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The Michigan Economic Outlook for 2021–2023

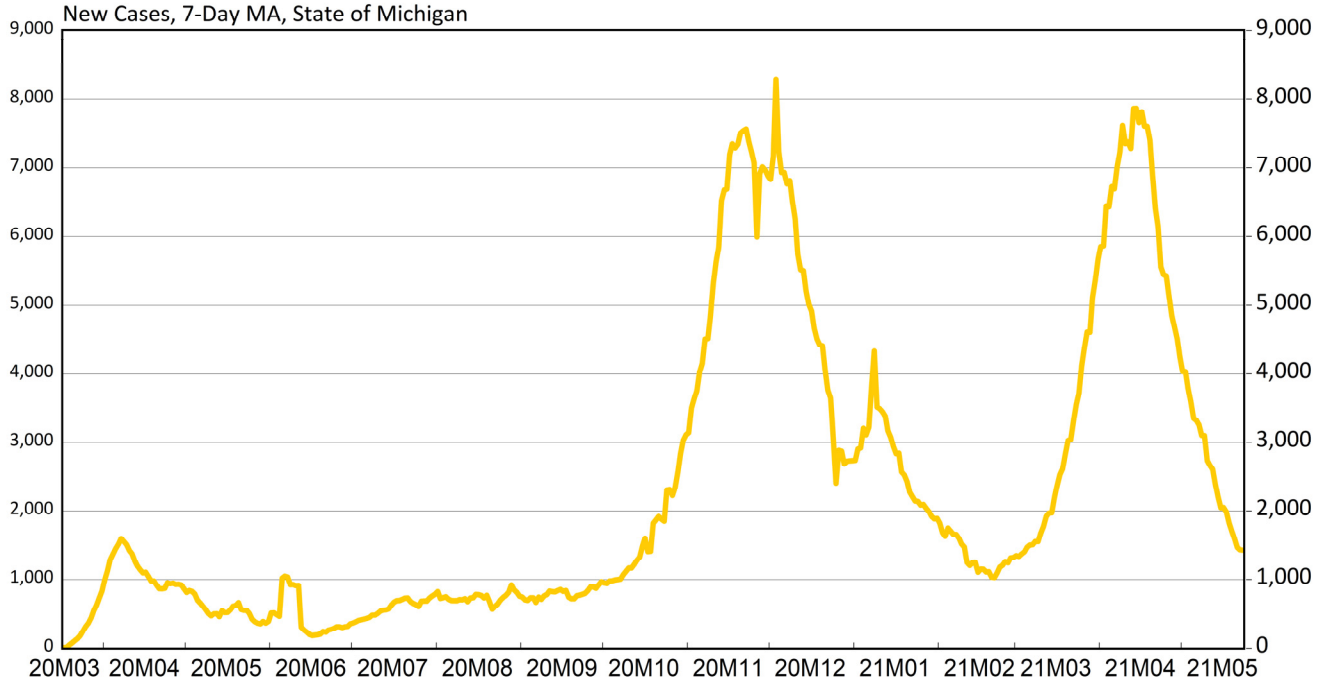
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Introduction

It appears that Michigan is finally putting the COVID-19 pandemic behind it as the state's third wave subsides and vaccinations roll out through the population. The improving public health news should lead to a sharp acceleration in the state's economic recovery as this spring gives way to summer. We expect job growth to pick up from the average of 3,300 jobs gained per month from October 2020 to April 2021 to an average of 16,200 jobs per month over the next year, from the second quarter of 2021 through the first quarter of 2022. Although Michigan's job growth then begins to decelerate, it continues to grow at a healthy pace throughout our forecast period. We expect Michigan's payroll job count to recover to its pre-pandemic level by the end of 2023.

Figure 1 displays the seven-day moving average of new cases of COVID-19 in Michigan. New caseloads reached nearly 8,000 per day in mid-April, just shy of their peak level during Michigan's second wave in early December 2020. Caseloads have fallen by more than three-quarters since April 14, and as of the writing of this report they stood below 1,500 per day. Of course, new caseloads were averaging just a hair over 1,000 per day in Michigan as of mid-February before the third wave erupted. The state's substantial progress on vaccinations against the coronavirus leads to our assessment that this time will be different, and life will be firmly on the way to the new normal this summer.

