Michigan at a Crossroads

Workforce and Labor Market Information Briefing for the New Governor

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Introduction

The U.S. economy is currently enjoying the second-longest period of economic expansion on record and, if it continues at the current pace, it will likely surpass the previous record (set from 1991 to 2001) during the summer of 2019 (National Bureau of Economic Research, 2010). Since the low point of the Great Recession, real gross domestic product (GDP) has grown by $2.4 trillion, or nearly 17 percent, and has led a host of other economic indicators pointing to a red-hot economy. The labor market has been setting some records of its own. While writing this brief:

› The national unemployment rate stands at 3.7 percent, the lowest rate in nearly 50 years (Current Population Survey, 2018a).

› Payroll jobs are seeing the longest growth streak in history, up for 96 consecutive months (Current Employment Statistics, 2018a).

Although the start of the national recovery predated any major improvements in Michigan, the state's expansion is well underway, with many of the same indicators on solid ground:

› The state's jobless rate has currently declined for eight consecutive years from 2010 through 2017, likely growing to nine years if current trends persist (Local Area Unemployment Statistics, 2018).

› Michigan's annual payroll jobs have increased for seven consecutive years from 2011 to 2017, soon to be eight years with the release of 2018 annual data (Current Employment Statistics, 2018b).

These indicators are impressive, but they are hardly high-water marks for the Michigan labor market; most of those were set in the 1990s and early 2000s when the state was outperforming national averages. This brief will put the state's labor market in context, comparing current conditions to recent lows (usually 2009 or 2010) and pre-recessionary peaks (typically 2000). It will then discuss changing demographics, particularly an aging population and workforce, and the increasing importance of migration in meeting the state's long-term employment outlook. Finally, this brief will introduce several additional workforce and labor market topics that will be important to the new administration and residents in the near future.

The Michigan Labor Market and the "Full Employment" Question

Today, Michigan's labor market is strong and has made considerable strides recovering from two recessions, one bringing major global and technological changes and one commonly dubbed the deepest economic downturn to hit the state in generations. Despite the impressively low unemployment and considerable job growth noted above, there is still enough long-term unemployment, involuntary part-time employment, and discouraged workers to suggest the Michigan labor market has room to expand.

A frequent question is whether the state has reached full employment. While definitions of full employment range from highly technical (Keynes, 1936; Beveridge, 1944) to more lay explanations such as "everyone who wants a job has one," there is enough evidence of slack in the labor market to suggest we are not yet at full employment. Consider the following:

> Long-term unemployment – In Michigan, one in five unemployed residents has been out of work for 27 or more weeks, improved from 2010 when this measure of long-term unemployment reached nearly 50 percent. Nevertheless, long-term unemployment at 20 percent today is high by historic standards, considering the measure in 2000 was just 6.5 percent, a third of what it is today (Current Population Survey, 2018a).

> Involuntary part-time employment – One in four Michigan workers is employed part time. Most of these people want to be working part time, but almost 17 percent of today's part-time workers want full-time work. This measure of "involuntary part-time employment" is down from almost 33 percent in 2010 but remains elevated from the 11.5 percent recorded in 2000 (Current Population Survey, 2018a).

> Discouraged workers – Discouraged workers are not currently looking for work, specifically because they believe no jobs are available for them or there are none for which they would qualify. Today, roughly five out of every 1,000 residents who are not in the labor market are counted as discouraged workers. This number is down significantly from the 14 out of every 1,000 seen in 2009, but again well above the two out of every 1,000 recorded in 2000. Michigan has an estimated 14,100 discouraged workers today, and while these residents are not counted in the official unemployment rate[1], they represent slack in the labor market (Current Population Survey, 2018a).

Therefore, even though the state's official unemployment rate is at its lowest point since 2000, there is slack in the labor market that is not reflected in the headline economic statistic. Fortunately, there are additional indicators that give further insights into the labor market.

Labor Underutilization

Five alternative measures of labor underutilization are published each month by the Bureau of Labor Statistics. The measures range from the narrowest U-1 (which excludes frictional unemployment) to the broadest U-6 (which includes involuntary part-time workers and discouraged workers).[2] The official unemployment rate is the U-3.

Because the U-6 includes in its calculation both discouraged workers and involuntary part-time workers (two concepts discussed above), it is an insightful measure of the Michigan labor market. Today, the broadest measure in Michigan stands at 8.9 percent, just above the national average of 8.1 percent. Predictably, the U-6 is now well below the 21.5 percent recorded in 2009 but greater than the estimated[3] 6.3 percent last seen in 2000. The broader measure is, definitionally, higher than the official rate and therefore comes in at more than double the state's recent jobless rates (Ibid.).

Labor Force Participation and non-Participation

Currently 62 percent, the labor force participation rate in the state is markedly below the 69 percent rate posted in 2000 (Current Population Survey, 2018a). However, unlike long-term unemployment, involuntary part-time employment, and discouraged workers, the decline in labor force participation is, to a large extent, a demographic story, and one that reflects an aging population. Consequently, those expecting to see participation matching the near-70 percent rates seen in the early 2000s will be waiting for a while; that is, at least until the Baby Boom generation begins to feel the increased effects of mortality.

