

Growing Together or Drifting Apart?

Economic Well-Being in Washtenaw County's new "Knowledge Economy"

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Executive Summary

Having a significant employment base in two public universities, Washtenaw County is an example of what some observers call a “knowledge economy.” Many assume that a shift in employment away from industrial occupations toward high-skill knowledge jobs can drive economic growth and regional prosperity.

A 2009 *Wall Street Journal* article summarizes this argument: “Michigan's economic future rests on making the state look more like Ann Arbor, and less like Warren,” wrote reporter Justin Lahart. He concluded that the city’s new economy built on high-education “knowledge occupations” offered the only real hope for reviving Michigan’s aging rustbelt. Many other political and business leaders have echoed this conclusion, insisting that such job growth provides the solution to the growing inequality facing our state and nation.

The present report analyzes job growth and income trends in Washtenaw County. We find that despite net positive job growth the area’s economy has produced increasing inequality and alarming long-term trends in employment patterns and earnings.

Between 2005 and 2013 – a period that brackets the severe recession of 2008-2009 – the county as a whole did indeed become “more like Ann Arbor and less like Warren.” The number of knowledge jobs in Washtenaw County increased by over 15,000 (a gain of 23%) while the number of industrial jobs dropped by over 12,000 (a decline of 31%). Overall, the growth of knowledge sector employment did result in net job gains for the county and lower unemployment rates than the rest of the state.

But this shift in employment patterns has not resulted in broadly shared prosperity. In fact, in almost all occupational categories, Washtenaw County workers are worse off than they were in 2005. And nearly four in ten county workers do not earn enough money to meet basic family needs.

- **Wages became more unequal in Washtenaw County between 2005 and 2013.** Median real wages in the county decreased by 9% during this period. The decline was not equal. Workers earning the least witnessed the greatest declines while those earning the most actually saw small gains.
- **37% of individual workers in Washtenaw County do not earn enough to meet basic family needs.** 37% of workers earned less than \$32,000 in 2013. This is less than a basic needs budget for the county as determined by the Michigan League for Public Policy (MLPP). Significantly, this percentage was up from 31% in 2005 – even though the proportion of “knowledge” workers in the county had also grown during the period.

- 24% of households in Washtenaw County do not earn enough to meet basic family needs.**
Analyzing household (rather than individual) income, the United Way of Michigan calculated a basic family budget of \$60,659 for Washtenaw County. According to the United Way, 24% of households in our county are living below this threshold. Consequently, more than 20% of the children in our region live in poverty and qualify for free or reduced lunch.
- Nine of the ten largest job categories in Washtenaw County pay less than \$32,000 per year.**
Washtenaw County has a high proportion of “knowledge” jobs, representing over 40% of all jobs in 2013. But nine of the ten *most common* jobs in the county – including office clerks, food preparation and service workers, retail salespeople, customer service workers – pay less than the \$32,000 a year that the MLPP estimates is required to meet basic needs.
- Nine of the ten job categories with the largest projected future employment growth also pay less than \$32,000 per year.**
Even in an economy with a growing proportion of knowledge jobs, there appears to be limited ability for many workers to command a living wage.
- Even in the core of the knowledge economy – the University of Michigan – we see similar trends.**
At the University of Michigan, which has otherwise resisted county trends, income inequality between tenure-track and other faculty has been growing, and among all employees those in low-wage jobs have experienced real wage declines while better-paid employees have seen modest real wage gains.

Our findings indicate that “knowledge economy” growth has not improved economic standards for a majority of jobs in Washtenaw County. Alongside evidence of gains in professional and technical jobs, our region has seen, with few exceptions, broad-based declining wages that cut across worker status, age and education. Even within the knowledge sector itself, we find rising inequality as high-paying jobs are growing at a slower pace than low-paying jobs.

Research has shown that shared prosperity is ultimately the most sustainable model for community development. Instead of simply watching economic inequality continue to grow and hoping for the best, citizens and policy makers can take an active role in shaping the future of the county’s economy. This will require policies that enhance the quality of *all* jobs, regardless of sector, with a focus on broadly spread income growth so that workers can support their families, local businesses and the overall county economy.

1. Introduction

This is a report on the state of working people in Washtenaw County. Our county is distinguished by the fact that the largest employers in our two largest cities – Ypsilanti and Ann Arbor – are major public universities: Eastern Michigan University (EMU) and the University of Michigan (UM), respectively. EMU, with around 1,900 employees, is the county’s fifth largest employer, while UM is by far the largest employer. Its 38,000 plus workers fill almost one of every five jobs countywide. The resulting reliance on highly educated labor places Washtenaw County at the forefront of what many observers term the “knowledge economy.”

How have workers fared in this knowledge economy? To hear the business press tell it, pretty well. Ann Arbor’s economy is often held up as a model for the rest of the state. “Michigan’s economic future rests on making the state look more like Ann Arbor, and less like Warren,” wrote *Wall Street Journal* reporter Justin Lahart in 2009.² Profiling the success of two Ann Arbor start-up engineers, Lahart concluded that the city’s new economy, built on high-education “knowledge occupations,” offered the only real hope for reviving Michigan’s aging rustbelt economy. Even in the depth of the Great Recession, Lahart noted, Ann Arbor’s unemployment rate was 8.5%, half that of manufacturing-based cities like Warren. In *Forbes*’ annual list of the best places to do business, Ann Arbor ranked 61st nationally. By early 2011 economists were predicting that Ann Arbor’s job growth would soon erase the job losses from the 2008 recession.³ Fueled by the city’s growing economy, Washtenaw County’s median household income in 2012 was \$56,330 – fourth highest among Michigan’s 83 counties.⁴

Is the new knowledge-based economy, as represented by cities like Ann Arbor, a viable path for economic recovery that, as its proponents claim, will “lift all boats”? Does such job growth by itself provide the solution to our state’s and nation’s increasing inequality? Are we all winners, as implied by the *Wall Street Journal*, *Forbes* and others champions of this new knowledge economy? Or do their sunny

² “Ann Arbor and Warren: A Tale of Two Economies -- Separated by 50 Miles but Worlds Apart, Michigan Cities Embody the State’s Ailing Industrial Core and a Potential Road to Rebirth,” *Wall Street Journal*, Updated May 26, 2009.

³ “Ann Arbor area poised to add 8,000 jobs over next 3 years, University of Michigan economists report,” by Nathan Bomey *Ann Arbor.com*, March 10, 2011.

⁴ *ALICE: Asset Limited, Income Constrained, Employed. Study of Financial Hardship*. United Way of Michigan. September 2014. www.UnitedWayALICE.org/Michigan

economic forecasts obscure a dark cloud of growing economic polarization between the few who are doing better and the many who are not?

The following analysis based on Washtenaw County data suggests that the economic consequences of the shift toward a knowledge economy are decidedly mixed. While the University of Michigan is, as advertised, a major engine of job creation and (for some) increased wages, the *number* and the *share* of low-wage jobs are growing both county-wide and at UM. Moreover nearly all of the fastest growing occupations outside the University, along with some UM job classifications, have experienced declining real wages in recent years. The net result is that nearly four in ten jobs – and fully one fourth of all households – are not earning enough to afford the basic necessities of life.