Figure 1
New Cases of COVID-19 in Michigan



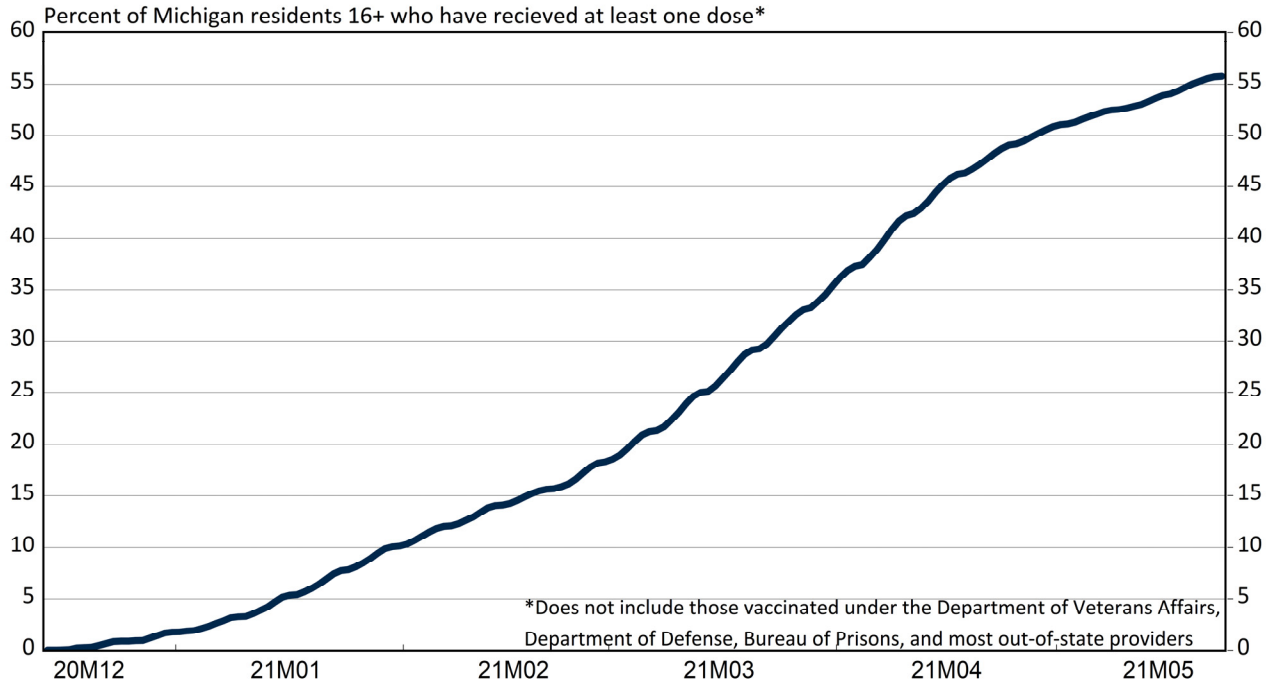
Source: New York Times

Figure 2 displays the cumulative proportion of Michigan's population aged 16 years or older that has received at least one dose of a vaccine against COVID-19. As of the writing of this report, nearly 56 percent of Michigan's relevant population had been vaccinated by reporting providers; accounting for vaccinations administered by the Department of Defense, Department of Veterans Affairs, Bureau of Prisons, and many out-of-state providers not included in the state's count, the Centers for Disease Control and Prevention estimates that roughly 58 percent of the state's population had been vaccinated. Accordingly, the state recently announced the end of all broad-based activity restrictions related to the pandemic for July 1st.

We are very pleased to see the state's progress on vaccinations against the COVID-19 pandemic, but we must note that vaccination rates have been very uneven across the state. Approximately 72 percent of eligible residents of Leelenau County have now been vaccinated, the highest rate in the state, but only 34 percent of Detroiters have been vaccinated. Areas of the state with currently low vaccination rates could face a risk of localized future outbreaks of the pandemic if the pace of vaccinations continues to slow down. Nonetheless, our baseline expectation underlying this forecast is that the burden of the

COVID-19 pandemic will be dramatically reduced going forward, with regular seasonal waves of drastically reduced severity.

Figure 2
Proportion of Michigan's Population Vaccinated against COVID-19



Source: MDHHS as of 05/24/2021

Even taking our expectation that the acute phase of the United States' COVID-19 pandemic is nearly finished as given, several important questions regarding the course of Michigan's recovery remain: Will the supply constraints popping up in various sectors of the economy pose a meaningful impediment to recovery? Is the recent slowdown in Michigan's job growth a temporary reflection of the resurgence in COVID-19, or a sign of more durable problems? And how will the "new normal" compare to the pre-pandemic economy after the short-run transition has finished?

We attempt to answer those questions in this report as we discuss our economic outlook for 2021–2023.

Inputs to the Forecast

Major elements from our U.S. forecast dated May 21, 2021, include the following:

- The number of new COVID-19 cases continues to decline in the United States, reaching levels last seen during the first wave of the pandemic. The course of the pandemic and the success in vaccinating the population still currently play the most important role in determining the pace of the economic recovery. We expect the pandemic to diminish to a second- or third-order influence on the economic outlook by this fall, however.

- The rotation back to the new economic normal is a major adjustment that will cause disruptions, job churn, and some hardship. The rapid demand recovery in the goods-producing sectors has already caused some disruptions and price hikes, and we believe the service sector will experience similar developments as it attempts a broad reopening. Overall, we expect that real GDP will rebound by 6.2 percent in 2021, 4.2 percent in 2021, and 2.7 percent in 2022. Consumption remains the main driver of growth throughout the forecast, but its composition shifts away from goods to services as the economy begins to broadly reopen.

- Inflation is sure to drive headlines in the near term, but we think production will eventually increase to meet the additional demand and dampen the inflationary impulse. The rebound in energy prices in early 2021 also places strong upward pressure on inflation this year. We forecast all-item CPI inflation to register 3.2 percent in 2021. As rapid growth and fiscal stimulus drive labor and other input costs higher while the Fed stands pat, all-item CPI inflation averages 2.6 percent in 2022, before edging down to 2.5 percent in 2023.

- The labor market continues to recover from the COVID-19 pandemic, but we expect it to slow down in 2022 as the economy shifts toward the post-COVID world. Job gains slow down from 400,000 per month in 2022Q1 to around 200,000 per month by 2022Q4 and 180,000 per month by 2023Q4. The national unemployment rate fell from 6.7 percent in 2020Q4 to 6.1 percent in 2021Q1. The rate continues to fall over the forecast, reaching 4.1 percent in 2023Q4. The labor force participation rates reaches 62.9 percent in 2023Q4, still short of the pre-pandemic levels, as the Baby Boomers continue to retire.

- The annualized light vehicle sales pace of 16.9 million units in 2021Q1 almost matched its 2019 average despite hiccups such as inventory and semiconductor shortages. Demand remains strong, with April sales registering a pace of 18.5 million units. The semiconductor shortage is expected to improve in the third quarter of this year. Thus, despite the supply chain disruptions, we project that light vehicle sales will exceed their 2019 levels by almost 200,000 units this year, with a total of 17.2 million units sold. We are forecasting that light vehicle sales will set new all-time-high sales paces of 17.5 and 17.6 million units in 2022 and 2023, respectively.