[1] The labor force is comprised of the employed and the unemployed. To be counted as employed, a resident must be working for one or more hours (for pay or profit). To be counted as unemployed, a resident must not be working and must be actively seeking employment. Someone who has quit looking for work (including discouraged workers) would not be counted in the official unemployment rate because they are not actively seeking employment.

[2] According to the Bureau of Labor Statistics, the six measures are defined as "U-1, persons unemployed 15 weeks or longer, as a percent of the civilian labor force; U-2, job losers and persons who completed temporary jobs, as a percent of the civilian labor force; U-3, total unemployed, as a percent of the civilian labor force (this is the definition used for the official unemployment rate); U-4, total unemployed plus discouraged workers, as a percent of the civilian labor force plus discouraged workers; U-5, total unemployed, plus discouraged workers, plus all other marginally attached workers, as a percent of the civilian labor force plus all marginally attached workers; and U-6, total unemployed, plus all marginally attached workers, plus total employed part time for economic reasons, as a percent of the civilian labor force plus all marginally attached workers."

[3] The BLS does not publish a historical series of alternative measures of labor underutilization back to 2000. This estimate uses the official definition (unemployed, involuntary part-time workers, and the marginally attached) to construct the U-6 for Michigan in 2000.

So, who is and who is not participating in the Michigan labor market? Discussed above, discouraged workers are one group of people who are on the sidelines, but there are several other reasons why someone may not be in the labor market. Figure 1 illustrates this by assuming that 100 people constitute the entire labor market, with each representing the labor force status of Michigan residents. First, 62 individuals would be in the labor force (incidentally, matching the labor force participation rate) as either employed or unemployed.
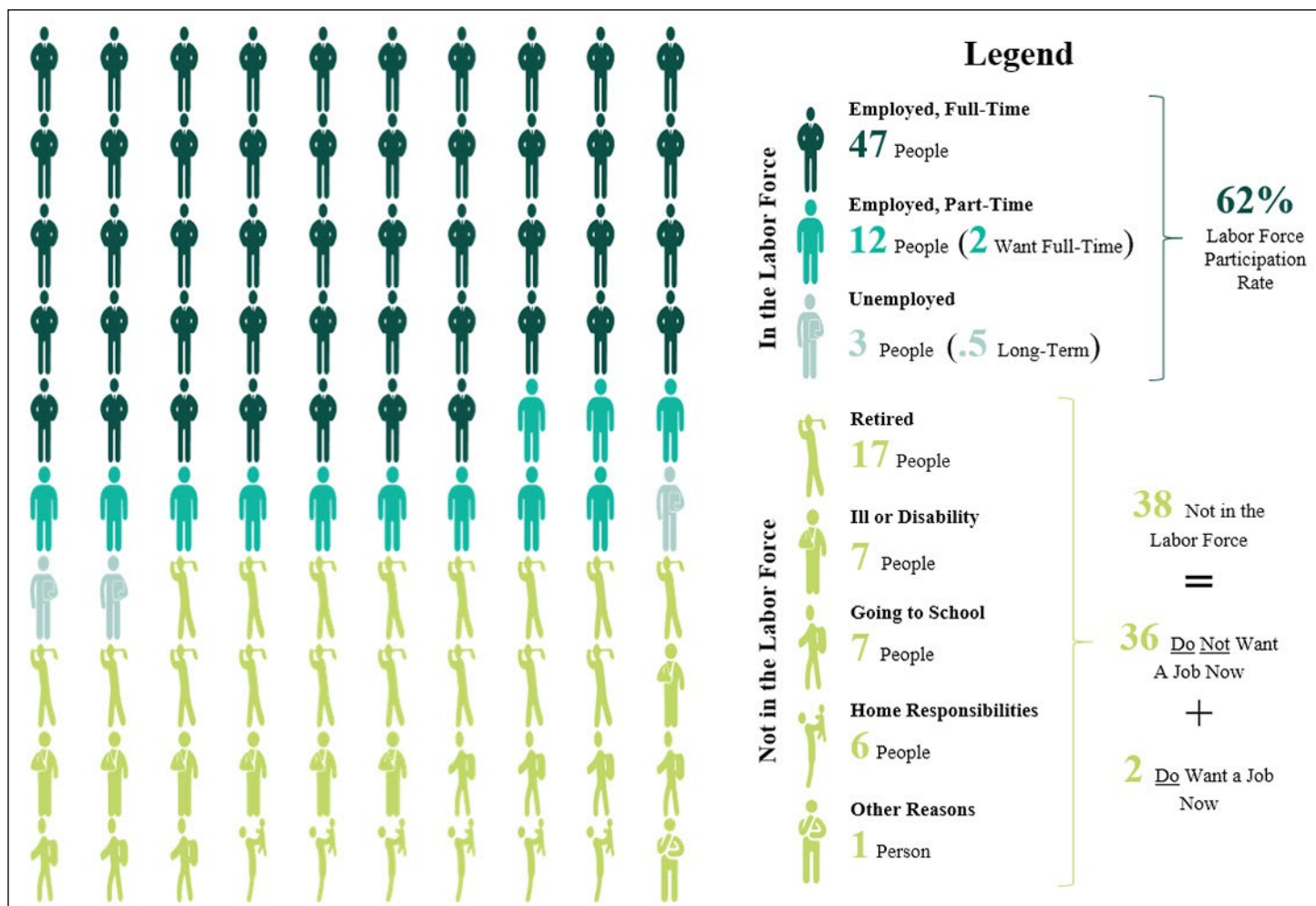
› Full-time employment – 47 people would be employed in full-time positions.

