 2005-2008 period are reflected below:

Wayne County lost:

- 74,254 people,
- \$359,548,593 in labor income,
- \$207,185,990 in property-type income,
- 8,852 jobs and
- \$1,110,216,496 in value of economic output.

Genesee County lost:

- 10,323 people,
- \$48,466,977 in labor income,
- \$27,819,031 in property-type income,
- 1,436 jobs and
- \$152,846,826 in value of economic output.

Saginaw County lost:

- 5,712 people,

- \$24,261,051 in labor income,
- \$13,985,170 in property-type income,
- 736 jobs and
- \$75,426,595 in value of economic output.

Oakland County lost:

- 3,703 people,
- \$29,328,910 in labor income,
- \$16,473,796 in property-type income,

Ingham County lost:

- 714 jobs and
- \$87,099,130 in value of economic output.
- 2,806 people,
- \$12,860,203 in labor income,
- \$7,366,701 in property-type income,
- 367 jobs and
- \$40,230,008 in value of economic output.

Table 4.5: Economic Impacts of Population Loss (2005-2008)

County	Impact Category	Direct	Indirect	Induced	Total
Wayne	Labor Income	-\$233,893,277	-\$73,563,237	-\$52,092,081	-\$359,548,593
	Property-Type Income	-\$138,824,244	-\$38,478,689	-\$29,883,056	-\$207,185,990
	Employment (People)	- 6,195	- 1,350	- 1,307	- 8,852
	Value of Output	-\$744,186,617	-\$208,616,464	-\$157,413,407	-\$1,110,216,496
Genesee	Labor Income	-\$32,605,374	-\$8,772,550	-\$7,089,052	-\$48,466,977
	Property-Type Income	-\$18,859,231	-\$4,890,948	-\$4,068,851	-\$27,819,031
	Employment (People)	- 1,014	- 207	- 215	- 1,436
	Value of Output	-\$104,621,442	-\$26,451,140	-\$21,774,243	-\$152,846,826
Saginaw	Labor Income	-\$16,713,066	-\$4,343,816	-\$3,204,169	-\$24,261,051
	Property-Type Income	-\$9,761,135	-\$2,368,047	-\$1,855,988	-\$13,985,170
	Employment (People)	- 533	- 103	- 100	- 736
	Value of Output	-\$52,840,597	-\$12,792,325	-\$9,793,673	-\$75,426,595
Oakland	Labor Income	-\$18,881,466	-\$5,893,449	-\$4,553,994	-\$29,328,910
	Property-Type Income	-\$10,891,334	-\$3,033,995	-\$2,548,467	-\$16,473,796
	Employment (People)	- 499	- 104	- 111	- 714
	Value of Output	-\$57,495,017	-\$16,280,022	-\$13,324,091	-\$87,099,130
Ingham	Labor Income	-\$8,977,061	-\$2,426,314	-\$1,456,828	-\$12,860,203
	Property-Type Income	-\$5,217,228	-\$1,313,220	-\$836,253	-\$7,366,701
	Employment (People)	- 271	- 54	- 42	- 367
	Value of Output	-\$28,921,201	-\$6,944,240	-\$4,364,566	-\$40,230,008
All Other Counties	Labor Income	-\$75,832,592	-\$19,977,051	-\$14,465,825	-\$110,275,468
	Property-Type Income	-\$51,252,189	-\$12,767,266	-\$9,600,569	-\$73,620,023
	Employment (People)	- 2,717	- 532	- 502	- 3,751
	Value of Output	-\$272,240,135	-\$67,733,463	-\$48,991,416	-\$388,965,016
Total	Labor Income	-\$386,902,838	-\$114,976,417	-\$82,861,949	-\$584,741,201
	Property-Type Income	-\$234,805,361	-\$62,852,167	-\$48,793,184	-\$346,450,711
	Employment (People)	- 11,228	- 2,350	- 2,277	- 15,855
	Value of Output	-\$1,260,305,009	-\$338,817,655	-\$255,661,394	-\$1,854,784,069

All other counties with population loss (58 counties) lost:

- \$110,275,468 in labor income,
- \$73,620,023 in property-type income,
- 3,751 jobs and
- \$388,965,016 in value of economic output.

4.3.2 Economic Impacts by Sector from County Population Losses (2005-2008)

As indicated previously, the nature of the economic impacts varies by county based on the unique composition of the local economy. Table 4.6 presents the distributional impacts by the most affected sectors and by the categories of labor income, indirect business taxes, employment and economic output for 2005-2008. Only the top 10 largest impacts by each category for each county, or group of counties, are presented. Many other sectors were impacted by the population losses but to lesser extents.

Clearly, the most impacted segments in terms of labor income for all population loss counties were in healthcare and food service and drinking places. All identified counties experienced the largest labor income loss in offices of physicians, dentists and other healthcare providers (absorbing from 10.5% to 13.3% of the county impact); followed by hospitals (absorbing 7.3% to 9.4%), for a total labor impact on healthcare services of 19% to 21.9%, depending on the county. Some 5.4% to 6.6% of the labor income impacts were in the food service and drinking places sector for all counties.

The highest indirect business taxes impact across the board was in the owner-occupied dwellings (home-owners) sector, from a 20.5% impact in Wayne County, to a 22.7% impact in Oakland County. All counties experienced the 2nd largest impact in the real estate sector (ranging from a 10.6% impact in Oakland County to a 14.4% impact in Ingham County), and 3rd largest in the wholesale trade sector (absorbing from 6.7% to 10.6% depending on the county). Owner-occupied dwellings, real estate and wholesale trade combined accounted for 43.4% (Ingham and all others) to 45.8% (Genesee) of the indirect business taxes impact.

For distribution of job losses associated with the population loss in these counties, the food service and drinking places sector absorbed from 12.2% (Oakland) to 14% (all others). Offices of physicians, dentists and other healthcare providers experienced the 2nd largest impact, ranging from 6% (all others) to 7% (Ingham). With the exception of Ingham County, hospitals experienced the 3rd largest impact, with some 4.9% (all others and Genesee) to 6.3% (Oakland) of the total job losses.

As indicated above, the economic losses associated with population loss are substantial; however, the distribution of the economic impact is uneven, and is skewed towards certain industries. Owner-occupied dwellings was the hardest hit sector for all counties, absorbing from 11.1% in Wayne County to 13.3% in Oakland County of the total economic output impacts. The real estate sector experienced the 2nd highest impact (with the exception of Oakland County) in loss of

- The segments most impacted, in terms of labor income lost, for all population loss counties, were in healthcare and food service and drinking places.
- The owner-occupied dwellings sector was hardest hit with respect to indirect business taxes losses.
- The greatest job losses occurred in the food service and drinking places sector.
- The owner-occupied dwellings sector experienced the greatest reductions in economic output for all population loss counties.

Table 4.6: Distribution of the Estimated Economic Impacts by Sector (Top 10 for Each County Only) (2005-2008)*