The Forecast of the State Economy

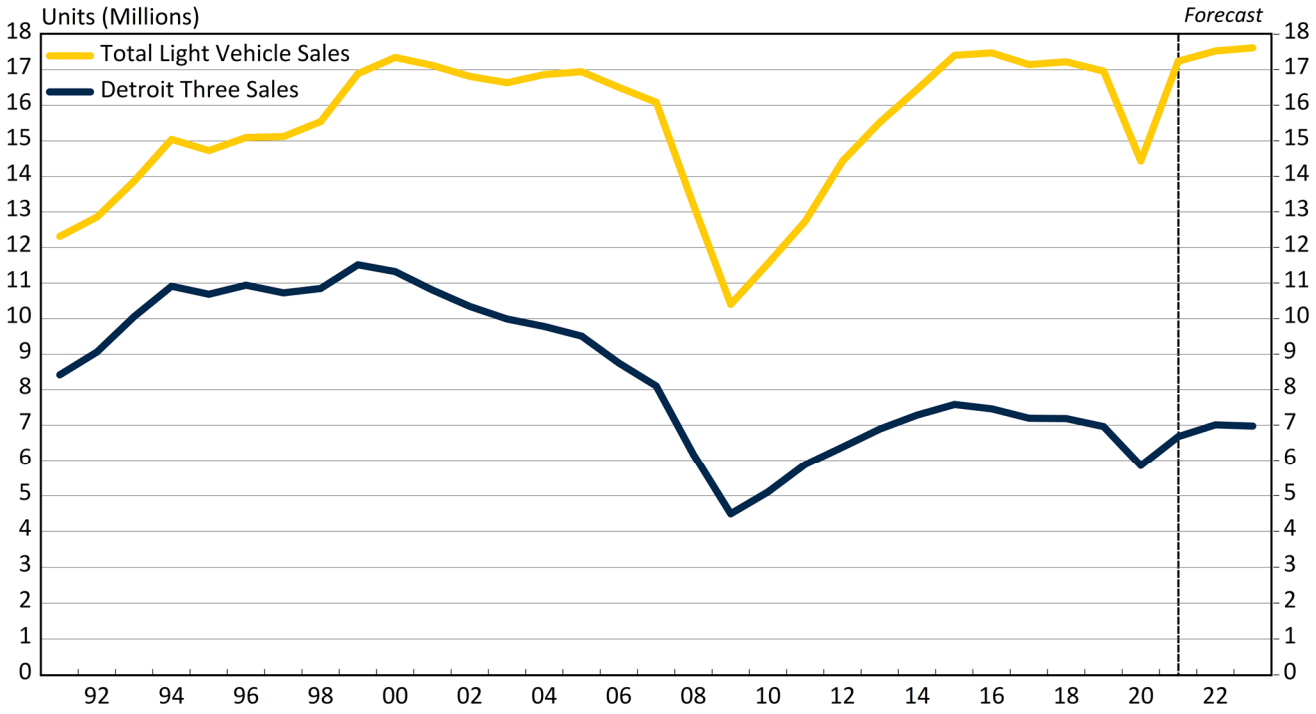
Detroit Three Light Vehicle Sales

Our baseline forecast is that the recent shortage of semiconductors will not leave any lasting scars on Michigan's recovery, but the shortage poses a serious downside risk to the state's auto industry. We believe that the semiconductor shortage will peak this quarter and will begin to improve in the third and

fourth quarters of 2021. We remain optimistic that the auto industry will be able to navigate its way through this challenging environment owing to the strength of light truck sales, which tend to be highly profitable for the auto industry. The annualized light truck sales pace set new records in 4 out of the past 5 months, breaking the prior record sales pace of 12.6 million units annualized in July 2005.

Figure 3 shows our forecast for Total U.S. vs. Detroit Three Light Vehicle Sales. We expect the Detroit Three manufacturers' share of the market to average 38.7 percent this year, as the microchip shortage constrains their inventories and limits their potential sales, while the majority of foreign auto manufacturers are able to keep on truckin'. We forecast that as supply constraints dissipate, the Detroit Three's share of the market will regain some ground, climbing to an average of just under 40 percent over the next couple of years. Translating our forecast into unit sales, we predict Detroit Three light vehicle sales will rebound to 6.7 million units sold this year, or just 4 percent below 2019's level. We expect Detroit Three sales will average 7 million units sold in each of 2022 and 2023, barely surpassing their pre-pandemic levels as they attempt to hold their share of the market.

