

MICHIGAN'S LABOR MARKET NEWS

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Michigan's Occupational Employment and Wages in 2017

Feature Article pg. 16

Map of the Month: Median Occupational Wages by Area

pg. 15

Data Spotlight: Michigan Short-Term Job Outlook

pg. 22

The statewide jobless rate has remained relatively steady since mid-year 2015.

FEBRUARY 2018 JOBLESS RATE

MICHIGAN

4.8%

NATIONAL

4.1%

TABLE OF CONTENTS

- 4 Michigan Employment and Unemployment Trends
- 6 Michigan Job Trends by Industry Sector
- 10 Regional Labor Market Analysis
- 15 Map of the Month: Median Occupational Wages by Area
- 16 Feature Article: Michigan's Occupational Employment and Wages in 2017
- 22 Data Spotlight: Michigan Short-Term Job Outlook 2nd Quarter 2019
- 24 Relevant Rankings
- 26 Ask the Economist



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IT'S BIGGER THAN DATA.

The Bureau of Labor Market Information and Strategic Initiatives is the official source for high quality demographic and labor market information for the state of Michigan and its regions. We administer the state's federal-state cooperative programs with the Bureau of Labor Statistics (BLS) and the Census Bureau and produce high-quality information and analysis through grants from the U.S. Department of Labor and from partner agencies in the state of Michigan. We provide our national, state, and local partners and customers with *accurate, objective, reliable, timely, accessible, and transparent* information and insights.

Michigan's unemployment rate inched up in February to 4.8 percent. Over the year, the state's jobless rate was flat, but was 0.7 percentage points above the national rate (4.1 percent). February payroll jobs were higher by 12,900, with gains reported in seven of 11 broad industry sectors. Over the year, payrolls were up 52,000 or 1.2 percent, just below the 1.6 percent growth reported nationally. Meanwhile, Michigan's regional labor markets were steady in February with unemployment rates increasing in eight regions, declining in five areas, and staying flat in the remaining four.

This month's Feature Article highlights brand new 2017 employment and wage estimates from the Occupational Employment Statistics (OES) program. According to these estimates, occupational employment in Michigan totaled 4,276,000 and the median hourly wage for all Michigan occupations was \$17.62. The article identifies some of the largest aggregate occupational groups, namely *Professional, Service, and Office and administrative support* occupations. It also discusses some of the highest-paying groups, like *Management, Professional, and Health care* occupations. The article also introduces employment and wage information for the state's metropolitan and nonmetropolitan areas, discusses employment and wages for various education levels, and provides employment and wages for a few pre-defined and custom occupational categories, like Professional Trades.

Our Data Spotlight looks at other recently released data: Short-term industry and occupation projections from our Employment Projections (EP) program. In this summary, we learn that employment should expand by 2.3 percent by 2018, growing by 107,170 jobs and generating 570,060 openings this year and next. Importantly, we hear about some of the major trends behind the new projections.

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



JASON PALMER

DIRECTOR

Bureau of Labor Market Information
and Strategic Initiatives

MICHIGAN'S FEBRUARY JOBLESS RATE INCHES UP

Michigan's February 2018 seasonally adjusted unemployment rate edged upward by one-tenth of a percentage point to 4.8 percent. Total employment was essentially unchanged over the month while the number of unemployed and the state's total overall labor force rose marginally.

Michigan's February 2018 jobless rate was unchanged from the state's February 2017 rate. Over the same period, the national unemployment rate decreased by six-tenths of a percentage point. The state's unemployment rate in February was seven-tenths of a percentage point above the national rate of 4.1 percent. The U.S. jobless rate was unchanged in February.

February marked the first monthly jobless rate increase for Michigan since a minor uptick recorded in September 2017, when the rate edged higher one-tenth of a percentage point.

From February 2017 to February 2018, total employment increased in Michigan by 28,000

or 0.6 percent while the number of unemployed in the state was flat. Nationally over the same period, total employment rose by 1.8 percent and the number of unemployed decreased by 10.4 percent. Michigan's workforce moved similarly, expanding by 27,000 or 0.6 percent since February 2017, but was outpaced by the national growth rate of 1.2 percent.

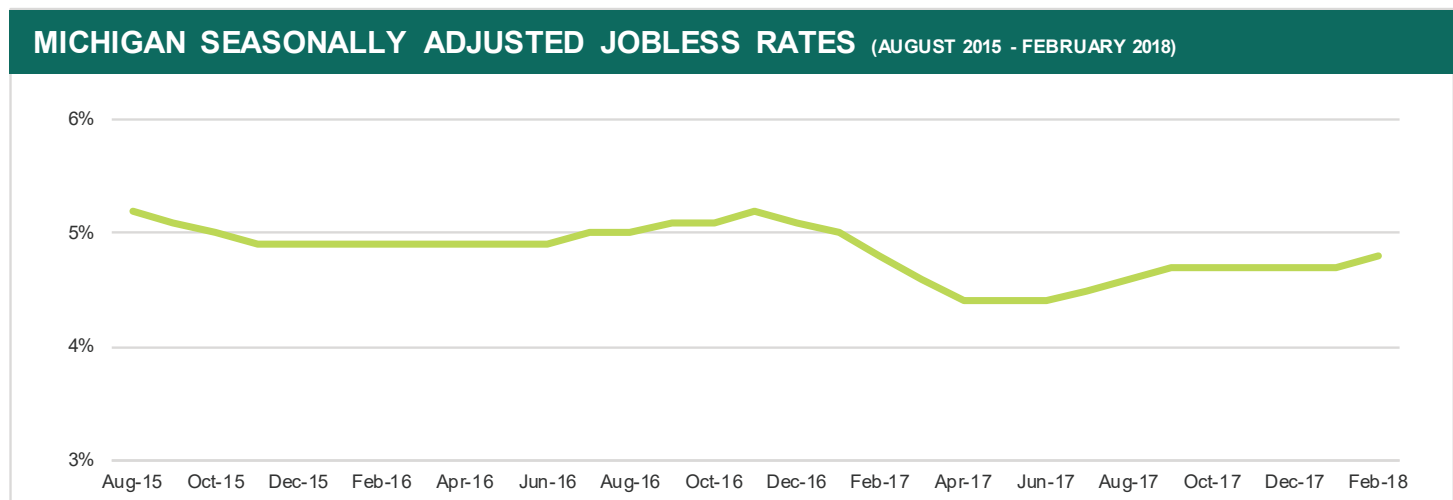
Since August 2015, Michigan's monthly unemployment rates have remained within the fairly narrow band of 4.4 to 5.2 percent. The state's rates were on the high end of this band from August to October 2015 and from July 2016 to January 2017, with rates over those periods ranging from 5.0 to 5.2 percent. The low end of jobless rates occurred from March 2017 to August 2017, with rates in that time frame ranging from 4.4 to 4.6 percent. The remaining statewide monthly jobless rates since August 2015 have been in the high four percent range (4.7 to 4.9 percent). From August 2015 to February 2018, Michigan's average unemployment rate was 4.8 percent,

which matched the state's February 2018 rate. Between August 2015 and February 2018, the average number of unemployed in the state was 234,000, which was very similar to the February 2018 count of 233,000.

Over this period of generally stable unemployment counts, unemployed individuals continued to enter Michigan's workforce, actively seeking employment. This confidence in the state's labor market from August 2015 to February 2018 corresponded to a workforce entry of 150,000 or 3.2 percent, which slightly outpaced the national labor force addition of 3.0 percent over the same period. Since August 2015, total employment increased in Michigan by 163,000 or 3.6 percent, which was slightly below the 4.1 percent growth rate nationally.

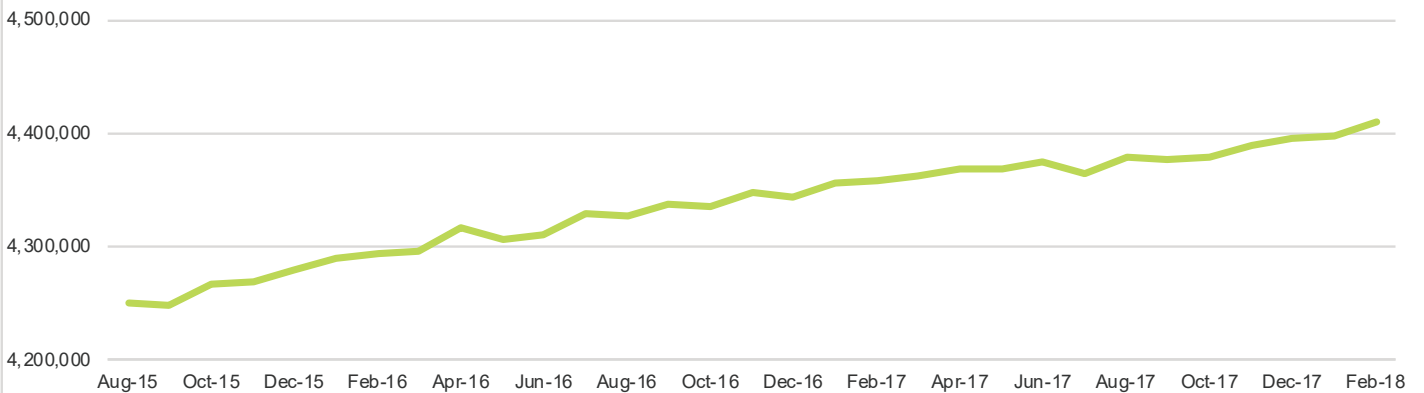
JIM RHEIN
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MICHIGAN LABOR FORCE ESTIMATES (SEASONALLY ADJUSTED)					
	FEB 2018	JAN 2018	FEB 2017	CHANGE OVER THE MONTH	CHANGE OVER THE YEAR
Labor Force	4,898,000	4,897,000	4,871,000	+1,000	+27,000
Employed	4,665,000	4,665,000	4,637,000	0	+28,000
Unemployed	233,000	232,000	233,000	+1,000	0
Jobless Rate	4.8	4.7	4.8	+0.1	0.0





MICHIGAN SEASONALLY ADJUSTED PAYROLL JOBS (AUGUST 2015 TO FEBRUARY 2018)



MICHIGAN JOB TRENDS BY INDUSTRY SECTOR

Monthly Overview

Total nonfarm payrolls in Michigan grew in February to 4,410,900 (+12,900 jobs). Seven of 11 broad industry sectors added jobs monthly. The largest additions were reported in *Professional and business services* (+4,000), *Leisure and hospitality* (+3,600), *Manufacturing* (+1,800), and *Trade, transportation, and utilities*, and *Construction* (+1,600 each). A smaller gain was registered in *Education and health services* (+1,300). Job declines occurred in *Government* (-100), *Financial activities* (-200), *Information* (-300), and *Other services* (-500). *Transportation equipment manufacturing* increased by 2,600 over the month.

Over the Year Analysis

Between February 2017 and February 2018, total nonfarm employment grew by 52,000, or 1.2 percent. This is below the 1.6 percent growth rate nationally during this period. In Michigan, payroll job gains were recorded in all major industry sectors except *Information* which saw payrolls contract by 1,400 jobs. *Construction* (+11,000), *Leisure and hospitality* (+10,700), and *Professional and business services* (+9,300) accounted for 60 percent of the total over-the-year job growth. Notable increases were also reported in *Government* (+5,500), *Education and health services* (+5,100), *Other services* (+3,900), and *Trade, transportation, and utilities* (+3,700). *Manufacturing* added 2,300 jobs during this span, with a gain in the *Nondurable goods* (+2,700) component offsetting a 2,400 decline in *Transportation equipment manufacturing*, which depressed employment levels in the *Durable goods* (-400) subsector.

2017 Industry Comparison: Michigan vs. United States

In Michigan, total nonfarm payrolls grew by 1.2 percent during 2017, comparable to 1.6 percent growth nationally during this period.

Four of Michigan's eleven broad industry sectors experienced higher than national growth rates during 2017. These include *Construction* (+5.0 percent vs. +3.4 percent), *Manufacturing* (+1.7 percent vs. +0.7 percent), *Financial*

activities (+2.5 percent vs. +2.0 percent), and *Government* (+0.8 percent vs. +0.4 percent).

Jobs were added at a similar pace to the national average in *Trade, transportation, and utilities* (+0.7 percent vs. +0.9 percent) and at a slower pace in *Leisure and hospitality* (+1.7 percent vs. +2.5 percent), *Professional and business services* (+0.9 percent vs. +2.1 percent), *Other services* (+0.2 percent vs. +1.5 percent), and *Education and health services* (+1.0 percent vs. +2.4 percent).