› Part-time employment – 12 people would be employed in part-time positions. Two of those people would rather be working full time.

› Unemployed – Three individuals would be unemployed. One half of one person would be long-term unemployed.

Next, 38 individuals would be out of the labor force. Importantly, 36 of these people would not want a job now and just two would want a job now. Of these 38:

› Retired – 17 people would be retired, making up the largest category.

› Ill or disabled – Seven people would be out of the labor force because of an illness or a disability.

› Going to school – Another seven people would be in school or pursuing other education or training. This excludes people who are working while in school as they would be counted as "employed."

› Home responsibilities – Six people would be out of the labor force because of home responsibilities.

› Other reasons – One person would be out of the labor market for "other reasons." Included in the category is discouraged workers, those residents who have given up looking for work (Palmer, 2017).

Overall, the share of discouraged workers, involuntary part-time workers, long-term unemployed, and (some of) those officially counted as unemployed is small today, but each group represents individuals who, for one reason or another, have been left behind in a strong recovery.

Figure 1

Legend

In the Labor Force

Employed, Full-Time
47 People

Employed, Part-Time
12 People (2 Want Full-Time)

Unemployed
3 People (.5 Long-Term)

62% Labor Force Participation Rate

Not in the Labor Force

Retired
17 People

Ill or Disability
7 People

Going to School
7 People

Home Responsibilities
6 People

Other Reasons
1 Person

38 Not in the Labor Force

=

36 Do Not Want A Job Now

+

2 Do Want a Job Now

Private Sector Employment

Since 2009, private sector employment in Michigan has grown by 543,200 jobs or 17 percent, offsetting the number of jobs lost during the Great Recession (Current Employment Statistics, 2018b). Figure 2 shows that private sector payrolls are up 4.3 percent over their 2007 level, with (private) service-providing industries[4] besting their 2007 level by 5.4 percent, and with goods-producing industries[5] finally making up their losses for the first time during the recovery.

During the recovery period, the strongest job growth was seen in three highly-compensated industries: Construction, Manufacturing, and Professional and Business Services. These three industries each grew by an impressive 27 to 35 percent and represented over 60 percent of new jobs in the state (Current Employment Statistics, 2018b). Importantly, these industries each paid workers well above the statewide average weekly wage, currently $1,009, meaning much of the post-recession job creation was in good-paying jobs (Quarterly Census of Employment and Wages, 2018).[6]

Taking a longer view, recent employment trends lose some of their splendor. Figure 3 confirms that, so far in the recovery, private sector payrolls have yet to surpass their 2000 employment levels, remaining 6 percent below even. While service-providing industries were up over their 2000 levels by a modest 3 percent, goods-producing industries were 29 percent below their 2000 levels. It follows that the state's Manufacturing industry — a major contributor to goods producing industries — was also down 271,300 jobs, and 30 percent below employment levels last seen in 2000. Going deeper, Transportation Equipment Manufacturing lags further, with employment lower by 148,000 or 44 percent since 2000 (Current Employment Statistics, 2018c).

Unfortunately, there are no longitudinal studies of individual manufacturing workers in Michigan. Although additional research is needed to determine what exactly happened to the more than 432,000 residents who lost their manufacturing job between 2000 and 2009 and to those who make up the difference between today's employment levels and those seen in 2000, there is plenty of anecdotal evidence that some of these residents continue to struggle in the labor market and are among those left behind in the recovery.

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4 Service-providing industries consists of the following supersectors: Trade, Transportation, and Utilities; Information; Financial Activities; Professional and Business Services; Education and Health Services; Leisure and Hospitality; and Other Services.

5 Goods-producing industries consists of the following supersectors: Natural Resources and Mining; Construction; and Manufacturing.

6 Near-average job growth since 2009 was seen in Trade, Transportation, and Utilities; Private Education and Health Services; and Leisure and Hospitality. Industries lagging in job growth included Mining and Logging, Information, and Other Services, all flat over the period.