In short, we show that the knowledge economy is not distributing the gains from economic growth widely among all workers. Instead, it directs a much larger share of those gains to the highest earners, thereby increasing economic inequality and thinning the middle class. This pattern is all too familiar at the state and national levels. It represents a model of economic growth that is incompatible not only with social justice norms but also with ecological sustainability. We will never be able to grow big enough for long enough to meet the legitimate economic needs of those at the bottom of our increasingly unequal income distribution, and certainly not if the great bulk of the gains from growth continue flowing to the few at the top.⁵

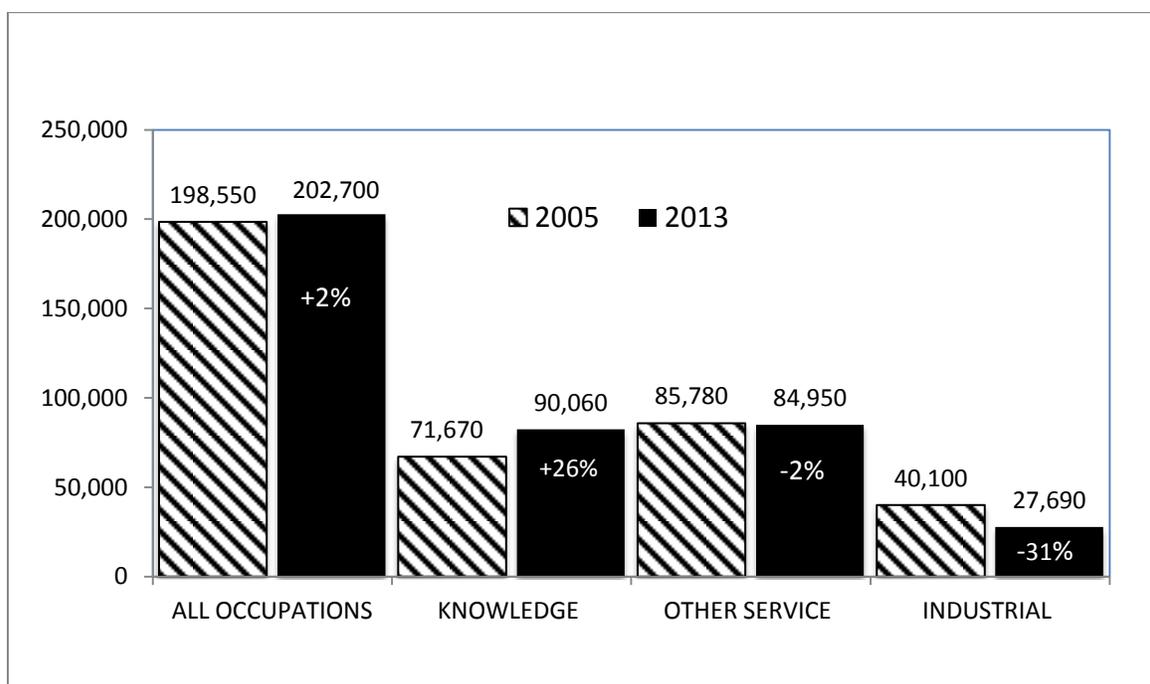
2. Growing Inequality

We turn now to recent trends in employment and earnings of wage and salary workers in Washtenaw County. Comparable occupational data are available from the US Bureau of Labor Statistics from 2005 to 2013. This eight-year period brackets the recession of 2008. Nationally, the unemployment rate in 2005 was relatively low at 5.1%. When the recession bottomed out in 2010 the unemployment rate reached 9.6%. It then began recovering slowly, and by 2013 it had fallen to 7.4%. Washtenaw County had slightly better employment growth over this time period than both the state of Michigan and the country as a whole. Employment in the county grew by 2% (from 198,550 jobs in 2005 to 202,700 in 2013) as compared to a 1.6% increase for the nation and a .03% drop for Michigan.

⁵ Bob Sutcliffe, “Development After Ecology,” in Vinit Bhaskar and Andrew Glyn (eds), *The North, the South and the Environment* (New York: Routledge, 1994), pp. 232-257.

Within these aggregate figures, we can usefully distinguish three broad occupational groups: (1) **knowledge occupations** that require extensive professional training in fields like business, law, education, medicine, or media; (2) **service occupations** for which less formal training is needed, including food preparation and serving, personal care, cleaning and maintenance, and a variety of sales and support jobs; and (3) **industrial jobs** involving manufacturing, construction, transportation, maintenance and repair.⁶

Figure 1: Employment in Washtenaw County by Occupation Category, 2005 and 2013.



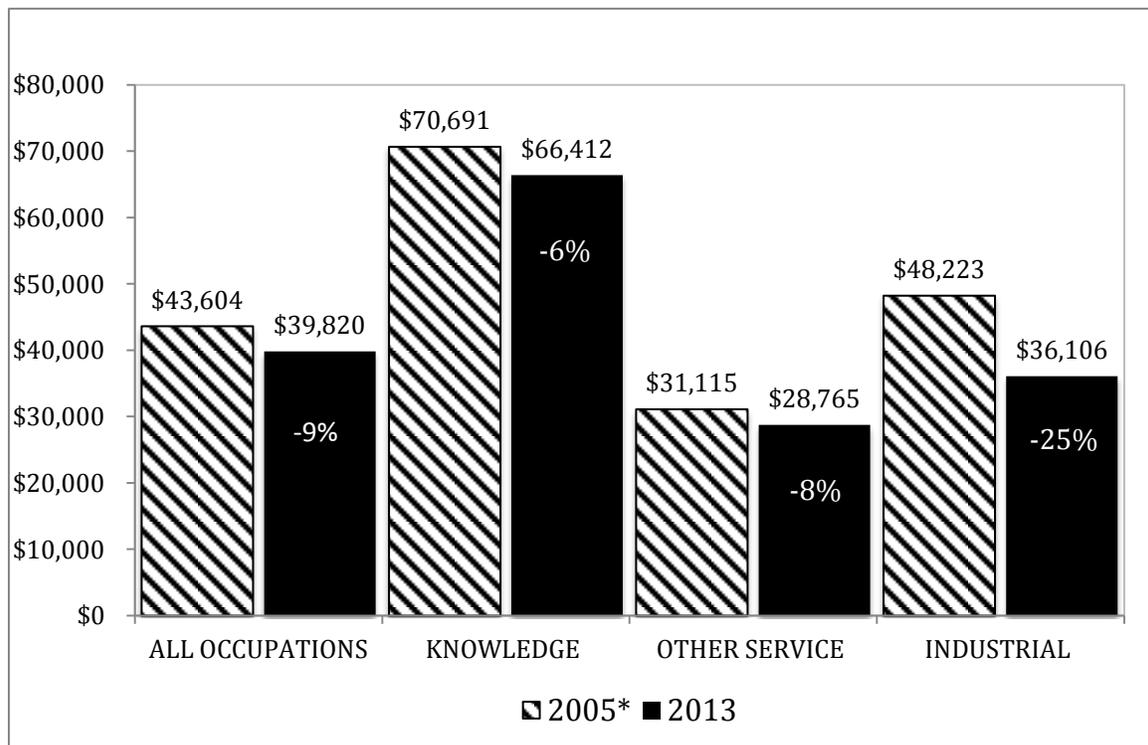
SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>). The employment numbers for the three broad occupational groups do not add up to those for all occupations because of the absence of data for two 2-digit categories (see the preceding footnote).

⁶ Knowledge occupations include BLS 2-digit categories 11, 13, 15, 17, 23, 25, 27 & 29; service occupations include categories 21, 31, 33, 35, 37, 39, 41 & 43; and industrial occupations include categories 47, 49, 51 & 53. The BLS 2-digit categories 19 (Life, Physical, and Social Science Occupations) and 45 (Farming, Fishing, and Forestry Occupations) had to be excluded from the figures presented in this report because the BLS did not make available the corresponding data for Washtenaw County. These account for a relatively small number of jobs (4,500 in 2005 and 7,670 in 2013), and almost all of them are in category 19; so they have been included in the employment figures for knowledge occupations shown in Figure 1. Category 19 jobs are included also in our analysis of the University of Michigan.

The pattern of employment in Washtenaw County shifted considerably between 2005 and 2013 (Figure 1). As a share of total employment, the number of people working in knowledge occupations rose from 36% to 44% and the number in industrial occupations dropped sharply from 20% to 14%. This shift did not affect the service sector, which essentially remained the same. It fell just slightly, from 43% to 42%. In effect, then, formerly good-paying manufacturing jobs were replaced by good-paying knowledge sector jobs.

As these employment shifts were taking place, real earnings – in terms of actual purchasing power⁷ – were declining for all three occupational groups, as illustrated in Figure 2. The real annual wage or salary of the median worker decreased by 9% from 2005 to 2013. The decrease was greatest for industrial workers, whose incomes fell by 25%; for knowledge workers it was 6% and for service workers 8%.

Figure 2: Median Real Earnings in Washtenaw County by Occupation Category, 2005 and 2013.