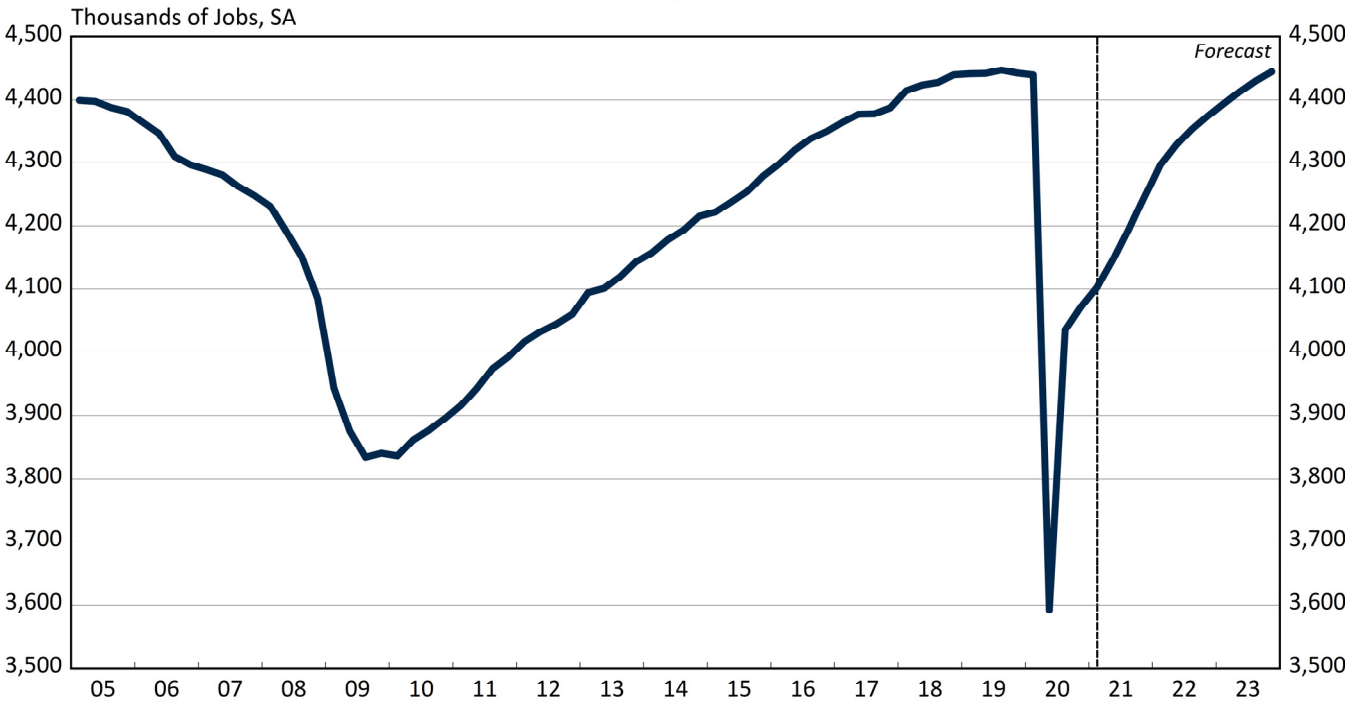
Figure 3
Total U.S. vs. Detroit Three Light Vehicle Sales



Payroll Employment

Figure 4 shows our forecast of Michigan's payroll job count on a quarterly basis. Michigan lost 847,000 jobs in the second quarter of 2020, but it recovered 444,000 jobs, or more than half of those losses, in the third quarter. Unfortunately, progress has slowed down considerably since then, with only 36,000 job gains in the fourth quarter of 2020 and 30,000 in the first quarter of 2021. The second quarter of the year has gotten off to a disappointing start as well, with the loss of 19,200 jobs in April. We attribute the slow pace of Michigan's economic recovery over the past six months to the resurgence of COVID-19 and, to a lesser extent, to the microchip shortages that are currently plaguing the state's automotive industry. We expect the dramatically improved public health situation to jump start Michigan's job growth soon.

Figure 4
Quarterly Michigan Payroll Employment



We are forecasting Michigan's job growth to accelerate to an average of 48,700 job gains per quarter over the next year, from the second quarter of 2021 through the first quarter of 2022. Growth then decelerates to 26,000 jobs per quarter from the second through fourth quarters of 2022 and to 17,100 jobs per quarter in 2023. Even so, the pace of growth we are forecasting for 2023 is on par with the pace Michigan's economy enjoyed from 2011 to 2018 following the Great Recession. Our forecast takes

Michigan's payroll job count back to its pre-pandemic level at the end of 2023. Although that is tremendous progress in climbing out of a deep jobs hole, we should note that our forecast still would not take Michigan back to the trajectory we had expected prior to the pandemic. In January 2020, we were forecasting that Michigan's payroll jobs count would be a bit more than 100,000 jobs higher at the end of 2023 than we are forecasting today.

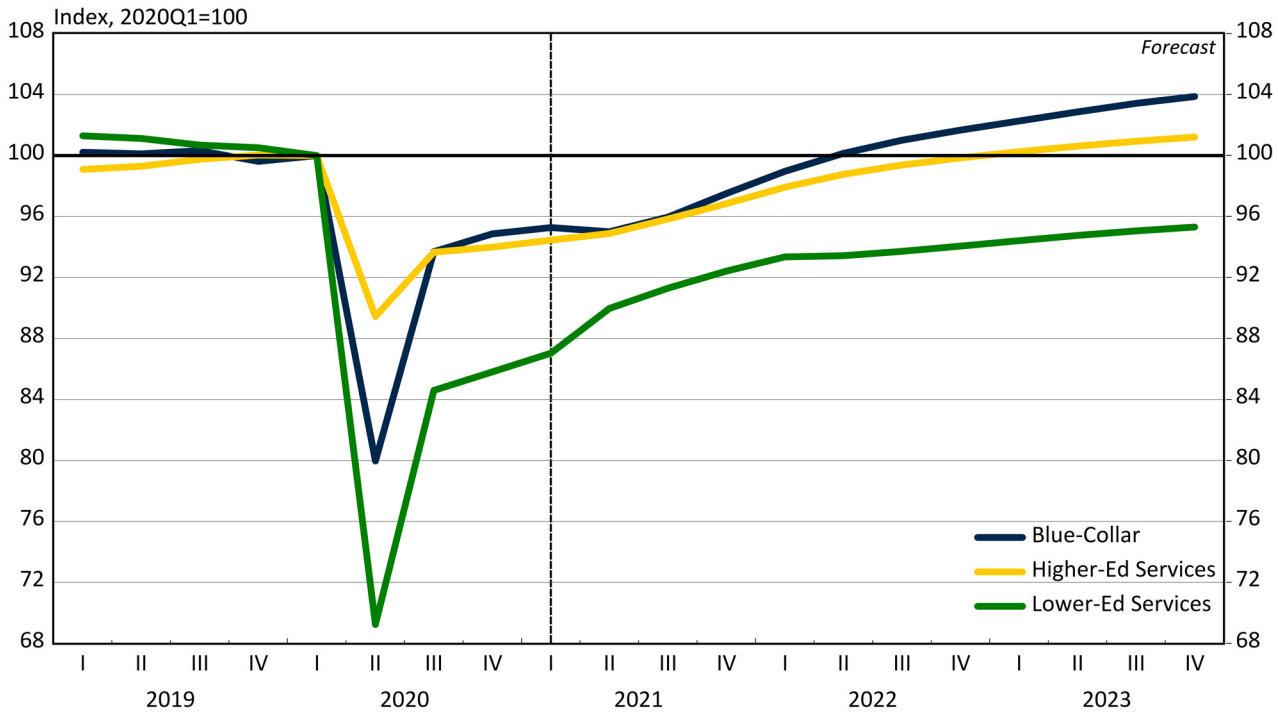
Underlying our forecast for a full aggregate recovery in Michigan's labor market are uneven outlooks for the state's industry groups. In Figure 5, we have categorized the state's industries into three groups: "Blue-Collar Industries," "Lower-Education Services Industries," and "Higher-Education Services Industries." The blue-collar industries comprise mining; construction; manufacturing; and wholesale trade, transportation, and utilities. The higher-education services industries (which generally require employees to hold a Bachelor's Degree or higher educational level) comprise information; finance; professional, scientific, and technical services; management of companies; private education and health services; and government. The lower-education services industries (which typically do not require a college education) comprise retail trade; leisure and hospitality; administrative support services and waste management; and other services. Figure 5 plots quarterly recent history and our forecast for each of these industry groups as index values, with the first quarter of 2020 normalized to a value of 100. Table 1 below displays our forecast for annual job growth for Michigan's individual industries.