Figure 2

Private Sector Employment Since 2007
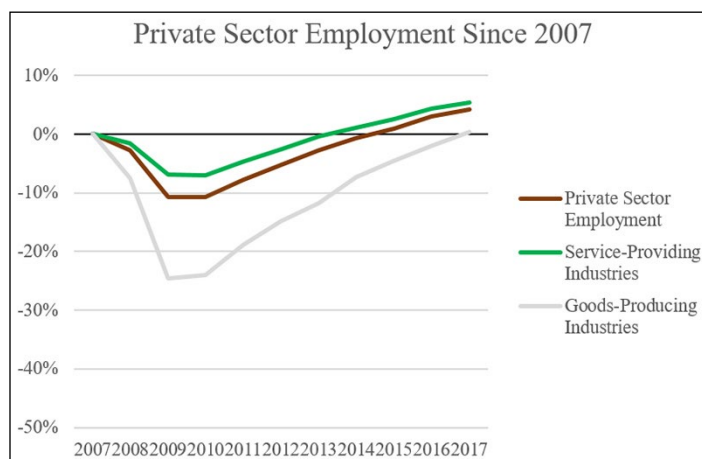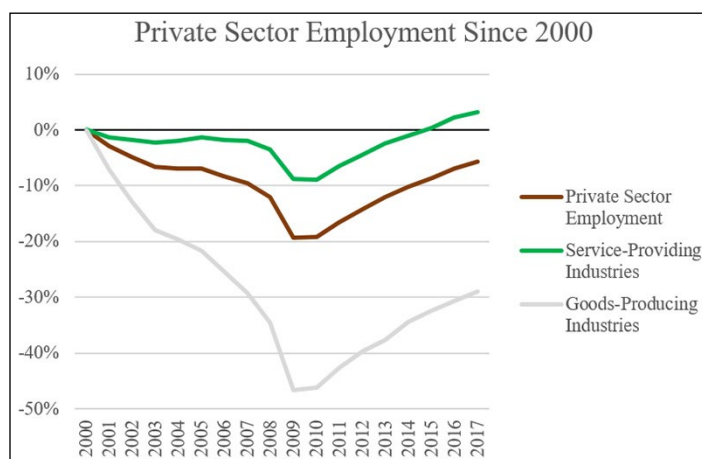
Figure 3

Private Sector Employment Since 2000

A Note on Public Sector Employment

The private sector employment estimates discussed so far exclude public sector jobs. If employment in federal, state, and local government was added to the mix, the job growth since 2009 cited above would be 43,000 less, mostly because of job declines in local government (mostly concentrated in local government education). State government, which includes state education and health care and state civil service, was up 12,000 jobs or 6.8 percent since 2009. Federal government employment in Michigan was down slightly (Current Employment Statistics, 2018b).

Michigan's Aging Industries

In Michigan, nearly one in four jobs is held by workers age 55 or older, translating to 840,000 workers at or nearing retirement age (Longitudinal Employer-Household Dynamics, 2017). This means that, starting now and continuing for 10 or more years, almost 25 percent of the currently employed workforce will need to be replaced due to retirements and other age-related

separations. As such, it is important to understand the industries that will be affected by an aging workforce. This can be accomplished by looking at industries with a large share of older workers and industries with a large number of older workers.

In terms of share of older workers, Transit and Ground Passenger Transportation and Air Transportation top the list, with the share of industry employment going to workers 55 and older at 42 percent and 32 percent, respectively. In the case of Air Transportation, the urgency to replace an aging workforce is illustrated by the aggressive signing and retention bonuses being offered to pilots, particularly among the regional airlines (Maidenberg, 2018; Wall, 2018). Other notable industries with a large share of older workers include Religious, Grantmaking, Civic, and Professional Organizations; Utilities; and Real Estate. Some of the aging in these industries reflect well-documented,

long-term social changes (Putnam, 2000) and preferences of Millennials (Taylor, 2014). Table 1 highlights the top 15 industries with a large share of older workers.

Turning to the number of older workers, nearly 25 percent of workers 55 and older work in three industries: Educational Services; Professional, Scientific, and Technical Services; and Hospitals. These are all critical industries which include key occupations such as Teachers, Engineers, Accountants, and Nurses. Importantly, the state's critical Transportation Equipment Manufacturing industry is also among those with the largest number of older workers, with more than 37,000 workers, or nearly 23 percent of the industry's current workforce, age 55 or older (Longitudinal Employer-Household Dynamics, 2017). Table 2 highlights the top 15 industries with a large number of older workers.

Table 1. Highest Share of Workers Aged 55 and Older

Industry	Total Employment	Older Workers	Share of Industry Employment going to workers 55 and Older	Industry Share of All Older Workers Statewide
Total, All Industries	3,648,588	839,302	23%	1%
Transit and Ground Passenger Transportation	11,391	4,736	42%	1%
Air Transportation	10,641	3,427	32%	0%
Religious, Grantmaking, Civic, Professional, and Similar Organizations	38,715	12,308	32%	1%
Museums, Historical Sites, and Similar Institutions	3,970	1,200	30%	0%
Administration of Economic Programs	8,138	2,427	30%	0%
Private Households	8,398	2,469	29%	0%
Wholesale Electronic Markets and Agents and Brokers	22,026	6,453	29%	1%
Utilities	20,800	6,083	29%	1%
Crop Production	10,626	3,090	29%	0%
Administration of Environmental Quality Programs	4,299	1,246	29%	0%
Furniture and Home Furnishings Stores	11,393	3,278	29%	0%
Furniture and Related Product Manufacturing	20,858	5,966	29%	1%
Real Estate	34,181	9,663	28%	1%
Other Information Services	8,268	2,334	28%	0%
Performing Arts, Spectator Sports, and Related Industries	7,716	2,167	28%	0%