The sectors where jobs declined in Michigan during 2017 but either rose or were unchanged nationally include *Mining and logging* (-0.6 percent vs. +1.5 percent) and *Information* (-1.5 percent vs. 0.0 percent).

Significant Industry Employment Developments

LEISURE AND HOSPITALITY

The number of jobs in this broad sector rose by 3,600 in February, fueled largely by *Accommodation and food services* (+2,600). This gain was the result of atypically strong hiring in *Full-service restaurants* and *Limited-service eating places*. In addition, employers in the *Arts, entertainment, and recreation* subsector added 1,000 workers to their payrolls during the month. Between February 2017 and February 2018, job levels in the broad sector have grown by 10,700 or 2.5 percent. Nationally, employment rose by 16,000 over the month and by 2.0 percent over the year.

ADMINISTRATIVE AND SUPPORT AND WASTE MANAGEMENT AND REMEDIATION SERVICES

Employers in this sector added 3,400 workers in February. This gain was partially due to larger than typical payroll additions in *Employment services*. A modest increase in *Services to building and dwellings* payrolls also contributed to this February jobs gain. Since reaching a recessionary low of 221,500 jobs in August 2009, employment in this subsector has grown by 71,000 or by 32.1 percent. This is more than double the growth (+15.2 percent) in total nonfarm jobs during this period. Between February 2017 and February 2018, payrolls

in this sector grew by 1,400 jobs or by 0.5 percent. A significant portion of this over-the-year increase occurred in the *Services to building and dwellings* subsector. Nationally, jobs increased by 28,400 in February and by 3.0 percent over the year.

CONSTRUCTION

Job levels in this broad sector rose by 1,600 over the month. Part of this increase was due to atypical payroll additions in *Construction of buildings* and *Heavy and civil engineering construction*. A small decline in the *Specialty trade contractors* subsector also contributed to the overall increase in jobs in the broad sector. Since February 2017, payrolls in the broad sector have grown by 11,000 jobs (+6.9 percent) which accounted for 21 percent of the increase in total nonfarm employment during this period. Nationally, employment was up by 61,000 over the month and by 3.7 percent since February 2017.

METROPOLITAN STATISTICAL AREAS (MSAs)

On a *not seasonally adjusted* basis, total nonfarm jobs advanced in 13 of the 14 Metropolitan Statistical Areas (MSA) during February. The exception was *Muskegon* where total payrolls declined by 0.3 percent.

Nine metro areas reported increases greater than the statewide average increase of 0.7 percent. The largest above average gains were recorded in the *Ann Arbor* (+1.9 percent) and *Lansing* (+1.8 percent) metro areas.

Four MSAs recorded increases at or below the statewide average, ranging from 0.7 percent in *Jackson* to 0.3 percent in *Battle Creek* and *Bay City*.

A primary cause for the additions in total nonfarm employment in many of the metro areas was seasonal payroll increases in the education components of *State and Local government*.

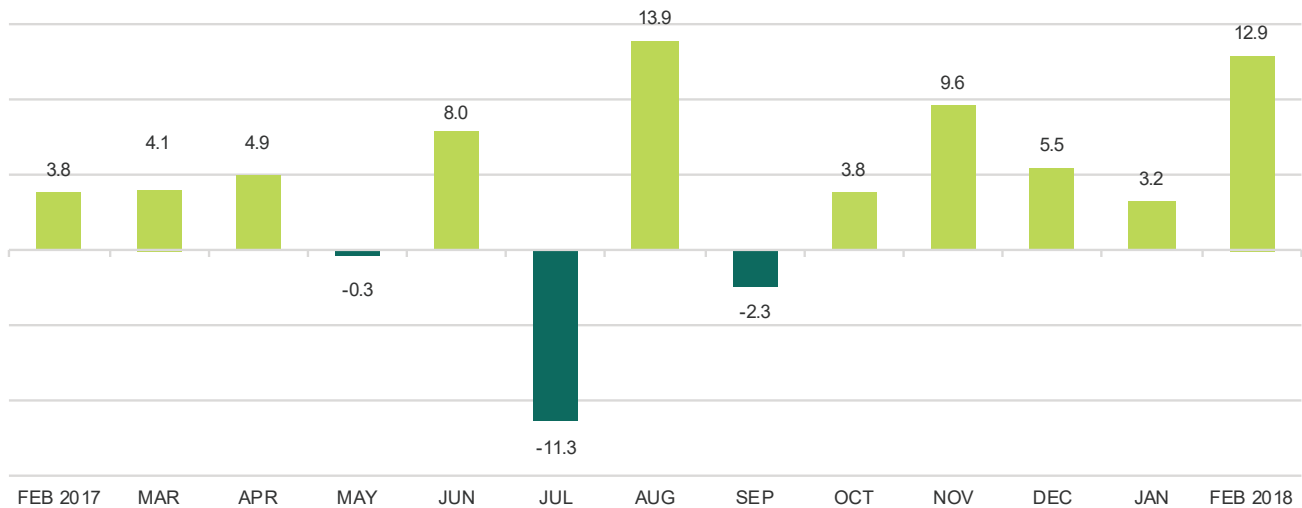
JEFFREY AULA
Economic Analyst

MICHIGAN PAYROLL JOBS (SEASONALLY ADJUSTED)

INDUSTRY	FEB 2018	JAN 2018	FEB 2017	OVER THE MONTH		OVER THE YEAR	
				LEVEL	PERCENT	LEVEL	PERCENT
TOTAL NONFARM	4,410,900	4,398,000	4,358,900	12,900	0.3%	52,000	1.2%
Total Private	3,804,700	3,791,700	3,758,200	13,000	0.3%	46,500	1.2%
Private Service-Providing	3,009,500	3,000,000	2,976,700	9,500	0.3%	32,800	1.1%
GOODS-PRODUCING	795,200	791,700	781,500	3,500	0.4%	13,700	1.8%
Mining, Logging, and Construction	178,000	176,300	166,600	1,700	1.0%	11,400	6.8%
Mining and Logging	7,400	7,300	7,000	100	1.4%	400	5.7%
Construction	170,600	169,000	159,600	1,600	0.9%	11,000	6.9%
Manufacturing	617,200	615,400	614,900	1,800	0.3%	2,300	0.4%
Durable Goods	464,200	462,500	464,600	1,700	0.4%	-400	-0.1%
Transportation Equipment Manufacturing	186,800	184,200	189,200	2,600	1.4%	-2,400	-1.3%
Nondurable Goods	153,000	152,900	150,300	100	0.1%	2,700	1.8%
SERVICE-PROVIDING	3,615,700	3,606,300	3,577,400	9,400	0.3%	38,300	1.1%
Trade, Transportation, and Utilities	791,700	790,100	788,000	1,600	0.2%	3,700	0.5%
Wholesale Trade	174,100	173,500	172,100	600	0.3%	2,000	1.2%
Retail Trade	472,100	472,000	475,700	100	0.0%	-3,600	-0.8%
Transportation, Warehousing, and Utilities	145,500	144,600	140,200	900	0.6%	5,300	3.8%
Information	55,400	55,700	56,800	-300	-0.5%	-1,400	-2.5%
Financial Activities	218,900	219,100	217,400	-200	-0.1%	1,500	0.7%
Finance and Insurance	164,200	164,700	163,400	-500	-0.3%	800	0.5%
Real Estate and Rental and Leasing	54,700	54,400	54,000	300	0.6%	700	1.3%
Professional and Business Services	655,500	651,500	646,200	4,000	0.6%	9,300	1.4%
Professional, Scientific, and Technical Services	295,600	294,800	289,500	800	0.3%	6,100	2.1%
Management of Companies and Enterprises	67,400	67,600	65,600	-200	-0.3%	1,800	2.7%
Administrative and Support and Waste Management and Remediation Services	292,500	289,100	291,100	3,400	1.2%	1,400	0.5%
Education and Health Services	674,900	673,600	669,800	1,300	0.2%	5,100	0.8%
Educational Services	73,100	73,300	74,000	-200	-0.3%	-900	-1.2%
Health Care and Social Assistance	601,800	600,300	595,800	1,500	0.2%	6,000	1.0%
Leisure and Hospitality	442,000	438,400	431,300	3,600	0.8%	10,700	2.5%
Arts, Entertainment, and Recreation	53,200	52,200	53,300	1,000	1.9%	-100	-0.2%
Accommodation and Food Services	388,800	386,200	378,000	2,600	0.7%	10,800	2.9%
Other Services	171,100	171,600	167,200	-500	-0.3%	3,900	2.3%
Government	606,200	606,300	600,700	-100	0.0%	5,500	0.9%
Federal Government	52,200	52,300	52,500	-100	-0.2%	-300	-0.6%
State Government	193,500	192,700	188,900	800	0.4%	4,600	2.4%
Local Government	360,500	361,300	359,300	-800	-0.2%	1,200	0.3%

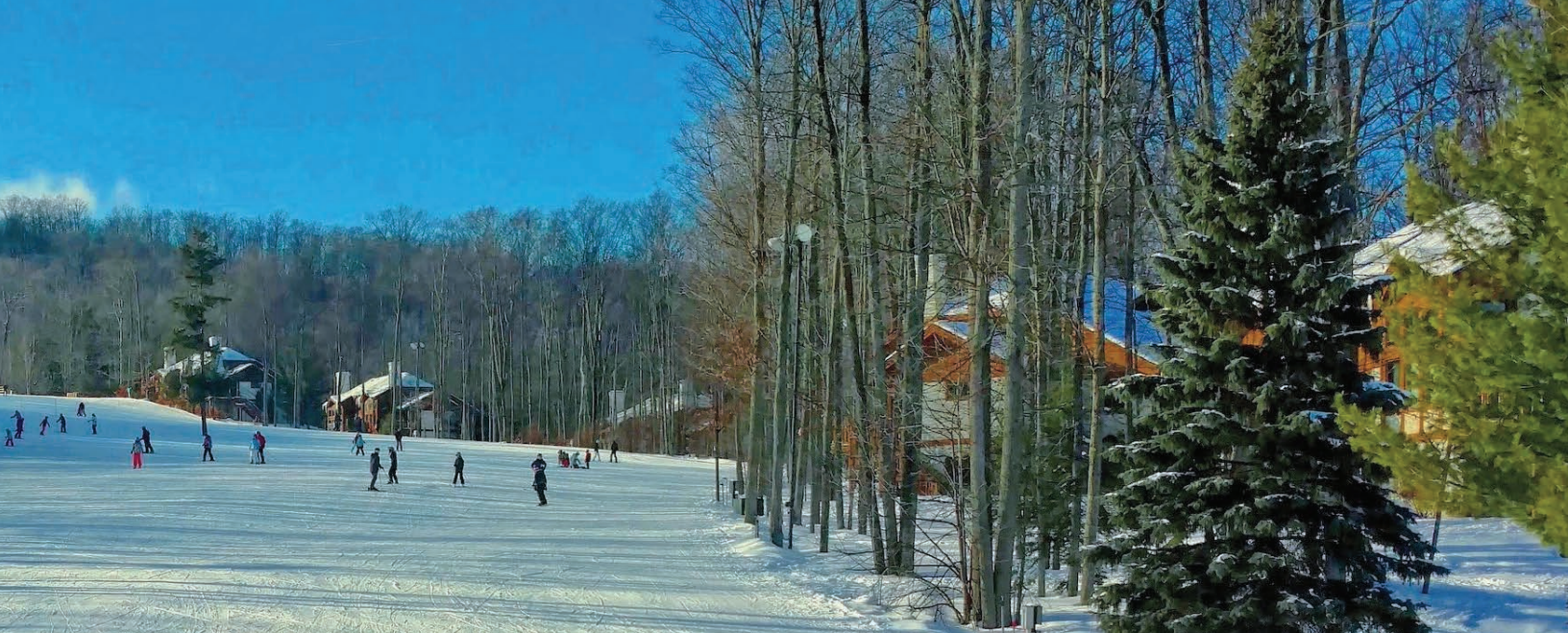


MICHIGAN OVER THE MONTH PAYROLL JOB CHANGE (IN THOUSANDS)



