

THE ECONOMIC OUTLOOK FOR WASHTENAW COUNTY IN 2020–2022

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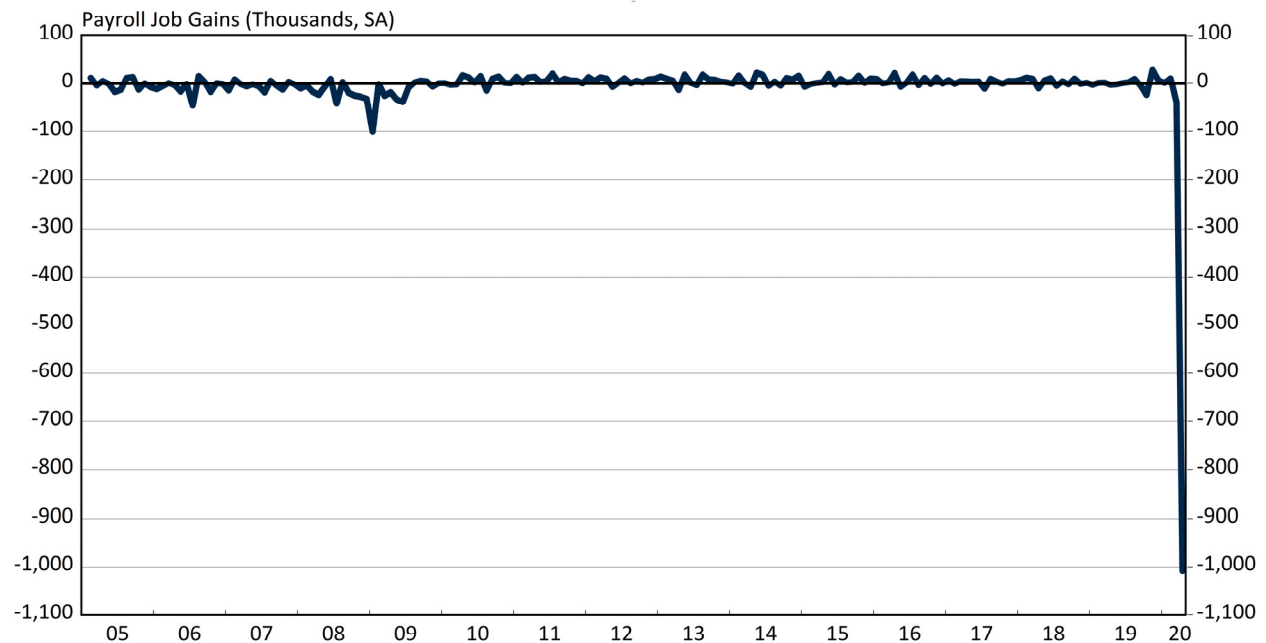
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Introduction: the Current State of Washtenaw County's Economy

The COVID-19 pandemic has caused a sharp contraction in economic activity throughout the country, and Washtenaw County has not been exempt. Washtenaw added 5,200 jobs in 2019, for a healthy growth rate of 2.4 percent. The pandemic will reverse all of that progress, and more, in a few short months. The questions that we attempt to answer in this forecast are, “How deep will the decline be?” and “What sort of recovery can Washtenaw County expect?”

Figure 1 shows the path of monthly payroll job gains in Michigan from 2005 through April 2020. The preliminary data suggests that the state lost 1,009,000 jobs from March to April, or 22.8 percent of its payroll job count. The state's unemployment rate rose from 4.3 percent in March to 22.7 percent in April.

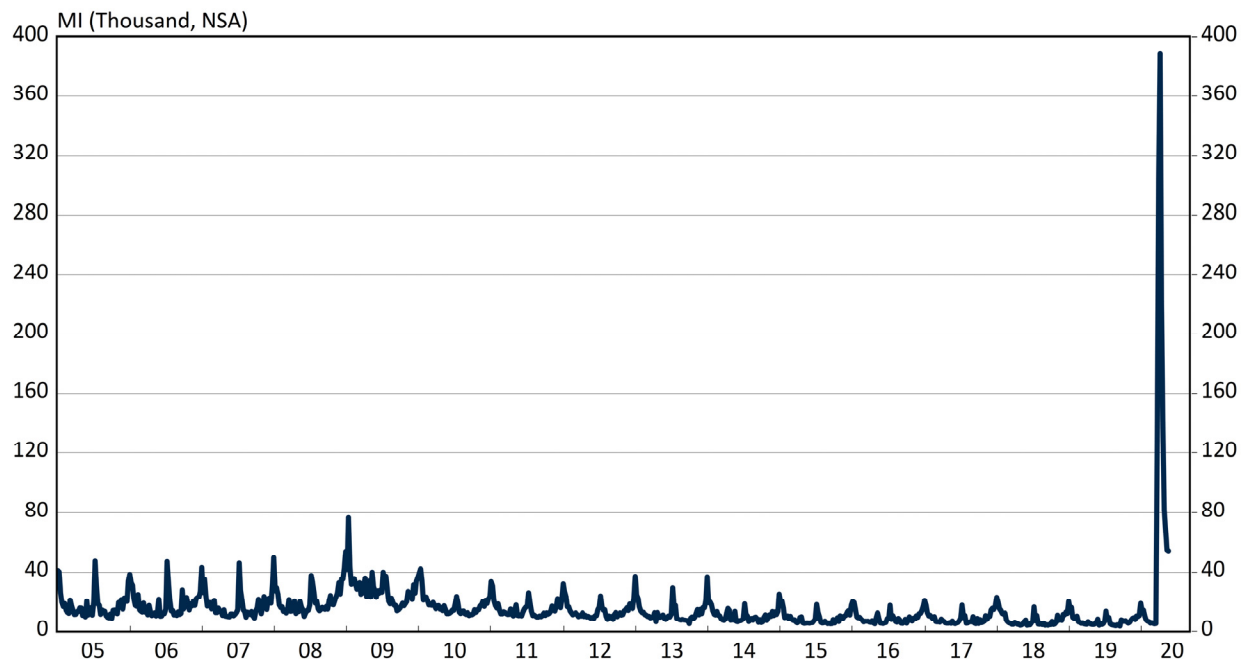
Figure 1
Monthly Payroll Job Gains in Michigan



We believe that the second quarter of 2020 will represent the low point for economic activity both in Michigan and in Washtenaw County. One reason for that assessment comes from the

pattern of weekly initial unemployment insurance claims. Figure 2 shows the path of statewide initial unemployment insurance claims by week. From the week ended March 21st to the week ended May 16th, Michigan saw a total of 1,439,000 initial unemployment insurance claims. (For comparison, there were a total of 376,000 initial claims in the state in all of 2019.) Thankfully, the pace of new jobless claims has slowed substantially since its peak of 389,000 the week of April 4th, to 54,000 the week of May 16th.

