MICHIGAN'S LABOR MARKET NEWS

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SPECIAL ISSUE 2020 ANNUAL ECONOMIC ANALYSIS

About the Cover

Standing on ground formerly known by French explorers as Grande Point au Sable, the Lighthouse Board recommended a beacon be placed in Ludington. In 1867, Big Sable Point Lighthouse was constructed, and on November 1 of that year, mariners as far as 19 miles out on the lake saw a constant white light for the first time.

By early 1900, the tower had deteriorated so badly that cement was poured between the plates and brick. It was at this time that the black and white day mark was introduced. In 1949, Big Sable Point became the last Great Lakes light to be electrified, and automation of the light eliminated the need for a keeper, though the Coast Guard staffed the light until 1972.

The Big Sable Point Lighthouse is listed on both the state and national registers of historic places. It is one of the tallest in the state of Michigan at over 100 feet. From May to October, visitors can hike the 1.8 miles from the parking lot to the beach and climb the 130 steps to the top of the tower, which offers a spectacular view.

Courtesy of www.visitludington.com

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IT'S BIGGER THAN DATA.

The Bureau of Labor Market Information and Strategic Initiatives is your one-stop shop for information and analysis on Michigan's population, labor market, and more.

- Our Federal-State Programs division runs the state's cooperative agreements with the U.S. Bureau of Labor Statistics and the U.S. Census Bureau, making us the official source for this information.
- Our Research and Analytics division conducts workforce research and program evaluation, giving you the insight you need to make smarter decisions.

Michigan's unemployment rate dipped slightly to 4.7 percent in August, a full percentage point above the pre-pandemic February 2020 rate of 3.7 percent. Labor force climbed by 0.2 percent and is at its highest level since January 2021. The number of payroll jobs was stable in August, edging up by 5,000, or 0.1 percent to 4,172,000.

This month's issue delivers Michigan's Annual Economic Report for 2020. We review key labor market indicators for 2020 and describe the ongoing pandemic's impact on the state's labor market into 2021. Statistics such as the unemployment rate, labor force, payroll jobs, and wages all gauge how much the state has recovered and where we stand now.

Also highlighted are the recently released 2020 Census data, as well as our current industry and occupation projections through 2028.

We hope you enjoy this special issue of *Michigan's Labor Market News*. Please let us know if there is something you would like to know more about.



SCOTT POWELL DIRECTOR Bureau of Labor Market Information and Strategic Initiatives powells6@michigan.gov





LABOR FORCE AND UNEMPLOYMENT RATE

Michigan's labor force was especially hard hit in the early stages of the COVID-19 pandemic. The Michigan workforce declined by 10,000 in March of 2020. The state experienced the largest recorded single month unemployment increase by April 2020. Michigan's labor market recorded significant layoffs during the spring and early summer of 2020, followed by a slow but steady pace of worker recalls during the balance of 2020 and first half of 2021. This section focuses on the chronology of changes observed in the statewide labor market throughout 2020 and the first eight months of 2021.

Michigan's 2020 Pre-Pandemic Labor Market: January and February 2020

Michigan's labor market was in a relatively healthy state in January and February 2020. The state's unemployment rate averaged 3.7 percent in the first guarter of 2020, which was the lowest quarterly rate in nearly two decades. The U.S. jobless rate was two-tenths of a percentage point below Michigan's rate during January and February 2020, but jumped up significantly during March 2020 to 4.4 percent, a rate seven-tenths above the Michigan rate. This was largely a function of the initial rise in COVID-19 cases across the nation during March. In March 2020, COVID-19 cases first appeared in Michigan, accompanied by evidence of stress on the state labor market. Throughout the month of March, employment

decreased slightly, by 8,000, or 0.2 percent. Still, the number of Michigan unemployed in March was down by 25,000 since March 2019, and the unemployment rate decreased by half a percentage point over the year.

Michigan's 2020 Labor Market: April Through December 2020

While strain on the labor market was evident in March, April 2020 marked the peak of the pandemic's impact on employment and unemployment levels in Michigan. An exponential rise in COVID-19 cases resulted in the immediate closing of businesses and mass layoffs of workers both statewide and nationally. Between March and April 2020, employment in Michigan fell by a record 1,233,000, or a staggering 26.0 percent. The number of unemployed soared by 901,000, or 492 percent. Michigan's jobless rate surged from 3.7 to 23.6 percent, an increase of nearly 20 percentage points in a single month.

The April 2020 statewide unemployment rate was the highest rate recorded in the state in the history of the current series (which goes back to 1976). This was followed by the second largest unemployment rate observed in Michigan, as the state's jobless rate remained historically high in May 2020, edging down by just 2.8 percentage points to 20.8 percent.

For the next five months, Michigan's employment total began to steadily increase

as workers were gradually recalled from pandemic-related layoffs. The number of Michigan unemployed steadily declined as well, culminating in an October 2020 jobless rate of 8.1 percent. During November and December 2020, as pandemic cases rose again, employment once again edged down, and unemployment moved up slightly. Michigan's jobless rate closed the year at 8.2 percent in December 2020.

During April 2020, Michigan's jobless rate of 23.6 percent was significantly above the elevated national rate of 14.8 percent. The percent of job reductions in Michigan in many industry sectors exceeded the pace of job cuts nationwide. Michigan's unemployment rate continued to remain above the national rate until July 2020, when the statewide rate of 9.0 percent moved below the national rate of 10.2 percent. However, from August through December 2020, Michigan's jobless rate once again exceeded the U.S. rate. The statewide December rate of 8.2 percent was 1.5 percentage points above the national rate of 6.7 percent.

Michigan's Labor Market: January Through August 2021

The beginning of 2021 brought continued gradual improvements in Michigan's labor market. This was in part due to the beginning of vaccine distribution as well as the reopening of many businesses in the state. The national rate



FIGURE 1: MICHIGAN AND U.S. UNEMPLOYMENT RATES, JANUARY 2020-AUGUST 2021 (PERCENT)

Source: Local Area Unemployment Statistics, Bureau of Labor Market Information and Strategic Initiatives, Department of Technology, Management & Budget

FIGURE 2: MARGINALLY ATTACHED TO MICHIGAN'S WORKFORCE, 2010 TO SECOND QUARTER 2021



Source: Current Population Survey, U.S. Bureau of Labor Statistics

continued to exceed the state rate for the initial months of 2021.

Between December 2020 and August 2021, employment advanced by 47,000, or 1.1 percent. Unemployment in Michigan fell by 177,000, or 44.1 percent. The statewide jobless rate dropped by 3.5 percentage points to 4.7 percent in August. Michigan's employment total in August was the highest since March 2020, and Michigan's unemployment total was at its lowest since March 2020. During August of 2021, the national jobless rate of 5.2 percent was half a percentage point above the Michigan rate.

Despite substantial improvements during 2021, Michigan's labor market during August 2021 continued to lag behind February 2020 prepandemic levels. August employment in Michigan was 241,000, or 5.1 percent, below the February 2020 level. The level of unemployed remained 39,000, or 21.3 percent, higher than the prepandemic total. Michigan's August 2021 jobless rate of 4.7 percent was a full percentage point above the February 2020 rate of 3.7 percent.

Another key effect of the pandemic on the Michigan workforce involved the relative losses of labor force and employment among adult men and women. Adult women in Michigan have recorded significantly higher reductions in workforce and employment levels than adult men since the onset of the pandemic.

Data from Michigan's Current Population Survey indicates that as of August 2021, the size of the labor force for men 20 and older has rebounded

to a level that is slightly above (+2.8 percent) pre-pandemic February 2020 levels. However, as of August 2021, adult women in Michigan have a workforce level that remains about 220,000, or nearly 10 percent, below prepandemic levels.