ANNUAL AVERAGE JOB CHANGE - 2017

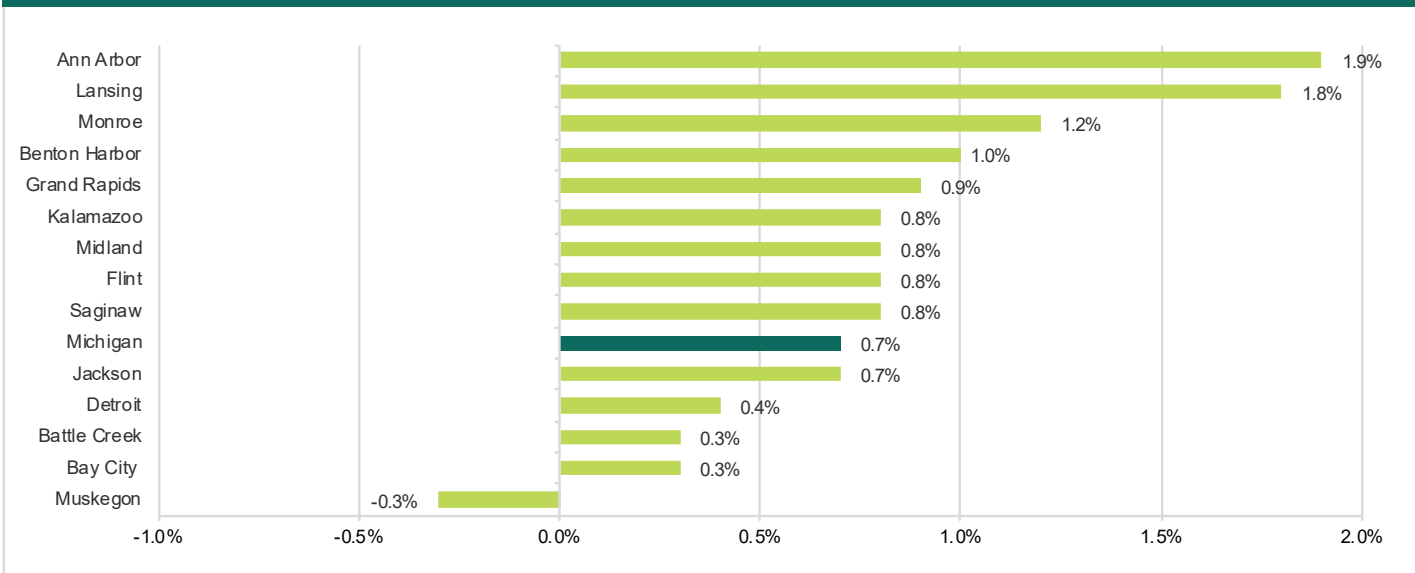
INDUSTRY	MICHIGAN		UNITED STATES	
	NUMERIC CHANGE	PERCENT CHANGE	NUMERIC CHANGE	PERCENT CHANGE
Total Nonfarm	52,200	1.2%	2,272,000	1.6%
Mining and Logging	-42	-0.6%	10,000	1.5%
Construction	7,700	5.0%	227,000	3.4%
Manufacturing	10,100	1.7%	90,000	0.7%
Trade, Transportation, and Utilities	5,500	0.7%	237,000	0.9%
Information	-800	-1.5%	1,000	0.0%
Financial Activities	5,400	2.5%	168,000	2.0%
Professional and Business Services	5,700	0.9%	415,000	2.1%
Educational and Health Services	6,500	1.0%	547,000	2.4%
Leisure and Hospitality	7,300	1.7%	392,000	2.5%
Other Services	400	0.2%	85,000	1.5%
Government	4,600	0.8%	98,000	0.4%



MICHIGAN OVER THE MONTH JOB CHANGE BY SELECT INDUSTRY (JANUARY 2018 TO FEBRUARY 2018)



METROPOLITAN AREA JOB CHANGE JANUARY TO FEBRUARY 2018 (NOT SEASONALLY ADJUSTED)



REGIONAL LABOR MARKET ANALYSIS

ANN ARBOR METROPOLITAN AREA

- The jobless rate in the Ann Arbor MSA remained unchanged in February, staying at 3.6 percent since January 2018.
- The civilian labor force in the region increased by 1.0 percent over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm employment in the Ann Arbor region edged up by 4,200 jobs over the month, or 1.9 percent, primarily due to a 4.0 percent increase in *Government* jobs (+3,300).

INDUSTRY TRENDS

- For the sixth consecutive month, *Other services* in Ann Arbor exhibited a ten-year low of 6,300 jobs in February 2018.

BATTLE CREEK METROPOLITAN AREA

- The unemployment rate in the Battle Creek MSA was stable in February, inching up by two-tenths of a percent. Employment rose seasonally (+700), and unemployment slightly increased (+200).
- Since February 2017, employment fell by 600, while unemployment edged up 100. The jobless rate was stable.

MONTHLY INDUSTRY DEVELOPMENTS

- In February, jobs in the Battle Creek MSA inched up 200 to 57,500. Moderate job additions were recorded in private *Education and health*, *Government*, *Leisure and hospitality*, and *Business services*. Employment also declined in *Construction* and *Manufacturing*.
- Since February 2017, employment in most major industry groups continued to decline or remain unchanged.

INDUSTRY TRENDS

- Since 2009, jobs in *Goods producing* industries grew below the statewide average (7 percent vs. 29 percent).

BAY CITY METROPOLITAN AREA

- The unemployment rate in the Bay City MSA was unchanged over the month, at 6.8 percent.
- Total employment in the region was essentially unchanged since February 2017.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll employment in Bay City rose by 100 jobs over the month, or 0.3 percent.
- Small increases in *Manufacturing* (+100) and *Other Services* (+100) were partially offset by a decline in *Trade, transportation, and utilities* (-100).

INDUSTRY TRENDS

- For the second consecutive month, *Service providing* jobs in Bay City reached a low of 29,800 jobs in February 2018, a level which has not been seen since August 1995.

DETROIT-WARREN-DEARBORN METRO AREA

- The Detroit's MSA jobless rate declined by 0.3 percentage points over the month, down to 4.6 percent in February.
- The region exhibited the second largest over-the-month jobless rate reduction out of all Michigan metro areas, behind only Lansing.

MONTHLY INDUSTRY DEVELOPMENTS

- Total payroll jobs in the Detroit MSA rose by 7,300 over the month, or 0.4 percent.
- Industries exhibiting the largest over-the-month increases included *Government* (+3,400), *Leisure and hospitality* (+2,000), *Professional and business services* (+1,800), and *Manufacturing* (+1,800).

INDUSTRY TRENDS

- Detroit's *Wholesale trade* sector reached a nine-year high level of 88,900 jobs for February.

FLINT METROPOLITAN AREA

- The jobless rate in the Flint MSA edged down by one-tenth of a percentage point over the month to 6.5 percent.
- Total unemployment in the region remained unchanged over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm employment in the Flint region increased by 1,100 jobs over the month, or 0.8 percent, primarily due to increases in the *Education and health service* (+500), and *Manufacturing* (+300) sectors.

INDUSTRY TRENDS

- For the fourth consecutive month, Financial activities in Flint exhibited an all-time low of 6,000 jobs in February 2018.

GRAND RAPIDS-WYOMING METROPOLITAN AREA

- The Grand Rapids MSA unemployment rate remained unchanged over the month at 4.0 percent.
- The region exhibited the largest over-the-year increase in total employment out of all Michigan metro areas, edging up by 1.5 percent since February 2017.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll employment in the Grand Rapids region rose by 5,200 jobs, or 0.9 percent, between January and February 2018, with employment gains seen in nearly all major industry sectors.

INDUSTRY TRENDS

- The *Non-durable goods* sector in Grand Rapids exhibited its ten-year employment high of 34,400 jobs in February, a level last seen in December 2017.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	ANN ARBOR			BATTLE CREEK			BAY CITY		
	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017
PLACE OF RESIDENCE									
Labor Force	195,300	191,700	193,300	63,600	62,700	64,100	51,200	50,800	51,300
Employment	188,300	184,700	186,300	60,000	59,300	60,600	47,700	47,400	47,700
Unemployment	7,100	7,000	7,000	3,600	3,400	3,500	3,500	3,400	3,500
Rate (percent)	3.6	3.6	3.6	5.6	5.4	5.4	6.8	6.8	6.9
PLACE OF WORK									
Total Nonfarm Jobs	222,700	218,500	219,000	57,700	57,500	58,200	35,200	35,100	35,000
Mining, Logging, and Construction	4,100	4,000	3,800	1,200	1,300	1,300	900	900	900
Manufacturing	14,900	14,900	14,400	12,400	12,500	12,400	4,500	4,400	4,200
Trade, Transportation, and Utilities	25,300	25,300	25,500	9,100	9,100	9,000	7,500	7,600	7,300
Wholesale Trade	6,000	6,000	5,500	*	*	*	*	*	*
Retail Trade	15,700	15,700	16,400	5,600	5,600	5,400	5,100	5,200	5,000
Information	5,100	5,100	5,000	*	*	*	500	500	600
Financial Activities	7,100	7,100	7,000	1,200	1,200	1,200	1,300	1,300	1,300
Professional and Business Services	29,600	29,300	28,900	6,200	6,100	6,100	2,600	2,600	2,500
Educational and Health Services	27,800	27,500	27,600	10,900	10,700	11,000	6,600	6,600	6,600
Leisure and Hospitality	17,200	17,000	17,300	4,200	4,100	4,300	4,300	4,300	4,500
Other Services	6,300	6,300	6,400	1,900	1,900	2,000	1,400	1,300	1,400
Government	85,300	82,000	83,100	10,600	10,400	10,800	5,600	5,600	5,700
DETROIT-WARREN-DEARBORN									
FLINT									
GRAND RAPIDS-WYOMING									
	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017
PLACE OF RESIDENCE									
Labor Force	2,099,200	2,082,100	2,097,200	182,900	181,200	182,100	578,400	570,100	569,100
Employment	2,001,600	1,980,800	1,988,800	170,900	169,200	170,200	555,300	547,400	547,300
Unemployment	97,600	101,200	108,300	12,000	12,000	12,000	23,100	22,700	21,700
Rate (percent)	4.6	4.9	5.2	6.5	6.6	6.6	4.0	4.0	3.8
PLACE OF WORK									
Total Nonfarm Jobs	1,988,300	1,981,000	1,970,500	139,100	138,000	137,700	556,500	551,300	545,300
Mining, Logging, and Construction	66,500	65,500	63,200	5,000	5,000	4,600	22,900	22,700	21,400
Manufacturing	251,100	249,300	253,300	12,400	12,100	12,000	115,900	115,500	113,900
Trade, Transportation, and Utilities	366,600	367,900	362,500	29,000	29,200	29,200	94,400	94,900	94,700
Wholesale Trade	88,900	87,300	85,600	5,700	5,600	5,800	30,900	30,900	30,900
Retail Trade	207,100	209,600	208,500	19,500	19,700	19,700	48,300	48,700	48,900
Information	26,600	26,900	27,200	3,900	3,900	4,000	5,400	5,400	5,600
Financial Activities	114,500	115,800	114,100	6,000	6,000	6,100	26,100	25,800	25,900
Professional and Business Services	389,400	387,600	386,400	15,300	15,100	14,700	80,000	78,500	77,700
Educational and Health Services	312,100	312,000	312,100	28,500	28,000	28,000	92,900	91,000	89,400
Leisure and Hospitality	198,400	196,400	190,300	14,800	14,600	14,800	47,700	47,200	46,300
Other Services	75,100	75,000	74,700	5,300	5,300	5,300	22,300	22,300	22,000
Government	188,000	184,600	186,700	18,900	18,800	19,000	48,900	48,000	48,400
* Data Not Available									

JACKSON METROPOLITAN AREA

- In February, unemployment rate in the Jackson MSA inched down a tenth of a percentage point. Employment rose by 1,000, while unemployment was flat.
- Since February 2017, employment was up 700, whereas unemployment edged down 100.

MONTHLY INDUSTRY DEVELOPMENTS

- February jobs in the Jackson MSA rose moderately by 400 to a total of 57,500. Seasonal job gains were recorded in private *Educational and health services* (+300). A 100-job addition was also seen in *Government and Manufacturing*.
- Since February 2017, payroll jobs in the Jackson MSA rose by 800, with 300 in *Goods producing* industries and 500 within *Service providers*.