Figure 2
Weekly Initial Unemployment Insurance Claims in Michigan



Additionally, high-frequency data from private companies has shown some signs of a rebound both in Michigan and in Washtenaw County. Data from HomeBase, a company that provides scheduling software for local businesses, shows that the number of hourly employees working at local businesses both in Michigan and in Washtenaw County has risen since the first half of April. As of May 16th, the number of hourly workers was down nearly 30 percent from its January levels in Washtenaw County, but it had been down by more than 50 percent at its low point. A similar

qualitative pattern holds for consumer spending data reported by Affinity Solutions, although the total declines were smaller for spending than for hourly employment.¹

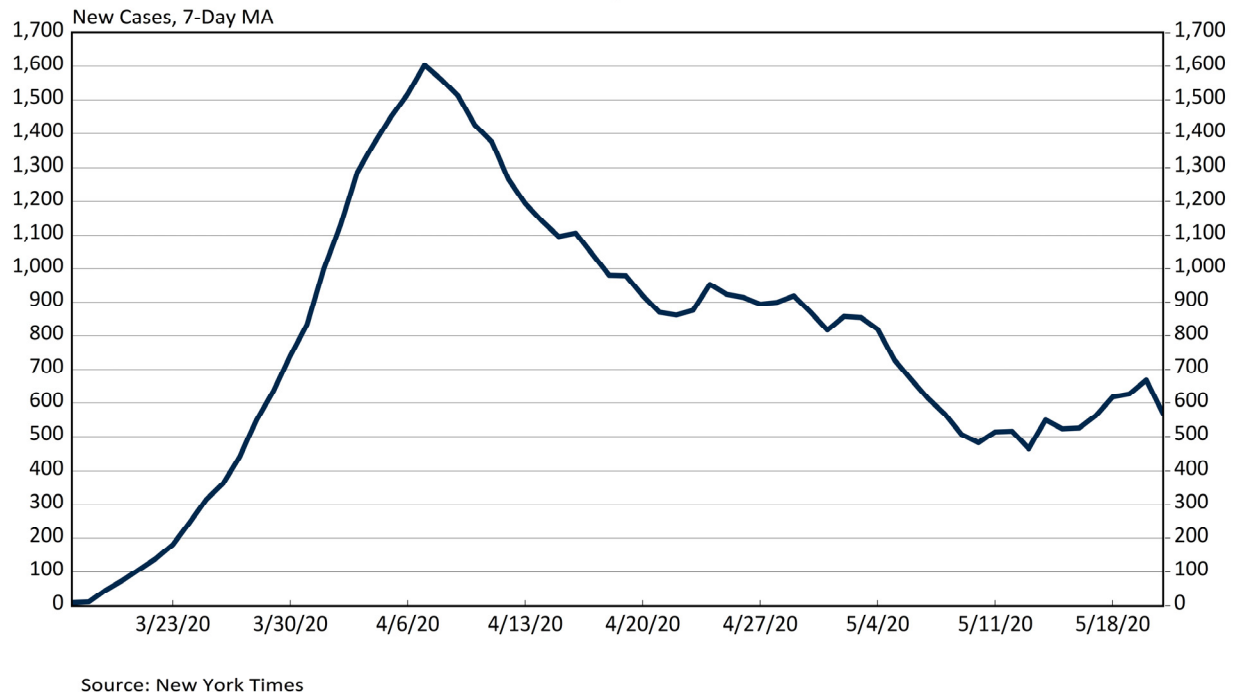
One cause of the state's recent economic improvement, and the key to its future recovery, is the improvement in the public health situation. Figure 3 shows the seven-day moving average of new confirmed cases of COVID-19 in Michigan. By that measure, daily new cases peaked at approximately 1,600 on April 7th, and fell to roughly 465 as of May 13th before oscillating between 500 and 700 daily cases since then. We do not believe that the recent uptick in new case counts represents a genuine reversal in the downward trend. The state's rate of testing has generally grown over time, which could increase confirmed case counts independently of the underlying infection rate. Other metrics, such as deaths and hospitalizations, have continued to decline over time.²

Our baseline assumption is for that trend to continue over the spring and into the summer, facilitating the reopening of the state's economy at a deliberately measured pace. Michigan's stay-at-home order has been extended through June 12th, but many restrictions have already been relaxed. Governor Whitmer has laid out a six-stage plan to reopen the state's economy; the state is currently in the third phase, "flattening." We expect the reopening to happen gradually, with pauses of around two weeks between major steps to determine whether increasing economic activity is leading to a resurgence in the pandemic.

¹ For data on both series, see the [Opportunity Insights Economic Tracker](#), Chetty, Friedman, Hendren, Stepner, and the OI Team (2020).

² See Bridge Magazine's "[Michigan coronavirus dashboard: cases, deaths and maps](#)" for these and additional statistics regarding Michigan's experience with coronavirus.

Figure 3
Daily New Cases of COVID-19 in Michigan



Most of the data that we track suggests that the downturn will be less severe in Washtenaw County than in Michigan overall. Cumulative initial unemployment claims in Washtenaw County from mid-March through May 2nd totaled 33,000, approximately 15 percent of Washtenaw's employment level in the first quarter of 2020; in contrast, cumulative claims for Michigan overall came to nearly 30 percent of the first quarter employment level. The HomeBase data on local hourly employment trends also indicate that Washtenaw has seen smaller employment declines than Michigan overall. The Affinity Solutions consumer spending data shows a larger proportional decline in Washtenaw than in Michigan overall, but it is difficult to disentangle that trend with the cancellation of in-person instruction and the end of the spring semester at Washtenaw's colleges and universities.

We are estimating that payroll employment will fall 33,650 jobs, or 15.3 percent, from the first to the second quarters of 2020 in Washtenaw County. We expect the county's unemployment rate to jump from 2.4 percent to 14.1 percent in that time. That rapid deterioration in the labor market, while severe, is milder than we expect in the state overall. Our forecast reflects the high frequency data discussed previously. It also reflects the reality that the pandemic has disrupted the white-collar industries and occupations that form the backbone of Washtenaw County's economy less severely than it has disrupted the service and manufacturing sectors.

Our longstanding tradition has been to review how our forecast from last year fared before discussing our outlook for the next three years. The COVID-19 pandemic has made the developments in 2019 less relevant to gauging what is in store for the future, so we have moved our forecast review to an appendix at the end of this document. In the remainder of this report, we summarize our outlook for the U.S. and Michigan economies prior to presenting our forecast for Washtenaw County.

National and State Outlook: 2020–2022

Figure 4 displays our baseline forecast for the level of U.S. real GDP through 2022.³ We expect real GDP to decline by 8.5 percent from the first quarter to the second quarter of 2020, an annualized decline of nearly 30 percent. Real GDP grows by 5.6 percent in the third quarter as the economy reopens. The economy grows more slowly from there, getting back to its pre-crisis level in mid-2022. The level of real GDP finishes our forecast at the end of 2022 approximately 1.4 percent higher than its pre-crisis peak.

³ Gross Domestic Product (GDP) comprises all of the goods, services, and structures produced in the economy. Real GDP is adjusted for price inflation to be expressed in chained 2012 dollars.

Even our relatively dire outlook rests on two optimistic assumptions, however. First, we assume that any “second wave” of the disease will not require large-scale shutdowns in the state economy. Second, we assume that the federal government will provide significant financial assistance to state and local governments later this summer. If either of those assumptions proves to be incorrect, the recovery is likely to be substantially weaker and slower than we have forecast.