Similarly, adult women in Michigan from February 2020 to August 2021 have registered a large (11.3 percent) drop in employment, compared to a small 1.3 percent decline in employment for adult men. These labor force numbers do not capture those who have left the workforce entirely and are not actively seeking employment.

Marginally Attached to the Labor Force

Michigan's Current Population Survey (CPS) provides information about Michigan residents who are marginally attached to the workforce. Persons marginally attached to the labor force are defined as individuals who want a job, but are not currently working, and have not searched for work during the prior month but have looked for a job during the prior year. This is a group of potential entrants into the Michigan labor force who want a job and are not counted in unemployment numbers because they are not actively seeking a job.

In 2020, the number of marginally attached persons in Michigan jumped significantly to 68,200. This was nearly 70 percent higher than the total number of marginally attached in 2019. Michigan's 2020 level of marginally attached was 42,300 below the 10-year peak level of 110,500 recorded during 2011. During the first six months of 2021, Michigan's total of marginally attached workers edged down a bit to nearly 53,000.

Persons on Temporary Layoff

Persons on temporary layoff in the CPS are defined as people who are currently unemployed and have been given a date to return to work or who expect to return to work during the next six months. Persons on temporary layoff in Michigan soared in 2020. Since 2013, the number of persons on temporary layoff was consistently around 40,000, and then exploded to 286,100 in 2020. This jump represented an increase of almost 700 percent when compared to 37,100 annual number of persons unemployed on temporary layoff in 2019. Most workers laid off in the early months of the pandemic had reason to expect that their unemployment was temporary, and that they would be recalled to their existing jobs. Of course, this was not always ultimately the case, as many people lost jobs permanently as businesses were forced to reduce job levels or permanently closed.

Michigan's 2020 annual number of unemployed persons on temporary layoff was one of the highest on record. Between annual 2020 and the second quarter of 2021, the number of those on temporary layoff declined substantially, falling by nearly 191,000. This reflected workers who were recalled to jobs from pandemic-related layoffs, and people moving from temporary layoff status to permanent job loss and long-term unemployment.

FIGURE 3: ANNUAL UNEMPLOYED AND ON TEMPORARY LAYOFF IN MICHIGAN, 2010 TO SECOND QUARTER 2021



Source: Current Population Survey, U.S. Bureau of Labor Statistics

Permanent Job Losers

The Current Population Survey also collects data on permanent job losers. This group is defined as unemployed people whose previous employment ended involuntarily and began looking for a new job. The number of persons on temporary layoff and the amount of permanent job losers together make up the total count of job losers in the CPS. Between 2010 and 2018, the number of permanent job losers in Michigan steadily decreased as the state recovered from the Great Recession. This culminated in a 10-year low level of 31,200 during 2018. Permanent job losers moved up in 2019, and then increased sharply by 27,700, or 73.3 percent, during 2020. Unlike temporary layoffs, which were lower in the first quarter of 2021, permanent job loss continued to rise, reaching 82,700, the most since 2014. This reflected the fact that as the pandemic progressed, more unemployed in Michigan permanently lost jobs who may have originally been on temporary layoff. However, the permanent job loser unemployed total declined during the second quarter of 2021.



FIGURE 4: ANNUAL NUMBER OF PERMANENT JOB LOSERS IN MICHIGAN, 2010 TO SECOND QUARTER 2021

Source: Current Population Survey, U.S. Bureau of Labor Statistics

FIGURE 5: ANNUAL NUMBER OF LONG-TERM UNEMPLOYED IN MICHIGAN, 2010 TO SECOND QUARTER 2021



Source: Current Population Survey, U.S. Bureau of Labor Statistics

The Long-Term Unemployed

The amount of long-term unemployed is the number of people who have been out of work for 27 weeks or longer. Michigan data from the Current Population Survey showed that between 2010 and 2019, the number of long-term unemployed in the state steadily decreased, falling by approximately 257,000, or 87.7 percent, as the state rebounded from the recession. Between 2019 and 2020, there was a notable gain in the number of long-term unemployed, rising by 25,300, or 70.3 percent. This was the highest number observed in the state since 2015. During the first quarter of 2021, the average number of long-term unemployed jumped significantly, up by 74,600, or 121.7 percent. This reflected the increasing number of unemployed workers who lost jobs during the pandemic and had difficultly becoming reemployed. Long-term unemployment remained high in Michigan in the second quarter of 2021.

An examination of the number of longterm unemployed as a percentage of total unemployed from 2010 through 2021 shows a continuous pattern of decline in the percent of long-term unemployed from 2010 to 2020. The percentage of long-term unemployed was only 18.1 percent in 2019 and fell further to 12.9 percent in 2020. This reduction in the share of long-term unemployed in 2020 was a function of the pandemic, which dramatically pushed up the share of persons on temporary layoff starting in April 2020. However, as people remained unemployed throughout the balance of 2020 and into the first quarter of 2021, the percentage of long-term unemployed jumped substantially to 47.3 percent.





Source: Current Population Survey, U.S. Bureau of Labor Statistics

FIGURE 7: MICHIGAN LABOR FORCE PARTICIPATION RATES, 2010 TO SECOND QUARTER 2021



Source: Current Population Survey, U.S. Bureau of Labor Statistics

Labor Force Participation Rates

The labor force participation rate is the number of individuals in the labor force as a percentage of the 16 and older noninstitutionalized population. Adequate labor force participation is a key factor in building a sufficient labor supply to meet the needs of employers.

An examination of Michigan labor force participation rates from 2010 to the second

quarter of 2021 reveals that, after three consecutive years of annual labor force participation rates of 61.4 percent from 2016 to 2018, labor force participation edged up by half a percentage point in 2019, only to fall considerably during 2020 with the onset of the pandemic. Between 2019 and 2020 the number of individuals in the labor force as a percentage of the population declined by 1.2 percentage points. This was the lowest level of labor force participation since 2015. Labor force participation dropped even further during the first quarter of 2021, but edged up slightly during the second quarter. However, the statewide average quarterly participation rate during the second quarter of 2021 was still below the annual rates for all years from 2010 to 2020.





Source: Current Population Survey, U.S. Bureau of Labor Statistics

FIGURE 9: MICHIGAN ANNUAL UNEMPLOYMENT RATES BY EDUCATIONAL ATTAINMENT, 2019-2020



Source: Current Population Survey, U.S. Bureau of Labor Statistics

Job Leavers

The percentage of unemployed defined as job leavers can provide additional information on the health of the statewide economy. When the unemployment rate is low, people may be more likely to voluntarily leave their current job for new employment opportunities. The Current Population Survey defines job leavers as unemployed individuals who voluntarily left their previous job and immediately began searching for new employment.

Michigan Current Population Survey data reveals an inverse relationship between the statewide unemployment rate and the percentage share of the unemployed who are job leavers. The highest jobless rate in Michigan during this period occurred during 2010, just following the Great Recession. The percent of job leavers was very low in 2010 at 5.2 percent, as workers were reluctant to leave jobs during a difficult economy. During 2020, the lowest percentage of job leavers occurred (2.8 percent), as few workers were voluntarily leaving jobs during the pandemic.

The share of unemployed who were job leavers peaked in 2018, a year of low unemployment in Michigan. It is difficult to conclude much from quarterly data, but so far in 2021 it appears there is preliminary evidence that workers may be voluntarily leaving jobs at a rate closer to historical averages.

Unemployment Rates by Educational Attainment

The Current Population Survey also tracks information about the employment status of Michigan's civilian population 25 and older by educational attainment. An examination of this data reveals that those with the highest level of education (a bachelor's degree or higher) had the lowest jobless rate out of the four educational categories tracked.