Michigan's **blue-collar industries** lost 20 percent of their pre-pandemic employment level, or 228,000 jobs, in the second quarter of 2020. The blue-collar industries recovered 156,000 jobs in the third quarter, or roughly two-thirds of their initial losses, but they have recovered only 18,000 additional jobs since then. We expect the blue-collar industries to lose 3,200 jobs in the second quarter due to the microchip shortages plaguing the automotive industry.[1] We are forecasting the blue-collar industries to get back onto a healthy growth path beginning in the third quarter as those shortages abate, with average gains of 14,600 jobs per quarter from then through the second quarter of 2022. The blue-collar industries thus recover to their pre-pandemic employment level by the middle of next year. We expect healthy

[1] We estimate that shutdowns among the state's automotive assembly plants will reduce manufacturing employment by an average of 8,700 jobs in the second quarter, before largely abating in the third quarter.

growth to continue from there, with another 42,300 job gains from the third quarter of 2022 through the end of 2023. That performance would take employment in Michigan's blue-collar industries to 3.9 percent higher than prior to the pandemic. We are particularly bullish on the growth prospects in construction and wholesale trade, transportation, and utilities.

Figure 5
Annual Job Growth in Michigan
Blue-Collar, Higher-Education Services, and Lower-Education Services Industries



Michigan's **higher-education services industries** suffered less than our other two industry groupings at the start of the pandemic, losing 10.6 percent of their pre-pandemic employment in the second quarter of 2020 (or 207,100 jobs). They have since recovered roughly half of those job losses. Just as for the blue-collar industries, job growth has been tepid over the past two quarters, though, and we expect this quarter to feature another middling performance as well. Job growth in higher-education services picks up to an average of 19,100 job gains per quarter from the third quarter of 2021 to the second quarter of 2022. Growth in the higher-education services industries then decelerates to an average of 8,000 jobs per year from the third quarter of 2022 to the end of 2023. The higher-education services industries regain their pre-pandemic employment level in the first quarter of 2023, and finish our forecast period 1.2 percent higher than prior to the pandemic.

Within the higher-education services industries, we are optimistic about the government, private education and health services, and professional, scientific, and technical services sectors. We expect the widespread reopening of in-person K-12 and college education this fall to lead to a strong rebound in government employment, which so far has had a very weak recovery. Likewise, the recovery in private education and health should resume as the pandemic subsides and elective care returns. The recovery in professional, scientific, and technical services has been much stronger to date than in government or healthcare. We are optimistic that this sector can build on that momentum over the next few years.

Michigan's **lower-education services industries** have been the hardest-hit grouping during the pandemic. They lost over 30 percent of their pre-pandemic job count in the second quarter of 2020, and they recovered roughly half of those losses in the third quarter. Their recovery since then has slowed considerably, amid the state's second and third waves of COVID-19. As of the first quarter of 2021, employment in the lower-education services industries remained 13 percent lower than prior to the pandemic. We expect a burst of 39,300 job gains in the lower-education services industries in the second quarter of 2021 as the pandemic subsides and vaccines continue to roll out. We are expecting 45,300 additional job gains over the subsequent three quarters, but we expect the recovery to slow substantially after that, with a total of 26,200 job gains from the second quarter of 2022 to the end of 2023. Our outlook thus leaves employment in the lower-education services industries 4.7 percent below their pre-pandemic level at the end of our forecast period.

We do not expect a complete recovery within our forecast period for any of the sectors we classify in Michigan's lower-education services industries. We are most upbeat about administrative support and waste management services, which we expect to recover to 98.9 percent of its pre-pandemic level by the end of 2023. We forecast leisure and hospitality to get back to 96.4 percent of its pre-pandemic employment level, as strong growth in the coming three years is not quite enough to make up for the still-large jobs hole. Employment in other services climbs modestly, from 86.4 percent of its pre-pandemic employment level in the first quarter of 2021 to 91.3 percent of its pre-pandemic level by the end of 2023. Michigan's retail trade industry has recovered much more substantially from its initial pandemic-related losses than the other lower-education services industries, with employment standing at 96.8 percent of

its pre-pandemic level in the first quarter of this year. We expect tough times ahead for retail trade, however, with the shift to online shopping continuing to drive job losses over the next few years. We expect retail to lose a total of 15,100 jobs from here until the end of 2023, bringing its employment level back down to 93.5 percent of the pre-pandemic level.