Figure 4
Quarterly Real U.S. GDP

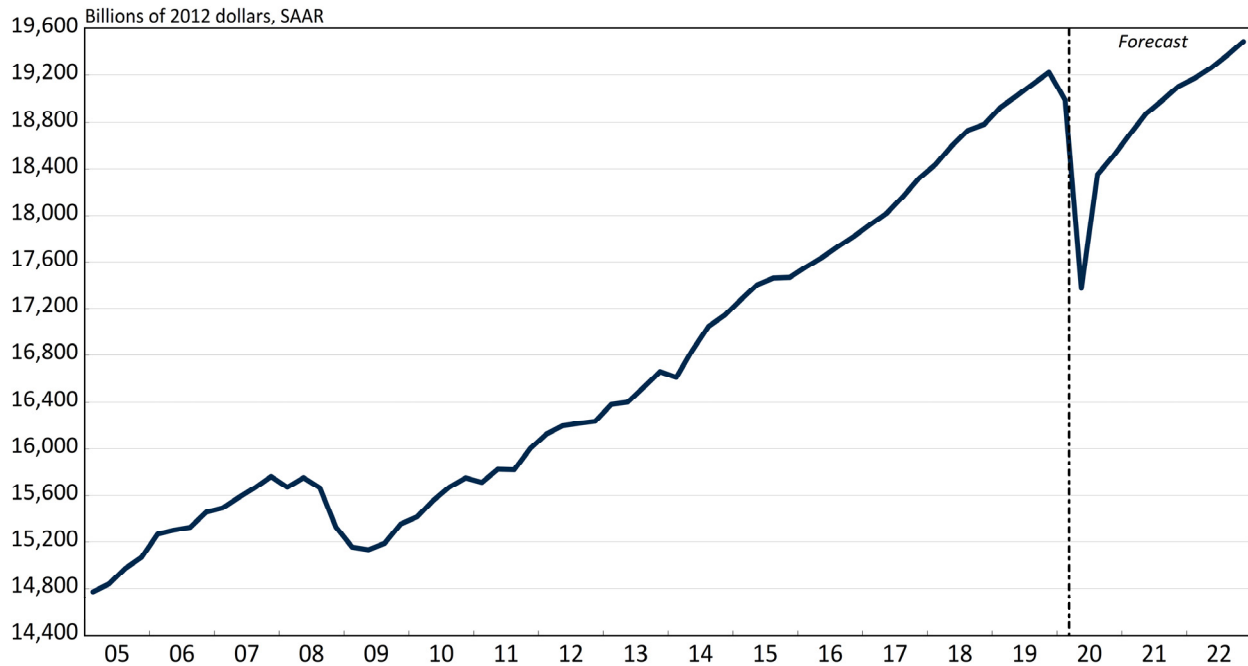
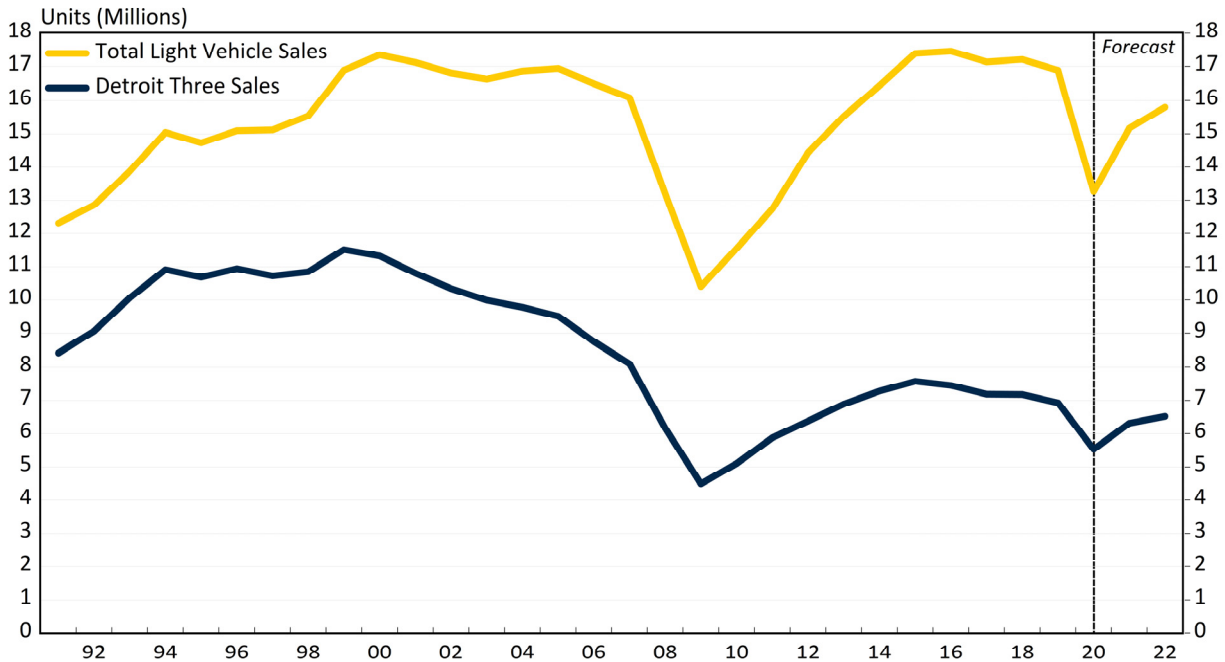


Figure 5 shows our forecast for national and Detroit Three light vehicle sales. We are forecasting national light vehicle sales to total 13.3 million units this year, a decline of over 20 percent from 2019’s pace. We expect light vehicle sales to rebound to 15.2 million units next year and to 15.8 million in 2022. For comparison, there were 10.4 million light vehicle sales in 2009, so the pace we are forecasting for this year would be about 27 percent higher than that level. On the other hand, the sales pace we are forecasting for 2022 would remain more than 6 percent below 2019’s level.

Figure 5
Total U.S. vs. Detroit Three Light Vehicle Sales

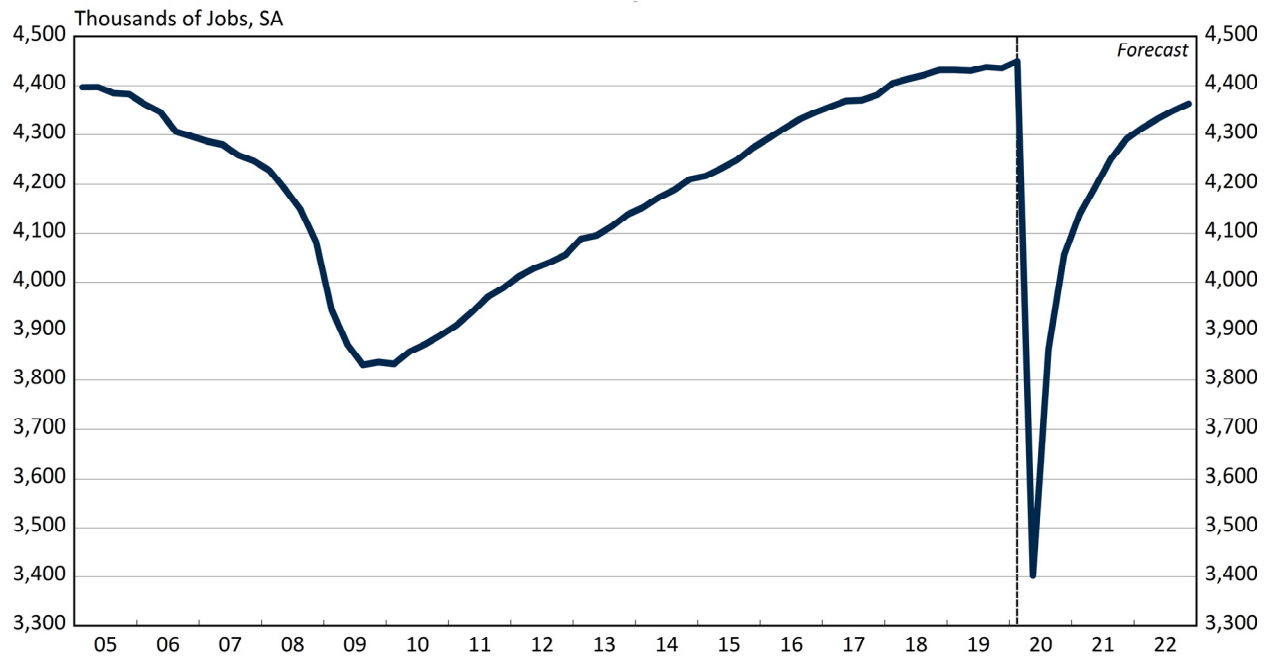


The Detroit Three share of the light vehicle market jumped to 45.3 percent in April, but we expect that to be temporary. On an annual basis over our forecast, we expect the Detroit Three share to stay in the 41–42 percent range, where it has been since 2016. Detroit Three sales total 5.5 million unit sales this year, followed by 6.3 million next year, and 6.5 million in 2022. Overall, we are expecting an extremely lean year for the auto industry in 2020. Even with our relatively optimistic forecast, the next two years will be very challenging for the industry.