This was particularly notable during 2020. Between 2019 and 2020, the jobless rate for those with less than a high school degree advanced considerably by 6.3 percentage points to 16.2 percent. The annual average jobless rate for those with a high school diploma or equivalent moved up by 7.6 percentage points to 12.0 percent. For those with some college or an associate degree, the 2020 rate increased by 6.1 percentage points to 9.4 percent. However, for those with a bachelor's degree or higher the annual average jobless rate edged up by only 2.6 percentage points to 4.5 percent.

Conclusion

Michigan's 2020 labor market was severely impacted by job losses related to the COVID-19 pandemic. Some of the key takeaways from the statewide labor force data include the following:

 Michigan's labor market in August 2021 has shown great improvement since the height of the pandemic in April 2020, but employment, unemployment, and unemployment rates remain negatively impacted and continue to lag behind prepandemic February 2020 levels.

- The number of persons on temporary layoff rose substantially in the spring and summer of 2020 due to the immediate number of pandemic-related job cuts in Michigan.
- As the impact of the pandemic persisted through 2020 and into 2021, unemployed workers increasingly shifted from temporary layoff status to permanent job loss or became long-term unemployed.
- At the same time, many Michigan workers found jobs in 2021 as employment rose and the number of unemployed declined.
- Since February 2020, adult women in Michigan registered larger reductions in labor force levels and employment than adult men.
- Unemployment rates by education level demonstrate that those with higher levels of education continued to record lower rates of unemployment during the height of the pandemic, just as was true in prior years.

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JOBS BY INDUSTRY

To fully understand the health of the Michigan labor market and the impact of the pandemic, it is important to examine job trends in various key industries of the Michigan economy.

Fortunately, LMISI publishes this vital data monthly through the Current Employment Statistics (CES) program. This program produces monthly estimates of payroll job change and information on average hours and earnings by major and detailed industry sector for Michigan and all state metropolitan areas.

This section will provide an overview of Michigan's current seasonally adjusted job trends, an analysis of statewide 2020 annual average job change, and the trends in jobs among major industry sectors in Michigan before the onset of the COVID-19 pandemic and how those industry job levels have since recovered.

Current Statewide Nonfarm Job Trends

In the month prior to the onset of COVID-19 in Michigan, seasonally adjusted nonfarm payroll jobs recorded steady growth since the Great Recession. Between the July 2009 recessionary job low of 3,831,300 to February 2020, total nonfarm jobs rose by 621,600 or 16.2 percent. At that point however, total jobs in Michigan were still down by slightly more than 5 percent since the recorded all-time job high of 4,693,200 in June 2000.

Due to the impact of the pandemic, seasonally adjusted payroll jobs in Michigan plunged by an unprecedented amount (-1,055,300 or 23.7 percent). Between February and April 2020, jobs declined strongly nationwide but at a significantly smaller pace (-14.7 percent). Despite noteworthy job recovery through August 2021, seasonally adjusted nonfarm payroll employment in Michigan was still lower than its February 2020 pre-pandemic job level by 280,900 or 6.3 percent.

Of all 50 states, Michigan's seasonally adjusted total nonfarm jobs declined by the largest percent between February and April 2020. Michigan was one of only six states with a payroll job cut of 20.0 percent or more during this two-month timeframe. However, as of August 2021, Michigan recovered 73.4 percent (+774,400) of all nonfarm payroll employment lost from February to April 2020. Only two states, Utah (+134.4 percent) and Idaho (+119.3 percent), surpassed their February 2020 pre-pandemic total nonfarm job levels. Michigan ranked 25th in the share of total jobs recovered.

Michigan Annual Average Analysis

According to the Current Employment Statistics (CES) survey, Michigan annual average nonfarm jobs fell by 410,300 or 9.2 percent between 2019 and 2020. Prior to this decline, annual average nonfarm employment was at its highest job level since 2002. On the nationwide level, nonfarm employment declined by a significantly lesser rate (-5.8 percent) in 2020. Michigan recorded annual rates of job reductions in 2020 that exceeded national averages across many major industry sectors.

Due to the COVID-19 pandemic, job losses in Michigan began in March 2020 and peaked in April 2020. This produced substantial annual



FIGURE 1: SEASONALLY ADJUSTED MICHIGAN TOTAL NONFARM PAYROLL JOBS (IN THOUSANDS)

Source: Current Employment Statistics, Bureau of Labor Market Information and Strategic Initiatives, Department of Technology, Management & Budget



average job cuts within every major industry sector in Michigan in 2020. Michigan job losses were especially dramatic when compared to nationwide job loss.

The largest annual job reductions in 2020 occurred in several major Michigan industries, led by the *Leisure and hospitality* (-25.8 percent), *Other services* (-14.0 percent), and

Manufacturing (-11.0 percent) sectors. These three sectors registered the largest percent employment declines among all major industry sectors in Michigan. Jobs dropped in these industries nationally as well: *Leisure and hospitality* (-19.6 percent), *Other services* (-8.4 percent), and *Manufacturing* (-5.0 percent) respectively. The only major industry sector nationally with a 2020 percent job cut that exceeded the Michigan trend was the *Mining and logging* sector, down by 14.9 percent nationally versus 10.6 percent in Michigan.

Job Trends in Michigan's Major Industry Sectors

Several of Michigan's major industry sectors recorded a majority of the total employment



Source: Current Employment Statistics Survey Program, U.S. Bureau of Labor Statistics

FIGURE 3: SEASONALLY ADJUSTED MAJOR MICHIGAN INDUSTRY SECTOR JOB CHANGE (IN THOUSANDS)

FEBRUARY TO APRIL 2020 JOBS LOST DUE TO COVID-19 PANDEMIC SHARE OF JOBS LOST IN APRIL 2020 THAT WERE RECOVERED BY AUGUST 2021

	NUMERIC	PERCENT	NUMERIC	PERCENT
Total Nonfarm	-1,055.3	-23.7%	774.4	73.4%
Mining and logging	-0.8	-11.6%	0.9	112.5%
Construction	-70.7	-39.9%	69.5	98.3%
Manufacturing	-203.6	-32.9%	157.0	77.1%
Trade, Transportation, and Utilities	-162.2	-20.3%	142.4	87.8%
Wholesale Trade	-25.1	-14.6%	18.3	72.9%
Retail Trade	-112.6	-24.2%	93.0	82.6%
Information	-6.6	-11.9%	1.2	18.2%
Financial Activities	-13.9	-6.1%	8.2	59.0%
Professional and Business Services	-147.7	-22.6%	122.6	83.0%
Education and Health Services	-110.2	-15.9%	66.4	60.3%
Leisure and Hospitality	-242.0	-55.6%	161.1	66.6%
Other Services	-53.4	-31.9%	32.8	61.4%
Government	-44.2	-7.2%	12.3	27.8%

Source: Current Employment Statistics, Bureau of Labor Market Information and Strategic Initiatives, Department of Technology, Management & Budget

decline during the early onset of the COVID-19 pandemic. Combined, four major industry sectors in Michigan, which included *Leisure and hospitality*; *Manufacturing*; *Trade*, *transportation, and utilities*; and *Professional and business services*, produced nearly 72 percent of the seasonally adjusted total nonfarm payroll job loss between February 2020 and April 2020. Michigan job losses were more severe than nationwide but followed national job loss trends during this period. Nationally, significant job losses were also recorded within these four industry sectors, and comprised nearly 69 percent of the total share of jobs lost during these two months.