Table 1
Forecast of Payroll Jobs in Michigan by Major Industry Division
(Thousands of Jobs)

		Forecast Employment Change			
	2020	'20–'21	'21–'22	'22–'23	'20–'23
Total Jobs	**4035.1**	**137.9**	**165.8**	**81.6**	**385.4**
Total Government	581.5	-2.0	31.3	9.4	38.8
Total Private	3453.6	139.9	134.5	72.3	346.6
Natural resources and mining	6.5	0.6	0.0	0.0	0.7
Construction	164.9	13.1	14.0	8.0	35.1
Manufacturing	557.2	17.1	27.6	14.8	59.6
Transportation equipment manufacturing	164.7	9.9	9.8	5.0	24.6
Other manufacturing	392.4	7.3	17.9	9.8	35.0
Trade, transportation, and utilities	747.5	32.4	1.4	1.5	35.3
Retail trade	428.4	20.1	-8.2	-5.9	6.0
Wholesale trade, trans., and utilities	319.0	12.3	9.6	7.4	29.3
Information	50.4	0.2	1.5	0.5	2.2
Financial activities	223.3	2.5	4.4	3.6	10.4
Professional and business services	596.5	30.8	26.6	14.4	71.7
Professional, scientific & technical services	287.1	13.7	9.5	5.2	28.4
Management of companies & enterprises	68.9	2.4	3.4	2.2	8.1
Admin & support & waste mgmt.	240.5	14.6	13.7	6.9	35.2
Private education and health services	639.3	7.3	18.1	13.9	39.2
Leisure and hospitality	324.6	32.5	37.9	14.4	84.7
Other services	143.6	3.4	3.0	1.3	7.6
Addendum: Percent Change in Total Jobs	**-9.2**	**3.4**	**4.0**	**1.9**	**9.6**

RSQE: May 2021

Unemployment and Labor Force Participation Rates

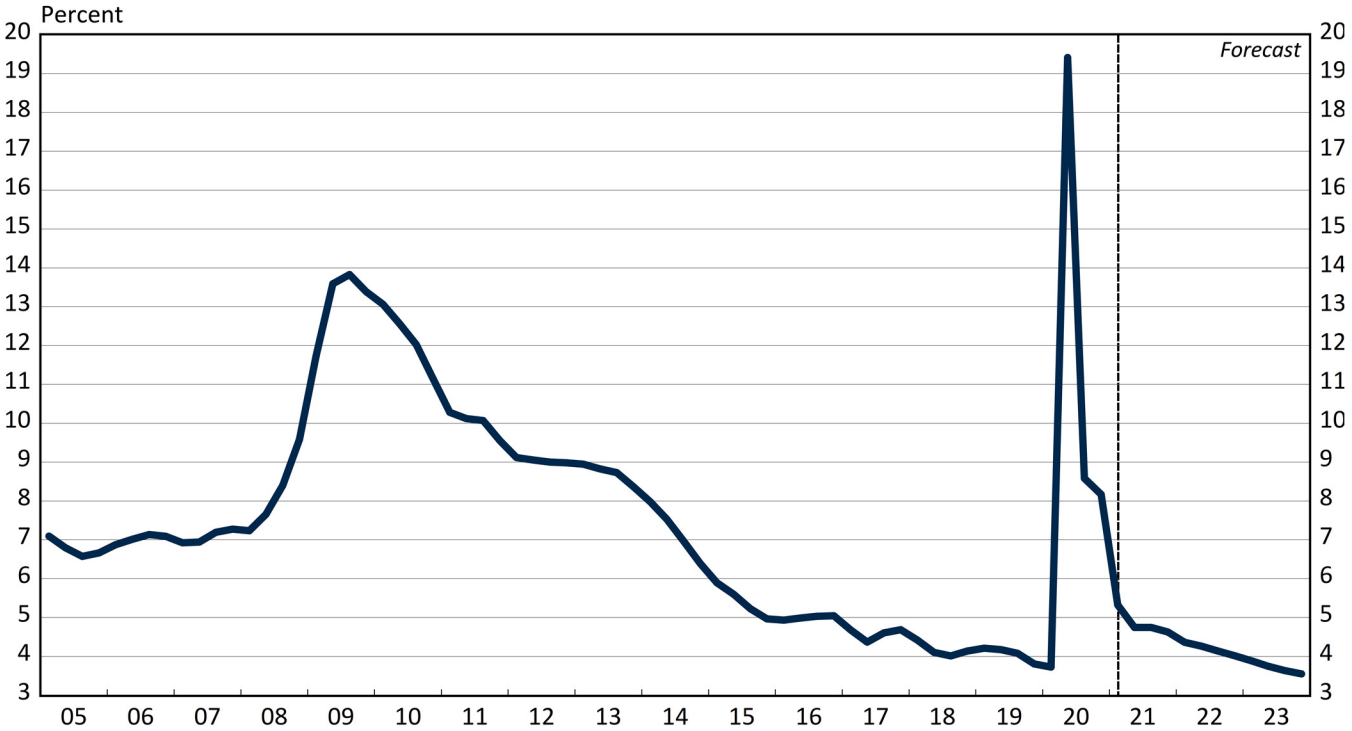
Figure 6 shows that Michigan's quarterly unemployment rate plunged from 8.2 percent in the final quarter of 2020 to 5.3 percent during the first quarter of 2021. The decline in the unemployment rate came overwhelmingly from a decline in the labor force rather than from more people reporting that they were employed. The labor force declined by 143,600 residents, while Michigan's household employment count increased by only 2,100. That pattern was absent from the national data, however, which makes us wonder if these data are due for a substantial revision during next year's benchmarking process. It is

important to note that these are very challenging times to collect economic data, with the survey data underlying the state unemployment and labor force participation rates being some of the most difficult to collect.

We expect Michigan's unemployment rate to decline by six-tenths of a percentage point in the second quarter as state residents begin to find work in larger numbers. The unemployment rate then remains roughly flat for the remainder of the year, as a rebound in the labor force offsets the job gains we are projecting. Unemployment resumes its decline in 2022 and 2023, reaching 3.6 percent by the end of 2023.