Figure 6 displays our forecast for quarterly payroll employment in Michigan through the end of 2022. Payroll employment falls from 4,450,000 jobs in the first quarter to 3,402,000 in the second quarter, a decline of 23.5 percent. For comparison, Michigan’s payroll employment fell by 3.4 percent in the first quarter of 2009, its worst quarterly performance in the Great Recession. We are forecasting the state to recover 653,000 jobs in the third and fourth quarters of 2020, a bit over 60 percent of the job losses in the second quarter. We expect the state to recover an additional

236,000 jobs from the fourth quarter of 2020 to the fourth quarter of 2021, and a further 71,000 jobs from then until the end of 2022. Despite this strong rebound, we are forecasting Michigan's payroll job count to remain lower at the end of 2022 than its level in the first quarter of this year.

Figure 6
Quarterly Michigan Payroll Employment

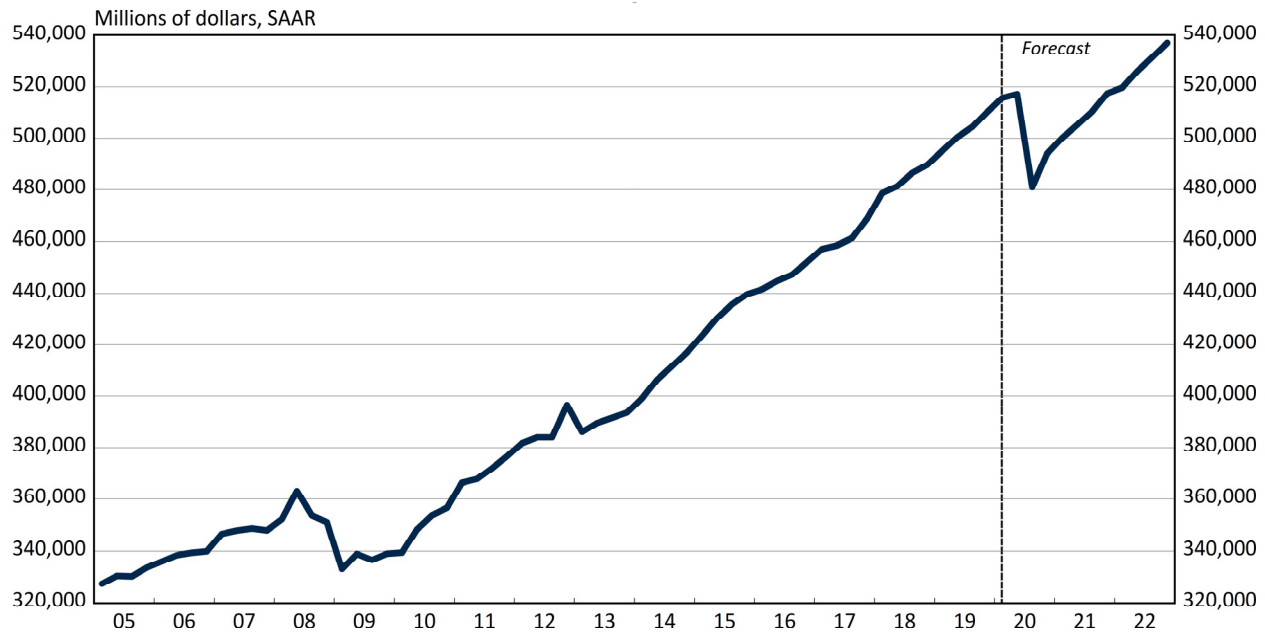


The Coronavirus Aid, Relief, and Economic Security (CARES) Act contains two important provisions to shield personal incomes from the carnage in the labor market. The first is the Economic Impact Payments sent by the Internal Revenue Service (IRS) directly to households, which we estimate will total just over \$8 billion for Michigan households. The second is the combination of the related Federal Pandemic Unemployment Compensation (FPUC) and Pandemic Unemployment Assistance (PUA) programs. FPUC provides an additional flat weekly benefit of \$600 on top of normal state-level UI benefits, payable through the week ending July 25th. The PUA expands eligibility for UI to many individuals who would not otherwise be eligible, including the self-employed and workers without sufficient work history. We are optimistic that

these provisions will provide important short-term protection for personal income, but we expect incomes to fall substantially in the third quarter as support from the CARES Act fades.

Figure 7 displays our forecast for the path of Michigan personal income. Personal income holds approximately steady in the second quarter owing to federal support. It then falls by approximately 7 percent in the third quarter, as the support from the Economic Impact Payments, FPUC, and PUA fades. Personal income begins to recover in the fourth quarter with the ongoing recovery in the labor market, returning to its level from the first quarter of 2020 at the end of 2021. Personal income growth continues in 2022, finishing our forecast 4.1 percent above its level in the first quarter of this year.

Figure 7
Quarterly Michigan Personal Income



Washtenaw County Outlook: 2020–2022

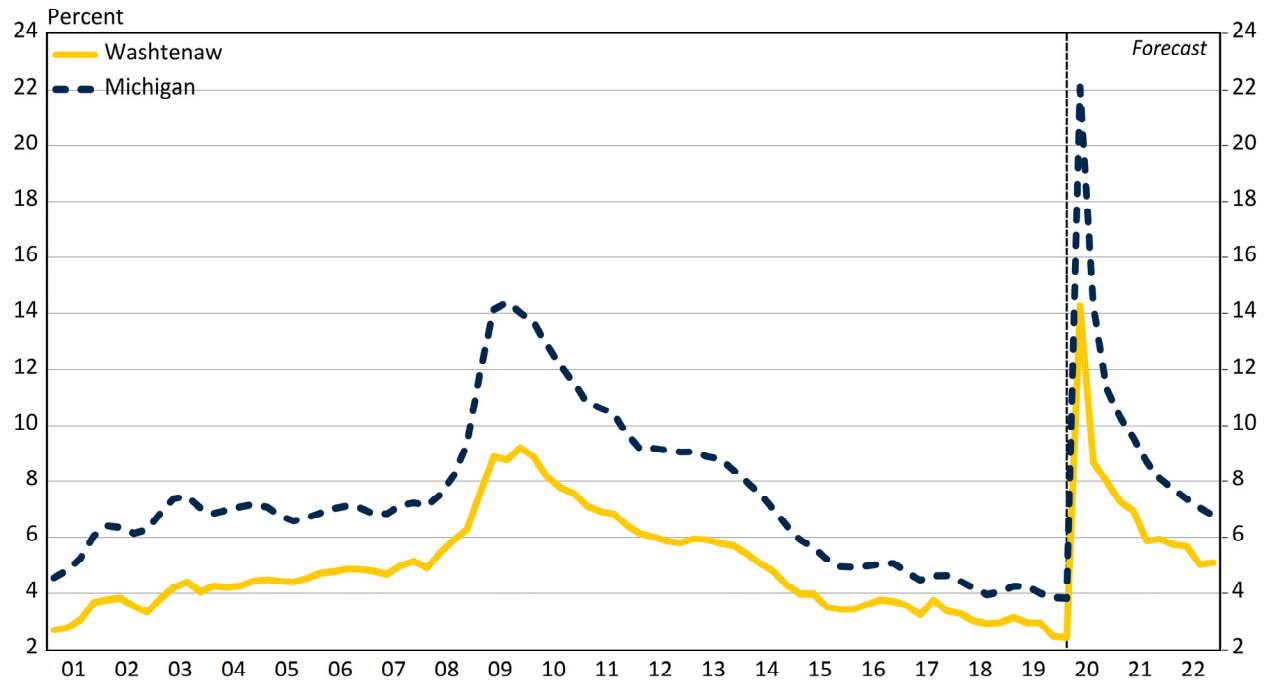
The COVID-19 crisis forced us to develop a completely new econometric model for the local economy. Our normal model includes a partial adjustment lag structure, which would not work well with such an extreme near-term shock to the economy.

Nothing can better illustrate the sudden and severe nature of the current economic shock than the unemployment rates for Washtenaw County and the state of Michigan, which are shown in Figure 8. During the Great Recession, the unemployment rate in both the state and the county nearly doubled, but it took almost two years for that increase to unfold. In the current economic crisis, we forecast the unemployment rate in Washtenaw to increase by almost 600 percent in the span of three months (from 2.4 percent in the first quarter of 2020 to 14.2 percent in the second quarter of 2020). The good news is that we think that the second quarter will represent the most acute phase of the crisis, and the recovery will begin in the third quarter with a significant, though incomplete, rebound. We anticipate that the unemployment rate will fall to 8.7 percent in the third quarter of 2020 as much of the activity shut during the pandemic returns.