Table 2. Largest Number of Workers Aged 55 and Older

Industry	Total Employment	Older Workers	Share of Industry Employment Going to Workers 55 and Older	Industry Share of All Older Workers Statewide
Total, All Industries	3,648,588	839,302	23%	1%
Educational Services	305,339	82,908	27%	10%
Professional, Scientific, and Technical Services	265,037	60,895	23%	7%
Hospitals	208,929	50,443	24%	6%
Ambulatory Health Care Services	191,753	47,329	25%	6%
Administrative and Support Services	207,753	45,926	22%	5%
Transportation Equipment Manufacturing	164,392	37,292	23%	4%
Executive, Legislative, and Other General Government Support	94,642	26,479	28%	3%
Food Services and Drinking Places	257,757	25,675	10%	3%
Merchant Wholesalers, Durable Goods	89,088	22,344	25%	3%
General Merchandise Stores	87,987	20,813	24%	2%
Nursing and Residential Care Facilities	96,523	19,864	21%	2%
Fabricated Metal Product Manufacturing	76,222	19,272	25%	2%
Machinery Manufacturing	68,112	18,548	27%	2%
Specialty Trade Contractors	86,690	16,852	19%	2%
Management of Companies and Enterprises	69,853	16,720	24%	2%

Population and Migration

The most recent estimates put the Michigan population at 9,962,311, ranking the state 10th nationally in the number of residents (U.S. Census Bureau, 2018a). The state has seen modest population gains since 2011, reversing several years of population declines dating back to 2005. In fact, according to official estimates, Michigan was the only state to lose population from 2000 and 2010 (U.S. Census Bureau, 2011). Figure 4 shows state and national population trends. Although Michigan was in the bottom third of states in population growth between 2010 and 2017, the increase in residents marked a turning point for a state hit hard by two economic downturns (U.S. Census Bureau, 2017). And, this growth is expected to continue. According to long-term population projections, and based on a continuation of current trends, Michigan's population should advance to 10 million residents around 2020 and may surpass the peak population observed in 2004 sometime during the next decade (Guthrie, 2018).

An Aging Population

Notwithstanding economic conditions, one factor that has, and will continue to, affect population growth is the aging of Michigan's residents. In 2010, members of the Baby Boom generation started crossing the 65-year mark. This is just one of the hallmarks of an aging population, and one not unique to Michigan. However, there is plenty of evidence that Michigan will be disproportionately affected by an aging population. Consider the following:

› The median age in Michigan is 39.8, tied for 11th (with New Jersey) among all states, up nearly three years and several spots from 2005 when Michigan ranked 30th among the states (U.S. Census Bureau, 2018a).

› Nearly 17 percent of the state's population is 65 or older, compared to 15.6 percent nationally. In fact, Michigan had

a lower share of the retirement-age cohort until 2004, when both the state and nation were at 12.3 percent (U.S. Census Bureau, 2018a).

› By 2045, 23 percent of the state's population will be 65 or older (Michigan Department of Transportation, 2016), which is much greater than the share of residents 65 and older in Florida today (20.1 percent) (U.S. Census Bureau, 2018a).

The aging population will have a major impact on the workforce. Between now and 2030, more than 670,000 Michigan residents will turn 65, with an average of 83,800 crossing the threshold each year (Michigan Department of Transportation, 2016). As employers look to retain their existing workforce and try to attract new talent, some will likely look beyond current residents, making migration a key issue.

Migration and Migration of the Young Knowledge Population

Due in part to an aging population, any long-term growth in residents (and therefore the labor force) will become increasingly reliant on migration. In 2017, Michigan reported positive net in-migration for the first time since 2000, netting a modest 10,500 residents. Positive net in-migration is good news for the state, but the uptick only begins to recoup the net out-migration of the 534,600 residents seen between 2000 and 2016 (U.S. Census Bureau, 2018b). Figure 5 shows net migration trends in Michigan.

One group of residents of importance to the labor market is the young knowledge population, defined as people between the ages of 25 and 34 with a bachelor's degree. This population represents potential workers with education and training that is aligned to the long-term outlook for high-demand, high-wage careers.[7] In 2017, Michigan reported a small net in-migration of this group, posting a continuation of a more balanced migration phase compared to 2005 to 2010 when the state was losing this group at a considerable rate (U.S. Census Bureau, 2018b). Like migration, generally, the increase in the young knowledge population reverses the recent trend of net out-migration. Also, like migration, generally, two years of positive net in-migration is only the beginning of what would be needed to recoup the young knowledge population that left Michigan since 2000.

Overall, the modest population increase seen since 2011 and recent net in-migration mean more residents and, as a result,