We forecast Michigan's labor force participation rate to bounce back partially from 58.9 percent in the first quarter to 60.1 percent in the fourth quarter of this year as efforts to safely reopen the economy continue to expand across different sectors. We believe the state's demographic profile limits the potential improvement in its labor force participation rate. Nonetheless, we do expect some further recovery, with the labor force participation rate reaching 61.1 percent in the fourth quarter of 2023.

Figure 6
Quarterly Michigan Unemployment Rate



Personal Incomes

Figure 7 shows our quarterly forecast for Michigan personal income at an annual rate. We estimate that personal income increased by 13.1 percent in the state on a quarterly basis in the first quarter of the year as additional unemployment benefits and the majority of the $1,400 rebate checks flowed into the economy. We believe that the federal governments' support in preserving household incomes was an essential component in the V-shaped recovery we are forecasting. We expect Michigan's personal income to decrease in each of the next three quarters as federal stimulus wanes. However, as Michiganders return safely to work, their wage and salary income will take over as the driver of growth. We expect that the state's personal income will exceed its pre-pandemic level by almost 5 percent by the end of this year. Looking forward, we forecast Michigan's personal income growth will average 1.2 percent per quarter over the next two years. That would leave the state's personal income $72 billion higher, or 14.6 percent, in 2023 than its 2019 level.

Figure 7
Quarterly Michigan Personal Income

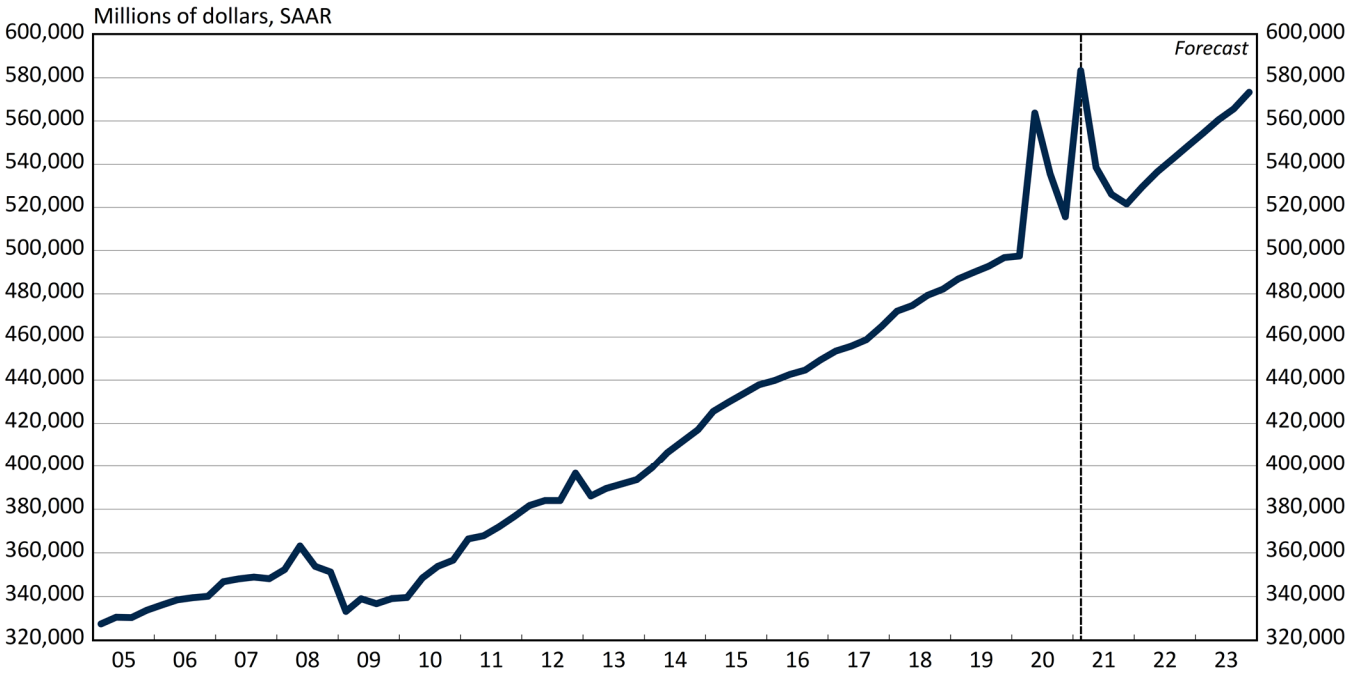
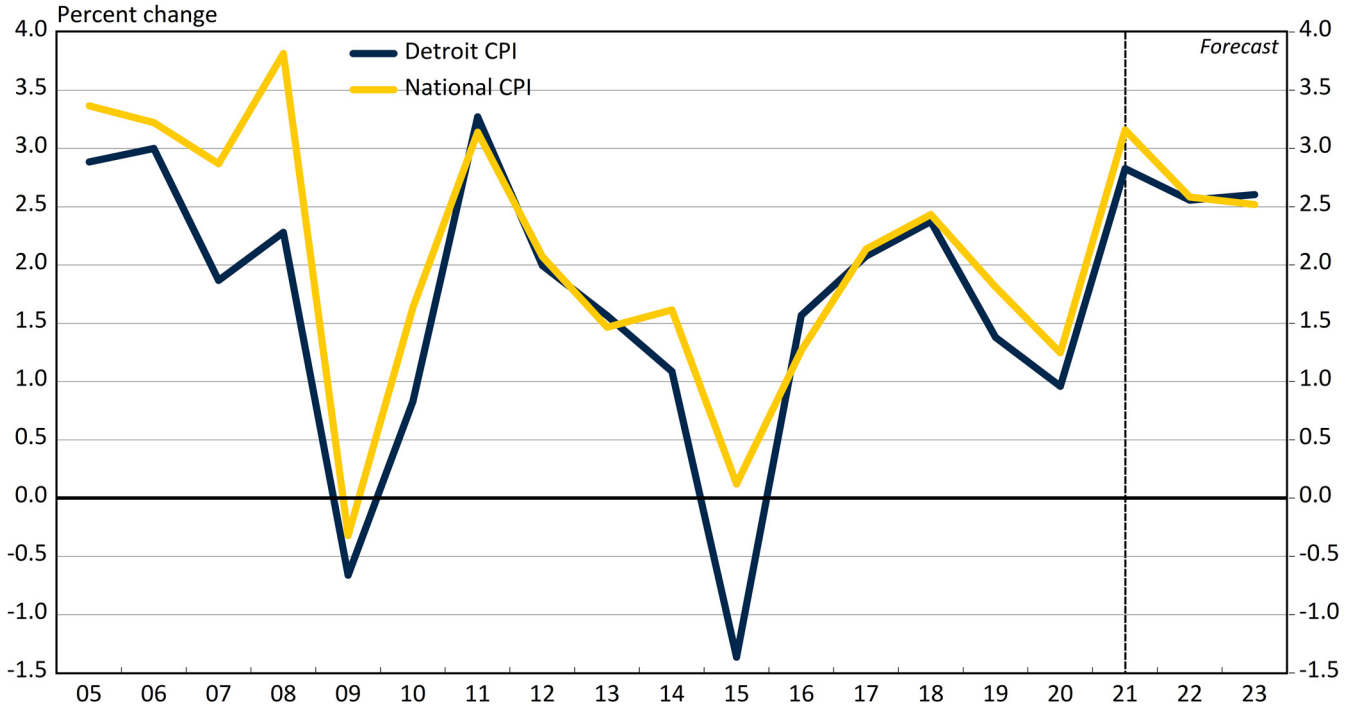