INDUSTRY TRENDS

- Since 2009, jobs in *Goods producing* industries grew by 21 percent (+2,100); just eight percentage points below statewide expansion rate.

KALAMAZOO-PORTAGE METROPOLITAN AREA

- The February jobless rate in the Kalamazoo-Portage MSA edged up a tenth of a percentage point. Employment rose by 1.5 percent (+2,100), and the number of jobseekers was up 300.
- Since February 2017, labor force was stable in the area, inching up 600. The unemployment rate also edged up two-tenths of a percentage point.

MONTHLY INDUSTRY DEVELOPMENTS

- In February, jobs in the Kalamazoo MSA advanced by 1,200, mostly from a seasonal job gain of 800 in *Local and state public education* and a 200-job addition each in private *Educational services* and *Leisure and hospitality*.
- Since February 2017, total nonfarm payroll jobs inched up by 1,000, mostly in *Construction* and *Health care*.

INDUSTRY TRENDS

- Since 2009, employment in *Goods producing* industries advanced by 16 percent in the Kalamazoo MSA (versus 29 percent statewide).

LANSING-EAST LANSING METROPOLITAN AREA

- Joblessness in the Lansing MSA declined by six-tenths of a percentage point over the month to 4.5 percent, the largest over-the-month jobless rate reduction out of all Michigan metro areas.
- Total employment increased by 0.7 percent over the year, an increase matching the state.

MONTHLY INDUSTRY DEVELOPMENTS

- Nonfarm employment in the Lansing MSA edged up by 4,100 jobs, or 1.8 percent, primarily due to a large 2,400-job increase in the region's *Government* sector.

INDUSTRY TRENDS

- Lansing's *Information* sector has been declining in employment over the past year. Its level of 2,600 jobs for February 2018 is 13.3 percent lower than its level in February 2017.

MIDLAND METROPOLITAN AREA

- The Midland MSA unemployment rate edged up by one-tenth of a percentage point over the month to 5.8 percent.
- Total employment in the region declined by 1.0 percent over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Total nonfarm employment in Midland rose by 300 jobs, or 0.8 percent, between January and February 2018.

INDUSTRY TRENDS

- On a numerical basis, Midland was tied with Battle Creek in exhibiting the largest over-the-year decline in total nonfarm employment out of all Michigan metro areas, edging down by 500 jobs since February 2017.

MONROE METROPOLITAN AREA

- The Monroe MSA jobless rate remained unchanged over the month at 5.3 percent.
- The civilian labor force increased by 0.5 percent over the year, matching the increase seen by the state.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs in Monroe increased by 500, or 1.2 percent, in February, with employment gains seen in *Mining, logging, and construction*, *Leisure and hospitality*, *Other services*, and *Government*.

INDUSTRY TRENDS

- *Wholesale trade* in the region once again demonstrated an all-time high of 1,900 jobs in February, a level last seen in December 2017.

MUSKEGON METROPOLITAN AREA

- The jobless rate in the Muskegon MSA increased by two-tenths of a percentage point over the month, to 6.1 percent in February 2018.
- Total unemployment increased by 2.2 percent over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll employment in Muskegon decreased by 200 jobs over the month (-0.3 percent), with minor declines seen in *Manufacturing*, *Trade, transportation, and utilities*, and *Other services*.

INDUSTRY TRENDS

- Muskegon was the only Michigan metro area to exhibit an over-the-month decline in total nonfarm employment in February 2018.

CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	JACKSON			KALAMAZOO-PORTAGE			LANSING-EAST LANSING		
	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017
PLACE OF RESIDENCE									
Labor Force	74,900	74,000	74,400	169,500	167,000	168,900	253,200	249,500	251,200
Employment	71,000	70,000	70,300	160,800	158,700	160,600	241,900	236,900	240,100
Unemployment	4,000	4,000	4,100	8,700	8,400	8,400	11,300	12,600	11,100
Rate (percent)	5.3	5.4	5.5	5.1	5.0	5.0	4.5	5.1	4.4
PLACE OF WORK									
Total Nonfarm Jobs	58,000	57,600	57,200	147,800	146,600	146,800	238,200	234,100	235,300
Mining, Logging, and Construction	1,700	1,700	1,700	6,400	6,500	5,400	6,800	6,800	6,600
Manufacturing	10,200	10,100	9,900	21,400	21,400	21,800	20,500	19,600	20,600
Trade, Transportation, and Utilities	12,400	12,500	12,200	26,600	26,600	26,400	38,000	38,100	37,200
Wholesale Trade	*	*	*	7,300	7,300	7,000	5,800	5,700	5,800
Retail Trade	6,400	6,500	6,500	15,700	15,700	15,900	22,000	22,200	21,900
Information	300	300	300	800	800	900	2,600	2,600	3,000
Financial Activities	2,000	2,000	2,000	8,300	8,300	8,300	16,500	16,400	16,200
Professional and Business Services	5,000	5,000	5,000	17,400	17,300	17,200	23,700	23,400	22,900
Educational and Health Services	10,900	10,600	10,500	24,200	24,000	23,600	32,500	32,200	32,100
Leisure and Hospitality	5,200	5,200	5,100	15,300	15,100	15,700	18,600	18,500	18,900
Other Services	2,500	2,500	2,500	5,200	5,200	5,400	10,000	9,900	10,100
Government	7,800	7,700	8,000	22,200	21,400	22,100	69,000	66,600	67,700
PLACE OF RESIDENCE									
Labor Force	40,300	39,800	40,700	76,600	75,600	76,200	77,800	77,300	77,200
Employment	38,000	37,500	38,400	72,500	71,600	72,200	73,100	72,700	72,600
Unemployment	2,300	2,300	2,300	4,100	4,000	4,000	4,700	4,500	4,600
Rate (percent)	5.8	5.7	5.7	5.3	5.3	5.3	6.1	5.9	6.0
PLACE OF WORK									
Total Nonfarm Jobs	36,500	36,200	37,000	42,000	41,500	41,200	63,500	63,700	63,000
Mining, Logging, and Construction	*	*	*	1,800	1,600	1,800	2,000	2,000	1,900
Manufacturing	*	*	*	5,500	5,500	5,500	13,800	13,900	13,600
Trade, Transportation, and Utilities	*	*	*	11,000	11,000	11,000	13,100	13,200	13,300
Wholesale Trade	*	*	*	1,800	1,900	1,800	*	*	*
Retail Trade	*	*	*	5,200	5,200	5,300	10,500	10,600	10,800
Information	*	*	*	*	*	*	800	800	700
Financial Activities	*	*	*	900	900	900	1,700	1,700	1,700
Professional and Business Services	*	*	*	5,400	5,400	5,300	3,700	3,700	3,700
Educational and Health Services	*	*	*	5,100	5,000	5,100	12,000	11,900	11,900
Leisure and Hospitality	*	*	*	4,500	4,400	4,200	6,900	6,900	6,600
Other Services	*	*	*	1,500	1,400	1,500	2,100	2,200	2,200
Government	3,000	3,000	3,000	5,600	5,500	5,300	7,400	7,400	7,400
* Data Not Available									

NILES-BENTON HARBOR METROPOLITAN AREA

- February jobless rate in the Niles-Benton Harbor MSA inched up two tenths of a percent. Labor force rose by 1,400. Employment was up 1,100, and unemployment modestly increased (+200).

MONTHLY INDUSTRY DEVELOPMENTS

- February payroll jobs in the Niles-Benton Harbor MSA were up one percent (+600) to a total of 61,100. *Government* added 300 positions seasonally, and employment in *Manufacturing* rose by 200.
- Since February 2017, nonfarm payroll employment in the Niles-Benton Harbor MSA inched up 400, with job gains in *Government* and *Manufacturing* but deep employment cuts in *Professional and business services*.

INDUSTRY TRENDS

- Since 2009, employment in *Goods producing* industries advanced by 13 percent in the Niles-Benton Harbor MSA (versus 29 percent statewide).

SAGINAW METROPOLITAN AREA

- The Saginaw MSA unemployment rate declined by a tenth of a percentage point over the month, to 6.5 percent.
- Total unemployment in the region remained unchanged over the year.

MONTHLY INDUSTRY DEVELOPMENTS

- Payroll jobs in Saginaw rose by 700, or 0.8 percent, in February, primarily due to a 400-job increase in *Manufacturing* in the region.

INDUSTRY TRENDS

- On a numerical basis, Saginaw demonstrated the second largest over-the-year decline in total nonfarm employment (behind Battle Creek and Midland, which were both tied for first).

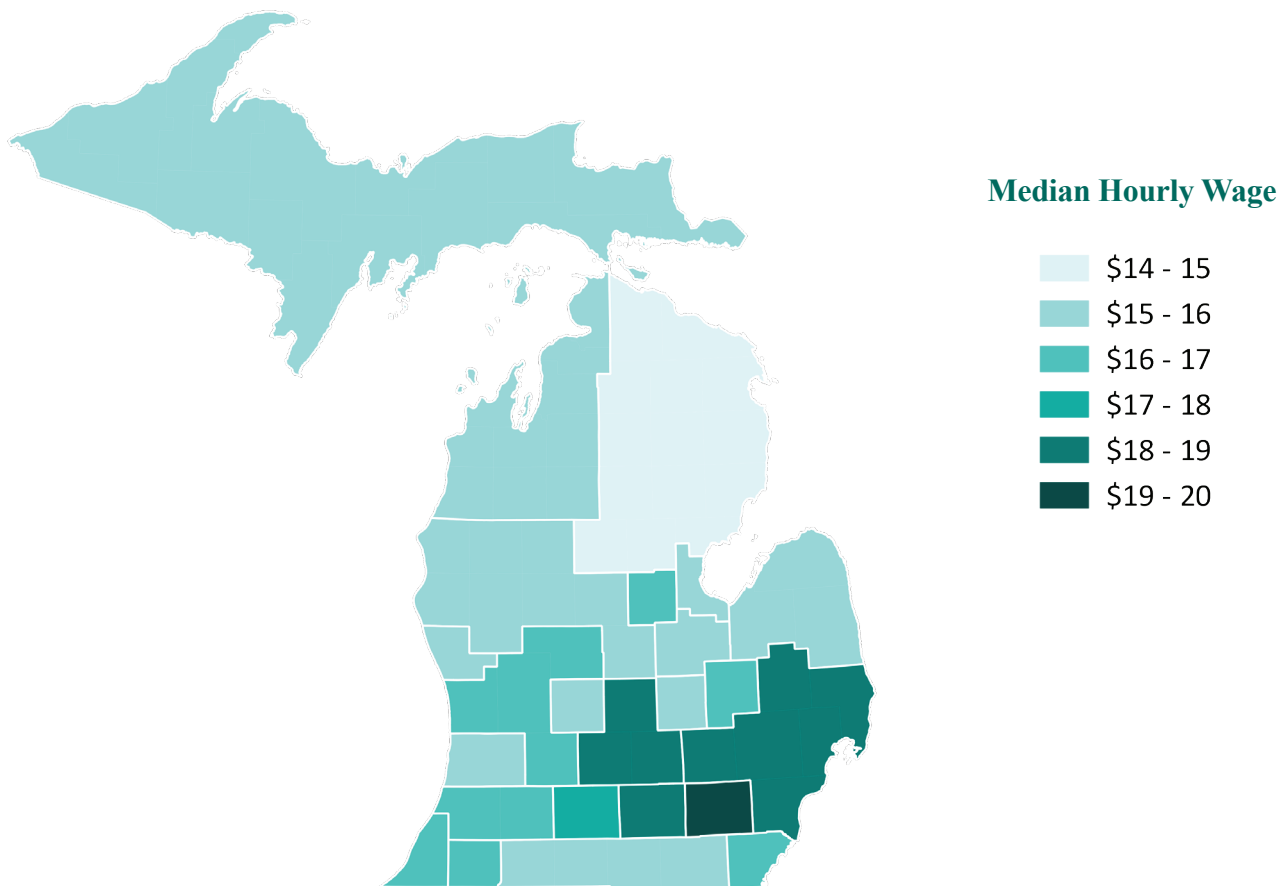
CIVILIAN LABOR FORCE AND NONFARM PAYROLL JOBS

	NILES-BENTON HARBOR			SAGINAW		
	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017
PLACE OF RESIDENCE						
Labor Force	73,600	72,200	73,300	87,700	86,600	88,100
Employment	69,200	68,100	68,900	81,900	80,900	82,400
Unemployment	4,400	4,200	4,300	5,700	5,700	5,700
Rate (percent)	6.0	5.8	5.9	6.5	6.6	6.5
PLACE OF WORK						
Total Nonfarm Jobs	61,100	60,500	60,700	86,600	85,900	86,900
Mining, Logging, and Construction	1,700	1,700	1,700	2,600	2,600	2,600
Manufacturing	13,600	13,400	13,100	12,400	12,000	12,400
Trade, Transportation, and Utilities	10,600	10,600	10,600	16,200	16,300	16,300
Wholesale Trade	*	*	*	2,100	2,100	2,100
Retail Trade	6,600	6,700	6,400	11,500	11,600	11,800
Information	500	500	500	1,200	1,200	1,400
Financial Activities	2,500	2,500	2,400	3,700	3,700	3,700
Professional and Business Services	4,900	4,800	5,500	11,300	11,200	11,100
Educational and Health Services	9,500	9,400	9,400	16,100	16,000	16,100
Leisure and Hospitality	6,400	6,500	6,500	8,500	8,400	8,800
Other Services	2,300	2,300	2,300	3,300	3,300	3,200
Government	9,100	8,800	8,700	11,300	11,200	11,300