MAJOR INDUSTRY SECTOR

Numerous subsectors within these four major industries were also affected significantly by pandemic-related layoffs over the last year and a half. Due to significant layoffs during the onset of the COVID-19 pandemic, jobs within the *Accommodation and food services* subsector plunged by 211,100 or 55.3 percent in just two months from February 2020 to April 2020. As of August 2021, many restaurants were not operating at pre-pandemic levels and others had permanently closed, and this industry had only recovered about 68 percent of total jobs lost since the beginning of the pandemic.

Total employment within the *Durable goods* subsector also plunged from February to April 2020, declining by 174,300 or 37.3 percent. As of August 2021, this industry had recovered

79.0 percent of all jobs lost since April 2020. Additionally, the vital Transportation equipment manufacturing industry in Michigan recorded major layoffs during the early months of the pandemic (-53.5 percent), with short-term shutdowns among auto assembly plants and auto parts facilities. However, these auto plants recovered fairly quickly following April 2020 and many workers were recalled to jobs. During 2021, additional short-term auto layoffs in Michigan have occurred due to plant shutdowns and layoffs related to the current international shortage of semiconductors. August 2021 jobs in the Transportation equipment manufacturing sector were still 14,200 or 7.6 percent below February 2020 pre-pandemic levels.

The *Retail trade* subsector recorded the majority of total job loss within the larger *Trade, transportation, and utilities* industry. Like the *Accommodation and food services* industry, employment in *Retail trade* declined substantially (-112,600 or 24.2 percent) between February and April 2020 due to temporary layoffs and numerous store closures. Since April 2020, Michigan has recovered nearly 83 percent of total jobs lost in *Retail trade*.

On the industry level, seven Michigan major industry sectors recorded higher recovery rates than on the nationwide level. Furthermore, statewide jobs in *Mining and logging* have surpassed February 2020 pre-pandemic job levels, while employment within the *Construction* sector has almost fully recovered. By August 2021, Michigan recovered 774,400 or 73.4 percent of nonfarm payroll jobs lost since April 2020, just under the 76.2 percent of job recalls nationally.

Nationally, job rebounds within several major industry sectors significantly outpaced Michigan industry job recovery rates between April 2020 and August 2021, as the *Financial activities* (+89.6 percent), *Information* (+46.6 percent), and *Other services* (+86.6 percent) sectors all added jobs at higher rates nationally.

Michigan Metropolitan Statistical Area (MSA) Job Change Analysis

Along with steep job declines among all statewide major industry sectors, significant pandemic-related employment reductions were also registered in all of Michigan's 14 Metropolitan Statistical Areas (MSAs).

On a percentage basis, 11 of the 14 metro areas recorded total nonfarm payroll job declines over 20.0 percent between February 2020 and April 2020. During this time, the smallest percent job cut occurred in the Ann Arbor (-16.8 percent) region. Like the overall trend observed in Michigan, total employment within each metro area rebounded steadily since April 2020, as workers were recalled from pandemic-related layoffs. Larger than average job recovery



rates were recorded within the Midland (+88.5 percent), Grand Rapids (+78.4 percent), and Detroit (+76.9 percent) MSAs. Between April 2020 and August 2021, the Ann Arbor metro area had recovered slightly less than 60 percent of all jobs lost since April 2020.

Conclusion

Industry jobs in Michigan plunged to very low levels in the spring and early summer of 2020,

as the pandemic caused substantial job cuts. Since then, job levels have gradually recovered as workers were recalled from pandemicrelated layoffs.

Despite a total job decline of over one million between February and April 2020, total nonfarm payroll jobs have rebounded steadily, recovering 73.4 percent of all jobs lost as of August 2021. Most Michigan industries have current job levels that remain below pre-pandemic levels. Additionally, even though some industries nationally have recovered jobs at rates exceeding gains in Michigan, it is important to note that the initial pandemic-related job shock in Michigan was well above average, and so it may take the state longer to reach pre-pandemic job counts.

JIM BIRNEY Economic Analyst

FIGURE 4: SEASONALLY ADJUSTED TOTAL NONFARM PAYROLL JOBS IN MICHIGAN (IN THOUSANDS)

METROPOLITAN STATISTICAL AREAS (MSAs)	FEBRUARY TO APRIL 2 DUE TO COVID-19		SHARE OF JOBS LOST IN APRIL 2020 THAT WERE RECOVERED BY AUGUST 2021		
	NUMERIC	PERCENT	NUMERIC	PERCENT	
Ann Arbor	-38.8	-16.8%	22.9	59.0%	
Battle Creek	-12.3	-21.5%	8.6	69.9%	
Bay City	-7.7	-21.9%	5.6	72.7%	
Detroit	-534.0	-26.1%	410.7	76.9%	
Flint	-39.4	-28.1%	26.5	67.3%	
Grand Rapids	-125.6	-22.0%	98.5	78.4%	
Jackson	-12.7	-21.3%	7.9	62.2%	
Kalamazoo	-29.4	-19.4%	19.5	66.3%	
Lansing	-48.3	-20.3%	31.8	65.8%	
Midland	-6.1	-16.5%	5.4	88.5%	
Monroe	-9.5	-23.1%	6.2	65.3%	
Muskegon	-16.4	-25.5%	10.3	62.8%	
Niles	-12.8	-20.3%	8.3	64.8%	
Saginaw	-22.4	-25.8%	16.6	74.1%	

Source: Current Employment Statistics, Bureau of Labor Market Information and Strategic Initiatives, Department of Technology, Management & Budget



WAGES

The COVID-19 pandemic has had a noticeable impact on wages for Michigan's industries and occupations. This is especially true for many low-wage workers throughout the state who have experienced layoffs, decreased hours, and more. The influence on wages has manifested in various ways. As employment plummeted, low-wage staff were often the first to be out of work, while many higher-wage workers were able to continue working throughout the ongoing pandemic. This has resulted in increases to average hourly earnings and declines to total wages. This section highlights the state's wage data, providing insight on the impact of the pandemic on Michigan's wages by industries, occupations, levels of educational attainment, and demographics.

Industries

Over the past year, total wages in Michigan's private industry sector fluctuated as a result of the pandemic. There were \$203.7 billion in total private sector wages in 2020, a 1.9 percent decline from 2019. This was the first year that total earnings in the state fell since the end of the Great Recession in 2009. The effects became prevalent at the start of the pandemic in the second quarter of 2020 when total statewide earnings began to fall. In the second quarter of 2020, total wages in the private sector fell by 12.8 percent to \$43.6 billion from \$50 billion in total wages reported in the second quarter of 2019.

Amid the pandemic, the *Manufacturing* sector experienced the greatest numeric decline in total wages, falling nearly \$2.4 billion, or 23 percent since the prior year. The greatest percent decline in total wages were recorded in *Accommodation and food services*, falling 44.8 percent and *Arts, entertainment, and recreation*, falling 40.7 percent over the year. The total wages in these sectors remain far below prepandemic wages.

Some industries in Michigan were more resilient in the early stages of the pandemic. For example, the *Agriculture, forestry, fishing, and hunting* sector showed a 5.8 percent increase in total wages from the second quarter of 2019 to the second quarter of 2020. The only other industries to record positive wage growth were the *Utilities* (+2.8 percent) sector, and the *Information* (+2.7 percent) sector.

Signs of recovery were evident by the third quarter of 2020, when wages in Michigan's industries began to show stability. Since the third quarter of 2019, total wages for all industries were 2.2 percent lower, from \$50.2 billion to \$49.1 billion. At the year's end, fourth quarter total wages exceeded those of the same quarter in the prior year, having increased by 4.7 percent.

Many of Michigan's industry sectors showed notable improvements in total wages, with most showing higher wages than in 2019. However, total wages for 2020 in industries like *Accommodation and food services* (-21.6 percent), and *Arts, entertainment, and recreation* (-14.2 percent) have remained far lower than what they were before the pandemic.