	Wayne		Genesee		Saginaw		Oakland		Ingham		All Others	
Most Affected Industries (Top 10)	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total
Labor Income												
1. Offices of Physicians, Dentists, and Other Healthcare Providers	-\$37,777,672	10.5%	-\$6,427,650	13.3%	-\$3,139,325	12.9%	-\$3,119,763	10.6%	-\$1,704,123	14.3%	-\$12,095,684	11.0%
2. Private Hospitals	-\$31,312,524	8.7%	-\$4,082,991	8.4%	-\$2,174,055	9.0%	-\$2,759,417	9.4%	-\$935,777	8.8%	-\$8,838,198	8.0%
3. Food Service and Drinking Places	-\$21,456,988	6.0%	-\$2,921,509	6.0%	-\$1,474,437	6.1%	-\$1,575,814	5.4%	-\$789,600	6.8%	-\$7,296,690	6.6%
4. Wholesale Trade Businesses	-\$18,422,588	5.1%	-\$2,700,053	5.6%	-\$1,305,968	5.4%	-\$1,591,832	5.4%	-\$513,360	5.0%	-\$4,390,836	4.0%
5. Monetary Authorities and Depository Credit Intermediaries	-\$13,484,107	3.8%	-\$1,925,035	4.0%	-\$1,002,935	4.1%	-\$960,626	3.3%	-\$520,450	4.5%	-\$3,954,609	3.6%
6. Real Estate Establishments	-\$11,448,756	3.2%	-\$1,735,425	3.6%	-\$856,779	3.5%	-\$755,464	2.6%	-\$457,054	4.1%	-\$4,496,860	4.1%
7. Motor Vehicle and Parts Dealers	-\$10,427,600	2.9%	-\$1,803,037	3.7%	-\$806,282	3.3%	-\$1,100,788	3.8%	-\$485,124	3.2%	-\$4,330,757	3.9%
8. Food and Beverage Stores	-\$9,988,605	2.8%	-\$1,452,323	3.0%	-\$604,008	2.5%			-\$386,837		-\$3,818,316	3.5%
9. Legal Services	-\$8,037,351	2.2%					-\$721,498	2.5%	-\$328,257	2.5%		
10. General Merchandise Stores	-\$7,877,249	2.2%	-\$1,357,556	2.8%	-\$680,426	2.8%	-\$804,895	2.7%	-\$362,257	2.9%	-\$3,652,462	3.3%
11. Nursing and Residential Care Facilities			-\$1,076,318	2.2%			-\$701,881	2.4%			-\$2,901,203	2.6%
12. Medical and Diagnostic Labs and Outpatient					-\$557,650	2.3%						
TOTAL	-\$359,548,593	100%	-\$48,466,977	100%	-\$24,261,051	100%	-\$29,328,910	100%	-\$12,860,203	100%	-\$110,275,468	100%
Indirect Business Taxes												
1. Owner-Occupied Dwellings	-\$13,567,963	20.5%	-\$2,023,188	21.1%	-\$1,011,040	20.8%	-\$1,270,297	22.7%	-\$537,145	21.4%	-\$5,420,990	22.3%
2. Real Estate Establishments	-\$9,031,327	13.6%	-\$1,361,979	14.2%	-\$678,436	13.9%	-\$596,298	10.6%	-\$362,246	14.4%	-\$3,507,785	14.4%
3. Wholesale Trade Businesses	-\$6,835,554	10.3%	-\$1,003,800	10.5%	-\$485,872	10.0%	-\$591,673	10.6%	-\$189,582	7.6%	-\$1,629,328	6.7%
4. Food Service and Drinking Places	-\$3,420,682	5.2%	-\$466,283	4.9%	-\$235,600	4.8%	-\$251,356	4.5%	-\$126,100	5.0%	-\$1,164,398	4.8%
5. Food and Beverage Stores	-\$3,266,693	4.9%	-\$478,321	5.0%	-\$198,851	4.1%	-\$214,954	3.8%	-\$127,347	5.1%	-\$1,254,666	5.2%
6. Motor Vehicle and Parts Dealers	-\$3,236,096	4.9%	-\$557,046	5.8%	-\$248,764	5.1%	-\$337,706	6.0%	-\$149,078	5.9%	-\$1,346,518	5.5%
7. Electric Power Generation and Supply	-\$3,216,801	4.8%	-\$325,140	3.4%	-\$205,848	4.2%	-\$173,638	3.1%			-\$1,404,713	5.8%
8. General Merchandise Stores	-\$2,686,572	4.1%	-\$466,414	4.9%	-\$233,733	4.8%	-\$275,315	4.9%	-\$124,431	5.0%	-\$1,249,891	5.1%
9. Building Material and Garden Supply Stores	-\$1,794,342	2.7%	-\$330,082	3.4%	-\$165,896	3.4%	-\$173,667	3.1%	-\$88,269	3.5%	-\$889,214	3.7%
10. Health and Personal Care Stores	-\$1,564,941	2.4%	-\$235,618	2.5%					-\$62,271	2.5%	-\$613,748	2.5%
11. Clothing and Clothing Accessories Stores					-\$145,565	3.0%	-\$169,201	3.0%	-\$77,338	3.1%		
TOTAL	-\$66,332,641	100%	-\$9,597,786	100%	-\$4,870,984	100%	-\$5,600,369	100%	-\$2,509,055	100%	-\$24,325,875	100%

*Continued on next page

	Wayne		Genesee		Saginaw		Oakland		Ingham		All Others	
Most Affected Industries (Top 10)	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total	Amount Impacted	Percent of Total
Employment (people)												
1. Food Service and Drinking Places	- 1,160	13.1%	- 192	13.4%	- 96	13.0%	- 87	12.2%	- 51	13.8%	- 524	14.0%
2. Offices of Physicians, Dentists and Other Healthcare Providers	- 584	6.6%	- 94	6.5%	- 52	7.1%	- 46	6.5%	- 26	7.0%	- 226	6.0%
3. Private Hospitals	- 538	6.1%	- 70	4.9%	- 46	6.2%	- 45	6.3%	- 16	4.4%	- 182	4.9%
4. Real Estate Establishments	- 370	4.2%	- 60	4.2%	- 31	4.2%	- 24	3.3%	- 16	4.2%	- 160	4.3%
5. General Merchandise Stores	- 349	3.9%	- 59	4.1%	- 30	4.0%	- 31	4.3%	- 16	4.3%	- 163	4.4%
6. Food and Beverage Stores	- 336	3.8%	- 66	4.6%	- 28	3.8%	- 24	3.3%	- 17	4.5%	- 171	4.6%
7. Wholesale Trade Businesses	- 246	2.8%	- 39	2.7%	- 24	3.2%						
8. Non-Store Retailers	- 238	2.7%	- 40	2.8%			- 22	3.0%	- 11	2.9%	- 114	3.1%
9. Nursing and Residential Care Facilities	- 234	2.6%	- 41	2.8%	- 19	2.6%	- 23	3.3%			- 105	2.8%
10. Motor Vehicle and Parts Dealers	- 217	2.5%	- 42	2.9%	- 21	2.8%	- 20	2.8%	- 11	3.0%	- 113	3.0%
11. Clothing and Clothing Accessories Stores					- 19	2.6%			- 11	2.9%		
12. Private Household Operations							- 22	3.1%			- 91	2.4%
13. Monetary Authorities and Depository Credit Intermediaries									- 9	2.5%		
TOTAL (people)	- 8,852	100%	- 1,436	100%	- 736	100%	- 714	100%	- 367	100%	- 3,751	100%
Output												
1. Owner-Occupied Dwellings	- \$123,688,816	11.1%	- \$18,443,866	12.1%	- \$9,216,883	12.2%	- \$11,580,330	13.3%	- \$4,896,747	12.2%	- \$49,419,036	12.7%
2. Real Estate Establishments	- \$73,438,896	6.6%	- \$11,085,868	7.3%	- \$5,512,780	7.3%	- \$4,848,295	5.6%	- \$2,943,001	7.3%	- \$28,584,972	7.3%
3. Offices of Physicians, Dentists and Other Healthcare Providers	- \$63,399,208	5.7%	- \$10,660,578	7.0%	- \$5,350,068	7.1%	- \$5,184,759	6.0%	- \$2,845,931	7.1%	- \$21,171,288	5.4%
4. Food Service and Drinking Places	- \$63,276,336	5.7%	- \$9,427,167	6.2%	- \$4,726,359	6.3%	- \$4,700,594	5.4%	- \$2,516,927	6.3%	- \$24,569,596	6.3%
5. Private Hospitals	- \$61,920,632	5.6%	- \$8,060,926	5.3%	- \$4,738,009	6.3%	- \$5,340,956	6.1%	- \$1,853,806	4.6%	- \$19,029,808	4.9%
6. Wholesale Trade Businesses	- \$47,722,400	4.3%	- \$7,047,218	4.6%	- \$3,481,236	4.6%	- \$4,066,752	4.7%	- \$1,347,826	3.4%	- \$11,740,971	3.0%
7. Petroleum Refineries	- \$33,816,040	3.0%										
8. Electric Power Generation and Supply	- \$27,007,140	2.4%			- \$1,714,882	2.3%					- \$11,699,202	3.0%
9. Monetary Authorities and Depository Credit Intermediaries	- \$24,948,514	2.2%			- \$1,851,729	2.5%	- \$1,771,736	2.0%	- \$960,951	2.4%		
10. Insurance Carriers	- \$24,557,432	2.2%	- \$4,038,939	2.6%	- \$2,053,774	2.7%	- \$2,355,820	2.7%	- \$1,072,560	2.7%	- \$10,648,641	2.7%
11. Securities, Commodity Contracts and Investments			- \$4,265,518	2.8%			- \$1,843,363	2.1%				
12. State/Local Government Non-Education			- \$4,053,224	2.7%					- \$1,788,236	4.4%	- \$14,607,680	3.8%
12. Motor Vehicle and Parts Dealers			- \$3,811,621	2.5%	- \$1,736,908	2.3%	- \$2,226,229	2.6%	- \$1,015,818	2.5%	- \$9,358,214	2.4%
TOTAL	- \$1,110,216,496	100%	- \$152,846,826	100%	- \$75,426,595	100%	- \$87,099,130	100%	- \$40,230,008	100%	- \$388,965,016	100%

output, followed 3rd by offices of physicians, dentists and other healthcare providers—with the exception of all other counties. The majority of impacts were distributed widely across multiple industry sectors.

The food service and drinking places sector ranks in the top five of the largest impacted sectors for labor income, employment and output for all counties, and in the top seven for indirect business taxes income. For labor income, the offices of physicians, dentists and other healthcare providers was hardest hit. The greatest percentage of impacts for indirect business taxes—by far, and for loss of output was in the owner-occupied dwellings sector. Again, the food service and drinking places sector lost the most employment; however, due to the low paying nature of the jobs, it was ranked only 3rd in labor income losses.

4.3.3 Total Economic Impact of Population Loss for All Michigan Counties that Lost Population (2005-2008)

In summary, the total estimated economic impacts in the 63 Michigan counties, due to county population loss from 2005-2008, are a total loss of:

- \$584,741,201 in labor income,
- \$346,450,711 in property-type income,
- 15,855 jobs and
- \$1,854,784,069 in value of economic output.

4.3.4 Total Economic Impact of Population Gains for All Michigan Counties that Gained Population (2005-2008)

Not all counties in Michigan lost population over the 2000-2005 time period. In fact, 20 counties gained population. Just as counties that lost population experienced a negative economic impact, counties that increased in population experienced positive economic impact. The economic impact of the additional population was estimated utilizing the same methods as the economic impact of loss in population. The estimated economic impacts associated with the reported population gains (see Table 4.7) in the counties that gained population are a total gain of:

- \$207,935,070 in labor income,
- \$121,453,183 in property-type income,
- 5,881 jobs and
- \$674,108,577 in value of economic output.