	UPPER PENINSULA			NORTHEAST MICHIGAN			NORTHWEST MICHIGAN		
	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017	FEB 2018	JAN 2018	FEB 2017
PLACE OF RESIDENCE									
Labor Force	139,800	136,600	139,800	82,900	82,100	82,400	148,700	147,400	147,000
Employment	128,100	126,000	127,900	73,600	73,400	73,000	137,400	137,000	135,700
Unemployment	11,600	10,600	11,900	9,300	8,700	9,400	11,300	10,500	11,300
Rate (percent)	8.3	7.7	8.5	11.3	10.6	11.4	7.6	7.1	7.7

MAP OF THE MONTH:

MEDIAN OCCUPATIONAL WAGES BY AREA



Median Wages in Michigan

This month's feature article notes that in 2017 Michigan's median hourly wage was \$17.62, 50 cents below the U.S. median of \$18.12. While wage data from the Occupational Employment Statistics (OES) program is not typically published for individual counties, these data are readily available for several sub-state areas (metropolitan and nonmetropolitan areas), providing local customers with employment and wage information that more accurately reflects businesses in their area.

Regional Trends

This month's Map of the Month displays the 2017 median hourly wages for the state's

metropolitan and nonmetropolitan areas. Not surprisingly, Michigan's highest median wages are concentrated in its larger metropolitan areas. Wages in the southeastern portion of the Lower Peninsula are highest due to a concentration of high-paying jobs in *Professional*, *Management*, and *Production* occupations. Conversely, median wages in Northern Michigan are lower due to a higher concentration of *Service* and *Sales* occupations. (Moreover, some of this occupational employment is in temporary or seasonal industries.)

Michigan Area Rankings

In 2017, five metro areas had a median wage above the statewide median, led by the Ann Arbor Metropolitan Statistical Area (MSA) where the

median wage was \$19.19. Other areas above the median included the Detroit-Warren-Dearborn MSA (\$18.87), the Lansing-East Lansing MSA (\$18.24), the Jackson MSA (\$18.08), and the Battle Creek MSA (\$17.66). The remaining nine metropolitan areas and all four nonmetropolitan areas reported wages below the statewide median, with the median wage in Northeast Lower Peninsula coming in lowest at \$14.21.

MARK REFFITT
Economic Specialist



MICHIGAN'S OCCUPATIONAL EMPLOYMENT AND WAGES IN 2017

Each year the Bureau of Labor Market Information and Strategic Initiatives (Bureau) produces employment and wage estimates for over 800 Standard Occupational Classification (SOC) job titles in Michigan through the Occupational Employment Statistics (OES) program, a federal-state cooperative program with the U.S. Bureau of Labor Statistics (BLS). The OES program conducts the most extensive regular employer survey on job levels and wages for detailed occupations for the nation, all states, and select metro and nonmetro areas. The information from the program is one of our Bureau's most popular products and is used by a wide range of customers like human resources managers for pay-setting, labor organizations for negotiations, educators for career exploration, and jobseekers for training and career decisions.

This feature article uses brand new estimates from the OES program to describe and explain Michigan's occupational employment and wage trends in 2017. Throughout this article, we add occupational outlook information from our recently released short-term projections from our Employment Projections (EP) program. (For more information on these short-term projections, see this month's Data Spotlight on Page 22.)

Employment

Occupational employment in Michigan totaled 4,276,000 in 2017. Just over half (52 percent) of all employment in the state was concentrated in three aggregate occupational groups: *Professional* occupations, *Service* occupations, and *Office and administrative support* occupations. The first of these groups, *Professional* occupations, include higher paying occupations that often call for a bachelor's degree or higher, while the other two groups, *Service* occupations and *Office and administrative support* occupations, contain lower paying job titles that often require less education and training.

PROFESSIONAL OCCUPATIONS

This aggregate occupational group includes job titles in eight areas: *Business and financial operations; Computer and mathematical; Architecture and engineering; Life, physical, and social science; Community and social services; Legal; Education, training, and library; and Arts, design, entertainment, sports, and media.* As the name suggests, these are "professional jobs." Noted above, employment in this group is often associated with higher wages and higher

educational barriers to entry. Nevertheless, this group was the largest aggregate occupational group in Michigan in 2017 with employment of 863,140, representing an impressive 1 in 5 jobs in the state. With a median wage of \$29.02 per hour, this group also reported the second highest median wage in the state, behind only *Management* occupations.

When compared to all other states, Michigan had the highest concentration of *Commercial and industrial designers* and *Mechanical engineers*, two detailed occupations found in the *Professional* group. This is not surprising considering the state is home to headquarters and technology centers for many firms in mobility and other industries.

Going forward, *Professional* occupations in Michigan are expected to see solid growth in the short term and the long term. Overall, the group should expand 3 percent by 2019 and 9.1 percent by 2024. Expected annual openings in the aggregate group will measure 93,470 over the short term, making it the group with the second most annual openings, behind only *Service* occupations.



SERVICE OCCUPATIONS

The second largest aggregate occupational group includes job titles in four areas: *Protective service*, *Combined food preparation and serving*, *Building and grounds cleaning and maintenance*, and *Personal care and service*. While this aggregate occupational group accounted for 716,210 workers (or nearly 17 percent of statewide employment), it was the lowest paying with a median wage of just \$10.53. As expected by its title, this group includes several large service occupations

like *Food preparation and serving workers* (121,600), overall the second largest occupation in the state. Other large occupations in the group are *Waiters and waitresses* (81,000), *Janitors and cleaners* (58,500), *Personal care aides* (38,950), *Landscaping and groundskeeping workers* (32,500), and *Security guards* (25,800).

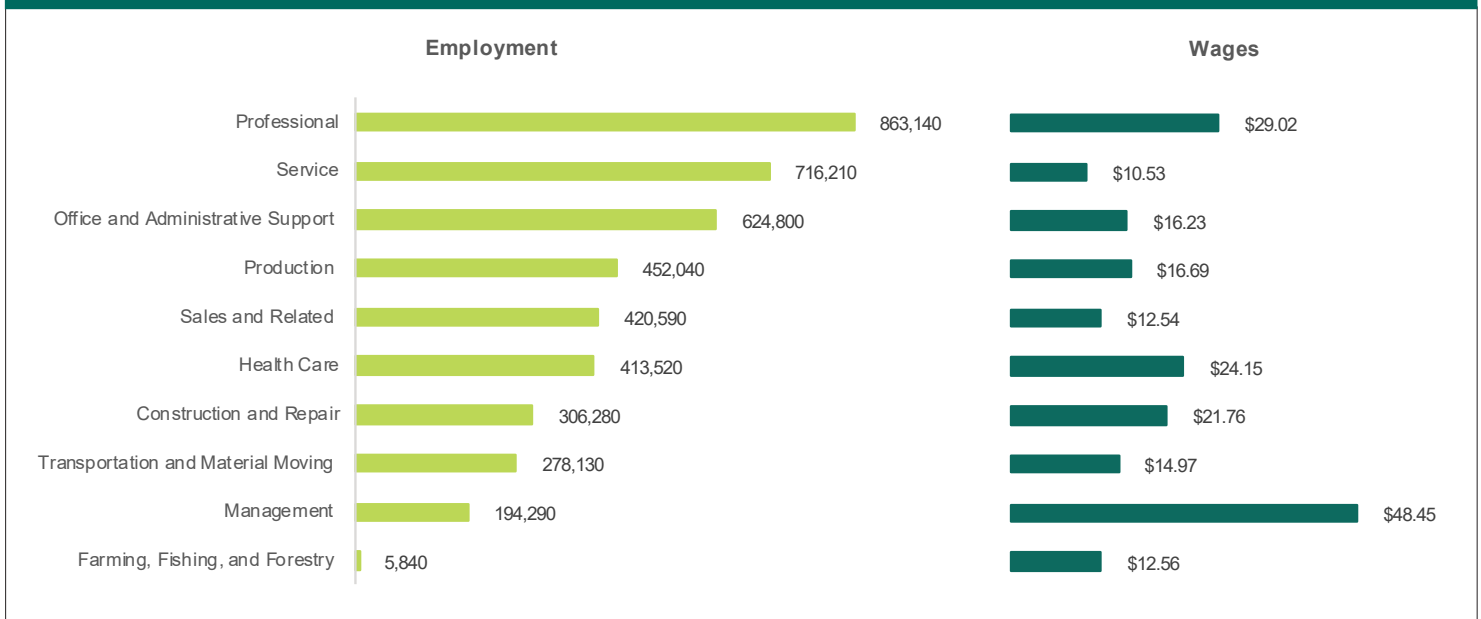
Service occupations will see mixed growth, expanding by an above average 3.1 percent in the short term and by an average 7.4 percent in the long term. The group should generate

132,650 annual openings, a substantial number and one explained largely by the overall size of occupations in the group.

OFFICE AND ADMINISTRATIVE SUPPORT OCCUPATIONS

This aggregate occupational group employed nearly 624,800 workers or nearly 15 percent of total workers in Michigan. Explaining its large size, this group includes especially large

EMPLOYMENT AND WAGES BY BROAD OCCUPATIONAL GROUP, MICHIGAN 2017



occupations like *Office clerks* (98,400), *Customer service representatives* (88,800), and *Stock clerks and order fillers* (61,000), each among the largest occupations in the state (and nation). The median wage in the group comes in at \$16.23, a little over a dollar an hour below the statewide median.

Looking to the future, job titles in this group will see only modest growth. Over the short term the occupational group is slated for growth of less than 1 percent while long-term prospects are only slightly better at 3 percent, ranking it among the slowest growing groups. Job titles in the group should still see north of 78,250 annual openings through 2019, due to the size of the occupations and the need to replace existing workers leaving their jobs.