Average Earnings

Low-wage jobs were heavily impacted by the pandemic, resulting in a nationwide push for increases in wages. According to not seasonally adjusted data from the Current Employment Statistics (CES) program, average hourly earnings have been on a steady rise in recent years in the private sector. Comparing prepandemic 2019 data to the most recent months, hourly wages have been trending upward in Michigan. From March to April 2020 (the first month showing a major impact due to the pandemic), average hourly wages spiked, moving from \$27.28 to \$28.66 in the short span. This sudden jump in wages was reflective of the job losses experienced in April among many low-paid workers. In the months following, wages began to stabilize back to pre-pandemic levels. Since February 2020, wages have



FIGURE 1: MICHIGAN PRIVATE SECTOR AVERAGE HOURLY EARNINGS, JAN 2019-AUG 2021

Source: Current Employment Statistics, Bureau of Labor Market Information and Strategic Initiatives, Department of Technology, Management & Budget

steadily increased 5.9 percent from \$27.23 to \$28.83 in August 2021.

One sector that was hit hardest by the ongoing pandemic was *Leisure and hospitality*. Largely consisting of low-wage jobs along with having the lowest average hourly income among all sectors, the industry experienced shutdowns and operating restrictions in 2020, resulting in wage fluctuations. Like the private sector, from March to April 2020, wages rose 5.3 percent from \$15.04 to \$15.84 as the number of lowwage workers declined during the period. By July 2020, wages in the sector had declined even lower, to \$14.83. As the sector began to return to normal operations, wages began to rise steadily. Since February 2020, wages have risen by 10 percent from \$15.05 to \$16.55 in August 2021. This rise in average hourly wages in the sector may have been a response by employers to attract applicants to counter worker shortages.

The *Leisure and hospitality* industry is not the only sector to see an increase in wages from February 2020 to August 2021. Other industries that saw notable wage growth



FIGURE 2: MICHIGAN LEISURE AND HOSPITALITY AVERAGE HOURLY EARNINGS, JAN 2019-AUG 2021

Source: Current Employment Statistics, Bureau of Labor Market Information and Strategic Initiatives, Department of Technology, Management & Budget

FIGURE 3: DISTRIBUTION OF MICHIGAN JOBS BY HOURLY WAGE, 2019 AND 2020



Source: May 2020 Occupational Employment and Wage Statistics Survey, Bureau of Labor Market Information and Strategic Initiatives, Michigan Department of Technology, Management & Budget

during this period were *Other services* (+10.7 percent), *Manufacturing* (+7.5 percent), and *Professional and business services* (+6.3 percent). The only sector to see an overall decline during the period was the *Information* sector, with average hourly wages falling 2.9 percent from \$34.69 in February 2020 to \$33.68 in August 2021.

Median Wage and Wage Ranges

In 2020, the median wage in Michigan increased 5.8 percent over the year, to \$19.67 per hour, which was slightly lower than the national median wage of \$20.17. Michigan's wage increases are reflective of the national trend over the last five years, predominately because of the state's scheduled minimum wage increases and inflation. Michigan's median wage remained the 24th highest of all states and territories.

Wage ranges provide a broad understanding of the state's wage structure. In 2020, 80 percent of all Michigan jobs earned between \$10.96 per hour to \$47.04 per hour. This range was slightly higher in the U.S., where 80 percent of occupations earned \$10.97 per hour to \$50.99 per hour.

Figure 3 shows the distribution of Michigan jobs by hourly wage. The share of jobs earning less than \$10 per hour decreased by half, while the shares of the rest of the wage intervals changed only marginally. This figure shows that while a higher percentage of Michigan workers earned higher wages, it could also be due to many lower wage workers losing their jobs in 2020.

Wages by Educational Attainment

Wage data by typical education requirement again showed a positive correlation between higher earnings and education level. Figure 4 shows the wage ranges (10th to 90th percentile) for occupations by typical entry-level education requirements. With a high school diploma or equivalent, employees are more likely to earn higher wages than occupations requiring no formal education.

FIGURE 4: MICHIGAN WAGE RANGES FOR JOBS BY EDUCATIONAL REQUIREMENT, 2020



Source: Current Employment Statistics, Bureau of Labor Market Information and Strategic Initiatives, Department of Technology, Management & Budget



Demographics

Data from the 2019 American Community Survey One-Year Public Use Microdata Sample provide a detailed look at how median incomes for full-time workers can vary by sex, age, and race and ethnicity. Though the data presented does not reflect the impact of the pandemic on wages by Michigan's demographic groups, it is still an important look at how incomes can vary. Women reportedly earned a median annual income of \$42,426, or 76.4 percent of the \$55,558 income for men.

Of Michigan's major race and ethnicity groups, the Asian population had the highest median income of \$63,639, followed by whites with \$52,528. Both African Americans and the Hispanic population earned similar levels of median income, earning \$38,386 and \$39,093, respectively. The remaining racial groups, categorized as All Other, earned \$42,426.

When looking at income by age, full-time workers 24 or younger earned a median annual income of \$25,254. Wages for those 25 to 55 doubled that of those age 24 or younger at \$50,507. This jump in wages is not surprising, since many of those in the 24 or younger category may still be in school or are in the early stages of their careers. Those 56 and older earned the highest income of all age groups, having earned \$60,609.

Conclusion

The impact of the COVID-19 pandemic on Michigan's industries and occupations has been prevalent. Michigan's private sector wages decreased from \$207.7 billion in 2019 to \$203.7 billion in 2020, an unusual decrease largely due to the pandemic. Into 2021, average hourly earnings in the private sector continued to trend upward with short periods of abnormal wage increases because of job losses in many low-wage occupations. Though 2020 wage data by demographic category is not yet available, 2019 data show that wage gaps among race, ethnicity, and gender persisted. As both employer and employees continue to push for higher wages, Michigan may continue to see wage growth.

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FIGURE 5: MICHIGAN MEDIAN INCOME BY DEMOGRAPHIC GROUP, 2019

Source: 1-Year PUMS, 2019 American Community Survey, U.S. Census Bureau



2020 CENSUS AND POPULATION

Results of the 2020 Census for Michigan

The 2020 Census continues an unbroken succession of decennial censuses stretching back to 1790, but was the first to use online reporting as the primary collection method. Another notable difference is the U.S. Census Bureau changed wording for some of the race and ethnicity questions allowing for a deeper exploration of race and ethnicity composition at both the state and local levels. The data from the recent census release indicates that the Michigan population increased in the past 10 years, but not at the same rate as the nation. This section covers Michigan's statewide population trends since 2010 and how local municipalities have changed. The section sheds light on total population across the state, and trends in race and ethnicity of Michigan's residents.

POPULATION GROWTH ACROSS THE U.S. AND MICHIGAN

Michigan's population growth has slowed since the mid-twentieth century. In fact, between the 2000 and 2010 censuses, Michigan was the only state in the nation to lose population. The 2020 Census indicated that Michigan's population had increased to 10,077,331, about a 2 percent gain since the 2010 Census. While this was a positive step for the state's population, Michigan's population expansion was behind the U.S. growth rate of about 7.4 percent. As a result, Michigan lost another congressional seat, continuing a trend of losing at least one member of its congressional delegation in each census since 1980.

Despite its population growth, Michigan dropped in rank from 8th to 10th most populous state in the U.S., and was passed by Georgia and North Carolina since 2010 (Figure 1). Of the 10 most populous states in 2020, Texas and Florida displayed the fastest growth rates of 15.9 and 14.6 percent, respectively. Generally, states in the southeastern U.S. and parts of the West had higher growth rates than those in the Midwest and Northeast (Figure 2). Three states had lost population since the 2010 Census: Illinois, Mississippi, and West Virginia.