4.3.5 Net Estimated Economic Impacts of Population Change in Michigan (2005-2008)

The net economic impacts (between places that gained population and those that lost population) give a clearer picture of the overall effect of Michigan’s changing population. The analysis utilizes the individual county’s economic parameters to estimate the economic impacts of gains and losses in population. As a result, we are able

Table 4.7: Economic Impacts of Population Gains for All Michigan Counties That Gained Population (2005-2008)

Impact Category	Direct	Indirect	Induced	Total
Labor Income	\$130,179,025	\$43,775,207	\$33,980,838	\$207,935,070
Property Type Income	\$78,005,225	\$23,582,940	\$19,865,018	\$121,453,183
Employment (People)	3,918	980	983	5,881
Value of Output	\$431,979,905	\$134,818,329	\$107,310,338	\$674,108,577

to more clearly identify the extent to which declines in some counties affect the overall economy of Michigan. The net estimated economic impacts associated with the reported population change are (see Table 4.8) a total loss of:

- \$376,806,132 in labor income,
- \$224,997,528 in property-type income,
- 9,974 jobs and
- \$1,180,675,492 in value of economic output.

As can be seen from the net effect above, the gains in counties with increasing population do not offset the loss in counties with declining population. Overall, the net effect of county population changes across the state, from 2005-2008, was significantly negative for Michigan. In total, the net economic impact is a loss of over \$1.78 billion dollars in a three-year period. Around half of the loss occurred between 2007 and 2008 alone, when the state lost over 46,000 people in a one-year period.

Table 4.8: Net Economic Impacts of Population Change for All Michigan Counties (2005-2008)

Impact Category	Direct	Indirect	Induced	Total
Labor Income	- \$256,723,813	- \$71,201,210	- \$48,881,111	- \$376,806,132
Property Type Income	- \$156,800,135	- \$39,269,227	- \$28,928,166	- \$224,997,528
Employment (People)	- 7,310	- 1,370	- 1,294	- 9,974
Value of Output	- \$828,325,104	- \$203,999,325	- \$148,351,057	- \$1,180,675,492

Part 5: Home Value Impacts of Population Change In Michigan

AS A MAJOR COMPONENT OF DEMAND, MIGRATION CAN POTENTIALLY HAVE AN IMPACT ON HOUSING VALUE. COUNTIES WITH SIGNIFICANT POPULATION LOSS OFTEN EXPERIENCE SLUGGISH GROWTH OR DECREASES IN THE DEMAND FOR HOUSING, RESULTING IN A REDUCTION IN PROPERTY VALUES.

5.1 Background

The housing market is subject to supply and demand conditions, particularly price (or home value). On the demand side, the housing market is driven by population growth, market conditions in the mortgage lending sector, the economic vibrancy of the local area and several other factors. On the supply side, the impact is usually a long-term response to housing market disequilibrium, which helps to stabilize the housing market through supply response. In the short run, the volume of housing demanded (or purchased) is responsive to price.

The main focus of this part is to inform on the impacts of population growth on home value. It, therefore, focuses on the elasticity of home value with respect to population change. As a component of demand, migration can potentially have an impact on housing value. Counties with a significant loss of population, based on economic theory, are expected to experience sluggish growth or reductions in housing demand and, hence, a reduction in property values. On the other hand, counties with robust population growth should experience strong demand for housing and, hence, an increased value of residential properties in the short-run and in the long-run.

5.2 Methodology

The short-run price elasticity of supply for housing measures the response of the housing quantity supplied to home value changes. This measure is the percentage change in the housing supply in response to a 1%

change in the home value. For the long-run, Blackley (1999) estimates 0.8 price elasticity. The short-run price elasticity of demand for home measures the response of the housing quantity demand to housing value changes. This measure is the percentage of change in the demand for housing to a 1% change in home values. Previous estimates of the short-run price elasticity of housing supply vary from between 1.2 and 1.4 (DiPasquale and Wheaton, 1994), between one and four (Mayer and Somerville, 1996) and 0.8 (Mayer and Somerville, 2000). On the demand side, the quantity of housing demanded is quite responsive to price (Mankiw and Weil, 1989).

After controlling for other economic factors that affect home values, estimates from past studies indicate that an increase in population growth of 0.25% would lead to an increase of about 1% in real house prices. That is, a 1% increase in population is associated with a 4% increase in real home values (Terrones and Otrok, 2004). Another study similarly estimated a 5.3% home value impact for a 1% increase in the demand for housing (Mankiw and Weil, 1989). In a study of the economic impact of immigration in U.S. cities, it was estimated that an immigration inflow equal to 1% of a city's population leads to a 1% rise in rental and home values (Saiz, 2006). Based on a study of many cities, including Detroit, the estimated elasticity of change in the value of housing between 1990 and 2000, due to population change in the same period, was 0.9731, indicating that a 1% change in metropolitan population is associated with a 0.9731% increase in house values (Goodman, 2005). Since the current report focuses on

Figure 5.1: Estimating the Home Value Impact of Population Loss in Michigan

To estimate the housing value impact of population loss in Michigan counties, these steps were followed:

1. For the 2000-2005 time period, county-by-county home value impact assessments were conducted for those counties with population loss of more than 1,500. All other counties that lost less than 1,500 people were pooled together for group home value impact estimates.
2. For the 2005-2008 time period, county-by-county home value impact assessments were conducted for those counties with population loss of more than 2,500. All other counties that lost less than 2,500 people were pooled together for group home value impact estimates.
3. To generate estimates of the impact of population loss on home value, the elasticity value of 0.9731 estimated by Goodman (2005) was utilized. It is important to note that Mankiw and Weil (1989) estimated a much larger elasticity of 5.3.
4. To estimate the home value impact of population change, the percentage of county population loss from U.S. Census Bureau data was combined with the outcome of Step 3 above to calculate the associated percent impact on home value. The result was applied to the county median home value to calculate the impact of population change on the value of a typical home. This value was multiplied by the total number of owner-occupied dwelling units in order to estimate the total loss in home values.

the impact of population loss, the reverse relationship between population change and home values also holds. That is, a decline in population leads to a decline in home values. For the purpose of this study, the elasticity estimate by Goodman (2005) is utilized, as the study is more recent and provides a conservative elasticity estimate. Figure 5.1 provides a summary of the methodology used in this section.

5.3 Home Value Impacts of Population Change for Michigan Counties – 2000-2005 Period

For the 2000-2005 period, five counties had a population loss greater than 1,500 people: Wayne, Saginaw, Berrien, Huron and Bay Counties. Individual analysis of the home value of population loss was conducted for each of these counties. All other counties that lost less than 1,500 people were aggregated in estimating the home value impacts of population loss.

5.3.1 Home Value Impacts of Population Change for All Michigan Counties that Lost Population (2000-2005)

Table 5.1 shows the median owner-occupied home values for Michigan counties, and the estimated percentage of home values impacted, as a result of population loss. It also shows the amount of value lost per home, and the total value lost. For the 2000-2005 time period, population loss from Wayne County was estimated to have resulted in a \$888.2 million loss in home equity values. Losses of \$84 million in Saginaw County, \$63 million in Berrien County, \$51.1 million in Huron County and \$42.5 million in Bay County were also estimated. The combined estimate for all other counties in Michigan that lost population in the 2000-2005 period is close to \$253.1 million, making the total home equity value lost (in Michigan counties with population loss) around to \$1.38 billion.

Table 5.1: Estimated Impact of Population Loss/Gain on Home Value in Michigan Counties (2000-2005)

	County	Median Owner-Occupied Housing Value	Percentage Impacted	Average Amount Impacted per Home	Number of Owner-Occupied Units	Total Impact
Counties with Population Loss	Wayne	\$99,400	- 1.794%	- \$1,735.30	511,837	- \$888,192,366
	Saginaw	\$85,200	- 1.707%	- \$1,415.08	59,390	- \$84,041,425
	Berrien	\$94,700	- 1.490%	- \$1,373.31	45,938	- \$63,087,198
	Huron	\$78,000	- 5.532%	- \$4,199.12	12,174	- \$51,120,067
	Bay	\$84,900	- 1.476%	- \$1,219.48	34,837	- \$42,482,919
	Others with Population Loss (26)	\$70,623	- 2.727%	- \$1,694.79	202,867	- \$253,097,172
Counties with Population Gain	All Counties (52)	\$104,108	3.307%	\$3,747.69	1,926,081	\$8,067,142,884

5.3.2 Home Value Impacts of Population Change for All Michigan Counties that Gained Population (2000-2005)

For the 2000-2005 time period, county population estimates indicate that there were 52 counties in Michigan that gained population. These counties were aggregated to generate home value impact estimates for counties that gained population. The home value impacts for those counties that gained population during the 2000-2005 period was \$8.07 billion (see Table 5.1).

5.3.3 Net Home Value Impacts of Population Change in Michigan Counties (2000-2005)

Table 5.1 shows the estimated negative impacts of population loss on home equity value for the 2000-2005 period and the estimated positive impacts on housing values from population gains. To estimate the net home equity impact, those Michigan counties with gains and loss were combined, and the results are presented in Table 5.3. For the 2000-2005 time period, the net impact of population change in Michigan counties (after adjusting

county loss by county gains) is positive. That is, population gains in many counties surpassed the loss in other counties. The estimated net effect of population change on housing values in Michigan in the 2000-2005 time period was a gain of \$6.69 billion (see Table 5.3). Even though the estimated statewide home value gains are significant and positive, there were pockets, such as Wayne County, which experienced heavy home equity loss. It is important to note that the more recent period of 2005-2008, which experienced a net population decline, had a negative impact on home values.