OTHER AGGREGATE OCCUPATIONAL GROUPS

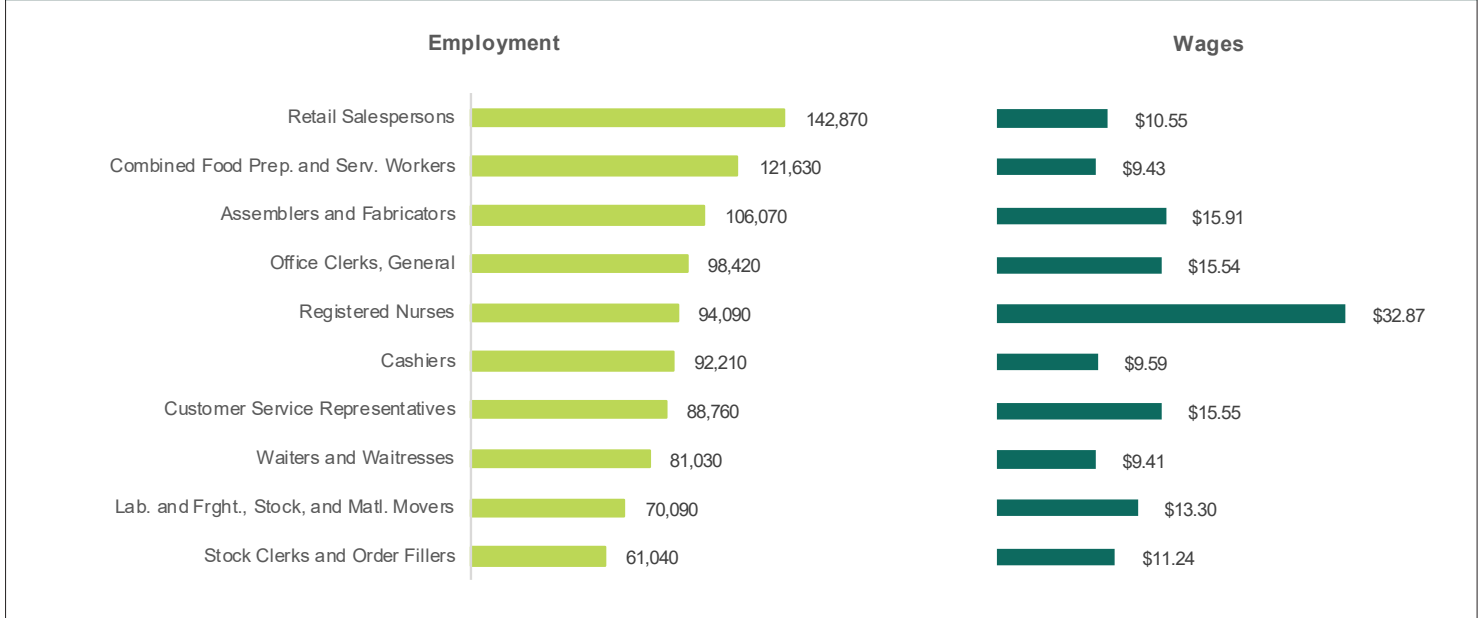
Seven broad occupational groups combined to employ the remaining 48 percent of the state's workers. Below are some highlights:

- *Production* occupations employed 452,040 workers in Michigan, making up about 10 percent of total statewide employment. With a median wage of \$16.69, the wage in the group was just below the statewide median (\$17.62). Large job titles in the group include *Assemblers and fabricators* (106,100), *Inspectors, sorters, samplers, and weighers* (28,440), *Production supervisors* (28,200), and *Machinists* (27,000). These occupations are especially

important in Michigan, due to the size of the state's *Manufacturing* industry, ranking 4th in employment nationally. (In Michigan, about three quarters of employment in *Production* occupations was found in the *Manufacturing* industry, higher than the 70 percent nationally.) In fact, Michigan boasts the highest concentration in the country for three detailed occupations in the group: *Model makers*, *Tool and die makers*, and *Engine and other machine assemblers*. Going forward, this occupational group will see very slow growth in the short term but is expected to see stable growth over the long term. *Production* occupations will be responsible for about 53,000 annual openings over the short term.

- *Construction and repair* occupations, which includes many *Skilled Trades* occupations, employed 306,280 workers, or 7 percent of statewide employment. These job titles paid a median wage of \$21.76, well above the statewide median. Included in this group were several large job titles, including *Maintenance and repair workers* (40,700), *Electricians* (22,800), *Construction laborers* (21,900), *Automotive service technicians and Mechanics*, (20,700), *Industrial machinery mechanics* (20,100), and *Carpenters* (19,400). These occupations should grow faster than average in the short term (+4.0 percent) and the long term (+9.9 percent), meaning opportunities for jobseekers with vocational or other short-term training.
- *Sales and related* occupations employed 420,590 workers in the state at a median wage of \$12.54. The largest occupations in the group are *Retail salespersons* (142,900), *Cashiers* (92,200), *Sales representatives* (84,500), and *Supervisors of retail sales workers* (33,500). Significant employment in lower paying job titles like *Retail salespersons* (\$10.55) and *Cashiers* (\$9.59) explain the group's relatively low wage. Partially offsetting the lower wage in the group are higher paying opportunities like *Sales representatives* (\$29.77) and *Sales engineers* (\$46.58). In the short term, annual openings in these occupations should be about 64,380, offering many entry-level opportunities to jobseekers.
- *Transportation and material moving* occupations employed 278,130 workers at a median wage of \$14.97. Job titles with the most employment include *Laborers and freight, stock, and material movers* (70,100), *Heavy and tractor-trailer truck drivers* (55,560), and *Light truck or delivery services drivers* (27,300). Interestingly, occupations in the group should see solid growth in the short term (+2.3 percent) and the long term (+8.4 percent). About 39,000 annual openings will be generated in the group through 2019.
- Employment and wage estimates for *Farming, fishing, and forestry* occupations may stand out to some readers. This is

EMPLOYMENT AND WAGES IN MICHIGAN'S LARGEST OCCUPATIONS



because firms in the *Agricultural* industry are **not** surveyed through the OES program. Therefore, these estimates do not include a major source of employment for workers in these job titles, causing employment estimates to look smaller than one expects. (The employment and wage estimates that are produced for *Farming, fishing, and forestry* occupations come mostly from agricultural support firms and the government, which represent only a small fraction of this employment in Michigan.) As a result, *Farming, fishing, and forestry* was the smallest aggregate occupational group with just 5,840 workers at a median wage of \$12.56.

Michigan's Largest Job Titles

In 2017, the detailed occupations with the most employment in Michigan were *Retail salespersons* with 142,870 jobs followed by *Combined food preparation and serving workers (including fast food)* employing 121,600 workers. Together, these two jobs alone made up just over 6 percent of all employment in Michigan.

Many of the top ten occupations employing Michigan workers remain the same from year to year. Last year's top occupation, *Retail salespersons*, has continued to represent about 33 to 35 workers per 1,000 since 2011. However, the *Combined food preparation and serving workers* has made a steady climb in the rankings each year to become the second

largest occupation in the state. In 2011, this occupation consisted of about 20 workers per 1,000 employed. In 2017 it represented 28 jobs for every 1,000 employed.

Wages

The median hourly wage for all Michigan occupations in 2017 was \$17.62. This was slightly below than the U.S. median wage of \$18.12 and ranked Michigan 24th among the states. Looking at the distribution of wages, over half (58 percent) of the 4,276,000 workers in the state earned \$20 or less per hour. The remaining 42 percent of workers were paid more than \$20 per hour, with 12 percent earning over \$40 per hour. The distribution of wages seen in Michigan was on par with national trends and reflected the significant employment in lower paying *Service and Office and administrative support* occupations (discussed above) and the high upper bound of wages in some *Management, Professional, and Health care* occupations.

There were four aggregate occupational groups that had median wages above the statewide median: *Management* occupations, *Professional* occupations, *Health care* occupations, and *Construction and repair* occupations.

MANAGEMENT OCCUPATIONS

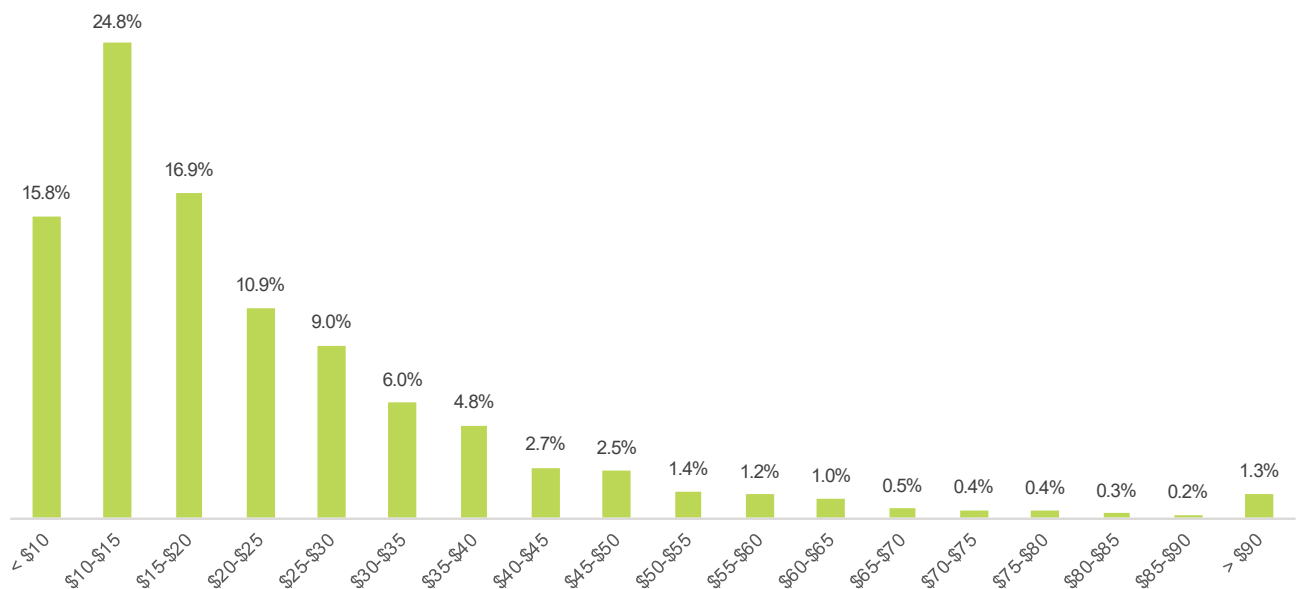
No surprise, the highest paying aggregate occupational group was *Management* occupations, with a median wage of \$48.45, more than two and a half times greater than the

statewide median. Some of the highest paying job titles in this group include *Chief executives* (\$80.50), *Architectural and engineering Managers* (\$60.61), *Sales managers* (\$60.45), *Marketing managers* (\$58.88), *Computer and information systems managers* (\$58.51), *Industrial production managers* (\$53.53), and *Financial managers* (\$53.39). Entry in to these occupations typically requires a unique mix of education and experience, explaining the premium paid to workers who hold these jobs. While this group was the highest paying, it was also the second smallest group in terms of employment.

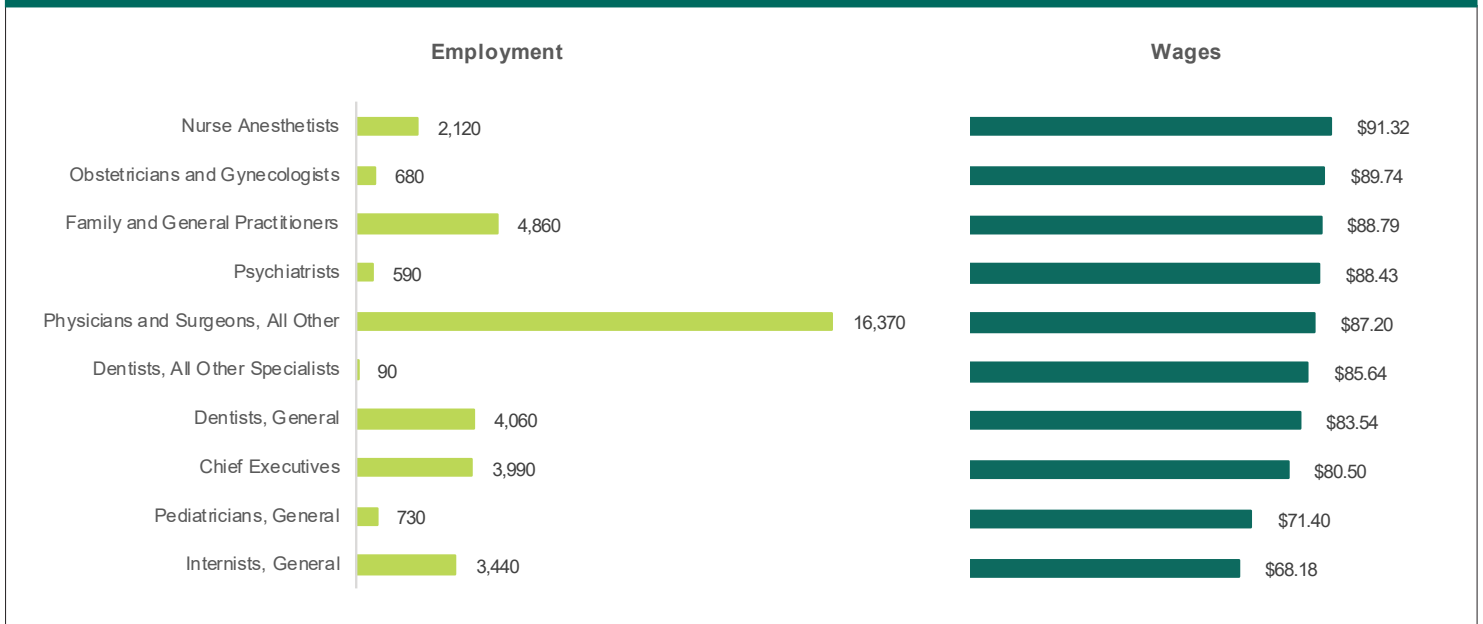
PROFESSIONAL OCCUPATIONS

As discussed above, *Professional* occupations were the second highest paying group. The median wage in the group measured \$29.02, and includes *Computer network architects* (\$49.34), *Petroleum engineers* (\$49.34), *Psychologists* (\$46.75), *Lawyers* (\$46.16), and *Logisticians* (\$37.72). In some cases, the highest paying job titles were very small, emerging occupations, like *Petroleum engineers*, with statewide employment of just 120 workers. In other instances, they were large or medium occupations, like *Lawyers*. In almost all cases, however, these job titles require advanced education, with three quarters of the job titles in the group requiring a bachelor's degree or higher.