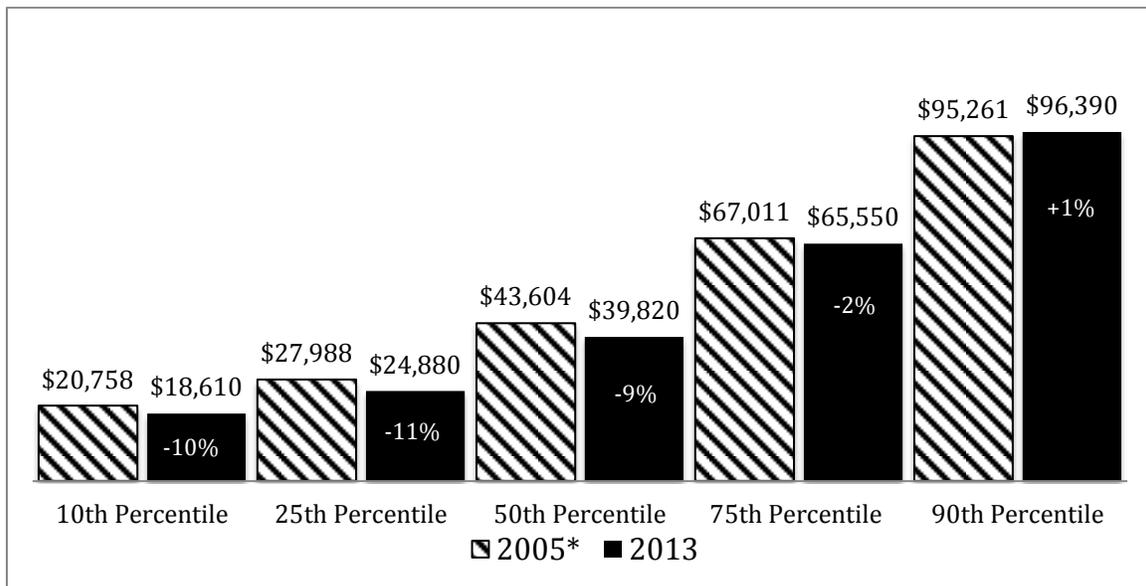
* At 2013 prices, inflated for 2005 by the Consumer Price Index for All Urban Consumers.

SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>).

⁷ Real earnings are adjusted to take into account annual consumer price inflation, allowing more accurate comparisons of income and wages across years.

The uneven decline in earnings across occupational groups may partly reflect changes in the occupational composition of each group. However, the decline also appears to be a function of reduced earnings within many occupations. Figure 3 compares earnings at various percentiles between 2005 and 2013. Earnings in the 10th percentile, encompassing the poorest paying jobs, were reduced by 10 % from 2005 to 2013. In contrast, earnings at the 90th percentile, for the best paying jobs, grew by 1% over the same period. Distribution points in between these two poles conform to the general trend, noted earlier, of sharper declines in earnings for lower paying jobs.

Figure 3: Change in Real Earnings in Washtenaw County by Percentile, 2005 and 2013.



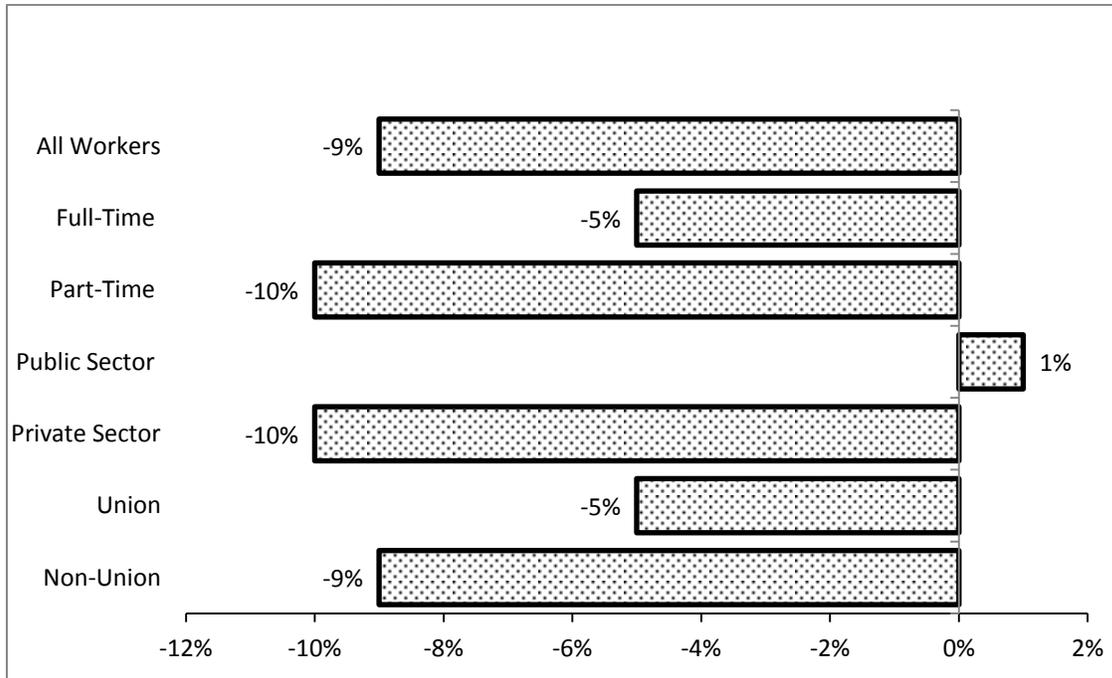
* At 2013 prices, inflated for 2005 by the Consumer Price Index for All Urban Consumers.

SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>).

Census estimates for regional inequality, which are measured by Gini coefficients, mirror the trend shown in Figure 3. Gini coefficients are widely used measures of income inequality. A Gini is a ratio between 0 and 1, where 0 represents absolute equality (everyone has exactly the same income) while at the opposite extreme 1 indicates total inequality (one person has all the income). For Washtenaw County, the Gini has been steadily increasing over the decades: 0.428 (1990), to 0.453 (2000), to 0.463 (2010, the latest available year).

Figures 4a, 4b, 4c and 4d show the percentage change in median real wages for various groups of Michigan workers from 2002-2012.⁸ We use a three-year average for the beginning year (2001-03) and for the ending year (2011-13) to reduce the effect of yearly random variations.⁹

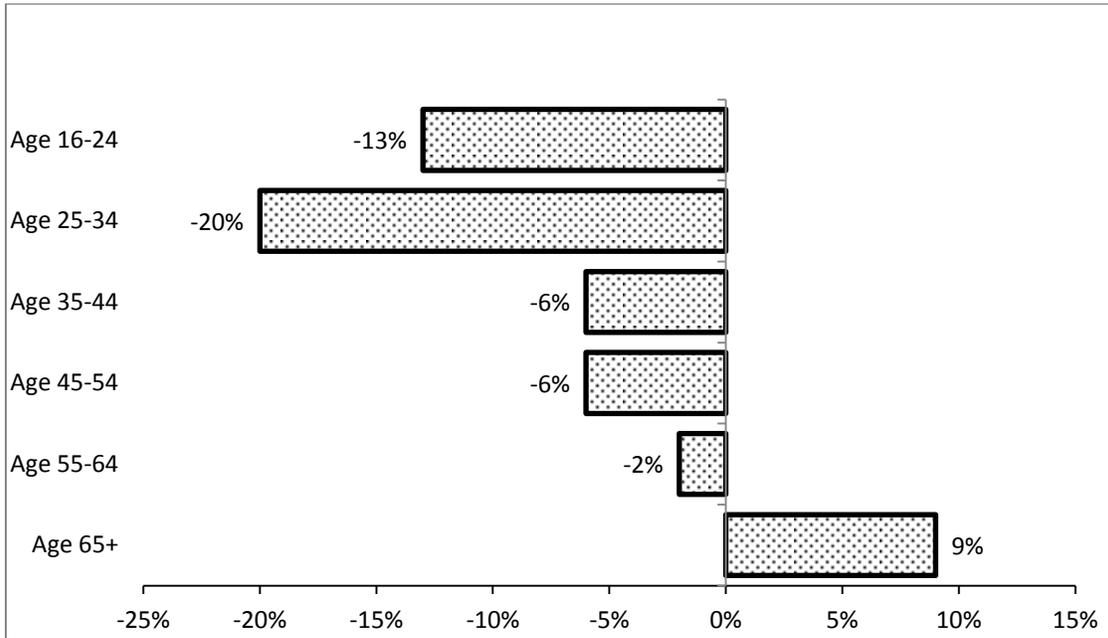
**Figure 4a: Median Real Wage Change in Michigan
by Employment Conditions, 2002-2012.**