5.4 Home Value Impacts of Population Change for Michigan Counties – 2005-2008 Period

For the 2005-2008 period, five Michigan counties experienced a population loss greater than 2,500 people: Wayne, Genesee, Saginaw, Oakland and Ingham Counties. The impact of population loss on home values was conducted for each of these counties following the methodology indicated in Figure 5.1. All other counties that lost fewer than 2,500 people in this period were aggregated in estimating the home value impacts of population loss in these counties.

Table 5.2: Estimated Impact of Population Loss/Gain on Home Value in Michigan Counties (2005-2008)

	County	Median Owner-Occupied Housing Value	Percentage Impacted	Average Amount Impacted per Home	Number of Owner-Occupied Units	Total Impact
Counties with Population Loss	Wayne	\$99,400	- 3.668%	- \$3,548.25	511,837	- \$1,816,124,490
	Genesee	\$95,000	- 2.351%	- \$2,173.26	124,340	- \$270,222,541
	Saginaw	\$85,200	- 2.767%	- \$2,293.80	59,390	- \$136,228,815
	Oakland	\$181,200	- 0.307%	- \$541.46	352,125	- \$190,661,597
	Ingham	\$98,400	- 1.001%	- \$958.44	65,986	- \$63,243,554
	Others with Population Loss (58)	\$85,329	- 1.753%	- \$1,315.12	780,018	- \$14,316,013
Counties with Population Gain	All Counties (20)	\$105,000	1.120%	\$1,233.24	899,428	\$64,974,192

5.4.1 Home Value Impacts of Population Change for All Michigan Counties that Lost Population (2005-2008)

Table 5.2 shows the total home value lost, as a result of population loss. For the 2005-2008 time period, population loss in Wayne County was estimated to have resulted in a \$1.8 billion loss in home equity value. Losses of \$270.2 million in Genesee County, \$136.2 million in Saginaw County, \$190.7 million in Oakland County and \$63.2 million in Ingham County were estimated. The combined estimate for all other counties in Michigan that lost population in the 2005-2008 period was \$14.3 million. Combined, the estimated

total home equity value lost in Michigan counties that lost population was over \$2.49 billion.

5.4.2 Home Value Impacts of Population Change for All Michigan Counties that Gained Population (2005-2008)

As shown in Table 5.2, for the 2005-2008 time period, 20 counties in Michigan gained population. Those Michigan counties that gained population experienced an estimated \$65 million gain in home equity value. Given the sharp decline in property values in the country for this period, this estimated effect may have helped mitigate the equity loss from such things as foreclosure in these growth markets.

Table 5.3: Estimated Net Impact of Population Change on Housing Value in Michigan Counties

Time Period	Net Home Value Impact of Population Change for All Counties (Conservative Estimates)
2000-2005	\$6,685,121,736
2005-2008	- \$2,425,822,818

5.4.3 Net Home Value Impacts of County Population Changes in Michigan (2005-2008)

For the 2005-2008 time period, the net impact of population change on home value in all Michigan counties was a loss of over \$2.43 billion (see Table 5.3). As Michigan's population continues to decline—as evidenced from the recently released 2007-2008 population estimates—the negative impacts will continue to worsen. The losses up to 2008 were only the initial impacts from the state's population decline. Taking into consideration the national mortgage crisis, the current condition of the housing market is likely to be much worse, particularly in those communities with significant population decline.

Part 6: Estimated Tax Impacts of Population Change In Michigan

CHANGES IN THE TAX REVENUE OF GOVERNMENT UNITS AFFECT THEIR ABILITY TO PROVIDE SERVICES. THEREFORE, DECREASING REVENUES AND STRESSED BUDGETS MAY RESULT IN SERVICE LEVELS THAT MAY NOT BE SUFFICIENT TO MEET PUBLIC DEMAND.

In Parts 4 and 5, county-level economic and home value impacts of population change were presented. This part focuses on estimating the effects of population change on the tax base, or the revenues of the federal, state and local government units. Changes in tax collection affect the ability of local government units to provide public services. Therefore, decreasing revenues, given cost, may result in service levels being lowered or cut. First, to estimate the tax impacts of population change, this part focuses on the population change impacts on taxes for those Michigan counties with significant population loss and for other counties with any population loss at all. Second, it aggregates the total tax impacts of population loss for all counties with population loss in

Michigan. Third, it focuses on the aggregate tax impact of population gain for all counties with population increases in Michigan. Finally, it focuses on the net tax impact from the change in population for the entire state. These impacts are estimated for the 2000-2005 and 2005-2008 periods, respectively. Of course, for a county, those federal taxes are not related to the community. Neither are state taxes, as counties can only retain local county taxes.

6.1 Methodology

The economic impact estimates were based on the translation of the population loss numbers into income and spending withdrawn from the local economy. It was assumed that the characteristics of people who

Figure 6.1: Estimating the Tax Impacts of Population Change in Michigan

To estimate the tax impacts of population change, the following steps were followed:

1. For both the 2000-2005 and 2005-2008 time periods, Michigan population changes by county were identified from U.S. Census Bureau data.
2. These numbers were then converted to household numbers by utilizing the average county household size data from the U.S. Census Bureau as a conversion parameter.
3. To determine the total income reduction or gain associated with household change, median household income data from the U.S. Census Bureau for a given county was multiplied by the estimated number of households lost or gained.
4. Tax impacts associated with income gain or reduction (due to a change in the number of households) were then estimated with the IMPLAN input-output analysis tool, and federal and state and local tax impacts were identified.

move out of a county are the same as the average county resident. To the extent to which knowledge workers who command higher pay and consume more services are more apt to move out of a municipality, the adverse tax effects of population loss would be higher. The methodology to determine the tax collection impacts of population change is provided in Figure 6.1.

6.2 Tax Impacts of Population Change in Michigan Counties – 2000-2005 Period

From 2000-2005, 31 counties lost population, while 52 counties gained population. Increases in county-level population overshadowed the losses, resulting in an overall population increase for Michigan from 2000-2005. As a result, the net tax impact from the changing population in this time period would be positive for the

state as a whole. However, at the county level, counties that lost population could experience dramatic declines in local property tax income, which are most likely not offset by gains in other counties.

6.2.1 Tax Impacts from County Population Loss (2000-2005)

For the 2000-2005 period, the estimated tax impacts associated with the reported population loss are reported in Table 6.1. The five counties with the greatest county population loss—Wayne, Saginaw, Berrien, Huron and Bay—are estimated individually. All other counties in Michigan with a population loss between 2000 and 2005 are grouped together to estimate an aggregate tax impact. The estimated tax impacts associated with population loss are a total loss of:

Table 6.1: Tax Impacts of County Population Loss for All Michigan Counties that Lost Population (2000-2005)

County	Unit of Government	Tax Impact	Percent of Total
Wayne	Federal Government	-\$42,536,611	53%
	State/Local Government	-\$38,348,433	47%
	Total (Excluding Corporations)	-\$80,885,044	100%
Saginaw	Federal Government	-\$3,678,184	51%
	State/Local Government	-\$3,481,984	49%
	Total (Excluding Corporations)	-\$7,160,168	100%
Berrien	Federal Government	-\$2,560,848	52%
	State/Local Government	-\$2,352,332	48%
	Total (Excluding Corporations)	-\$4,913,181	100%
Huron	Federal Government	-\$1,371,896	48%
	State/Local Government	-\$1,460,874	52%
	Total (Excluding Corporations)	-\$2,832,770	100%
Bay	Federal Government	-\$1,609,677	50%
	State/Local Government	-\$1,615,225	50%
	Total (Excluding Corporations)	-\$3,224,901	100%
All Other Counties	Federal Government	-\$8,263,837	49%
	State/Local Government	-\$8,580,078	51%
	Total (Excluding Corporations)	-\$16,843,914	100%
Total	Federal Government	-\$60,021,053	52%
	State/Local Government	-\$55,838,925	48%
	Total (Excluding Corporations)	-\$115,859,978	100%

Wayne County (lost 36,978 people):

- More than \$42.5 million in federal taxes and
- More than \$38.3 million in state and local taxes.

This equates to nearly \$2,187 in total lost tax revenue per person that left the county.

Saginaw County (lost 3,585 people):

- Nearly \$3.7 million in federal taxes and
- Nearly \$3.5 million in state and local taxes.

Nearly \$1,997 in total tax loss per person that left the county.

Berrien County (lost 2,421 people):

- Nearly \$2.6 million in federal taxes and
- Nearly \$2.4 million in state and local taxes.

This is a total tax loss of nearly \$2,029 per person that left the county.

Huron County (lost 1,996 people):

- Nearly \$1.4 million in federal taxes and
- Nearly \$1.5 million in state and local taxes.

This is a loss of \$1,149 in federal, state and local tax revenue per person that left the county.

Bay County (lost 1,626 people):

- More than \$1.6 million in federal taxes and
- More than \$1.6 million in state and local taxes.

This is a total tax loss of nearly \$1,983 per person that left the county.

All other counties with population loss:

- Nearly \$8.3 million in federal taxes and
- Nearly \$8.6 million in state and local taxes.