PERCENT DISTRIBUTION OF EMPLOYED AT SELECT WAGE INCREMENTS



EMPLOYMENT AND WAGES IN MICHIGAN'S HIGHEST-PAYING OCCUPATIONS



HEALTH CARE OCCUPATIONS

Next up, *Health care* occupations reported a median wage of \$24.15, making it the third highest paying aggregate occupational group in the state. In fact, nine of the top ten highest paying occupations in Michigan were in *Health care* occupations. Among the leaders: *Nurse anesthetists* (\$91.32), *Obstetricians and gynecologists* (\$89.74), *Family and general practitioners* (\$88.79), and *Psychiatrists* (\$88.43), each with a median wage over \$88 per hour. *Chief executives*, occupying the number eight spot on the list, was the only job title among the top ten highest paying jobs not found in a *Health care* occupation.

CONSTRUCTION AND REPAIR OCCUPATIONS

Rounding out the aggregate occupational groups with wages above the statewide median were *Construction and repair* occupations (\$21.76). Discussed above, these occupations present opportunities for jobseekers with vocational or other short-term training, and this was seen in some of the group's higher paying job titles. For example, *Electrical power-line installers and repairers* (\$37.10), *Millwrights* (\$33.12), *Plumbers* (\$31.29), and *Electricians* (\$27.85) were all occupations with solid wages that do not require a bachelor's degree.

Employment and Wages in Michigan's Metro and Non-Metro Areas

The Bureau also publishes employment and wage estimates for the state's Metropolitan

Statistical Areas (MSAs) and for four nonmetropolitan areas.

In 2017, the Detroit-Warren-Dearborn MSA had the most workers, with occupational employment measuring 1,966,700, representing 46 percent of total statewide employment. Grand Rapids-Wyoming was the next largest MSA with employment of 551,600, or 13 percent of total statewide employment. The metro areas with the least employment included Bay City MSA (34,100), Midland MSA (34,700), and Monroe MSA (38,300).

In terms of wages, the Ann Arbor MSA had the highest median hourly wage at \$19.19, followed by Detroit-Warren-Dearborn (\$18.87), Lansing-East Lansing (\$18.24), Jackson (\$18.08), and Battle Creek (\$17.66). These five areas each reported a wage above the statewide median (\$17.62). The remaining metro areas and all nonmetro areas had wages below the statewide median. The area with the lowest median hourly wage was the Northeast Lower Peninsula, with a median wage of \$14.21.

More information on employment and wages for the MSAs and for the nonmetropolitan areas can be found in this month's Relevant Rankings on Page 24 or our Map of the Month on Page 15.

Employment and Wages by Typical Education Requirements

Our partners at the BLS define the typical entry level education requirements for the job titles used in the OES program. While employers may require a higher education than is typical for the occupation, or workers may hold a degree

higher than what is typically required, identifying the entry level helps compare the nature of employment and wages by education.

- In 2017, over 63 percent of Michigan employment was in occupations that typically require a high school degree or less. Nine of the top ten largest occupations discussed above were in this category, with just one occupation, *Registered nurses*, requiring education beyond high school.
- About 9 percent of employment in the state was in so-called "middle-skill jobs," or jobs that require something beyond high school but less than an associate's degree. Examples of these occupations include *Computer user support specialists*, *Heavy and tractor-trailer truck drivers*, *Nursing assistants*, *Medical assistants*, and several Skilled Trades job titles.
- Two percent of state employment was in occupations requiring an associate's degree. *Dental hygienists*, *Preschool teachers*, *Radiologic technologists and technicians*, *Paralegals*, *Engineering technicians*, *Respiratory therapists*, *Physical therapist assistants*, and *Computer network support specialists* are all examples of job titles in this category.
- Finally, just over 25 percent of job titles typically required a bachelor's degree or higher for entry level employment. These occupations are found in most groups, but are concentrated in the *Professional*, *Health care*, and *Management* groups.

Another takeaway is the clear correlation between occupations that require higher levels of education for entry and occupations that pay a higher wage. In fact, the wage for job titles that require a bachelor's degree were two times higher than the statewide median, while those requiring a doctoral or professional degree were two and a half times higher. Of course, not all job titles that require something less than a bachelor's degree have low wages. Likewise, not all occupations that require a bachelor's degree or higher have high wages. Interestingly, occupations that require a master's degree reported wages that were lower than those requiring a bachelor's degree. This is explained by several *Education and Community and social services* job titles that require a master's degree but pay lower wages than other *Management and Professional* jobs that require only a bachelor's degree. Examples of these occupations are *Social workers; Educational, guidance, school, and vocational counselors; Librarians; and Rehabilitation counselors.*

OTHER INSIGHTS

Information from the OES program can also be used to produce employment and wage estimates for predefined or custom occupational categories. Highlighted below is employment and wage information for three important occupational groups.

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM) OCCUPATIONS

Our partners at the BLS use 100 job titles to define STEM-related occupations. In 2017, 313,400 people were employed in STEM-related

occupations in Michigan, translating to nearly 73 of every 1,000 workers. Michigan was ranked in the top ten states in terms of both share and the size of employment in STEM-related occupations. The largest STEM occupations in Michigan were related to *Engineering and IT* and included *Mechanical engineers* (44,700), *Software developers* (37,000), and *Industrial engineers* (28,500). STEM-related occupations commanded higher salaries than other jobs, as evidenced by a 2017 median hourly wage of \$37.83, over \$21 an hour more than the median wage for non-STEM occupations in the state. Looking ahead, STEM-related occupations should see 31,650 annual openings through 2019.

SKILLED TRADES

The Bureau includes 38 job titles in its definition of Skilled Trades, split between the Production Trades and the Construction Trades. In 2017, the Skilled Trades employed about 222,900 workers, or 52 of every 1,000 workers. The largest occupations in this group include *Maintenance and repair workers* (40,700), *Machinists* (27,000), and *Electricians* (22,800). Skilled Trades paid a median wage of \$21.72, well above the \$17.62 statewide median. Skilled Trades occupations are expected to have 28,400 openings annually through 2019.

PROFESSIONAL TRADES

Along with our partners in the Department of Talent and Economic Development (TED), the Bureau uses 63 job titles to define Professional Trades. This group accounted for nearly 470,000 workers or 110 of every 1,000 Michigan jobs in

2017. Professional Trades offered a median hourly wage of \$25.50 in 2017, however the entry level wages for the group was where the greatest advantage over other jobs was found. These occupations can pay 50 percent more per hour when compared to all occupations in Michigan at the entry level. The largest occupations in Michigan in this group include *Registered nurses* (94,100) and *Maintenance and repair workers* (40,700). These occupations are expected to register over 50,000 openings annually through 2019.

For more information on the OES program or additional insights into the latest employment and wage estimates, please contact the authors of this feature article.

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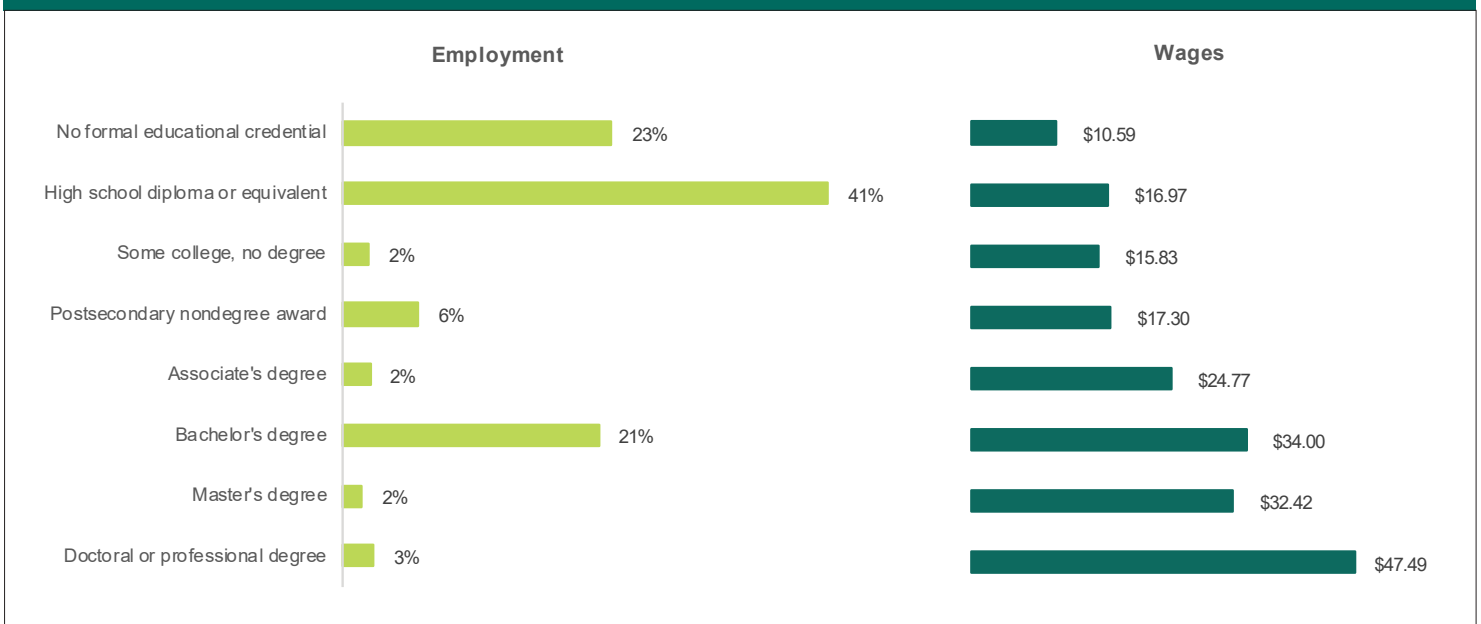
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EMPLOYMENT AND WAGES BY TYPICAL EDUCATION REQUIREMENTS



DATA SPOTLIGHT: MICHIGAN SHORT-TERM JOB OUTLOOK 2ND QUARTER

Each year, the Bureau of Labor Market Information and Strategic Initiatives releases short-term employment projections. These projections run through the second quarter of the following calendar year and cover both industries and occupations in Michigan. In February, the Bureau released short-term employment projections for the period of Q2 2017 through Q2 2019. The projections, much like the current series of long-term employment projections, see Michigan continuing among a path of relatively strong growth in employment through the middle of 2019.

The overall growth rate for Michigan employment is projected to be 2.3 percent for the 2-year period, or 1.1 percent annually. The fastest-growing industry sectors are expected to be *Professional and business services*, gaining 27,650 jobs over the period, followed by *Educational and health services*, and *Leisure and hospitality*, with a combined 37,170 new jobs. In terms of percentage growth, the *Construction* sector is expected to lead the way at 7.6 percent growth, continuing a rebound from the 2010 trough in employment.

Growth in the *Professional and business services* sector is expected to be driven by gains in the *Architecture, engineering, and related services* industry as well as *Management of companies and enterprises*. Like many others in the state, these two industries are benefitting from a healthy *Transportation equipment manufacturing* industry. Light vehicle sales in the U.S., while down in 2017, have been at pre-recession levels since around 2015.

The *Educational and health services* sector, projected to be the second-largest contributor to new jobs over the two-year period, is expected to see nearly all of its growth come from the *Health care and social assistance* portion of the sector. While the growth rate for the industry - 2.7 percent - is not far above the overall growth rate for the state, it is one of the largest industries in the state in terms of employment and has consistently displayed steady growth for more than 20 years. This growth, notably, was unaffected by the most recent recession, making it a steady source of growth for the state and drawing stark contrast from the cyclical nature of sectors such as *Manufacturing, Professional and business services*, and *Leisure and hospitality*.