CHANGES IN POPULATION FOR MUNICIPALITIES ACROSS MICHIGAN

Although Michigan experienced modest gains in population, trends across the state varied widely (Figure 3). Of the top 10 most populous municipalities in Michigan in 2020 (cities and townships, Figure 4), the range in population change was from a loss of about 10.5 percent for Detroit to a gain of about 12 percent by the neighboring city of Dearborn. Detroit's 2020 population of 639,111 people represents a

FIGURE 1: POPULATION CHANGE IN THE 10 MOST POPULOUS U.S. STATES						
STATE	POPULATION 2010	POPULATION 2020	POPULATION CHANGE	PERCENT CHANGE	2010 RANK	2020 RANK
California	37,253,956	39,538,223	2,284,267	6.1	1	1
Texas	25,145,561	29,145,505	3,999,944	15.9	2	2
Florida	18,801,310	21,538,187	2,736,877	14.6	4	3
New York	19,378,102	20,201,249	823,147	4.2	3	4
Pennsylvania	12,702,379	13,002,700	300,321	2.4	6	5
Illinois	12,830,632	12,812,508	-18,124	-0.1	5	6
Ohio	11,536,504	11,799,448	262,944	2.3	7	7
Georgia	9,687,653	10,711,908	1,024,255	10.6	9	8
North Carolina	9,535,483	10,439,388	903,905	9.5	10	9
Michigan	9,883,640	10,077,331	193,691	2	8	10

Source: 2010 and 2020 Census State Redistricting Data (Public Law 94-171) Summary File, U.S. Census Bureau

FIGURE 2: PERCENT CHANGE IN POPULATION BY STATE, 2010-2020



Source: Decennial Census P.L. 94-171, U.S. Census Bureau

continued decline from its peak of about 1.8 million residents in the 1950s. Another notable change was in Flint, which was ranked Michigan's 7th most populous municipality in the 2010 Census. However, from 2010 to 2020 Flint lost over 20 percent of its population and now ranks 15th. There were also differences in average population change based on population size. In 2010, Michigan had seven municipalities with populations over 100,000; 185 with populations from 10,000 to 100,000 people; and 1,328 municipalities with fewer than 10,000 people. On average, municipalities with over 100,000 people lost about 4.5 percent of their population. The declines in the largest municipalities were largely driven by Detroit and Flint. Municipalities with fewer than 10,000 or 10,000 to 100,000 gained an average of 0.4 and 4.6 percent, respectively.

FIGURE 2: POPULATION CHANGE IN THE 10 MOST POPULOUS MICHIGAN MUNICIPALITIES, 2010-2020

MUNICIPALITY	POPULATION 2010	POPULATION 2020	PERCENT CHANGE	2010 RANK	2020 RANK
Detroit	713,777	639,111	-10.5	1	1
Grand Rapids	188,040	198,917	5.8	2	2
Warren	134,056	139,387	4.0	3	3
Sterling Heights	129,699	134,346	3.6	4	4
Ann Arbor	113,934	123,851	8.7	6	5
Lansing	114,297	112,644	-1.5	5	6
Dearborn	98,153	109,976	12.1	8	7
Clinton Charter Township	96,796	100,513	3.8	10	8
Canton Charter Township	90,173	98,659	9.4	11	9
Livonia	96,942	95,535	-1.5	9	10

Source: 2010 and 2020 Census State Redistricting Data (Public Law 94-171) Summary File, U.S. Census Bureau

FIGURE 3: PERCENT CHANGE IN POPULATION FOR MICHIGAN CITIES AND TOWNSHIPS, 2010–2020



Source: Decennial Census P.L. 94-171, U.S. Census Bureau

Spatially, across the state, there are broad patterns in population change (Figure 3). Generally, areas in the Upper Peninsula, northeastern Lower Peninsula, and Thumb area declined in population. Population gains tended to be concentrated in southeastern Michigan, the Grand Rapids metro area, and the Traverse City area. In general, areas with population growth tend to be younger, have more births than deaths, and have positive migration.

CHANGE IN MICHIGAN'S RACIAL AND ETHNIC COMPOSITION

Accurately documenting the racial and ethnic composition of the United States is a difficult prospect. The U.S. Census Bureau is bound by the standards determined in 1997 by the Office of Management and Budget when surveying and reporting race and ethnicity (Census 2021a). Currently, ethnicity and race must be asked in separate questions on the census. Ethnicity is defined as "Hispanic or Latino" or "Not Hispanic or Latino." The U.S. Census Bureau reports race data in seven categories: American Indian or Alaskan Native (AIAN), Asian, Black or African American, Native Hawaiian or Other Pacific Islander (NHOPI), White, Some Other Race, and Two or More Races.

It is important to understand that people can identify as Hispanic or Latino and any racial group(s). Thus, depending upon how the data is tallied, a person identifying as Hispanic or Latino can be included twice, once in the Hispanic or Latino ethnicity and once in the racial group they reported. For this reason, the Hispanic and Latino population are reported here as a separate group and this section will discuss changes in the non-Hispanic components of the racial groups.

FIGURE 4: CHANGE IN RACE AND ETHNICITY CATEGORIES IN MICHIGAN, 2010-2020

CATEGORY	POPULATION 2010	POPULATION 2020	POPULATION CHANGE	PERCENT CHANGE	PERCENT OF POPULATION 2010	PERCENT OF POPULATION 2020
Hispanic or Latino	436,358	564,422	128,064	29.35	4.4	5.6
White Alone	7,569,939	7,295,651	-274,288	-3.62	76.6	72.4
Black Alone	1,383,756	1,358,458	-25,298	-1.83	14	13.5
American Indian and Alaska Native Alone	54,665	47,406	-7,259	-13.28	0.6	0.5
Asian alone	236,490	332,288	95,798	40.51	2.4	3.3
Native Hawaiian or Other Pacific Islander Alone	2,170	2,603	433	19.95	<0.1	<0.1
Some Other Race Alone	9,866	37,183	27,317	276.88	0.1	0.4
Two or More Races	190,396	439,320	248,924	130.74	1.9	4.4

Source: 2010 and 2020 Census State Redistricting Data (Public Law 94-171) Summary File, U.S. Census Bureau

For the 2020 Census, the U.S. Census Bureau changed wording for some of the race and ethnicity questions and allowed for more detailed reporting and coding of the write-in portions of the responses (Census 2021a). These changes likely resulted in many people being classified differently between the 2010 and 2020 censuses. This is particularly true for people in the "Two or More Races" category, which increased by 267 percent nationally, the largest gain of any racial group (Census 2021b).

The positive outcome of these changes is that the U.S. Census Bureau is probably reporting more detailed representations of race and ethnicity for the 2020 Census, however, this comes at the cost of data being difficult to directly compare to previous censuses. Thus, differences in the race and ethnicity composition between the 2010 and 2020 censuses represent both changes in the demographics of Michigan's population as well as changes in how people are recorded. Thus, caution should be used when interpreting and reporting trends in these data.

From 2010 to 2020 people in Michigan identifying as Hispanic increased by 29.4 percent (Figure 4). Changes in the non-Hispanic people of the single racial groups are as follows. The Asian Alone (40.5 percent) and Native Hawaiian and Other Pacific Islander Alone (20 percent) populations each increased. Whereas the number of people identifying as Black or African American Alone (-1.8 percent), American Indian and Alaskan Native Alone (-13.3 percent), and white Alone (-3.6 percent) all declined.