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7   Discussed later, according to long-term employment projections, most long-term employment growth will be seen in occupations requiring a bachelor's degree or higher.
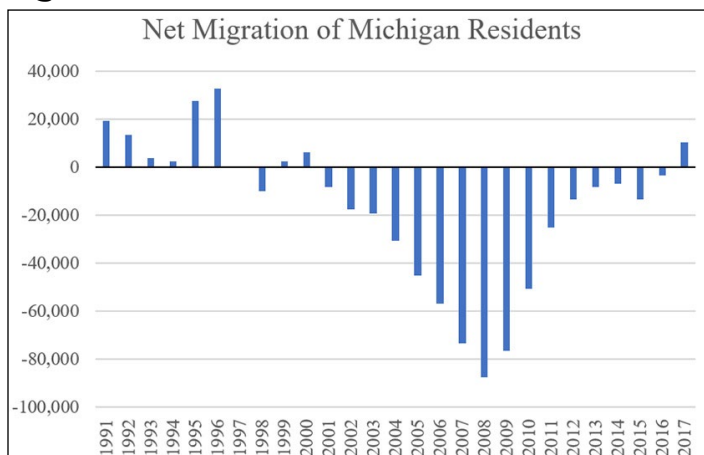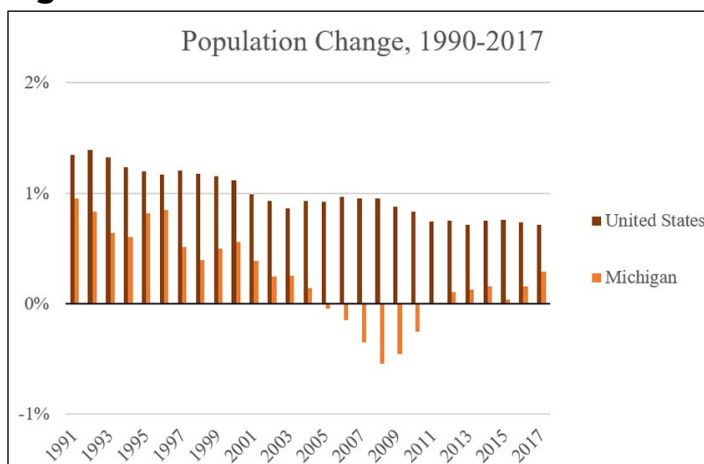
Figure 4

Net Migration of Michigan Residents

Figure 5

Population Change, 1990-2017

a larger workforce. However, at its current pace, the state's population will struggle to meet the needs of the changing labor market.

› The state population is projected to grow by 230,000 residents or 2.3 percent by 2025, with the 65-and-older population growing by 27 percent (Michigan Department of Transportation, 2016).

› Meanwhile, long-term employment projections call for a 7 percent growth in employment by 2026, representing 321,000 new jobs (Employment Projections, 2018).

As a result, it is important to understand the future needs of the labor market so that tomorrow's workforce will be prepared for the coming employment opportunities.

Employment Outlook and In-Demand Occupations for 2026

Whether talking about those individuals who have been left behind in a strong recovery, who may be looking for a job today, or today's youth, who may be thinking about their future, understanding and identifying the opportunities that exist for these residents and connecting them to sustainable employment is a high priority and a leading purpose of long-term employment projections.

Long-term projections for Michigan call for overall employment growth of 7 percent through 2026, reflecting opportunities for residents in a wide range of industries and occupations (Ibid). The outlook for the state is just below the 7.4 percent average growth expected nationally over the same period (Bureau of Labor Statistics, 2017).

Job Outlook by Industry

Michigan's economy is expected to add almost 321,000 new jobs between 2016 and 2026, with nearly all major industry sectors projected to expand their employment bases during this period. Fueled by consistent, steady gains in health care-related sub-sectors due in large part to increased demand for services from an aging population, Education and Health Services is predicted to add more than 140,000 new jobs during this span, accounting for more than two out of every five job additions in the Michigan economy. Professional and Business Services is another major sector expecting significant growth through 2026. Continued expansion in IT-related business as well as Architectural, Engineering, and Related Services are projected to push job growth in this broad sector well past the 700,000 mark by 2026, representing a gain of over 76,000 new jobs and almost 12 percent growth for the period (Employment Forecasts, 2018).

Manufacturing is the only broad-level sector in Michigan that is projected to experience an overall job decline between 2016 and 2026. However, that is not to downplay the importance of this sector to the state's economy. It is not insignificant to note that Michigan's Manufacturing sector, whose employment is projected to dip by a mere 1 percent, is likely to outperform the same sector nationally, which is forecast to lose 6 percent of its employment. Furthermore, this sector is still expected to account for more than 12 percent of Michigan's overall employment base by 2026 (Ibid.).

Job Outlook by Occupation

Not surprisingly, many service occupations that make up the state's largest and fastest-growing industry sectors will lead the way for job openings in the near and far future. Healthcare Practitioners and Healthcare Support jobs are predicted to add 41,500 and 31,400 new jobs, respectively, through 2026, and offer more than 400,000 total openings to 2026 (when replacement openings are factored in). Importantly, the latter group offers a variety of opportunities that require less than a bachelor's degree and, because of the nature of the industry overall, are historically less susceptible to business cycle fluctuations.

Computer and Mathematical occupations and Architecture and Engineering occupations are two additional groups projected to experience double-digit growth (14.2 percent and 13.8 percent, respectively) and also provide a combined 35,000 new jobs during the forecast period. Many of the job opportunities in these two groups will require a significant investment in education and training, as two-thirds of the job titles in these categories require at least a bachelor's degree.

Production is the only broad occupational group that is not expected to add jobs between 2016 and 2026. Because these jobs are concentrated heavily in the state's Manufacturing sector, growth is highly dependent on the overall state and national economies and are thus more sensitive to movements in the business cycle. The baseline job level for these occupations is projected to dip by about 10,300 jobs over this span, equating to a loss of about 2 percent. However, the effect of an aging workforce will likely hit this sector harder than most, creating the need for more than 48,000 workers annually despite the lack of "new" jobs. Expanded out over the 10-year projection period, Production occupations will account for just shy of half a million job opportunities in Michigan (Ibid.).