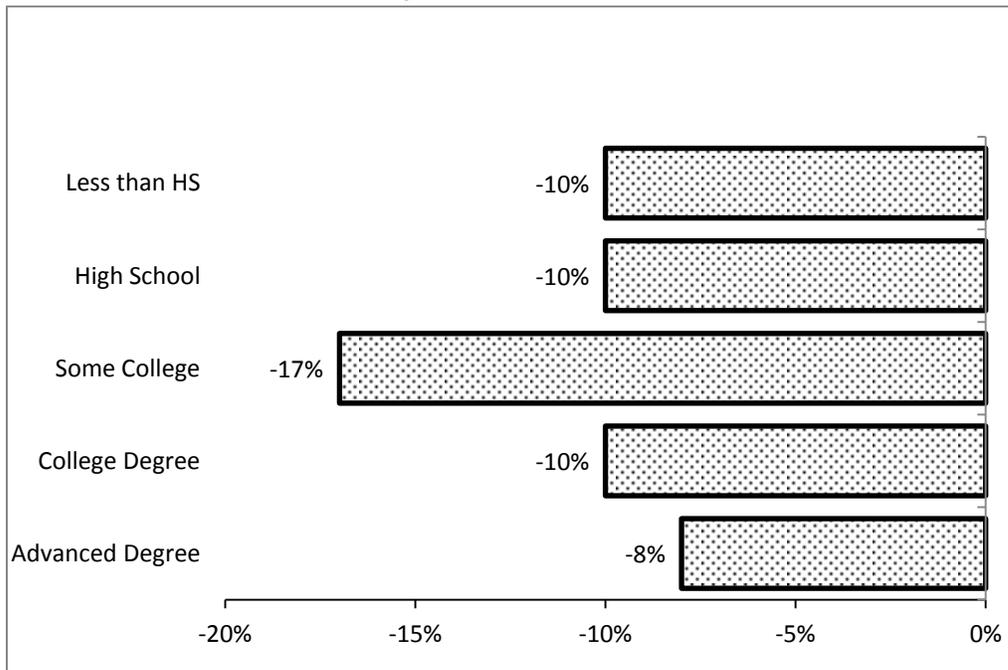
⁸ The underlying data for Figures 4a-d are drawn from the Current Population Survey Outgoing Rotation Group data files, as compiled by the Center for Economic Policy Research (Washington, D.C.). We are very grateful to John Schmitt for making these data available to us.

⁹ Unfortunately, the data are insufficient for providing reliable estimates for Washtenaw County, and so we must rely on state-level differences across groups, and assume that state findings apply to Washtenaw County.

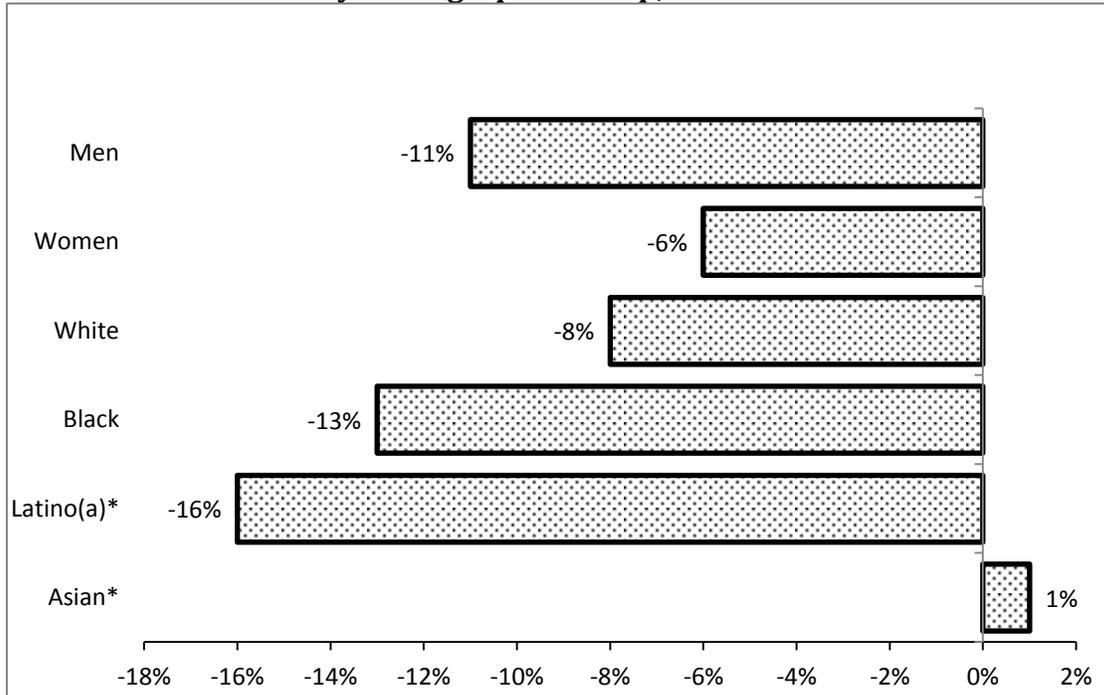
**Figure 4b: Median Real Wage Change in Michigan
by Age Group, 2002-2012.**



**Figure 4c: Median Real Wage Change in Michigan
by Education, 2002-2012.**



**Figure 4d: Median Real Wage Change in Michigan
by Demographic Group, 2002-2012.**



* Latino(a) and Asian estimates are based on small sample sizes and are therefore much less reliable than those for the other groups.

Figures 4a-d show that almost all categories of workers have seen a decline in median real wages over this ten-year period. The decline statewide is 8.6% for all workers — more than twice the 3.1% decline in median real wages for Washtenaw County workers from 2005-2013. Among the hardest hit are part-timers, young workers under 34 years of age, men, African Americans, and Latinos. Even the most educated workers – the main beneficiaries of the knowledge economy – saw their earnings drop by 8%. Less educated workers experienced even sharper wage declines. Workers represented by unions fared better than those without representation, and workers in the public sector – one of only two groups whose earnings actually increased – did considerably better than those in the private sector.

Vignette: Service Work in the Knowledge Economy

Glen went to college to become a graphic designer. However when an assistant manager job in retail opened up he jumped at the opportunity. Not only was the position at a national copying chain and at decent pay, but Glen also received profit sharing and health benefits. His future was set, or so he thought.

Soon his employer began changing the formula for profit sharing in ways that steadily reduced his income. Eventually he was making \$10,000 less than when he started; so he decided to quit. Fortunately, because his wife was a unionized public school teacher, the family could afford to have Glen stay home as a full-time parent of their two kids. Given his shrunken salary, this was more cost-effective than paying for childcare and commuting.

When Glen returned to work at a different employer he found that conditions in retail had become even worse. Gone were the full time jobs. One week he would only get eight hours, the next week might be thirty. It was not uncommon for him to close the store at 11pm and then be in at 5am the next morning to open. Glen could not plan his life more than a few days at a time because his schedule was revealed a week in advance. While he was working fewer hours, Glen was expected to take on more responsibilities than he could possibly complete during his shift.

Glen tried to find more stable work, which led him to another retail job at an office supply company as a supervisor. While the job is less stressful, he earns close to the dollar amount he made at the copy center years ago. With his wife seeing no raises in six years, the family needs Glen's income, however meager. He and his family are treading water, living paycheck to paycheck. He explains, "We prioritize things for the kids like band camp or an instrument. But this means the dishwasher doesn't get repaired and other work on the house doesn't get done. We used to take family vacations but now we can't afford to. It's not like my parents' experience when they raised me. Today you just cannot support a family in retail."

Note: Vignettes reflect authors' interviews with actual community members. All identifying information has been changed.

3. Making Ends Meet – or Not

Like most Michiganders, Washtenaw County residents have seen their purchasing power erode due to declining real wages and income. How have reduced earnings affected their ability to meet basic needs? To answer this question we must first come up with a definition of basic needs and calculate the cost of meeting those needs. The Federal Government's national poverty threshold numbers have been widely and justifiably criticized. We now have a much better alternative.¹⁰ In March 2014 the Michigan League for Public Policy (MLPP) released a report entitled *Making Ends Meet in Michigan: A Basic Needs Income Level for Family Well-Being*. The report provided a monthly budget for basic household needs, adjusted to the cost of living

¹⁰ On the critique of the Federal Poverty measure see, for example, James E. Foster, *The American Economic Review* Vol. 88, No. 2, *Papers and Proceedings of the Hundred and Tenth Annual Meeting of the American Economic Association* (May, 1998), pp. 335-341.

for each county. Washtenaw County’s cost of housing – the highest in the state – drives up the basic monthly needs budget to \$5,340 for a family of four with both parents working. Multiplying the monthly budget by 12 yields an annual basic needs budget of \$64,080, or just over \$32,000 per working parent.