6.2.2 Total Tax Impact of Population Loss for All Michigan Counties that Lost Population (2000-2005)

In summary, the total estimated tax impacts in Michigan due to county population losses in those Michigan counties that lost population from 2000-2005 (see Table 6.1) are a total loss of:

- More than \$60 million in federal taxes and
- Nearly \$56 million in state and local taxes.

6.2.3 Total Tax Impact of Population Gains for All Michigan Counties that Gained Population (2000-2005)

Between the 2000-2005 period, 52 counties in Michigan gained population. Just as counties that lost population experienced a negative tax impact, counties that had increased population experienced a positive tax impact. As seen from the federal or state tax level, these county-level changes may be offsetting. However, at the local level, a particular county's loss (and resulting effect on a local municipality) would be disruptive, even though offset at the state level. The tax impact of the additional person was estimated utilizing the same method as the tax impact of a population loss. The estimated tax impacts associated with county

Table 6.2: Tax Impacts of County Population Gains for All Michigan Counties that Gained Population (2000-2005)

Unit of Government	Tax Impact	Percent of Total
Federal Government	\$289,973,477	53%
State/Local Government	\$256,302,527	47%
Total (Excluding Corporations)	\$546,276,004	100%

population gains (see Table 6.2) are a total gain of:

- Nearly \$290 million in federal taxes and
- More than \$256 million in state and local taxes.

6.2.4 Net Estimated Tax Impacts of Population Change in Michigan (2000-2005)

The net tax impacts (between places gaining population and those losing population) show the overall tax impact resulting from Michigan’s changing population. The analysis utilizes the individual county’s gains or loss to estimate the federal and state and local tax impacts of gains and loss in population. In this analysis, for technical reasons, we were not able to separate state and local taxes. The estimated net tax impacts associated with population changes in Michigan (see Table 6.3) are a total gain of:

- Nearly \$290 million in federal taxes and
- More than \$200 million in state and local taxes.

As can be seen from the net effects above, the negative effects of counties that lost population are offset by the positive effects of population gains in many counties in Michigan during the 2000-2005 time period. Even though the net tax impacts of population changes are positive, the negative tax impacts in those counties that lost significant population were indeed significant. These net numbers do not adequately represent the local tax base impacts in those counties that lost significant population.

6.3 Tax Impacts of Population Changes in Michigan Counties – 2005-2008 Period

While in the 2000 to 2005 time period Michigan gained population overall, the state experienced a net loss in total population between 2005 and 2008. These population declines

AT A LOSS

Since, overall, Michigan lost population, the state, as a whole, experienced a decline in federal, state and local tax revenues.

significantly impacted the tax base at the local, state and federal levels, with tax base

gains only partially offsetting the loss. This resulted in the state experiencing an overall net tax base decline.

6.3.1 Tax Impacts from County Population Loss (2005-2008)

The estimated tax impacts to the county associated with population loss for the 2005-2008 period are reported in Table 6.4. The five counties with the greatest population loss in Michigan—Wayne, Genesee, Saginaw, Oakland and Ingham—are reported individually first, followed by all other counties that lost population as one group (a total of 58 counties combined). The estimated tax impacts associated with population loss are a total loss of:

Wayne County (lost 74,254 people):

- More than \$85.8 million in federal taxes and
- Nearly \$76.8 million in state and local taxes.

Table 6.3: Net Tax Impacts of Population Change for All Michigan Counties (2000-2005)

Unit of Government	Tax Impact	Percent of Total
Federal Government	\$289,952,424	53%
State/Local Government	\$200,463,602	47%
Total (Excluding Corporations)	\$430,416,026	100%

This equates to over \$2,189 in total lost tax revenue per person that left the county, \$1,034 of which is at the state and local level alone.

Genesee County (lost 10,323 people):

- Nearly \$11.9 million in federal taxes and
- More than \$11.2 million in state and local taxes.

This is a total tax loss of over \$2,242 per person that left the county.

Saginaw County (lost 5,712 people):

- More than \$5.8 million in federal taxes and
- Nearly \$5.6 million in state and local taxes.

This is a total tax loss of nearly \$1,994 per person that left the county.

Oakland County (lost 3,703 people):

- More than \$7.4 million in federal taxes and
- Nearly \$6.4 million in state and local taxes.

Over a \$3,728 total tax loss per person that left the county.

Ingham County (lost 2,806 people):

- Nearly \$3 million in federal taxes and
- More than \$2.9 million in state and local taxes.

This is a loss of nearly \$2,072 in federal, state and local tax revenue per person that left the county.

Table 6.4: Tax Impacts of County Population Loss for All Michigan Counties that Lost Population (2005-2008)

County	Unit of Government	Tax Impact	Percent of Total
Wayne	Federal Government	-\$85,796,491	53%
	State/Local Government	-\$76,757,350	47%
	Total (Excluding Corporations)	-\$162,553,841	100%
Genesee	Federal Government	-\$11,899,804	51%
	State/Local Government	-\$11,246,129	49%
	Total (Excluding Corporations)	-\$23,145,933	100%
Saginaw	Federal Government	-\$5,816,948	51%
	State/Local Government	-\$5,571,278	49%
	Total (Excluding Corporations)	-\$11,388,226	100%
Oakland	Federal Government	-\$7,435,887	54%
	State/Local Government	-\$6,370,594	46%
	Total (Excluding Corporations)	-\$13,806,481	100%
Ingham	Federal Government	-\$2,939,081	51%
	State/Local Government	-\$2,874,199	49%
	Total (Excluding Corporations)	-\$5,813,280	100%
All Other Counties	Federal Government	-\$28,237,282	50%
	State/Local Government	-\$28,729,081	50%
	Total (Excluding Corporations)	-\$56,966,364	100%
Total	Federal Government	-\$142,125,494	52%
	State/Local Government	-\$131,548,631	48%
	Total (Excluding Corporations)	-\$273,674,125	100%

All other counties with population loss:

- More than \$28.2 million in federal taxes and
- More than \$28.7 million in state and local taxes.

- More than \$51.7 million in federal taxes and
- More than \$47.6 million in state and local taxes.

6.3.2 Total Tax Impact of Population Loss in All Michigan Counties that Lost Population (2005-2008)

In summary, the total estimated economic impacts in Michigan due to county population loss for the 63 Michigan counties that experienced losses in the 2005-2008 period are provided in Table 6.4. The estimates are a total loss of:

- More than \$142.1 million in federal taxes and
- More than \$131.5 million in state and local taxes.

6.3.3 Total Tax Impact of Population Gains for All Michigan Counties that Gained Population (2005-2008)

The above estimates do not account for the 20 counties that either maintained or gained population. The estimated tax impacts associated with population increases in those counties that gained population (see Table 6.5) are a total gain of:

6.3.4 Net Estimated Tax Impacts of Population Change in Michigan Counties (2005-2008)

To determine the net tax impacts of population change across counties, the negative tax impacts from population loss counties are subtracted from the positive tax impacts of population gain counties. From a statewide perspective, federal and state tax losses were only partially offset by tax gains from 2005-2008 period, since generally the state lost population.

The estimated net tax impacts associated with population change in Michigan from the 2005-2008 time period (see Table 6.6) are total loss of:

- Nearly \$90.4 million in federal taxes and
- More than \$83.9 million in state and local taxes

The net results indicate that the state and local governments lost over \$83.9 million in state and local tax revenues, which contributes to the tight budget constraints communities and the state are currently facing.

Table 6.5: Tax Impacts of Population Gains for All Michigan Counties that Gained Population (2005-2008)

Unit of Government	Tax Impact	Percent of Total
Federal Government	\$51,726,810	52%
State/Local Government	\$47,602,415	48%
Total (Excluding Corporations)	\$99,329,226	100%

Table 6.6: Net Tax Impacts of Population Change for All Michigan Counties (2005-2008)

Unit of Government	Tax Impact	Percent of Total
Federal Government	- \$90,398,684	52%
State/Local Government	- \$83,946,216	48%
Total (Excluding Corporations)	- \$174,344,899	100%

Part 7: Conclusion and Policy Implications

The loss of economic activity due to population loss is likely to be an increasingly important issue as the economy transitions further from a manufacturing-based economy to a service-based one. Therefore, in order to mitigate population loss, the following strategies may be appropriate:

- Population attraction strategies.
- “Right-sizing” or “down-sizing.”
- Policies targeted to enhance the stability of the service sector.
- Tourism-attraction strategies.
- Immigration-based strategies for economic development.
- The pursuit of federal resources to salvage Michigan’s Economy.

7.1 Basic Findings and Conclusions

The movement of population is increasingly tied to inter-regional differences in economic performance and quality of life. The state of Michigan is not immune to this emerging paradigm. Since 2001, many Michigan counties have experienced population loss as people have moved in and out of the state, and in and out of its counties. The economic impacts of these changes have been significant. The net effect of these movements for Michigan was a state population decline from 2005-2008. Population increasingly moved away from more urban places to areas that are less so. Although these internal shifts in population are less noticeable at the state level, they have had significant effects on the economic viability of those communities that experienced acute population loss. For the 2000 to 2005 period, the five leading counties in Michigan in population loss were Wayne, Saginaw, Berrien, Huron and Bay, which lost 36,978; 3,585; 2,421; 1,996; and 1,626 people, respectively. For the 2005 to 2008 period, the five leading counties in population loss were Wayne (-74,254), Genesee (-10,323), Saginaw (-5,712), Oakland (-3,703) and Ingham (-2,806).