The pace of the recovery then slows without the mechanical boost from the initial reopening phase. We believe that although some activity will come back quickly, other activity such as bars and restaurants, travel, and large in-person events, will take much longer to resume in full. Indeed, we believe it will take until mid-2021 until consumer demand in those industries begins to return to normal. We therefore forecast the county's unemployment rate to fall more slowly after the third quarter, to 8.0 percent in the fourth quarter of this year. We expect that by the end of 2021 the unemployment rate in Washtenaw County will be down to 5.9 percent, and by the end of 2022 to 5.1 percent. While this is a great improvement compared with current

conditions, the county's unemployment rate at the end of our forecast will still be about twice the level reached before the COVID-19 recession.

Figure 8
Quarterly Unemployment Rate, Michigan and Washtenaw County



The new model structure did not allow us to estimate nearly as many econometric equations for individual industries; consequently, our employment and wage rate forecasts are limited to 22 industries plus the local unemployment rate.

Table 1
Annual Employment and Unemployment, Washtenaw County

	2001	2019	2020	2021	2022
Total Payroll Employment	195,562	218,584	204,169	215,782	221,165
Percent change			-6.6%	5.7%	2.5%
Government	60,389	82,297	81,676	82,964	84,085
Private-Sector	135,173	136,287	122,493	132,818	137,079
Goods-Producing	33,240	19,737	16,772	17,699	18,616
Farming, Forestry, Mining	354	277	277	277	277
Construction	6,178	4,661	3,841	4,188	4,550
Manufacturing	26,708	14,800	12,654	13,235	13,790
Transportation equip.	14,121	4,719	3,676	4,021	4,259
Other manufacturing	12,587	10,081	8,979	9,213	9,530
Service-Providing	101,933	116,550	105,720	115,118	118,463
Trade, Transportation, Utilities	26,218	25,630	22,756	25,404	26,210
Retail Trade	19,322	15,767	13,411	15,147	15,362
Wholesale, Transportation, Util.	6,896	9,863	9,345	10,257	10,848
Information	5,056	4,755	4,714	4,785	4,809
Financial Activities	5,658	6,202	6,102	6,090	6,064
Professional & Business Services	28,874	28,277	26,629	27,942	28,714
Professional & Technical	15,722	17,639	16,887	17,550	18,075
Headquarters	2,597	1,309	1,080	1,205	1,277
Administrative Support & Waste	10,554	9,329	8,662	9,186	9,362
Private Educ. & Health Services	19,644	28,124	26,299	28,200	28,923
Leisure Services	12,591	18,124	15,061	17,191	17,980
Other Services	3,883	5,103	3,825	5,172	5,427
Unallocated Services	9	335	335	335	335
Unemployment Rate	3.0	2.9	8.4	6.5	5.4

Table 1 summarizes our forecast for employment and unemployment, and table 2 summarizes our forecast for real wages. The data shown are annual averages; we show the data for 2001 as well to put the recent data in perspective.

Table 2
Annual Average Real Wage, Washtenaw County

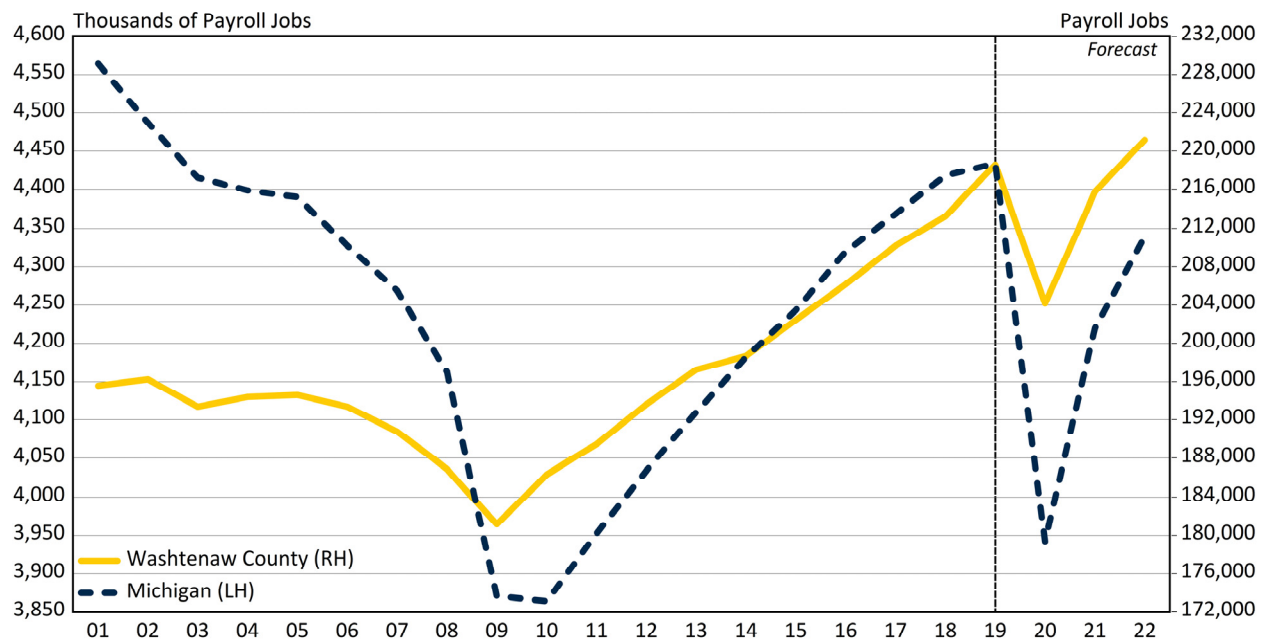
	2001	2019	2020	2021	2022
Average Real Wage (2019\$)	54,322	61,531	63,488	62,932	63,568
Percent change			3.2%	-0.9%	1.0%
Government	50,433	65,766	67,119	66,229	66,834
Private-Sector	56,059	58,973	61,067	60,873	61,564
Goods-Producing	71,861	66,172	67,228	67,496	67,900
Farming, Forestry, Mining	39,818	32,204	32,059	31,643	31,132
Construction	62,887	66,333	67,889	69,329	70,244
Manufacturing	74,362	66,755	67,796	67,665	67,865
Transportation equip.	84,792	66,161	68,175	67,209	67,777
Other manufacturing	62,659	67,033	67,641	67,864	67,904
Service-Providing	50,906	57,754	60,089	59,855	60,568
Trade, Transportation, Utilities	41,787	50,543	53,546	53,929	55,187
Retail Trade	31,974	32,454	33,376	33,981	34,468
Wholesale, Transportation, Util.	69,282	79,462	82,491	83,384	84,525
Information	70,683	104,318	104,917	107,900	110,724
Financial Activities	57,309	76,487	77,846	78,104	78,304
Professional & Business Services	72,925	82,451	82,649	83,358	84,425
Professional & Technical	95,479	99,437	99,973	101,111	102,064
Headquarters	66,466	169,585	164,378	161,354	164,786
Administrative Support & Waste	40,915	38,109	38,688	39,208	39,408
Private Educ. & Health Services	48,136	55,400	56,395	57,287	57,987
Leisure Services	19,051	21,309	22,094	22,608	23,036
Other Services	31,027	33,758	34,116	34,427	34,799

Figure 9 shows total establishment employment in Washtenaw County and the state of Michigan from 2001 through 2022. The figure illustrates that Washtenaw's economy has historically been less volatile than the Michigan economy overall. During the 2007–09 Great Recession, employment in the county declined by 5 percent, while it declined by 9.3 percent in the state. Washtenaw's economy has also tended to outperform the state in non-recession years. By 2019, employment in Washtenaw County was 11.8 percent higher than it was in 2001, while the number of jobs in the state in 2019 was 2.9 percent below its 2001 level.