A combined household income of \$64,000 might seem comfortably “middle class” for many Michiganders, but not for residents of Washtenaw County. Table 1 details the expenses on which this budget is based. Note that this is truly a budget for basic needs; there is nothing unnecessary or extravagant. The same income threshold of \$32,000 per parent also applies to a family of four when only one parent is working outside the home: despite eliminating the cost of child care (assuming the stay-at-home parent is performing this service) and reduced expenses for transportation (only one commuting parent) and health care, the monthly budget of \$2,703 translates into an annual income of \$32,436. Thus, we use the figure of \$32,000 a year to determine how many of the existing jobs in Washtenaw County pay less than this basic needs budget.

Table 1: Basic Family Expenses and Taxes Per Month, Washtenaw County, 2012.

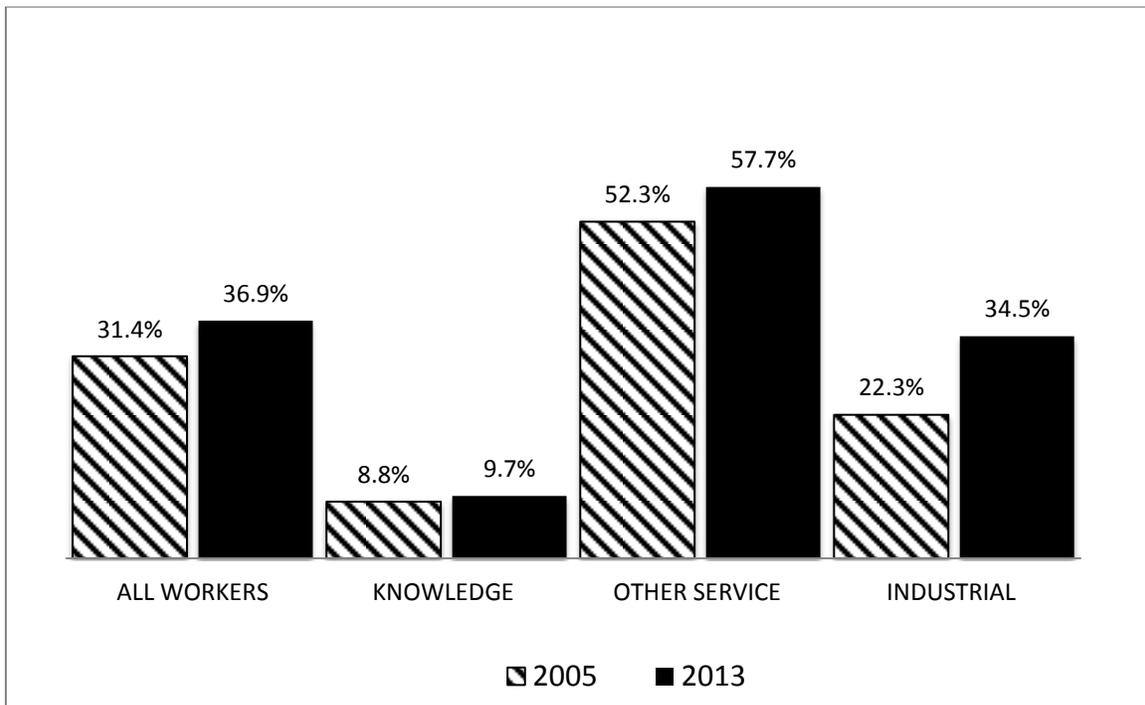
	Single Adult	Single Parent*	Two Parents* Both working	Two Parents* One working
Housing	\$760	\$901	\$901	\$901
Child Care	N/A	\$1,453	\$1,453	N/A
Food	\$264	\$506	\$702	\$702
Transportation	\$393	\$393	\$653	\$393
Clothing/Household/Personal/Phone	\$207	\$346	\$426	\$426
Health Care	\$150	\$381	\$496	\$286
Total Expenses	\$1,775	\$3,980	\$4,631	\$2,708
Taxes	\$420	\$635	\$708	-\$5
Net Total (Expenses & Taxes)	\$2,195	\$4,615	\$5,340	\$2,703

Source: Michigan League for Public Policy, Making Ends Meet in Michigan: A Basic Needs Income Level for Family Well-Being (March 2014) – available at: <http://www.mlpp.org/making-ends-meet-in-michigan-a-basic-needs-income-level-for-family-well-being>

Figure 5 shows that 37% of all workers – nearly four in ten – earn less than the basic needs budget. More disturbing still, especially for proponents of the knowledge economy as the engine of recovery, the trends from 2005-13 are all pointing in the wrong direction. The number of workers county-wide failing to reach the \$32,000 threshold rose from 31% in 2005 to 37% in 2013. This change represents an

increase of almost one-fifth. The portion of hard hit industrial workers falling below \$32,000 increased by half while among knowledge and service workers it increased by one-tenth. This job picture is likely worse for single parents, most of whom are women. A single parent must earn more than a family that can rely on two adult incomes, yet national data show that women have lower average earnings than men.

Figure 5: Percentage of Workers Earning Less than \$32,000, Washtenaw County, 2005 and 2013.



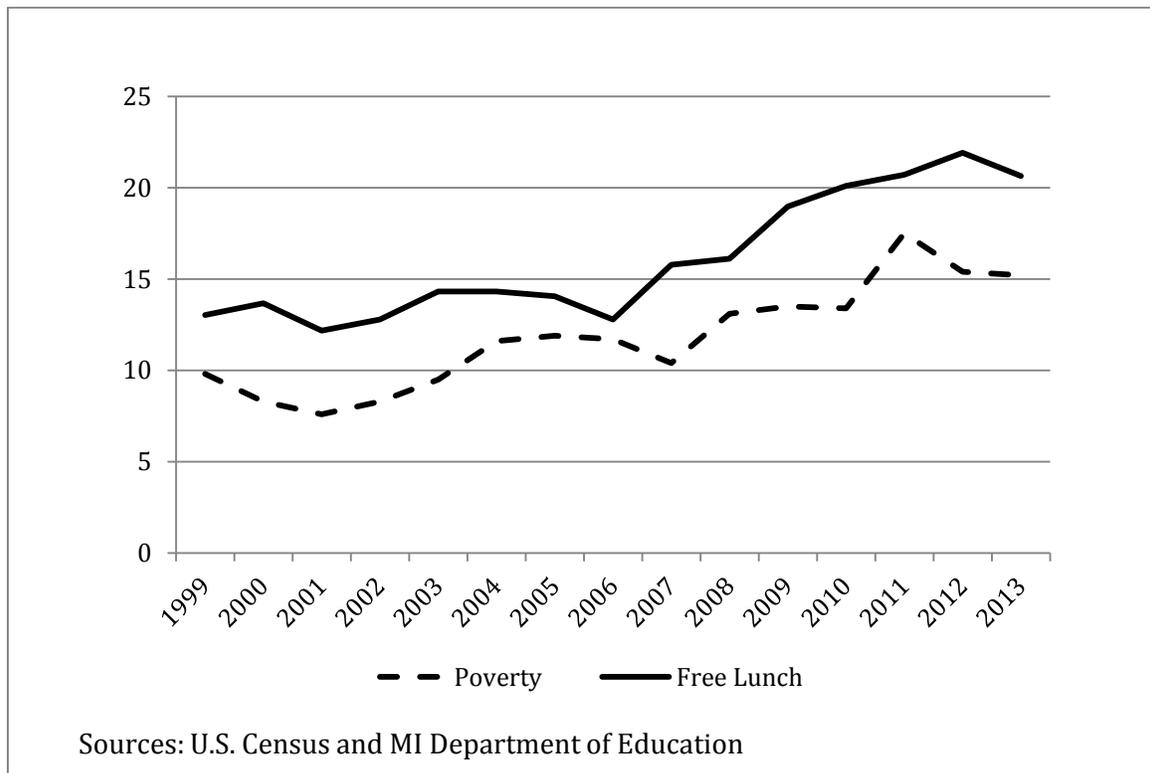
NOTE: The figures shown were calculated by interpolating data on annual wages for various percentiles of the relevant wage distributions.

SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>).

Still, most households draw income from more than one worker. Because the Bureau of Labor Statistics does not provide household data at the county level, we turn to a 2014 report from the United Way of Michigan to determine the economic well-being of more than one worker residing in the same household. Following a similar method used by the MLPP to estimate monthly expenses, the United Way calculated their own version of a basic needs budget, or what they term an ALICE budget (Asset Limited, Income Constrained, Employed), for each county, depending on the cost of living.

Statewide, the 2012 ALICE budget for a family of four is \$50,343. Being one of the state’s most affluent counties, Washtenaw has a higher ALICE budget of \$60,659 – \$3,500 less than the basic needs budget calculated by the MLPP. The United Way report finds that 24% of all households in Washtenaw County fall below the ALICE threshold. This is considerably better than the nearly 40% of Michiganders who fall below the statewide ALICE threshold. But it still means that nearly a quarter of the residents of Washtenaw County – the principal site of the knowledge economy – are unable to meet their basic needs.¹¹

Figure 6: Percent of Youth in Poverty and Free Lunch Enrollees in the Ann Arbor Public School District, 1999 to 2013.



Census Small Area Income and Poverty Estimates can be found at: <http://www.census.gov/did/www/saipe/index.html> Michigan school lunch data is at: <https://www.mischooldata.org/Other/DataFiles/StudentCounts/HistoricalFreeAndReducedLunchCounts.aspx>

¹¹ ALICE: Asset Limited, Income Constrained, Employed. Study of Financial Hardship. United Ways of Michigan. September 2014. UnitedWayALICE.org/Michigan

The impact on families is reflected in child poverty trends. Figure 6 plots two indicators of child poverty: the percentage of children below age 18 in poverty estimated by the U.S. Census and the percentage of children in Ann Arbor Public Schools who are eligible for free lunch from MI Department of Education. Despite some yearly fluctuations in poverty rates, due largely to the changing fortunes of the auto industry, both trend lines indicate an overall increase in the rate of child poverty and meal subsidy. Child poverty is especially troubling because it is linked to food insecurity and poorer health and socio-economic outcomes.¹²

Vignette: "Quality of life?"

Aaron has been working as a Nursing Aide in a large hospital in the area for about nine months. Hearing that it was very difficult to break into his particular hospital system he applied for the job as a strategic move to get his foot in the door and get some group experience while he worked on his nursing degree. He quickly began feeling, however, that perhaps this move wasn't worth the experience. "The work is strenuous," he explains. "We have 12-hour shifts and I am running the entire time. There is only one aide for twelve patients. All of my patients require full care, are heavy, and need a lot of assistance (turning, feeding, changing, bathing, etc.)." Aaron is also expected to take on extra work as the unit secretary because they are "constantly understaffed."

Although he is working hard he doesn't feel his contribution is valued. Superiors "basically bark orders at me," he reports. He is also only paid \$11.76 an hour.

At that pay rate Aaron was forced to move back in with his parents to save money. Still he finds himself falling behind on his bills. "I just wanted experience and a foot in the door and now I'm kind of stuck. I can't even make my car payment and put gas in the car to get to this job that I'm growing to hate." When asked about how he feels his job impacts his quality of life he responds exasperated, "I mean, quality of life? I cannot even meet up with my friends for drinks because I'm so broke."

¹² See: <http://www.apa.org/pi/families/poverty.aspx>

4. Surveying the New Economic Landscape

We saw earlier how rising inequality has affected each of our three broad occupational groups (knowledge, service, industrial). In this section, we dig down deeper into these occupational groups to examine important trends in specific job classifications. Table 2 lists the 10 lowest-paid jobs in 2013, the number of employees, and their average hourly wage. Almost all of the lowest paying jobs – averaging less than \$10 per hour – are in the food services and hospitality industries. These industries continue to grow alongside knowledge jobs.

Job description	Employment in 2013	Average hourly wage in 2013
Fast food cooks	720	\$8.66
Dishwashers	480	\$8.75
Dining room & cafeteria attendants, and bartender helpers	420	\$9.02
Cafeteria, food concession & coffee shop counter attendants	620	\$9.03
Locker, coat, and dressing room attendants	40	\$9.09
Other food preparation & serving workers	5,230	\$9.15
Restaurant, lounge & coffee shop hosts and hostesses	350	\$9.42
Bartenders	430	\$9.64
Hand packers and packagers	270	\$9.73
Childcare workers	660	\$9.92

SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>).

Table 3 shows the number of workers and average earnings for the 10 jobs with the highest employment in 2012-2013.¹³

¹³ In preparing Tables 3-5 we averaged information for the two years 2012 & 2013 (as well as for the two years 2005 & 2006) because single-year figures at this level of detail are somewhat volatile.

Table 3: Average Earnings in 2013, and Change in Earnings 2005-2013, Washtenaw County (for Top 10 Highest-Employment Jobs).			
TOP 10 JOBS by Employment (2012-13)**	Employment 2012-13	Average Annual Earnings* 2012-13	% Change in real Average Annual Earnings* since 2005-06
Registered Nurses	8,025	\$65,065	-9.2%
Office Clerks, General	6,555	\$29,075	-5.6%
Other Food Preparation & Serving Workers	4,995	\$18,845	-10.0%
Retail Salespersons	4,945	\$24,445	-10.7%
Customer Service Representatives	4,765	\$31,045	-19.1%
Graduate Teaching Assistants	3,940	\$35,970	N.A.
Teacher Assistants (K-12)	3,375	\$26,940	-6.9%
Janitors and Cleaners, Except Maids etc.	3,200	\$26,750	-12.3%
Cashiers	3,025	\$21,145	-7.6%
Nursing Assistants	2,955	\$27,775	-5.2%
Stock Clerks and Order Fillers	2,565	\$26,410	-18.8%

* At 2012-13 prices, inflated for earlier years by the Consumer Price Index for All Urban Consumers.

**Data on the number of Graduate Student Assistants are not available for 2005 or 2006.

SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>).

Two trends are immediately apparent: First, the most common jobs are low-paying. Except for registered nurses, all fall below the county's basic needs budget of \$32,000 for a family of four. Second, workers in all job categories, including the better-paid nurses, saw a substantial drop in real average earnings over the eight-year period we are examining.

Table 4 lists the 10 jobs that have grown most rapidly since 2005-06, while Table 5 lists the 10 jobs with the highest projected rates of growth from 2012 to 2022.

Table 4: Average Earnings in 2013, and Change in Earnings 2005-2013, Washtenaw County (for Top 10 Fastest-Growing Jobs 2005-2013).

TOP 10 JOBS by employment change (2005-06 to 2012-13)**	Change in Employment since 2005-2006	Average Annual Earnings* 2012-13	% Change in real Average Annual Earnings* since 2005-2006
Teacher Assistants (K-12)	1,765	\$26,940	-6.9%
Customer Service Representatives	1,660	\$31,045	-19.1%
Other Food Preparation & Serving Workers	1,485	\$18,845	-10.0%
Registered Nurses	1,250	\$65,065	-9.2%
Nursing Assistants	1,185	\$27,775	-5.2%
Postsecondary English & Lit. Teachers	1,050	\$75,055	NA
Personal Care Aides	985	\$21,960	3.8%
Team Assemblers	760	\$26,850	-23.9%
Postsecondary Business Teachers	695	\$142,865	74.4%
General and Operations Managers	615	\$106,435	-6.4%

* At 2013 prices, inflated for earlier years by the Consumer Price Index for All Urban Consumers.

**Post-secondary English language & literature teachers, whose numbers increased by 1050 from 2005-06 to 2012-13, are excluded from this table because no information on earnings was available for them in 2005-06 or 2012-13.

SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>).

Table 5: Average Earnings in 2013, and Change in Earnings 2005-2013, Washtenaw County (for Top 10 Projected Fastest-Growing Jobs 2012-2022).