The population loss from these counties translates into additional loss of economic activity. When people move out of the community, the ancillary services they usually demand are no longer needed, leaving the community further compromised. This is particularly so as the economy transitions from a manufacturing-based to a more service-based economy. As people rely more on services, their departure means deeper withdrawals of economic activity.

Based on the findings from this study, it appears that the adverse economic impacts are significant. While for the 2000 to 2005 period the estimated net economic impacts of population movement in Michigan are positive, the impact of population loss in those 31 Michigan counties that lost population in the 2000-2005 time period totaled \$245.6 million in lost labor income; \$164.4 million in lost property-type income; 7,327 lost jobs; and \$789.6 million in lost value of economic output. For the 2005-2008 time period, when the state lost population overall, the estimated net economic impacts of population movement in Michigan were negative: \$376.8 million in lost labor income; \$225 million in lost property-type income; 9,974 lost jobs; and \$1.18 billion in lost value of economic output. During this same period, the loss

resulting from those counties that lost population alone totaled \$584.7 million in lost labor income; \$346.5 million in lost property-type income; 15,855 lost jobs; and \$1.85 billion in lost value of economic output. While many people simply move to nearby towns and may continue to contribute somewhat to the economies of the places they left, many are indeed moving out of their local areas, pulling with them the services they typically demand.

Perhaps more concerning are the property value or home equity implications of population migration. The wealth of many Americans is tied to their homes. Between 2000 and 2005, the loss in home equity due to population decline in shrinking places totaled \$1.38 billion for Michigan. For the 2005 to 2008 period, an estimated residential property value loss of over \$2.49 billion was estimated.

With respect to jobs, income, indirect business taxes and economic outputs, the segments that are most impacted by changes in population are the service-related sectors. The most impacted sectors are offices of physicians, dentists and other healthcare providers; hospitals; food service and drinking places; motor vehicle and parts dealers; wholesale trade; real estate; legal services; general merchandise stores; owner-occupied dwellings; and food and beverage stores. These service sectors are key elements of the job market. The impact of population loss on the service industry needs careful consideration.

Non-real estate tax payments to federal, state and local governments are also impacted by population loss. Although there is a net increase in population growth related tax revenues, overall, in Michigan between 2000 and 2005, for those counties that lost population, tax revenues decreased significantly. Between 2000 and 2005, counties that lost population alone totaled a loss of over \$60 million in federal taxes and over \$55.8 million in state and local taxes for a total impact of nearly \$115.9 million. The net effect of the overall population loss between 2005 and 2008 in Michigan was a loss of nearly \$90.4 million in federal taxes and

over \$83.9 million in state and local taxes. During this period, the total impact from counties that lost population was a loss of over \$142.1 million in federal taxes and over \$131.5 million in state and local taxes for a total impact of nearly \$273.7 million.

The loss of economic activity due to population decline is likely to be an increasingly important issue as the economy transitions further from a manufacturing-based economy to a service-based one. If jobs do follow people, as proponents of the New Economy concept propose, it makes sense to add to the retinue of existing strategies such policies that have the potential of attracting population. Many states, including Michigan, continue to focus on the attraction of job-laden businesses. However, in states experiencing population loss, it may be prudent to also consider policies to attract population, especially people with greater tendency to create jobs by their presence in the local economy. Evidence from the literature suggests that the entrepreneurial class, the talented, the creative class and other knowledge-based workers are attracted to places that are rich in amenities and that offer great quality of life (McGranahan and Wojan, 2007; Deller et al.; 2001). Therefore, strategies to recruit people to an area may well be fruitful, if they result in raising the demand for services and attracting knowledge based workers.

Population groups who “create more than their jobs” are the ones to target. Population attraction and retention policy is particularly relevant in places that are losing significant population. The Land Policy Institute’s Land Policy Research Team is currently completing research on drivers of population change and the most effective strategies for specific places. This research could provide useful insights on what works where in population attraction.

7.2 Policy Insights and Recommendations

The following policy considerations are drawn from the results above:

- *Population and growth:* Population growth is related to economic growth. The loss of population

is a major signal that prosperity is lacking in a place. A place can not be successful if its people are leaving. For example, Detroit, today, is 50% of its 1950 population and 25% of its 1950 economic activity. Other places with population growth thrived at the expense of Detroit.

- *Population dynamics:* Population loss in many Michigan counties in the face of growing national population is cause for concern. There is a need to better understand the sources of population dynamics, the reversability of population shifts and the optimal strategies for population attraction and retention.

To the extent to which we know how to manage population and can target economically beneficial people, population attraction can be a viable strategy. The alternative strategy is being talked about more seriously in the popular press today, and that is “right-sizing” or “down-sizing” cities to align the provision of services and, thus, city service costs more in line with population.

- *Service sector:* Since this sector is an important source of recent job growth in the nation, the impact of population loss on this sector needs to be carefully understood, and appropriate policies to sustain its growth need to be considered. The state has lost a significant number of manufacturing jobs. The service sector, however, is growing.

Our cities are far more versed in strategies to attract manufacturers, but much less versed in the attraction methods for service companies and how to maximize their economic impacts.

- *Tourism:* Tourism looks promising. The expansion of the tourism industry can provide relief to the service sector by attracting local spending by visitors that can mitigate the effect of demand reduction caused by population loss.
- *Immigration:* In some parts of the country, immigrants add more substantially to population

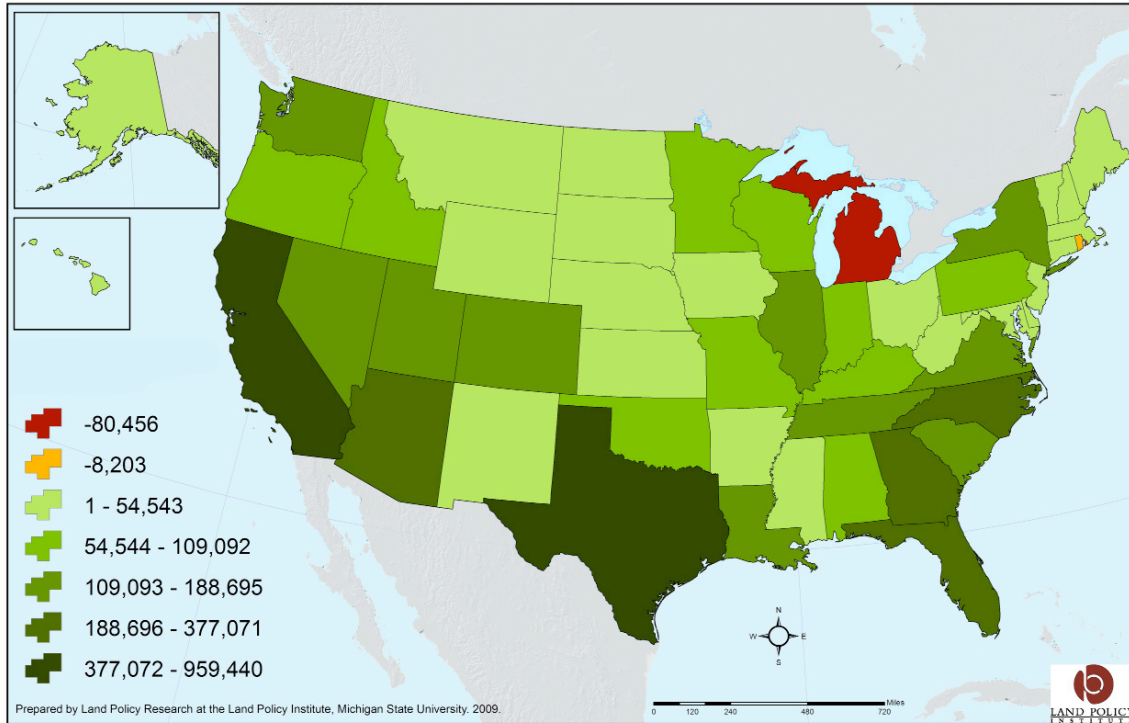
growth than they do in Michigan. On average, immigrants also tend to be more prolific in creating jobs than their average non-immigrant counterparts. Michigan needs to consider its strategies to attract targeted immigrants. Special consideration may need to be given to attracting high-net-worth foreign investors by leveraging the EB-5 visa provision to recruit wealthy immigrants.

- *Stimulus package:* Given the dire economic situation in Michigan—and the persistence of unemployment, increasing poverty, declining growth rate, home foreclosures, devaluation of property values and population losses—the economy needed the special boost (stimulus) that federal stimulus funds provided. However, more federal relief funds may well be needed to adequately revitalize Michigan’s economy. Michigan has been strategic in making the case for federal dollars but can be even more strategic and competitive by showing greater multiplier effects of federal dollars spent in the state. Funds must also be utilized in thoughtful, innovative ways for those to truly be transformational to Michigan’s economy.