We expect a similar pattern to unfold during the COVID-19 recession and recovery. We are forecasting that in 2020, employment in the county will decline by 6.6 percent, compared with

a decline of 11.1 percent in the state. We also forecast that employment will grow by 5.7 percent in the county in 2021 and 7.0 percent in the state; in 2022, county employment will grow by 2.5 percent while employment in the state increases by 2.8 percent. Because we expect the 2020 recession will be relatively less severe in the county than in the state, we forecast total employment in Washtenaw to be 1.2 percent higher in 2022 than it was in 2019, while in the state, employment will still be 2.1 percent short of its 2019 level.

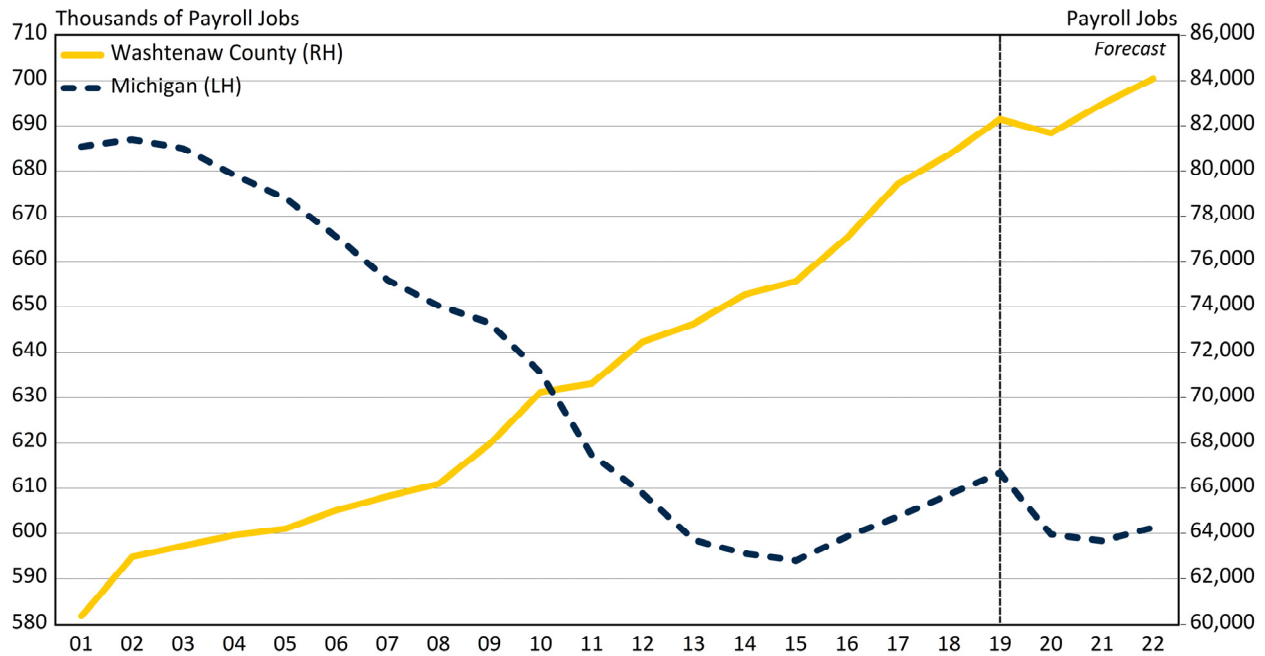
Figure 9
Annual Payroll Employment, Michigan and Washtenaw County



The major reason that Washtenaw County has outperformed the state historically is the government sector, especially the universities and Michigan Medicine. As shown in figure 10, government employment in Washtenaw County increased every year between 2001 and 2019; in the state overall, government employment declined in 13 straight years between 2003 and 2015, before returning to modest growth in the past 4 years. In 2019, government employment in

Washtenaw County was 21,908 jobs (36.3 percent) higher than in 2001, while in the state the government sector employed 71,975 (10.5 percent) fewer people.

Figure 10
Annual Payroll Employment—Government Sector, Michigan and Washtenaw County



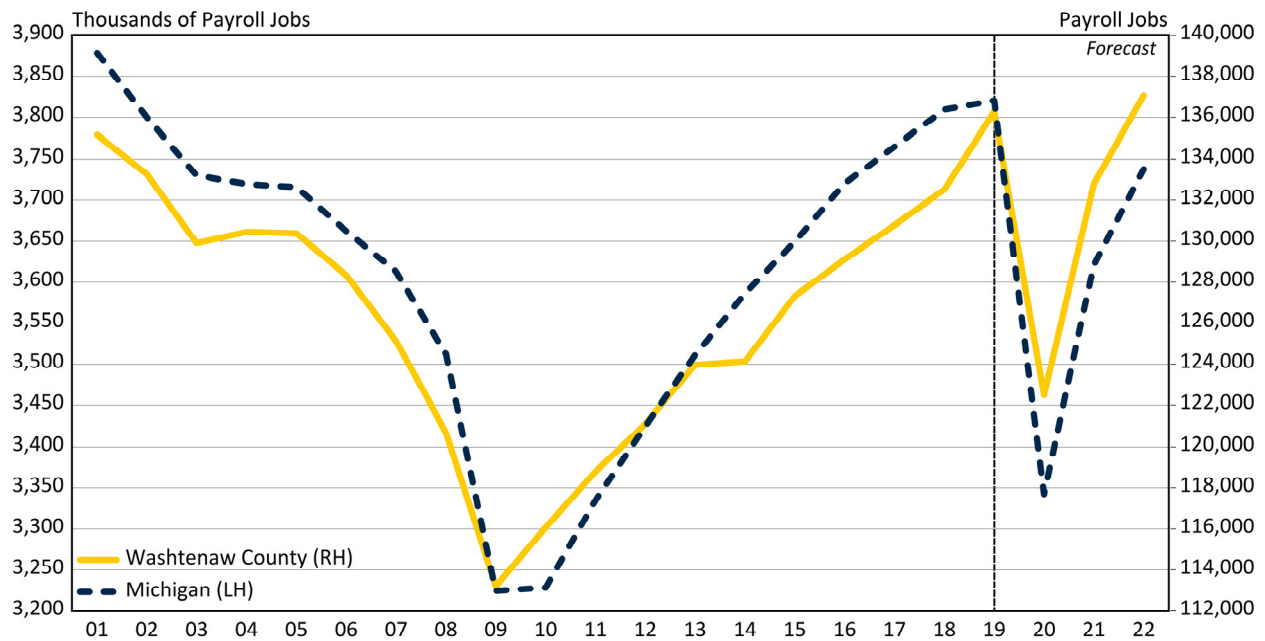
We expect that government will lose jobs in both the county (0.8 percent) and state (2.2 percent) in 2020; we expect the government sector will gain jobs in the county in 2021, but that it will continue to shrink statewide. In 2022, government employment will expand both in the county and the state. In Washtenaw County, employment in the government sector will be 2.2 percent higher in 2022 than in 2019, while in the state overall it will be 2.0 percent lower.

Our forecast assumes that Washtenaw County's colleges and universities will be able to re-open for in-person instruction this fall with appropriate precautions. The forecast also assumes that Michigan Medicine is able to begin growing again in 2021, and critically that the Federal Government provides substantial financial support to state and local governments. If any of these assumptions fail, then the outlook for the government sector will be much worse.

Private sector employment in Washtenaw County tends to slightly out-perform the private sector statewide. Between 2007 and 2009, the private sector lost 9.5 percent of its jobs in the county, compared with 10.7 percent in the state. By 2019, employment in the private sector was 0.8 percent higher than its 2001 level in Washtenaw, while it remained 1.5 percent lower in the state.

We expect this pattern to hold during the 2020 recession and the 2021–22 recovery. By 2022, the private sector in the county will employ slightly more people than it did in 2019 (797, or 0.6 percent), while the state will fall short by 82,485 jobs (2.2 percent).