However, to better understand the changes in the above racial groups, particularly those that declined, changes in two other racial categories (again, the non-Hispanic portions) should be considered: Some Other Race Alone and Two or More Races. The number of people in Michigan identifying as Some Other Race Alone increased by 276.9 percent, whereas identification as Two or More Races increased by 130.7 percent (Figure 4). The Two or More Races category experienced the largest numerical gains of any group, increasing from 1.9 percent of the population in 2010 to 4.4 percent of the population in 2020. Therefore, it is likely that some of the declines in population in the Black or African American Alone. American Indian and Alaskan Native Alone, and White Alone population are due to the U.S. Census Bureau now coding individuals as Two or More Races when in 2010 they would have been placed in one of the single race categories.

Despite declines in the non-Hispanic white population, people in this category still represented 72.4 percent of Michigan's population in 2020 compared to 76.6 percent in 2010. This is much higher than the nation, where the non-Hispanic white population represented 57.8 percent of the population in 2020. Therefore, although Michigan's racial and ethnic composition is slowly changing, it remains less diverse than the nation.

The Future of Michigan's **Population**

Michigan's population has aged considerably since 1990. In the 1990s and 2000s, the median age of Michiganders increased by three to three and a half years per decade. In recent years the rate of aging has begun to slow with the median age of the state increasing by about 0.8 years from 2010 to 2019 (2010, 2019 ACS One-Year). The median age of people in the state in 2019 was about 39.8 years compared to the national median age of 38.5 years (ACS 2019 One-Year).

This aging population is driven largely by a decline in births for the state. In 1990, Michigan had 153,080 births but by 2019 this number had dropped to 107,917 (Michigan Department of Health & Human Services 2019). During the same period, the number of deaths increased from 78,501 to 99,095 annually in the state. Because birth rates continue to decline and as the baby boomer generation ages (resulting in steady increases in deaths), sometime this decade Michigan's population will enter a long-term natural decline (deaths exceeding births).

The final component of population growth is migration. This also has not generally been in Michigan's favor for the last 50 years. Since 1970, Michigan has only experienced a handful of net positive migration years and even in these years we have only had a few thousand people move to the state on net (LMISI 2019). By the 2030s it is possible deaths will exceed births by more than 10,000 annually, making it increasingly unlikely that migration will overcome this deficit. As a result, without increases in the number of births or migrants to Michigan, the state will enter a period of indefinite population decline by the 2030s, possibly earlier if birth rates continue to decline.

However, slowing growth and eventual contraction of the population and labor force are not unique to Michigan. Other states are on the same demographic trajectory, with some states, particularly in the Midwest and Northeast, potentially preceding Michigan (see the projections section on page 24). Additionally, countries in Europe and parts of Asia (such as Japan) are experiencing similar changes. This new demographic frontier doesn't necessarily spell "doom and gloom," but it does deserve consideration and preparation.

Conclusion

About 56 percent of Michigan households selfreported online in 2020. Overall, Michigan's self-reporting rate in 2020 was 71.3 percent compared to 67.7 percent in 2010. This increase in self-reporting was especially helpful during the pandemic because it reduced the amount of in-person nonresponse follow-up needed, which was delayed due to COVID-19. Although the pandemic delayed nonresponse follow-ups and the release of results, data from the census started to be released in the second half of 2021.

Michigan's population has experienced about 2 percent growth over the past 10 years. However, the state lags behind population growth across the nation. At the local level, municipalities with the largest populations, on average, experienced more dramatic population loss, most notably Detroit and Flint. On average, the municipalities with the largest population growth are those with population between 10,000 to 100,000. Areas that experienced growth, such as southeastern Michigan, the Grand Rapids metro area, and the Traverse City area, skewed toward younger populations where births outpaced deaths. Migration also played a role in areas reporting population growth.

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EMPLOYMENT PROJECTIONS

The Michigan Bureau of Labor Market Information and Strategic Initiatives releases long-term employment projections each year. Statewide and regional employment projections estimated the state will keep a relatively even level of employment throughout the 10-year period. Statewide and regional changes are primarily due to a low 2018 unemployment rate and nearly flat labor force projections, with some regional variations. Shifts in labor demand are expected to impact the makeup of Michigan's workforce in the next 10 years. This section describes statewide and regional projections and highlights projected sector growth, particularly related to the increase in occupations that require high levels of education.

Shifts in Michigan's Population Makeup

Demographic forces are expected to drive the highest and lowest projected changes in employment among the 10 regions (Figure 1). In West Michigan, population expansion is expected to drive an increase in employment demand and available labor force, leading to a 2.6 percent increase in the total count of jobs between 2018 and 2028. This is the highest projected increase among the 10 regions, and one of five positive projected changes in employment.

Projections at the regional level suggest some variations. For example, in Northeast Michigan, an aging population is expected to reduce overall labor force participation and the total number of people available to fill employers' labor demand. These changes are projected to result in a 2 percent reduction in employment over the 10year period. The Upper Peninsula faces similar demographic challenges, resulting in a 1.8 percent projected reduction in employment.

Michigan's labor force growth will rely on positive net migration to replace retiring workers and meet employers' demand for new workers. Overall, Michigan's population is expected to grow by 3.6 percent between 2018 and 2028. This population growth, however, is expected to be punctuated by a sharp 28 percent increase in people 65 and older. The Michigan labor force is expected to contract by 0.2 percent from 2018 to 2028, largely because the number of residents approaching retirement age is expected to outpace the count of new residents in the state. This highlights the fact that in the 2020s and through the population projection period ending in 2045, Michigan's population expansion requires increased migration to replace retiring workers and meet employer demands for workers.

While many states do not publish similar labor force projections to inform their employment outlook, Maine is one state that both produces this data and identifies similar labor force trends that have emerged years before those of Michigan. Maine exhibits an aging population and a rate of in-migration that is lower than necessary for labor force expansion, much like Michigan. Importantly, it is also years ahead of Michigan in reaching a state of natural population decline. The state entered, exited, and again entered natural decline in the early 2010s, while Michigan is expected to enter natural decline of residents in the 2020s. Examining Maine's economic outlook may therefore inform how Michigan's demographic and economic circumstances should be viewed.

FIGURE 1: PROJECTED CHANGE IN TOTAL EMPLOYMENT FOR MICHIGAN AND ITS PROSPERITY REGIONS, 2018–2028



Source: 2018–2028 Employment Projections, Bureau of Labor Market Information and Strategic Initiatives, Michigan Department of Technology, Management & Budget

FIGURE 2: REAL AND PROJECTED POPULATION, LABOR FORCE, EMPLOYMENT, AND UNEMPLOYMENT RATE* CHANGE OVER 10-YEAR PERIODS



Source: Michigan Population Projections Through 2045, 2018–2028 Michigan Labor Force Projections, Local Area Unemployment Statistics, 2018–2028 Michigan Employment Projections, Bureau of Labor Market Information and Strategic Initiatives, Michigan Department of Technology, Management & Budget; Population Estimates Program, U.S. Census Bureau *The unemployment rate is expressed in percentage point change. All others are expressed in percent change. The 2028 unemployment rate is a model assumption, not a projected level.

Maine's publication of a net-negative change in employment during the 2016 to 2026 projection period gained attention in the statewide press, leading to negative portrayals of the state's economic future. In the release of their 2018 to 2028 projection publications, the Maine Center for Workforce Research and Information noted that these bleak outlooks were not the likely reality for the state. The center focused on several improvements that may come from their demographic shift such as increasing wages due to stiffened competition for labor, increased investment in productivity improvements, and labor market incentives for young people to remain in the state. When, like Maine, Michigan enters a period of natural decline in population, it is important to keep in mind that these changes will not cause drastic shocks to the Michigan economy but will be a gradual shift over time.