TOP 10 JOBS by projected annual MI job openings 2012-2022	Projected Annual Michigan Job Openings**	Average Annual Earnings* 2012-13	% Change in real Average Annual Earnings* since 2005-06
Cashiers	4880	\$21,145	-7.6%
Retail Salespersons	4760	\$24,445	-10.7%
Waiters and Waitresses	4110	\$21,795	11.5%
Registered Nurses	3260	\$65,065	-9.2%
Office Clerks, General	3120	\$29,075	-5.6%
Other Food Preparation & Serving Workers	2810	\$18,845	-10.0%
Laborers and Freight, Stock, Material Movers	2410	\$28,200	-10.0%
Home Health Aides	2350	\$23,880	-0.3%
Customer Service Representatives	2330	\$31,045	-19.1%
Janitors and Cleaners, Except Maids etc.	1770	\$26,750	-12.3%

* At 2013 prices, inflated for earlier years by the Consumer Price Index for All Urban Consumers.

** According to O*NET online. E.g., for cashiers, go to: <http://www.onetonline.org/link/summary/41-2011.00>, then scroll down to "Wages and Employment Trends," and select the state of Michigan.

SOURCE: US Bureau of Labor Statistics, Occupational Employment Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, for Ann Arbor, MI (see <http://www.bls.gov/oes/current/oesrcma.htm>).

A similar picture emerges from the data presented in Tables 4 and 5. The fastest-growing jobs in Washtenaw County in the recent past, as well as those likely to grow fastest in the future, are for the most part low-paying, and almost all saw significant declines in real earnings in recent years.

Vignette: Navigating the Knowledge Economy as a Single College-Educated Adult

By all accounts Juan did just what society says a young person should do to enjoy a decent life. He worked hard in school and got accepted to the University of Michigan. Upon graduating with a bachelor's degree he took an entry-level white-collar job at the university that provided a basic income and good health benefits. When his good work record provided him with the opportunity to take a much higher salaried job with one of the Big Three automakers, Juan felt his future looked bright. He could envision supporting a family and began making investments that would lead to a secure retirement.

When the Big Three began downsizing, however, Juan was laid off. Seeking employment, he found comparable jobs with equivalent pay in short supply. Still Juan did not sit still. He sought out training opportunities for a new career. Unfortunately these additional qualifications only led to a series of low-paying, insecure jobs. His last job as a caregiver proved physically demanding, leading to significant back-strain, and all for poverty-level wages. When this job ended he went through a long period of unemployment. He had no other choice but to move in with his mother who was nearing retirement.

Still living at his mother's home, Juan recently found a white-collar, "knowledge-economy" job with a research firm. He enjoys the work and has been given more responsibilities. However the job pays less than \$25,000 a year and he cannot afford a decent healthcare plan. Nor does he get any paid holidays – instead he has to put in extra hours on other days to maintain his weekly pay. The company offers few opportunities for advancement. Now in his late thirties, Juan wonders whether he will ever realize the future he envisioned as a young college graduate.

5. The University of Michigan

Employment and wage patterns in Washtenaw County are heavily influenced by its largest employer: the University of Michigan (UM). In 2013, 202,700 people were employed in Washtenaw County, of whom 38,296 were employed by the University (including its medical center). While some UM employees reside outside the county, we can safely say that the University directly accounts for almost one in five jobs in Washtenaw County. This alone warrants a closer look at the University's economic contribution. Equally important for our purposes, UM is the county's single largest employer of knowledge workers, and therefore figures centrally in any assessment of the knowledge economy and its impact on employment and wages.

Between 2005 and 2013, employment on the Ann Arbor campus of the University of Michigan grew by an impressive 21%, from 31,524 to 38,296 employees. This increase of roughly 6,800 jobs was almost twice as much as the 3,400 jobs that were added to the county's labor force during that time. Thus, even without considering "multiplier effects" (i.e., the employment-generating impact of local spending by UM employees) the University is responsible for turning what would otherwise have been a net loss of 3,400 jobs into a net increase in employment of almost the same amount for the county as a whole.

Trends in earnings at UM have also run counter to the negative trends of the county as a whole. While median real earnings in the county declined for all three broad occupational groups examined earlier (knowledge, service, and industrial), earnings of the median employee at UM rose from \$43,942 in 2005 to \$52,415 in 2013.¹⁴ In real dollar terms, that represents a 4% increase – 0.5% per year. This is not enough to offset the net decline in earnings at the county level; but without this increase at the University, the county data on wages would look worse.

Yet while UM was driving job growth within the county, it was also fueling greater economic inequality among its own employees. The University's largest group of knowledge workers is its 6,890 faculty. This total includes both tenured faculty (mostly Associate Professors and Professors) and other tenure-track faculty (typically Assistant Professors who have yet to be evaluated for tenure), along with various job categories of non-tenure-track faculty who teach or do research but are

¹⁴ Earnings and employment data for UM, unless otherwise noted, are from the University of Michigan's website: <http://quod.lib.umich.edu/e/errwpc/public/3/3/1/3314612.html>. With the assistance of Lindsay Wang, these data sets were modified to consolidate individuals with multiple appointments into a single case.

not eligible for tenure.¹⁵ Tenure-track faculty saw their median FTE¹⁶ salary rate increase by 9% in real income from 2005 levels, reaching \$134,769 in 2013. Lecturers saw their median FTE salary rate increase at half that rate over the same period, resulting in a 2013 median salary of \$53,626. Thus, earnings inequality between the two categories of faculty – already large at the outset – has grown considerably. Inequality within the category of non-tenure-track faculty increased too, as entry-level Lecturers fell further behind their more senior peers.

Reliance on non-tenure track faculty and graduate student instructors – both at the University of Michigan and across the country – has been growing for many years.¹⁷ This trend seems likely to continue, given growing budget pressures facing public universities, which are rooted in declining state funding and politically driven limits on increasing undergraduate tuition.

Growing earnings inequality within the UM workforce as a whole can also be shown by dividing it into four income quartiles and comparing trends. Between 2005 and 2013, the lowest quartile (\$38,803 or less in 2013) saw real earnings decline by 1%, whereas employees in the other three quartiles enjoyed modest growth: 2% for the second lowest quartile (\$38,804-54,586); and 4% for both the second highest quartile (\$54,587-80,664) and the highest quartile (greater than \$80,664).

The top quartile's gains were not as great as those reflected in national data. But we do see increasingly large gains within the top quartile, especially at the very top. The top 1% of earners (332 people in 2005 and 403 in 2013) saw their median base pay increase by fully 29%, from \$208,000 in 2005 to \$267,909 in 2013. Taking inflation into account, their real pay increased 8%, twice the rate of the top quartile.¹⁸

¹⁵ Included in the 6,890 faculty are 809 Lecturers (non-tenure-track teaching faculty other than clinical faculty), 1,545 non-tenure-track clinical faculty who are mostly associated with the medical school, 2,830 tenure-track faculty, and 1,706 research scientists of various sorts who rely on externally-funded ("soft money") research grants.

¹⁶ FTE means "Full Time Equivalent." This refers to workers in a particular job category.

¹⁷ David Dobbie and Ian Robinson, "Reorganizing Higher Education in the United States and Canada: The Erosion of Tenure and the Unionization of Contingent Faculty," 33(2) *Labor Studies Journal* (2008), pp. 117-140.

¹⁸ At the very top of the distribution, the average real increase in base pay of the 18 highest paid positions at the University was 24% – three times as much as the top 1%. And this understates the true average increase because it does not take into account the substantial bonuses accruing to top administrators. Data for the top 18 UM officials come from an open letter sent to the Regents of the U of M by certain faculty. See http://michiganexposed.info/Regents_Letter_full.pdf.

There is another important way in which UM follows broader trends: the growth of low-wage jobs paying less than \$32,000 for full-time employment. In 2005, 1,962 UM employees were employed in jobs that had FTE pay rates less than \$32,000 (in 2013 dollars). By 2013, that number had grown to 3,367 jobs – representing a 72% increase in employment at the low-wage end of the salary structure during a period when overall university employment grew by 22%. Put another way, low-wage jobs at UM expanded over three times faster than higher-paying jobs. This recent trend has not had a large impact on wage inequality because of its low baseline: just 6% of all UM jobs were in the low-wage category in 2005. But if the proliferation of low-wage jobs continues, it will generate greater wage inequality along with an increasingly polarized salary distribution that more closely resembles the national economy.

We can see where UM may be heading by looking at employment and earning trends for its eleven job classifications with the most employees. Table 6 lists these job titles, their net change in employment and real earnings, and whether they are represented by a union.