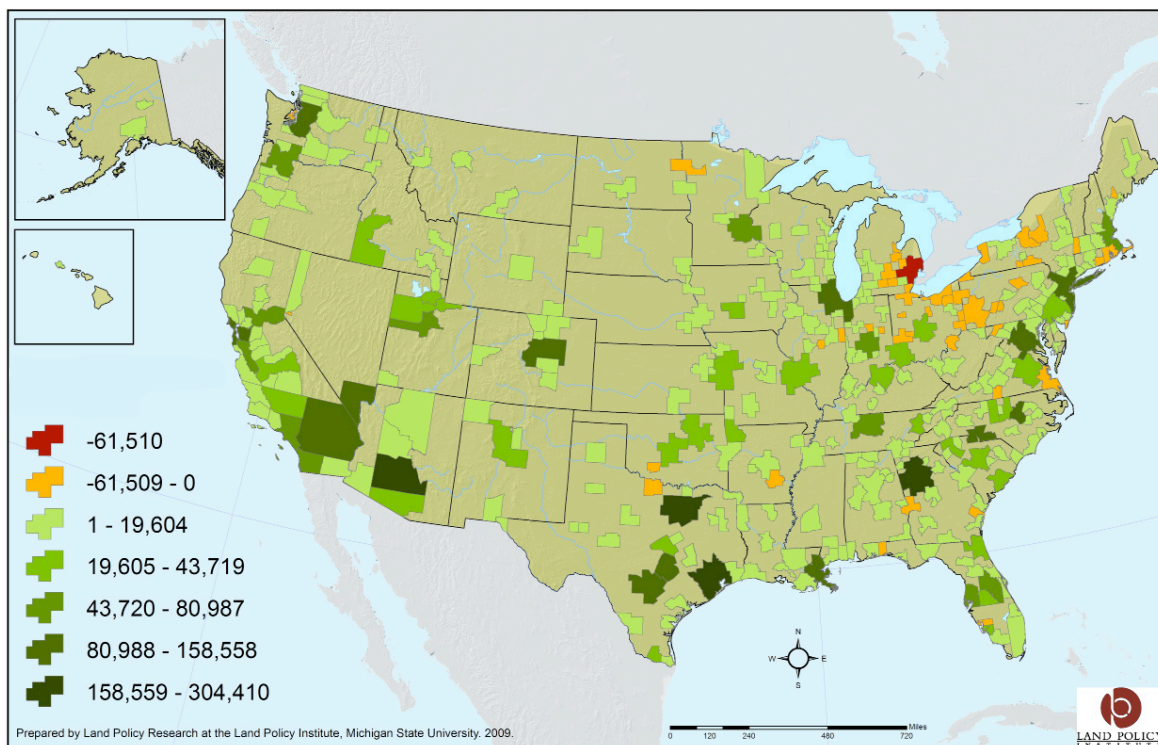
Part 8: Appendix

Appendix 1: Population Change Maps

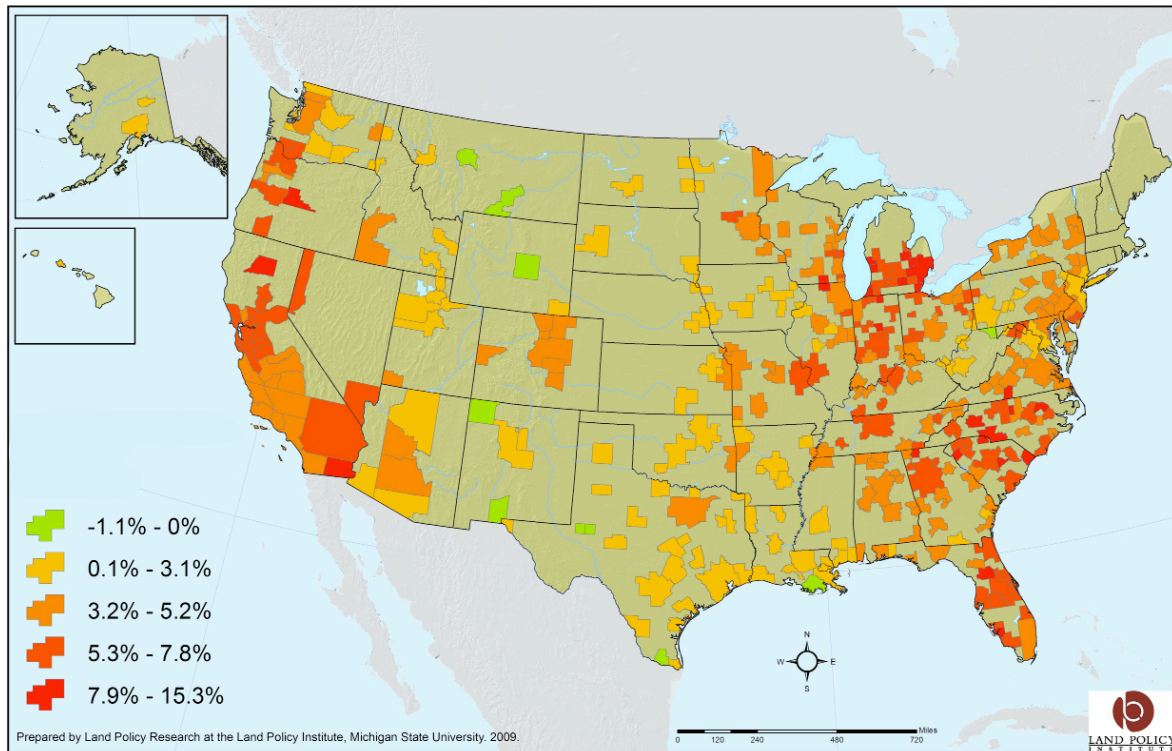
A1.1: Population Change by State 2006-2008



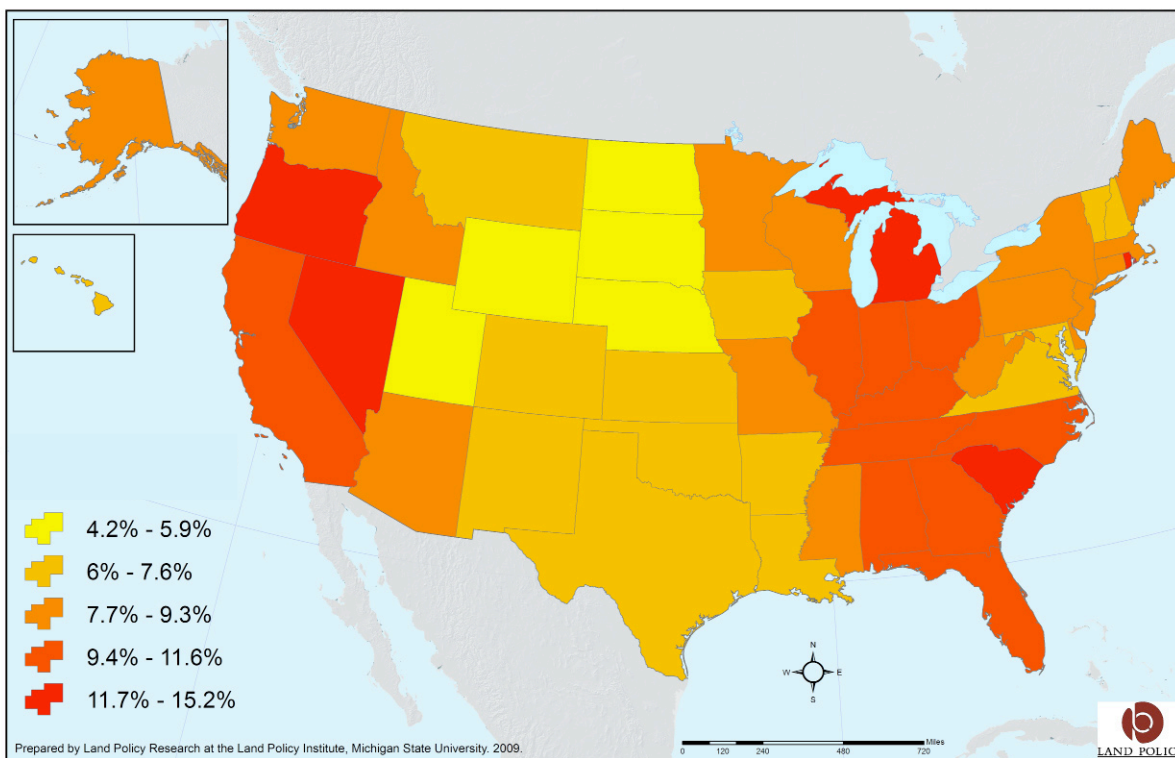
A1.2: Population Change by Region 2006-2008