Job Outlook by Education

Most employment growth will be in occupations requiring a bachelor's degree or higher (10.9 percent), and the lowest is expected in those requiring a high school diploma (4.2 percent). Occupations requiring no formal education will come in just under the average, fueled by strong demand from service occupations.

Another way to look at employment projections is the number of workers required each year, on average, to fill openings. This generally paints a different picture, with 80 percent of annual openings coming from jobs that require less than an associate degree. The bulk of remaining openings (just over 18 percent) come from occupations that require a bachelor's degree, with 1 percent of openings coming from each master's degree and doctoral or professional degree jobs (Ibid.).

Looking at growth or openings alone does not tell the whole story. There are other indicators of labor market success that are important, such as unemployment and earnings. Consider the following:

> In 2017, the unemployment rate for residents 25 to 64 was 4.8 percent. Considering educational attainment, rates ranged from 2.3 percent for residents with a bachelor's degree (or higher) to 12.5 percent for those with no formal education (American Community Survey, 2018).

Figure 6.

Earning by Educational Attainment
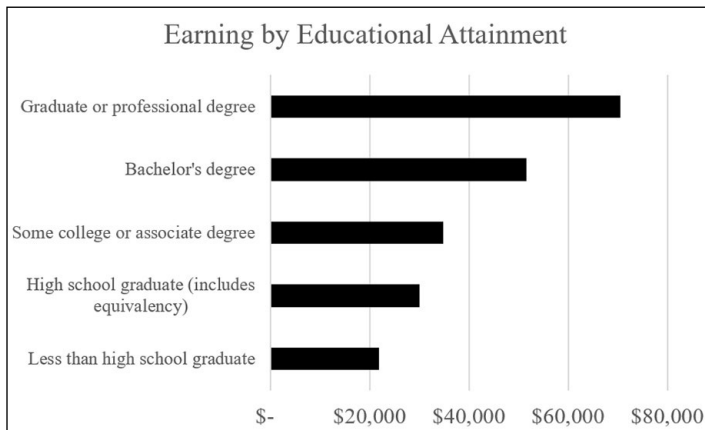
> › Median earnings for residents age 25 and older measured $38,116 in 2017. Median earnings were as high as $70,518 for residents with a graduate or professional degree and as low as $21,773 for those with no formal education. Figure 6 shows median earnings by educational attainment (American Community Survey, 2018).

Other Occupational Categories

Because employment projections are produced for over 800 jobs titles, it is sometimes valuable to talk about the outlook for certain groups of occupations. Some of the commonly requested groups include Science, Technology, Engineering, and Mathematics (STEM) occupations and the skilled trades. Importantly, these groups both include many high-demand, high-wage occupations.

> › Science, Technology, Engineering, and Mathematics (STEM) – These occupations have an especially bright employment outlook, with expected growth of 13 percent — doubling the growth for non-STEM occupations. Michigan employers will need an average of 28,000 workers each year in STEM jobs, with opportunities coming from both growth and the need to replace existing workers. (Compared to the 12,900 people who completed a STEM-related program from Michigan institutions, employer demand is already outpacing the number of newly-minted STEM professionals.) Many

employment opportunities in STEM fields require significant investment in education and training, as three-quarters of job titles call for a bachelor's degree or higher.

> › Skilled trades – Another important group of occupations is skilled trades jobs. These jobs, which include both construction trades and industrial trades, are expected to grow by 6.7 percent through 2026, just below the statewide average. Employers in the state will need an average of 25,000 skilled trades workers each year, with most openings due to the need to replace existing workers.

Michigan's Hot 50 and Career Outlook

In July 2018, the Bureau of Labor Market Information and Strategic Initiatives presented the long-term employment projections and released the Hot 50 and Career Outlook brochures at their inaugural Occupational Outlook Conference.

> › Hot 50 – The Hot 50 list is produced by ranking occupations on three primary factors: (1) projected annual job openings; (2) projected growth; and (3) median wages. Additionally, the list focuses on only those occupations that pay above the statewide median wage, employ at least 1,000 individuals statewide, and require education or training beyond high school. The current Hot 50, with projections through 2026, includes 10 STEM occupations, 10 occupations from the professional trades, and 36 occupations that require at least a bachelor's degree.

> › Career Outlook – The Career Outlook provides lists of in-demand jobs across varying levels of education and training requirements. It uses a methodology like the Hot 50, ranking occupations based on annual job openings, growth, and median wages. The product is particularly useful for Michigan Works! partners, who are not only looking to get individuals into jobs, but also demonstrate potential career pathways. The Career Outlook highlights 21 STEM occupations and 25 professional trades.

Important Workforce and Labor Market Topics

Autonomous Vehicles

In a recent report, Groshen et al. (2018) modeled the long-term impact of autonomous vehicles on the labor market. They project that between 1.4 and 2.6 million jobs will be lost and there will be $104 to $189 billion in costs to families and communities due to the displacement of these workers. On the flip side, around 700,000 to 1.7 million new jobs are projected to be created in varying industries. They identify some gaps that will need to be solved when trying to pair displaced workers with these new jobs, including geography, skills, worker voice, and investment.