Showing more favorable trend lines than the county, six of the eleven largest job classifications at UM benefitted from small to moderate increases in real earnings, although only three jobs saw their incomes rise by more than 1% per year in real terms from 2005 to 2013. Of these three high-return jobs, two – clinical and tenure-track faculty – started with the highest median salary. Neither has a union. In both cases, scarce skills tied to advanced learning and credentials are sufficient to ensure high initial salaries and regular increases. Of the remaining nine job classifications, the four that saw increases in median earnings were all represented by unions, including graduate student instructors who realized the most gains. One unionized job – house officers – suffered a small decline of 1%, but all four of the remaining non-union job classifications saw declines in real wages ranging from 4% to 8%.

The somewhat greater wage resiliency displayed by UM's union-represented job classifications may partially explain why the University has been able to resist national trends leading to the disappearance of middle-income jobs. Of the University's more than 38,000 employees, about 10,000 – more than one in four – belong to unions. Subtracting all UM employees from the county data yields a union coverage rate of 11% – less than half the rate found at UM. While their independent

impact on wages is difficult to assess, it seems likely that unions have slowed the growth of inequality for some University workers in the middle and lower income brackets.

Table 6: The Eleven Job Classifications Employing the Most People at UM, 2013.

Job Classification	Number of Employees in 2013	Median Full-Time Wage Rate 2013	Change in Median Real Earnings (2005-2013) (%)	Union?
Registered Nurses	3,627	\$77,293	+2.9	YES
Tenure Track Faculty	2,830	\$134,769	+9.2	NO
Research Scientists, Fellows & Investigators	1,706	\$47,860	-8.7	NO
Graduate Student Instructors*	1,600	\$54,706	+9.4	YES
Clinical Faculty	1,545	\$145,253	+16.0	NO
Patient Services (both categories)	1,541	\$31,190	-8.6	NO
House Officers	1,181	\$57,428	-1.0	YES
Research Lab Techs (all categories, incl Spec)	858	\$45,247	-8.5	NO
Admin Assists (Health) (all categories)	841	\$42,945	-4.1	NO
Lecturers	809	\$53,626	+4.7	YES
Custodians	734	\$32,635	+0.6	YES

SOURCE: Data for the first three columns are from the University of Michigan and are available at <http://quod.lib.umich.edu/e/errwpc/public/3/3/1/3314612.html>.

* Oddly, the UM databases reported above, from which all of the other numbers in this table are derived, have no information on Graduate Student Instructors. So the data reported in this row were obtained from the GSI's union, the Graduate Employee Organization (GEO). If we counted all grad students who work as GSIs over the course of 2013, the figure would be about 2,786. However, most GSI work no more than two terms per year, in contrast to the other UM jobs reported in this table, most of which are year-round jobs, so we decided to report employment numbers for a typical term – the 1,600 that appears in the table. We report salary rates for a full-time position because that is what we do in all other cases, but it should be understood that few if any GSIs work more than half-time, so most earn half or less than the \$54,706 reported in the table.

Vignette: Professional Life, One Semester at a Time

What do you think when you hear the term “faculty”? This used to refer mainly to those in tenure track positions. Back in 1969, 80% of faculty in higher education were tenure-track. Today, however, a more accurate image is of someone who has a Ph.D. but has to survive semester by semester on low wages – often migrating each week between institutions. Today half of all faculty work part-time, and 30 percent work full time off the tenure track. Only one fifth fit the traditional image. Because of unionization non-tenure track faculty are relatively better off. Yet, as Myra’s experience suggests, life is still a struggle one semester at a time.

Myra has been working as a lecturer at the University of Michigan for the last few years. Because her husband is a graduate student at Michigan State University hers is the primary income for their household, even though it is under \$20,000 per semester (for a full course load) and employment from semester to semester is never guaranteed. “This obviously makes planning projects difficult,” she says. “I never know for sure if I will have more time or money and struggle sometimes to adapt. No matter what my income or workload I often have a sense that it will be temporary and have a hard time settling into a routine and making the most of whatever the current situation is.” Even the routine Myra is able to establish within a given semester is often disrupted or made more stressful by the fact that she must look for work for the subsequent term during finals; and she often doesn’t know if she has secured a position until two weeks before the new semester starts.

Myra’s sense of job insecurity and the resulting stress it created was reflected in her initial reluctance to provide insight into her experience for this report, for fear of any risk of retaliation that might effect her future employment. While the basic facts of her situation are accurate, we have changed and limited her identifying information to ensure her anonymity.

6. Conclusion and Recommendations: Moving Toward Shared Prosperity

The evidence presented in this report indicates that proponents of the knowledge economy have over-stated their case. Washtenaw County is fortunate to have the University of Michigan, Eastern Michigan University, regional health centers, and various high-technology firms creating a demand for jobs that require advanced skills. Job growth in education and health care, in particular, is responsible for the county's economic buoyancy relative to neighboring regions. Yet it is also the case that our knowledge-fueled growth has occurred alongside income loss for nearly all other segments of the local labor force. Washtenaw County might appear affluent compared to other Michigan counties, yet nearly four in ten workers, and one in four households, earn less than required to meet their basic needs without some form of public subsidy. Plainly, the benefits of growth have not been shared.

Nor is there much reason to think that these trends will be reversed, barring major changes in federal, state and/or local government policies. The fastest growing jobs are at the bottom of the salary distribution where the decline in real wages has been sharpest over the past eight years. Moreover, nine of the ten jobs projected to grow most rapidly over the next decade in Washtenaw County currently pay less than required for a household-sustaining income. Even if the economic recovery eventually produces real wage gains for workers in those job categories, gains are likely to be weaker than elsewhere, further exacerbating inequality.

Economic polarization imposes a drag on the regional economy. When so many workers are in financial distress, the need for locally provided public assistance goes up and demand for local goods and services is limited. Yet when workers of low or moderate means are lifted from poverty, they no longer require much public assistance and they spend most of their income on family needs, thereby fueling economic growth.

In the 1990s, U.S. metropolitan regions that became more equitable enjoyed greater growth, as measured by increases in per capita income.¹⁹ The Federal Reserve Bank of Cleveland published a study that examined 118 metropolitan regions from 1994-2004. The results revealed a positive correlation between greater racial inclusion

¹⁹ Manuel Pastor, "Cohesion and Competitiveness: Business Leadership for Regional Growth and Social Equity," OECD Territorial Reviews, Competitive Cities in the Global Economy, Organisation for Economic Co-Operation and Development (OECD), 2006.

and income equality, on the one hand, and a host of economic growth measures, including employment, output, productivity, and per capita income, on the other.²⁰ Another study found that the link between equity and growth was even stronger in economically distressed regions like Detroit and Cleveland.²¹ Similarly, economists at the International Monetary Fund found that every 10% decrease in inequality in their sample of countries increased the length of a nation's growth spell by 50%.²² In short, the most sustainable prosperity is shared prosperity.

Our findings challenge the conventional wisdom that growth in knowledge-based employment is sufficient to reverse the rise in economic inequality. It is equally misguided, we believe, to dismiss the growth in inequality as a consequence of immutable "natural laws" driving the economy. Tax, monetary, and trade policies all impose economic constraints, but they do not fully prevent local communities from using legislation and institutional reforms to slow or even halt the race to the bottom. Resource-rich Washtenaw County is in a better position than most to confront this challenge and invest in a sustainable and truly prosperous long-term future.

Developing detailed recommendations to foster shared prosperity is beyond the scope of this report. That task requires engagement from citizens, workers and their unions, business, government, non-profit organizations and other stakeholders. We recommend the formation of a broadly-based task force to propose practical solutions to the growing economic polarization documented here. We owe that much to ourselves, and to our children, in the hope of assuring the brightest possible future for all residents of Washtenaw County and beyond.

²⁰ Randall Eberts, George Erickcek, and Jack Kleinhenz, "Dashboard Indicators for the Northeast Ohio Economy: Prepared for the Fund for Our Economic Future," (Federal Reserve Bank of Cleveland: April 2006). <http://www.clevelandfed.org/Research/workpaper/2006/wp06-05.pdf>.

²¹ Manuel Pastor and Chris Benner, "Been Down So Long: Weak-Market Cities and Regional Equity Retooling for Growth," (New York: American Assembly and Columbia University, 2008).

²² Andrew G. Berg and Jonathan D. Ostry, "Inequality and Unsustainable Growth: Two Sides of the Same Coin?," International Monetary Fund Staff Discussion Note, April 8, 2011. All four of the above studies are cited in "America's Tomorrow: Equity is the Superior Growth Model" Policy Link, 2011.

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