Figure 11
Annual Payroll Employment—Private Sector, Michigan and Washtenaw County



As is the case in recessions historically, the construction and manufacturing sectors are hit harder than the private service-providing sectors. The local construction sector is forecast to lose 17.6 percent of its jobs in 2020, while manufacturing will lose 14.5 percent. Both sectors rebound in 2021 and 2022, but the number of jobs in 2022 will still fall short of the 2019 levels (by 111 or

2.4 percent in construction and 1,010 or 6.8 percent in manufacturing). While in general, the Washtenaw County economy is expected to outperform the state over the next three years, the local construction and manufacturing sectors will lag behind.

Retail Trade has been losing jobs since 2001. In Washtenaw County, retail employment in 2019 was 3,555 jobs, or 18.4 percent, below its 2001 level. In Michigan overall, 2019 employment remained 84,350, or 15.4 percent, below the 2001 level. We expect employment in retail to be hit very hard during the 2020 recession and to experience only a partial recovery in 2021 and 2022. By 2022, local employment will be 405 jobs (2.6 percent) lower than it was in 2019. We expect the state to show a similar, but slightly weaker, pattern.

We combine wholesale trade, transportation, and utilities into one industry group in this analysis because of data limitations. This grouping includes air and ground passenger transportation, which we expect to remain weak through the first half of 2021. Most of the jobs in this group of industries, however, are in wholesale trade, air and ground freight transportation, and warehousing, which are essential components of the logistics supply network. Between 2001 and 2019, employment in this group increased by 6.6 percent in the state of Michigan and by 43.0 percent in Washtenaw County. Despite the 2020 recession, employment is forecast to continue expanding over the next three years, by 986 jobs (10.0 percent) in Washtenaw and 6,464 (1.9 percent) in the state.

The information industry, which includes software publishing, as well as newspaper publishing, broadcasting, and telecommunication, is forecast to add 54 jobs (1.1 percent) in Washtenaw County over the next three years, while losing 1,505 jobs (-2.7 percent) statewide. On the other hand, financial activities which includes banking, insurance and real estate, is forecast to

see a decline in employment in Washtenaw County (-138 jobs, or -2.2 percent) while growing statewide by 4,153 jobs (1.9 percent).

Employment in the professional, headquarters, and administrative support super sector is forecast to decline by 5.8 percent in Washtenaw County and 9.1 percent statewide in 2020. That loss of jobs would have been larger except for many office workers' ability to work from home. Employment begins growing again in 2021, so that by 2022, employment in Washtenaw County is up by 437 jobs, or 1.2 percent. This industry group does not fare as well in the rest of the state, because many of the jobs are closely tied to the motor vehicle manufacturing industry. In Michigan overall, this industry is forecast to lose 8,206 jobs (1.3 percent) between 2019 and 2022.

Within that super sector, professional and technical services are expected to account for virtually all (436 out of 437) of the job gains locally. This trend undoubtedly reflects the continued expansion of computer programming services and scientific research and development locally, which have emerged as important contributors to local job growth over the past several years.

Private education and health care services has been the greatest contributor to private sector job growth in both Washtenaw County and Michigan since 2001. Between 2001 and 2019, private education and health services grew by 8,480 jobs (43.2 percent) in Washtenaw County and by 163,117 (31.5 percent) in Michigan overall.

We expect employment in the private education and health care sector to decline by 6.5 percent in Washtenaw and 9.3 percent in Michigan in 2020 followed by a rebound in 2021 and 2022. By 2022, employment in Washtenaw County will be 799 jobs (2.8 percent) higher than it was in 2019. Employment statewide will still fall slightly short of 2019 levels, by 2,483 jobs (0.4 percent).

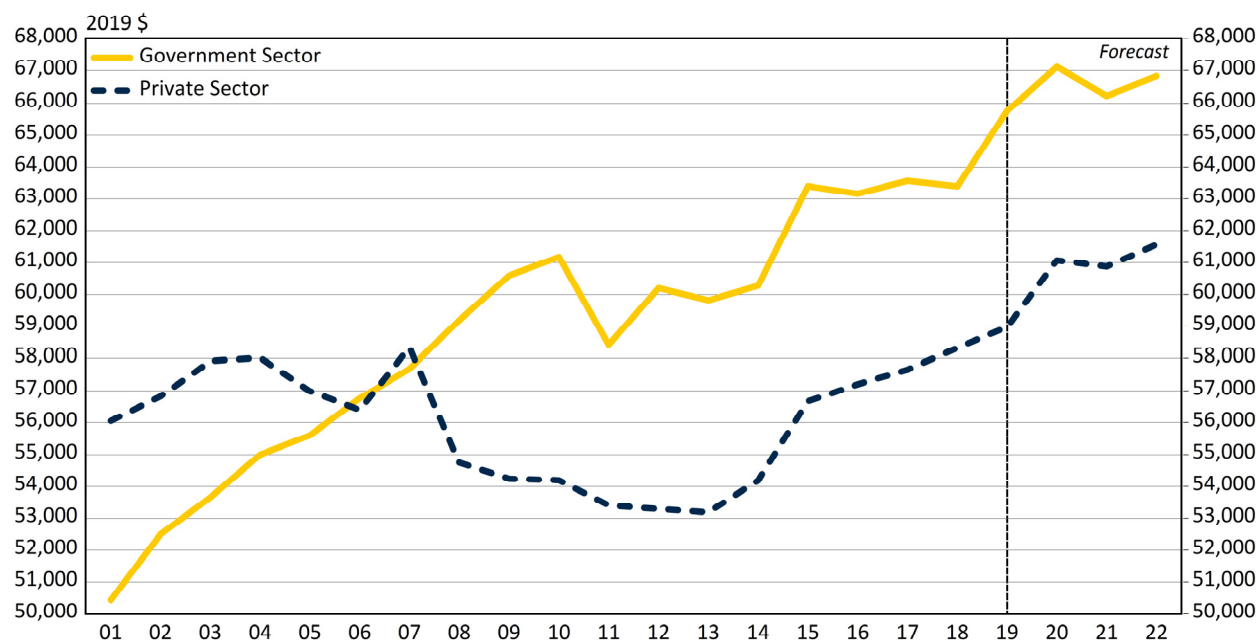
The leisure and hospitality industry takes one of the largest hits in 2020. Employment in this industry, which includes recreational activities such as golf courses, museums, theaters, and fitness centers, as well as restaurants, bars, hotels and motels, is forecast to decline this year by 16.9 percent in Washtenaw and 16.3 percent statewide.

We expect that the leisure and hospitality industry will recover in 2021 and 2022, but that employment will still remain below 2019 levels (by 0.8 percent in Washtenaw and 3.6 percent statewide). Our expectation for 2021 and 2022 may turn out to be too optimistic if consumers remain apprehensive about engaging in discretionary activities that involve relatively close contact with other people.

The other services industry includes repair services, personal services, and membership organizations such as labor unions, and chambers of commerce. We expect that employment in this industry will see strong growth in Washtenaw County between 2019 and 2022 (6.3 percent) but will slightly decline in Michigan (0.4 percent).

Figure 12 displays our forecast for average real wages in Washtenaw County. These data have been converted to 2019 dollars using the Detroit area Consumer Price Index. The pattern of wage growth during the forecast period will undoubtedly surprise many people. Between 2019 and 2020, as the recession ravages the local economy, we are forecasting that the average real wage will increase by 3.2 percent, and that in 2021, as the local economy begins growing again, the real wage will fall by 0.9 percent.