Low Unemployment in 2018 Contributed to Low Projected Growth

Beyond having a labor force large enough to meet employment demand, another important factor in projections for total employment growth is the economic status when the projections are performed. A main assumption of employment projections is that the economy will be operating at full employment at the end year, an economic state maximizing demand for workers. In its simplest form, "full employment" states that employment can rise no higher than the economy can sustain without causing excessive inflation. This assumption states that in the projection year (2028), Michigan's unemployment rate will lie at the low, but sustainable level of 4.6 percent. If the rate were higher, the labor market may have more slack than is ideal for economic growth, but if it were

FIGURE 3: PROJECTED PERCENT CHANGE IN HIGHEST-IMPACTED INDUSTRIES MICHIGAN, ADJUSTED TO DIFFERENCES IN "MODERATE" BLS SCENARIO



Source: 2018–2028 Employment Projections, Bureau of Labor Market Information and Strategic Initiatives, Michigan Department of Technology, Management & Budget; "Employment Projections in a Pandemic Environment," February 2021 Monthly Labor Review, U.S. Bureau of Labor Statistics

FIGURE 4: PROJECTED PERCENT CHANGE BY EDUCATIONAL GROUP, STATEWIDE, 2018-2028



Source: 2018–2028 Employment Projections, Bureau of Labor Market Information and Strategic Initiatives, Michigan Department of Technology, Management & Budget; "Employment Projections in a Pandemic Environment," February 2021 Monthly Labor Review, U.S. Bureau of Labor Statistics

lower, the economy could heat up to a state where inflation may become problematic, again potentially hindering economic growth. Figure 2 shows that without a significant decrease in unemployment or increase in population or labor force, there is no source from which the labor force can draw new workers. None of these changes are expected to occur over the 2018 to 2028 period, so total employment is projected to be relatively unchanged in 2028.

When projections begin with a full-employment economy like that of 2018 and end with the assumption of a full-employment economy, it is implied that there is likely to be an economic trough and a recovery somewhere in the intervening years purely because of the average length of economic cycles. Today, it seems that the economic effects of COVID-19 could be the form that this assumption takes in the real world. Although little information was available on the effects of the pandemic when the statewide 2018 to 2028 projections were produced, employment changes that took place during the COVID-19 pandemic were considered in the production of the regional long-term projections. Projection models were chosen for regions that more fully reflected changes due to the pandemic if there appeared to be a significant shift from historical patterns. Nevertheless, statewide and regional projections may not fully capture the effects of the pandemic on Michigan employment. At the national level, where more data and more detailed models are available. the U.S. Bureau of Labor Statistics (BLS) has produced alternate projections that examine two hypotheses regarding the long-term effects of COVID-19 on individual industries.

Effects of COVID-19

In February 2021, the BLS released two impact scenarios for COVID-19 on their employment projections, one "moderate" and one "strong," which largely differ due to changes in consumer behavior. The moderate scenario assumes a significant increase in telework and projects its spillover effects, while the strong scenario assumes consumers will display a lingering aversion towards large social gatherings, travel, and in-person retail purchases. The BLS notes that despite positive externalities of telework on remote workers themselves, an aggregate reduction in office space and food and travelrelated purchases will reduce demand for workers in industries that provide these goods and services. The BLS also expects the pandemic-related increase in e-commerce purchases to be a "sticky" effect that will shift labor market demand among retail-related industries in the long term (Ice, Rieley, and Rinde 2019).

The BLS expected the greatest long-term COVID-19 impact on *Accommodation and food services*; *Arts, entertainment, and recreation*; *Retail trade*; and *Construction* industries. A simple comparison could be made to Michigan industry projections using the percentage point differences in alternate BLS projections versus their baseline levels, seen in Figure 3. While this simple comparison gives us an idea of a moderate long-term impact of COVID-19 on the Michigan economy, it is important the keep in mind that these changes will not be reflected exactly from the U.S. economy to the Michigan economy.

Occupations Projections for Selected Groups

GROWTH BY EDUCATION

Occupational projections are often the lens through which employment projection data is consumed, and for a good reason. These projections are most often used to guide job seekers toward careers which are expected to see healthy growth throughout the 10-year projection period. Most often, occupations that require education or training beyond high school, such as the bachelor's degree required for Registered nurses and apprenticeship for *Electricians*, are expected to register more growth over the projection period. Occupations that require at least a bachelor's degree are expected to expand by 3.4 percent through 2028 (Figure 4). These occupations also frequently garner higher wages versus other educational groups. Occupations requiring an associate degree, long-term training, or an apprenticeship are projected to grow by 2.1 percent. Categories of education and training requiring less than this are all expected to lose jobs overall during the 10-year period, a reminder that although a bachelor's degree is not necessarily needed for success in the labor force, attaining training or education beyond high school is often a requirement to enter a high-demand, high-wage job.

SKILLED TRADES

Skilled trades occupations are an important subset of these high-demand, high-wage jobs

FIGURE 5: PROJECTED PERCENT CHANGE, STATEWIDE, 2018–2028 AND NATIONAL MEDIAN AGES FOR SELECTED SKILLED TRADES OCCUPATIONS

TITLE	PROJECTED PERCENT CHANGE (MI)	MEDIAN AGE (US)
ALL OCCUPATIONS	0.1%	42.5
Millwrights	12.0%	50.4
Industrial Machinery Mechanics	7.0%	48.1
General Maintenance and Repair Workers	1.7%	46.7
Construction and Building Inspectors	-1.1%	52.6
Water and Wastewater Treatment Plant and System Operators	-10.9%	45.3

Source: 2018–2028 Employment Projections, Bureau of Labor Market Information and Strategic Initiatives, Michigan Department of Technology, Management & Budget

requiring additional training. These jobs often require either apprenticeships or postsecondary nondegree awards and are often employed in the Specialty trades contractors industry. *Electricians*; *Plumbers, pipefitters, and steamfitters*; and *Heating and air conditioning mechanics* are a few examples of such occupations. Together, these three occupations alone are expected to have a need for 5,700 occupational entrants per year through 2028, providing many high-demand, high-pay opportunities without needing an advanced degree.

While healthcare occupations are often associated with an aging population, skilled trades occupations have their own association with the aging of Michigan. Each year the BLS publishes data on the median age of jobholders within each occupation nationally. The median age for all jobholders in the U.S. is 42.5. Growing skilled trades occupations with median ages older than this include Millwrights, Industrial machinery mechanics, and General maintenance and repair workers (Figure 5). Some larger occupations which are not projected to grow but are nonetheless important and are held by aging groups of workers include Construction and building inspectors and Water and wastewater treatment plant and system operators. The above-average median age in many of these

occupations highlight the need for new entrants to this important group of jobs.

Conclusion

The 2018 to 2028 statewide employment projections estimated the state will keep a relatively even level of employment throughout the 10-year period. This was largely due to a low unemployment rate and modest projected labor force growth. Although the total count of jobs is expected to change little, shifts in labor demand are expected to change the makeup of Michigan's workforce in that time period. Many of these changes were echoed in the regional projections, released July 2021, such as strong growth in the Healthcare and social assistance sector and the increase in occupations that require high levels of education. Employment in many of Michigan's 10 regions are expected to follow the state trend of having a 2028 employment level very close to its 2018 level. Like the statewide projections, these changes are primarily due to a low 2018 unemployment rate and nearly flat labor force projections. This is not the case in every region, however.

While Michigan is not expected to employ a significantly higher number of people in 2028 than in 2018, the labor force will still show signs of change throughout the 10-year period.

Long-term trends such as higher demand for healthcare, driven by the aging population, and the move away from brick-and-mortar retailers, accelerated by COVID-19, will alter the job market throughout the period. These changes also highlight the need for Michigan to retain and attract highly skilled and highly educated workers. This kind of workforce will be necessary to provide a resilient economy in a period defined by slowing population growth and the ever-increasing importance of technology.

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