This report could be replicated for Michigan. Applying the methods from Groshen et al. to employment estimates from Michigan's Occupational Employment Statistics (OES) survey would provide insights into the number and types of jobs that would be lost and gained because of autonomous vehicles.

Contingent and Alternative Employment Arrangements

In 2018, the Bureau of Labor Statistics published results from their national Contingent and Alternative Employment Arrangements survey. Contingent workers are people who do not expect their jobs to last or people who reported that their jobs are temporary and alternative employment arrangements include "people employed as independent contractors, on-call workers, temporary-help agency workers, and workers provided by contract firms" (Bureau of Labor Statistics, 2018c: 2).

This is the first time this survey was conducted since 2005, so many people expected to see a large bump in contingent and alternative employment arrangements in the 2017 survey. In a surprise to many, the percentage of those who consider themselves contingent workers actually fell from 4.1 percent in 2005 to 3.8 percent in 2017. According to the report, contingent workers are more likely to be young, working part-time, and in professional and related occupations. They are less likely to have access to health insurance and retirement plans. Alternative work arrangements were mixed compared to 2005, with the proportion of the employed who were independent contractors lower in 2017 and the proportion employed in the other three alternative arrangements little changed. Workers in the four groups continued to differ significantly from each other as well as from workers in traditional arrangements (Bureau of Labor Statistics, 2018c).

Individuals with Barriers to Employment and Job Training Programs

In Michigan, federal job training programs under the Workforce Innovation and Opportunity Act are in large part administered by the Workforce Development Agency (WDA) and operated by 16 Michigan Works! Agencies around the state. A primary purpose of these programs and the WIOA is "to increase, for individuals in the United States, particularly those individuals with barriers to employment, access to and opportunities for the employment, education, training, and support services they need to succeed in the labor market" (128 STAT. 1429). The Act defines several groups of "individuals with a barrier to employment," including low-income individuals, individuals with disabilities, older individuals, ex-offenders, long-term unemployed, and "other groups as the Governor involved determines to have barriers to employment" (128 STAT. 1434).

The Bureau of Labor Market Information and Strategic Initiatives has shown that job training programs, such as those administered by the WDA and Michigan Works!, have been successful at helping residents return to work and earn more income (Powell, 2018). Trainees in the Adult program have shown sustained wage gains of just under $3,000 per quarter over similar individuals who did not receive training. Those in the Dislocated Worker program have demonstrated gains of $2,000 per quarter, and both programs exhibit higher employment levels for trainees after program completion. Moreover, the wage gains in both training programs exceeded the cost of training within one year, demonstrating the strong return on investment in such programs (Ibid.).

"Real-Time" Information and the Michigan Job Vacancy Survey

The Job Openings and Labor Turnover Survey (JOLTS) program produces data on job openings, hires, and separations nationally, but there is no official economic series of job openings at the state level. To provide so-called "real-time" information, state labor market information offices have been using online advertised job postings as a supplement to traditional labor market indicators. This information is useful for providing a snapshot of current demand in the labor market, but the information has several weaknesses and it is hardly a scientific survey of job openings.

As a result, the Bureau of Labor Market Information and Strategic Initiatives began conducting an annual Job Vacancy Survey in 2018. This scientific survey of Michigan employers will provide timely, reliable estimates of job openings by industry and by occupation as well as valuable information about education and training requirements, earnings, and benefits.

Census 2020

Michigan's State Demographer and the U.S. Census Bureau are already well underway with planning for Census 2020, the once-in-a-decade enumeration of the entire population required by the U.S. Constitution, the primary purpose of which is to determine representation in the Congress (U.S. Constitution, Article I,

Section 2). The census is also used in the distribution of federal funds and as a basis of the population estimates program.

In deference to the new administration, the Snyder Administration chose to not establish a Complete Count Committee, the conduit between the Census Bureau and the state to align messaging and promotional activities. The new administration should work to establish the committee, selecting high-profile stakeholders who will reinforce the importance of the decennial census and ensure all Michigan residents are counted.

Talent Gap Analysis

A "skills gap," or skills shortages, are frequently invoked when discussing the Michigan labor market, but these shortages vary widely depending on the occupation. In December 2018, the Bureau of Labor Market Information and Strategic Initiatives will release a report on the supply and demand of talent in the Michigan labor market. Among its key findings, the report demonstrates that most occupations in Michigan exhibit alignment between supply and demand, and more than one quarter of occupations demonstrate a shortage of talent. Several occupations, particularly those in low-skilled production, exhibit a surplus of workers.

Population and Labor Force Projections

Starting in February 2019, the Bureau of Labor Market Information and Strategic Initiatives will begin publishing population and labor force projections for Michigan and its 83 counties. These projections will be detailed, with information for 18 age cohorts at five-year intervals through 2045. These projections will give a view of Michigan's future population and workforce based on its current circumstances, with applications ranging from the allocation of services to infrastructure and economic and workforce development and urban planning.

Regional Employment Projections

In July 2019, the Bureau of Labor Market Information and Strategic Initiatives will release its long-term regional employment projections at its second annual Occupational Outlook Conference. These regional projections, which complement the statewide projections mentioned above, are an important indicator of future labor demand for nearly 800 job titles. In addition to the projections, several products will be developed with the data, including Career Outlook brochures for education and workforce development partners.

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