Leisure and hospitality, one of the most important sectors for many regions within the state, is expected to register an employment increase of 3.8 percent over the two-year period, outpacing overall state growth and bringing it to the third-highest in terms of both percentage growth and job additions. Most of the sector's numeric growth (86 percent of it) is expected to occur in the *Food service and drinking places* industry.

Occupations

Much like the industry projections, the largest number of new jobs through Q2 2019 are expected to come from the *Service, Construction and repair*, and *Professional* occupational groups. These groups are very closely tied to the industries which are expected to produce the largest number of new jobs, so it is no great surprise that they are on top.

A more enlightening number, especially for workforce professionals who are assisting jobseekers, is the number of job openings that are available in occupational groups and specific occupations.

SHORT TERM OCCUPATIONAL PROJECTIONS FOR SECOND QUARTER 2019

OCCUPATIONAL CATEGORY	SECOND QUARTER 2017	SECOND QUARTER 2019	NUMERIC EMPLOYMENT CHANGE	PERCENT EMPLOYMENT CHANGE	LABOR FORCE EXITS	AVERAGE ANNUAL OPENINGS		
						OCCUPATIONAL TRANSFERS	EMPLOYMENT CHANGE	TOTAL
Total, All Occupations	4,709,650	4,816,820	107,170	2.3%	219,260	297,240	53,580	570,080
Management	275,140	283,440	8,300	3.0%	8,190	13,140	4,150	25,480
Professional	943,670	972,000	28,330	3.0%	30,890	48,450	14,140	93,470
Healthcare	429,050	440,390	11,340	2.6%	15,740	15,180	5,670	36,580
Service	793,800	818,240	24,440	3.1%	55,950	64,460	12,220	132,650
Sales	456,700	461,670	4,970	1.1%	26,590	35,310	2,480	64,380
Office and Administrative Support	673,850	679,050	5,200	0.8%	35,080	40,570	2,600	78,250
Farm	39,440	39,890	450	1.1%	1,450	4,430	230	6,110
Construction and Repair	345,840	359,770	13,930	4.0%	12,310	21,720	6,970	41,000
Production	458,470	461,870	3,400	0.7%	18,520	32,840	1,700	53,050
Transportation	293,660	300,500	6,840	2.3%	14,540	21,150	3,420	39,100



This data is especially interesting in the newly-published short-term occupational projections because of a change in methodology. Starting late last year with its long-term employment projections for the nation, the federal government, and now state governments, are employing a new methodology to estimate the number of expected job openings during a projections period.

The new methodology represents a change from a 20-plus year-old method for estimating openings, more fully capturing the job openings that for years were believed to exist but have been heretofore unable to measure. The improved methodology utilizes models that better reflect modern paths through the workforce to capture previously-unmeasured job opportunities. Among its other advantages, this new methodology tracks more favorably with other data sources, such as the Job Openings and Labor Turnover Survey (JOLTS) from the U.S. Bureau of Labor Statistics.

Workforce professionals and researchers who are familiar with our projections data series may quickly recognize one new characteristic of the new methodology: a higher number of estimated job openings. This higher number stems from the new methodology more fully capturing the number of job openings in the workforce. Although the old and new methodologies aim to capture the same metric, number of job openings from growth and occupational separation, the old methodology was designed to capture changes from a different labor

market from today's—one where someone got a job, remained there for the majority of their career, and retired. The new methodology better captures all types of separations from an occupation, and, like the old methodology, still does not measure "job churn," openings created from a person moving from firm to firm but performing in the same occupational capacity.

Perhaps unsurprisingly, the occupational groups that are expected to generate the largest number of annual openings through 2019 are *Office and administrative support*, *Service*, and *Sales and related*. These are occupational groups which see workers filter in and out often. The *Food preparation and related services* group within *Service occupations*, for example, is often a young worker's first introduction to employment. These young workers are among the most likely groups to produce job openings both through exiting the labor force (e.g. for school) or transferring occupational groups (e.g. moving to another, similarly low-skilled occupational group or to another, higher-skilled occupation after career/technical training or higher education).

In terms of percentage growth among specific, large occupations, the greatest gains are expected to be in *Surveyors*, *Information security analysts*, and *Architectural and civil drafters*. While two of these instances of strong growth can be chalked up to growth in engineering-related services, *Information security analysts* stands out as an important occupation for growth in numerous ways. First,

IT security has become an issue of public focus frequently in recent years because of numerous data leaks, something that firms aim to stem through employment of *Information security analysts*. Second, IT professionals such as these will be important to long-term growth of Michigan's economy. These occupations will be hotly demanded not only for IT-focused firms; they will also be needed in Michigan's mobility sector as competition to develop autonomous vehicle continues. Additionally, Governor Snyder has recently unveiled the Marshall Plan for Talent, which focuses on the need for the state to invest in, develop, and attract skilled professionals such as IT and computer science workers.

While new statewide long-term employment projections will be released this summer, these short-term 2017 Q2 - 2019 Q2 projections tell a familiar story: continued growth in *Professional and business services* and *Healthcare*, along with recovery in *Construction* will drive Michigan's expanding employment as well as the types of occupations that will be in high demand in the near term.

KEVIN DOYLE
Economic Specialist

RELEVANT RANKINGS

MEDIAN HOURLY WAGE BY STATE - 2017			
	OCCUPATIONAL EMPLOYMENT	MEDIAN HOURLY WAGE	WAGE RANGE FROM 10TH TO 90TH PERCENTILE
1 District of Columbia	708,220	\$33.82	\$12.72 - \$77.58
2 Alaska	318,170	\$22.86	\$11.27 - \$49.06
3 Massachusetts	3,528,070	\$22.81	\$11.59 - \$56.47
4 Connecticut	1,654,420	\$22.05	\$10.79 - \$51.94
5 Washington	3,186,610	\$21.36	\$11.78 - \$51.27
23 Wisconsin	2,825,170	\$17.81	\$9.19 - \$38.99
24 Michigan	4,276,040	\$17.62	\$9.39 - \$43.09
25 Ohio	5,370,640	\$17.55	\$9.18 - \$40.24
26 Arizona	2,704,050	\$17.44	\$10.01 - \$42.74
27 Maine	599,180	\$17.41	\$9.62 - \$37.62
47 Louisiana	1,902,060	\$15.62	\$8.43 - \$35.98
48 South Dakota	419,470	\$15.55	\$9.55 - \$33.05
49 West Virginia	688,530	\$15.16	\$9.23 - \$35.61
50 Arkansas	1,200,130	\$14.82	\$9.02 - \$34.55
51 Mississippi	1,119,470	\$14.46	\$8.40 - \$32.81

MEDIAN HOURLY WAGE BY METROPOLITAN AREA - 2017

	OCCUPATIONAL EMPLOYMENT	MEDIAN HOURLY WAGE	WAGE RANGE FROM 10TH TO 90TH PERCENTILE
Ann Arbor MSA	213,990	\$19.19	\$9.62 - \$48.75
Detroit-Warren-Dearborn MSA	1,966,680	\$18.87	\$9.43 - \$47.78
Lansing-East Lansing MSA	215,080	\$18.24	\$9.36 - \$41.01
Jackson MSA	59,280	\$18.08	\$9.31 - \$45.67
Battle Creek MSA	55,980	\$17.66	\$9.42 - \$39.46
Grand Rapids-Wyoming MSA	551,620	\$16.84	\$9.53 - \$37.75
Kalamazoo-Portage MSA	139,130	\$16.76	\$9.35 - \$39.01
Flint MSA	138,240	\$16.45	\$9.27 - \$38.79
Midland MSA	34,730	\$16.37	\$9.35 - \$37.99
Monroe MSA	38,290	\$16.06	\$9.29 - \$38.85
Niles-Benton Harbor MSA	62,750	\$16.02	\$9.31 - \$40.23
Saginaw MSA	85,160	\$15.84	\$9.28 - \$35.50
Muskegon MSA	61,690	\$15.51	\$9.35 - \$33.89
Bay City MSA	34,100	\$15.13	\$9.20 - \$38.52



ASK THE ECONOMIST

Q: Are mean wages and median wages just different terms for the same information? What other kinds of wage information are available?

A: No, there are some key differences between mean and median wages that you should be aware of...

What is the difference between the mean (average) and median wage?

The wage data highlighted in this issue's feature article on Occupational Employment Statistics (OES) focused on median wages by occupation and occupational groups. While OES typically provides both a mean and a median wage for each occupation or group, it is no accident that the median wage was used in our analysis. So what exactly is the difference between these two types of wages?

For starters, it is important to understand what each represents. The median wage is the middle value of all wage earners for an occupation; half of all the wages will be below this value, and half will be above it. (It is also sometimes referred to as the 50th percentile wage; more on percentiles below.) The mean, on the other hand, represents the simple average of all the wages for a particular occupation.

So, why are median wages generally preferred over the mean in our analysis? In many cases, the mean may not be the most accurate representation of typical wages for some occupations. For example, a broad occupation like *Retail salespersons* can include not only those working as entry-level retail associates in a clothing store but also car salespersons whose wages can be much higher due to commission. In this instance the mean wage would be pulled upward by the high wage employees in this occupation, who may represent a much smaller share of the overall employment. This is also a common issue in *Management* occupations where some CEOs can garner hefty six-digit (or more) salaries. In contrast, median wages are not heavily influenced by such extreme outliers and because of this they generally provide a more accurate representation of what a typical worker is earning in a specific occupation.

You mentioned percentile wages, what do those represent?

While the median is an important, widely-cited measure of wages, analyzing percentile distribution of wages can provide additional insights. Estimates of wages at the 10th, 25th, 50th, 75th, and 90th percentiles are produced for most occupations, with each value representing

the percentage of all earners that make that wage or less. So, if an occupation has a 25th percentile wage of \$13.47 per hour, this would indicate that 75 percent of all workers in that occupation are paid a wage above that level.

There are at least a couple of notable benefits of this level of wage detail. First, percentile wages can serve as a proxy for what an earner can expect throughout the stages of their career. Generally, wages in the lower percentiles, such as the 10th, may be used to estimate wages for inexperienced or entry-level workers since 90 percent of all workers in an occupation earn a higher wage. Meanwhile, wages in the higher percentiles (90th) are more representative of wages for more experienced workers. (This distinction is especially important when talking to those new to the labor market or recent graduates.)

Secondly, a percentile breakout of wages can serve as a basis for wage ranges for occupations, which can provide context beyond a simple average or even a median. For instance, instead of listing the median wage for *Registered nurses* at \$32.87, it may be beneficial for some audiences to learn that the wage range for this occupation in a particular state or region is \$28.19 to \$37.55 (reflecting the 25th to the 75th percentiles). Use of such a range will help account for some of the nuances described above and will help set more reasonable expectations.

By the way, how does OES wage data differ from the Average Weekly Wage information published by your bureau?

The Quarterly Census of Employment and Wages (QCEW) Average Weekly Wage (AWW) is a commonly used broad measure of income that represents the dollars paid by employers per worker by **industry** in Michigan. The OES average wage (mean) measures the average wage rate of workers by **occupation** in Michigan. The biggest difference between the two averages is that the AAW published in the QCEW data is industry-based, meaning it covers all jobs in an industry, regardless of occupation. Conversely, OES measures mean (and median) wages for occupations regardless of industry.

Another key distinction is how they handle part-time employees and overtime pay. The QCEW

accounts for the gross amount earned by part-time workers and will be affected by how many hours they work. It also factors in all overtime wages. The OES measures the hourly pay rate of part-time workers and is not affected by how many hours they work. It also does not include any overtime wages.

Are wages available for occupations within a specific industry?

The Bureau of Labor Statistics (BLS) also uses OES data to publish several useful data sets. They publish occupational wages at the industry level, allowing users to look up the wages for occupations within certain industries, as opposed to only occupation or only industry (as in QCEW). As an example, one can compare the wages for a *Mechanical engineer* in the *Transportation equipment manufacturing industry* and a *Mechanical engineer* in the *Furniture and related product manufacturing industry*. This is particularly helpful for job titles that have pay rates that can vary by industry and can provide a more detailed look at occupational wages.

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