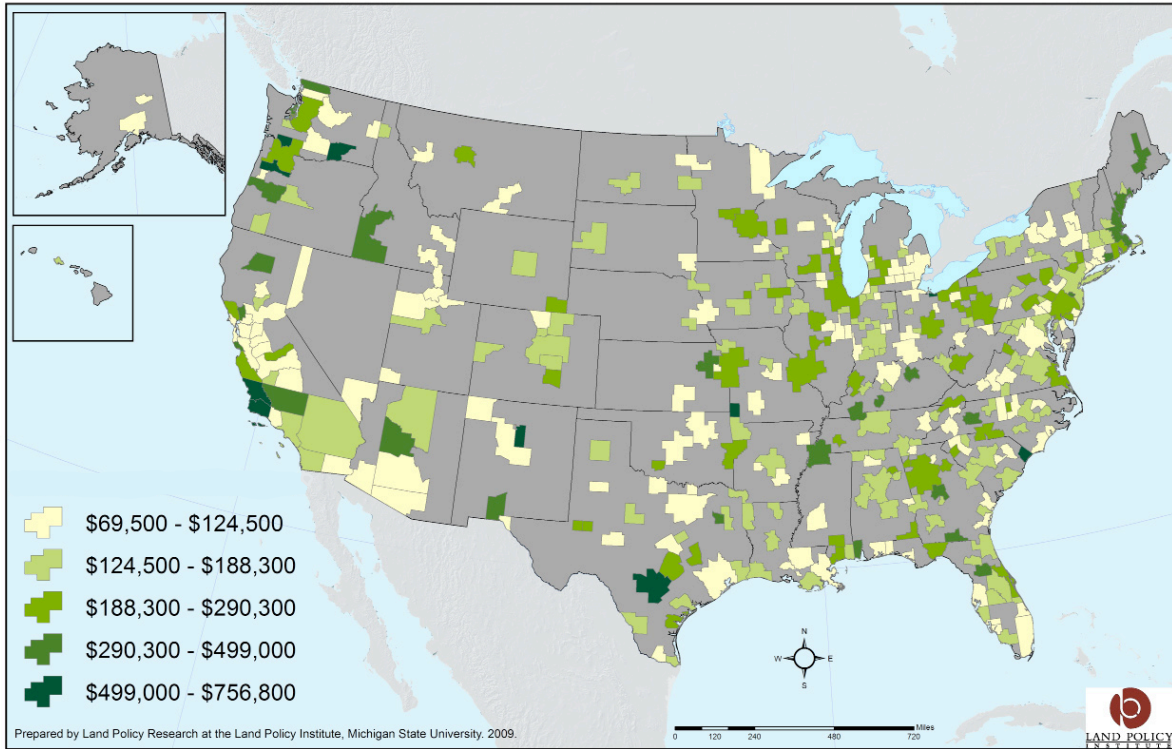
A1.3: Unemployment Rate Change by Region 2000-June 2009



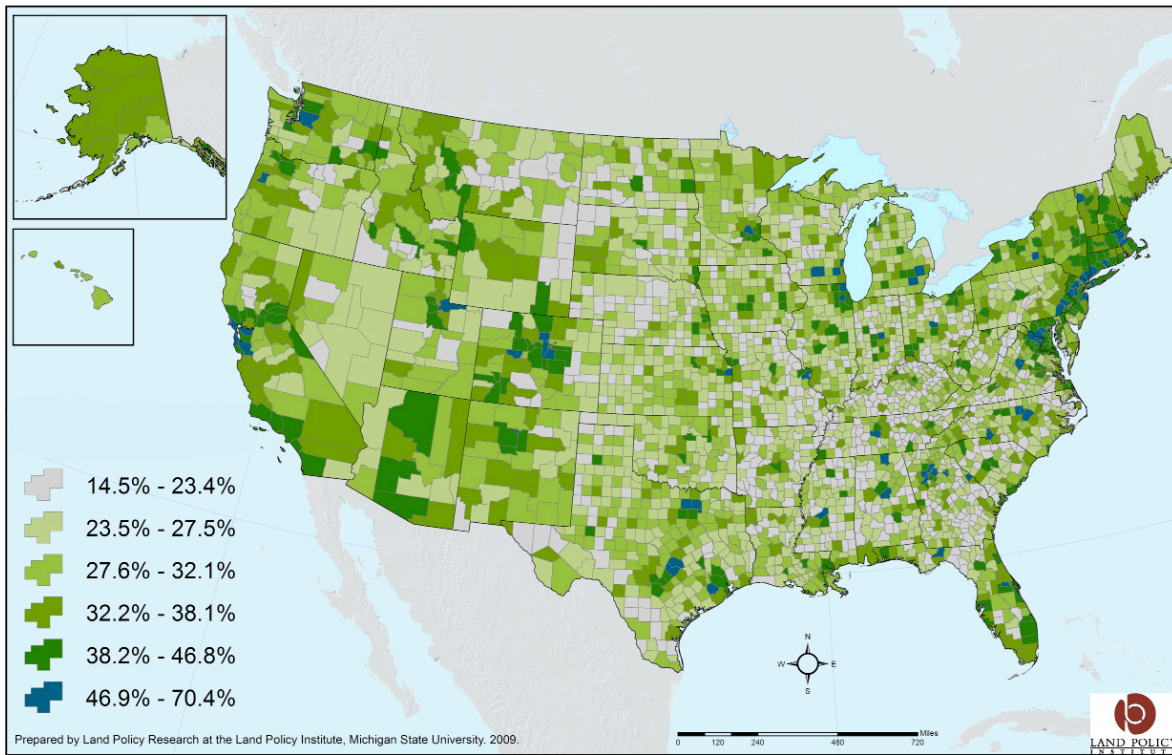
A1.4: Unemployment Rate by State in June 2009



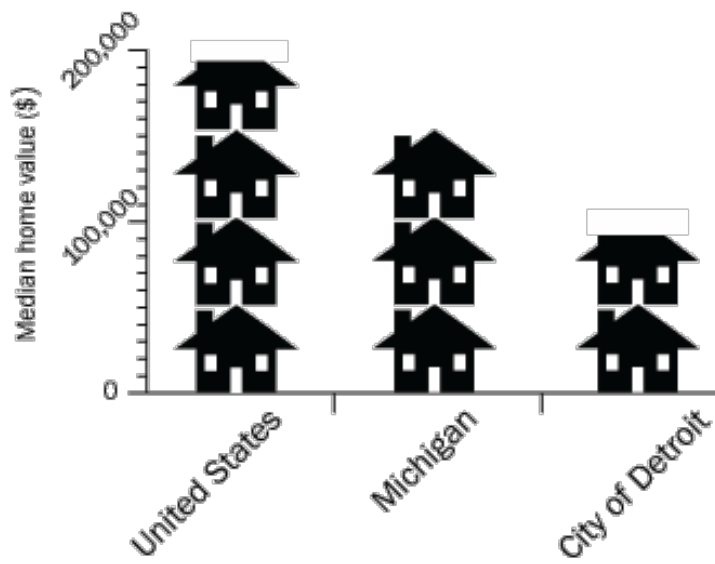
A1.5: Median Home Value by Region in 2007



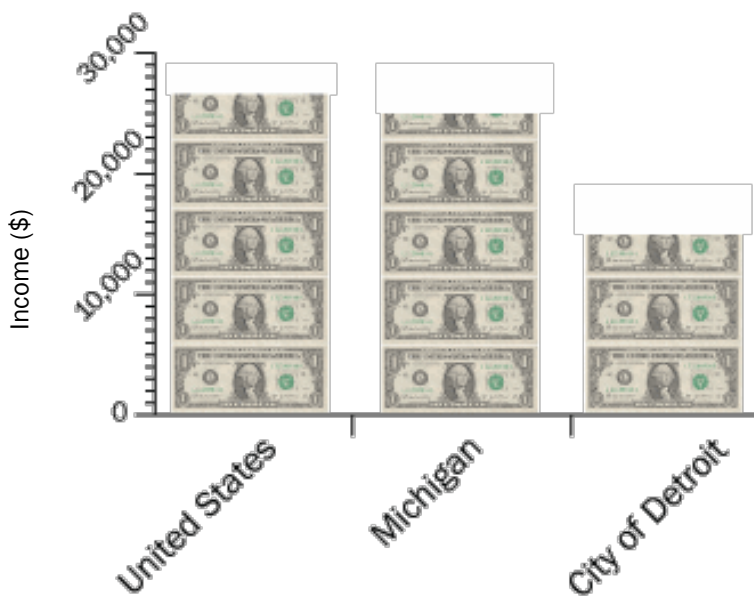
A1.6: Percentage of Employment in the Creative Class in 2000



A1.7: Relative Home Values

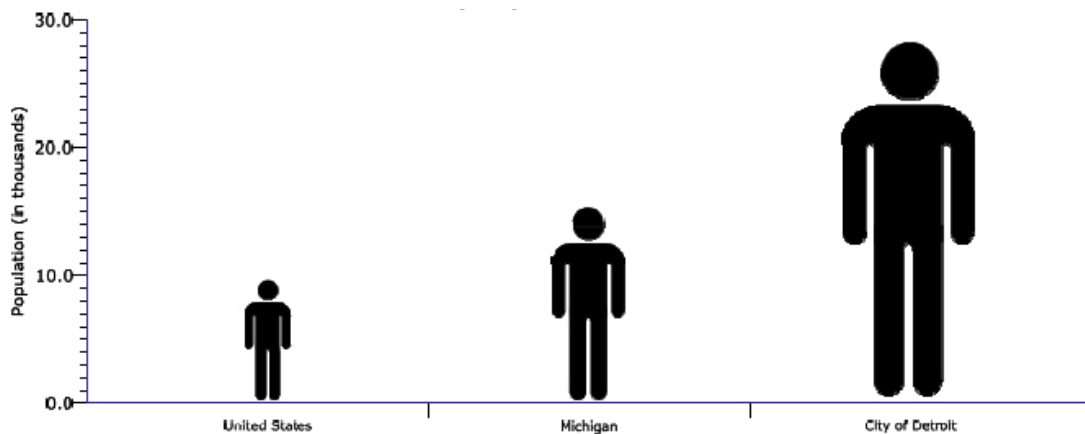


A1.8: Relative Per Capita Income



Sources: 2007 American Community Survey, U.S. Census, Bureau of Labor Statistics

A1.9: Relative Unemployment in June 2009



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