Figure 12
Average Annual Real Wages—Private and Government Sectors, Washtenaw County

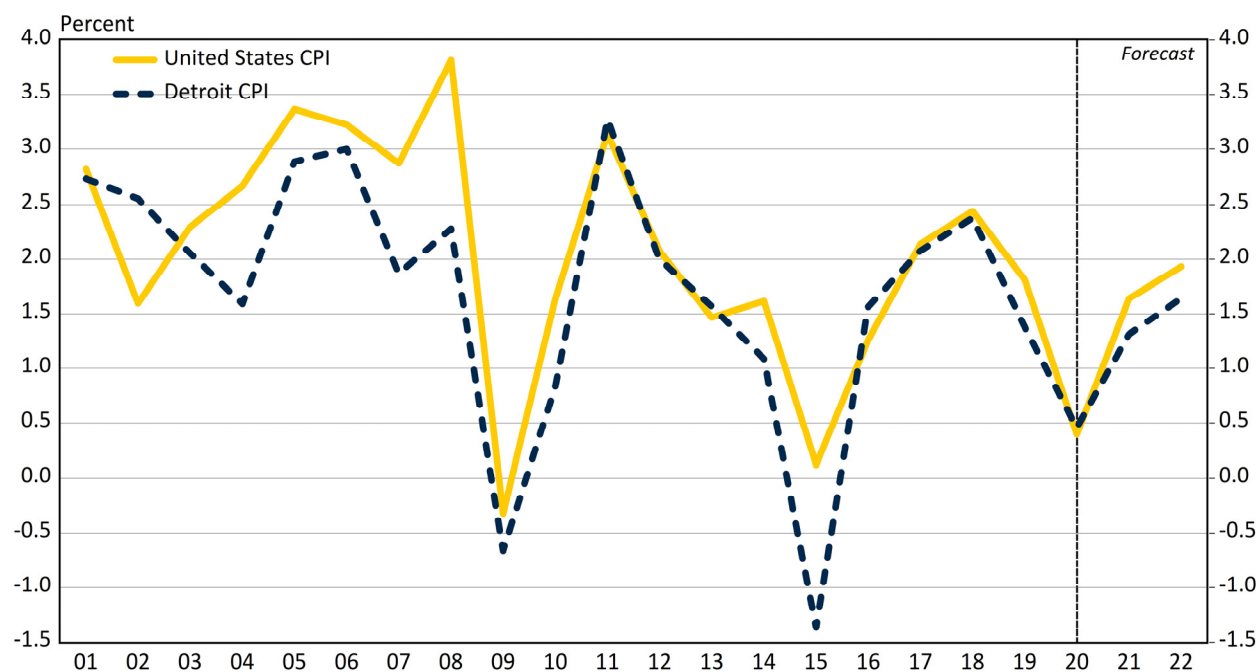


There are two reasons for this perplexing pattern. First, the 2020 recession will tend to eliminate more lower-wage jobs than higher-wage jobs, mathematically generating an increase in the average wage of those who remain employed in 2020. Second, starting in the fall of 2020, we are assuming that the universities in Washtenaw County, including Eastern Michigan University, University of Michigan, and Michigan Medicine will impose a wage freeze and that wage increases in local government, including K-12 schools and Washtenaw Community College, will also be limited. This wage restraint will cause the real average wage for government workers to decline by 1.3 percent in 2021. Despite the temporary wage freeze starting in the fall of 2020, we expect that the average real wage of government workers will be \$1,069 (1.6 percent) higher in 2022 than in 2019. This is only slightly less than the wage gain we expect for private sector workers over that period (\$1,729 or 2.6 percent).

Inflation

Figure 13 depicts our forecast of local inflation, measured by the growth rate of the Detroit Consumer Price Index (CPI).⁴ Energy prices have plummeted during the pandemic, with the price of West Texas intermediate (WTI) crude oil briefly turning negative in April. We expect oil demand to rebound as global economies reopen, which should put upward pressure on oil prices over the forecast horizon. They nonetheless remain below their levels from 2018–19. The decline in oil prices is partially offset by rising food prices this year. Core inflation is restrained by persistently elevated unemployment through 2022, keeping inflation below the Federal Reserve’s target of 2 percent per year despite the supply shock from the pandemic and the Federal Reserve’s aggressive monetary response. Detroit CPI inflation moves roughly in line with the national inflation rate over the forecast period, running slightly behind in 2021 and 2022.

Figure 13
Inflation Rate, National and Detroit CPIs



⁴ Consumer price data are compiled at the regional level; they are not available for the county in isolation.

Conclusion

Washtenaw County's economy has not escaped from the damage wrought elsewhere by the COVID-19 pandemic, but there are reasons to hope the local economy will fare relatively better than the nation or the state overall. Washtenaw's well-educated population and traditionally recession-resistant higher education sector give its economy a better than average chance of rebounding smartly from the present downturn. Nonetheless, the recovery we are forecasting will be insufficient to accommodate the growth in the labor force, so that the unemployment rate in Washtenaw County is forecast to increase from 2.9 percent in 2019 to 5.4 percent in 2022.

The risks to our relatively optimistic outlook for the local economy are closely connected to Washtenaw's advantages. The first is that the pandemic may prevent Washtenaw's institutions of higher education from reopening for in-person instruction this fall, even with substantial precautions. The second is that the federal government may not provide the necessary financial assistance to state and local governments. If either of those risks comes to pass, we expect the economic recovery in Washtenaw County to be substantially weaker than we have forecast in this report.

Appendix: Review of the Forecast for 2019

Last March, we forecast that Washtenaw would add 2,090 payroll jobs in 2019, for a growth rate of 1.0 percent. The preliminary data indicates that the county added 5,212 jobs, for a growth rate of 2.4 percent. Our forecast of job growth was therefore 1.4 percentage points too low, an underestimate of about 3,122 jobs. As shown in table 3, that miss is about twice as large as our average absolute forecast error over the past 33 years of 0.6 percentage points, or 60 workers per every thousand.

Last year, Washtenaw County's job count grew at its fastest pace since 2010, even though Michigan's pace of job growth declined to less than half its pace over the preceding two years. The slowdown we were forecasting for the state economy last year fed into our relatively weak outlook for Washtenaw County, but Washtenaw's performance decoupled from Michigan's substantially in 2019.

Additionally, there appears to have been a large re-classification of jobs from the "unassigned county" category into specific counties starting in the second quarter of 2019. That reclassification amounted to nearly 30,000 jobs statewide; we do not know how many of those jobs were re-classified into Washtenaw County, but if the re-classification was proportional to each county's share of state employment, it may have added 1,100 jobs to Washtenaw County. That would account for about 40 percent of our forecast error. Our forecast error was spread across both the government and private sectors.

The bottom of table 3 shows the forecast and actual values for the unemployment rate and the local consumer price inflation rate in 2019. We had forecast an average unemployment rate of 2.8 percent for the year, one-tenth of a percentage point lower than the actual rate of 2.9 percent. We did similarly well in our forecast of the local consumer inflation rate for 2019. We had forecast

a rate of 1.3 percent for the year, one-tenth of a percentage point lower than the realized rate of 1.4 percent.

Table 3
Report Card: Track Record over the Years

<u>Year of forecast</u>	<u>Percentage forecast error for total jobs¹</u>	<u>Year of forecast</u>	<u>Percentage forecast error for total jobs¹</u>
1986	-1.4	2003	+1.0
1987	-0.8	2004	+0.2
1988	-1.2	2005	+0.4 ²
1989	-0.6	2006	+0.7
1990	+0.8	2007	0
1991	+1.4	2008	+0.6
1992	+0.5	2009	+1.0
1993	+1.3	2010	-2.3
1994	n.a.	2011	-0.6
1995	+0.2	2012	-0.4
1996	+0.3	2013	0
1997	+0.4	2014	+1.1
1998	-0.5	2015	+0.2
1999	0	2016	-0.3
2000	0	2017	-0.3
2001	+0.3	2018	+0.4
2002	+0.3	2019	-1.4

¹ Positive numbers indicate that the forecast was too high; negative, too low.

² Estimate.

Average absolute forecast error 1986–2019: 0.6%

	<u>Forecast 2019</u>	<u>Actual 2019</u>
Unemployment rate	2.8%	2.9%
Consumer inflation rate	1.3%	1.4%