Figure 8 shows national and local inflation from 2005 to 2023. National inflation, as measured by the growth rate of the Consumer Price Index for All Urban Consumers (CPI), registered 1.2 percent last

year amid a decline in energy prices. As energy prices recover their declines from spring 2020, the all-item CPI bounces back to 3.2 percent this year. In 2022 and 2023, the all-item CPI grows by 2.6 and 2.5 percent, respectively. That uptick in inflation would bring all-item CPI inflation to an average of 1.9 percent per year from 2010–2023. However, the Federal Reserve's preferred measure of inflation is Personal Consumption Expenditures deflator (PCE) inflation, which typically runs below CPI inflation. Combining history and our forecast, PCE inflation averages 1.7 percent per year from 2010–2023. Either metric results in inflation running below the Fed's 2 percent average inflation target from 2010 through the end of our forecast period.

Figure 8
National and Local Inflation



Local inflation, as measured by the growth rate of the Detroit CPI, follows a similar path to national inflation. Local inflation registered 1 percent last year, reflecting a decline in energy prices. As price pressure picks up and energy prices rebound, we expect local inflation to bump up to 2.8 percent this year. We believe local inflation will cool slightly in the next two years, registering 2.6 percent in each of the next two years. The local inflation rate we are forecasting for this year would be the highest since 2011. For context, though, Detroit CPI inflation averaged 2.8 percent per year from 1990 through 2008.

So, although the years since the Great Recession have generally featured very low inflation, historically speaking the inflation rates we are forecasting are not unusual.

Combining our forecast of nominal personal income with our forecasts for local prices and taxes produces our forecast of real disposable income in Michigan. We estimate that real disposable income increased by 14 percent in the first quarter of this year, but we expect it to decline over the remainder of the year amid fading federal stimulus and ongoing price inflation. Looking ahead, we forecast Michigan's real disposable income growth will average 0.5 percent per quarter in 2022–2023.

The State Revenue Outlook

On May 21, state officials and legislators gathered for a virtual meeting and broadcast of the State's Consensus Revenue Estimating Conference (CREC), during which the state government agreed on updated revenue forecasts for the current and next two fiscal years. A year ago, at the May 2020 CREC, both the state and RSQE projected a drop of nearly $3 billion for combined General Fund General Purpose (GFGP) and School Aid Fund (SAF) revenues for fiscal 2020 compared with fiscal 2019. That forecast turned out to be too gloomy by a large margin. In fact, combined GFGP and SAF revenues grew by $100 million from fiscal 2019 to fiscal 2020, an almost unthinkable result a year ago as the economy faced deep unemployment, drops in consumer spending, and a large serving of uncertainty about how the pandemic would play out. By now, we are all familiar with the story that emergency federal stimulus, expanded unemployment benefits, and extra assistance to businesses, to name just a few factors, helped to prop up personal incomes and consumer expenditures in the state. That, in turn, prevented state tax revenues from taking a nosedive.

All signs point to fiscal 2021 being even better for the state coffers, with the combination of generous federal assistance that remains in effect for most of the fiscal year, the loosening grip of the pandemic, and an economy in recovery mode. The state expects combined GFGP and SAF revenues to swell by $1.5 billion in fiscal 2021, translating to growth of 6.2 percent from fiscal 2020. State officials forecast combined revenue growth to then moderate to 1.9 percent in fiscal 2022 before accelerating to 3.3 percent in fiscal 2023. It is remarkable how much the revenue forecast has improved even in the past few months. Compared with the January 2021 CREC forecast, the state now expects combined GFGP

and SAF revenue to be collectively $5.3 billion higher in fiscal years 2021–23. Over 80 percent of the newly projected revenue came from upward revisions of personal income, sales, and use tax collections.

At RSQE, we also expect fiscal 2021 to be a bumper year. Our own forecast calls for combined GFGP and SAF growth of 6.3 percent, just a touch higher than the state's projections. We expect fiscal 2022, however, to see a flatter profile as the extra federal assistance tapers off and the state's economy must stand on its own. We forecast combined GFGP and SAF revenue growth of only 0.6 percent in fiscal 2022, followed by a rebound to 3.7 percent growth in fiscal 2023.

We now summarize the details of our forecast. Table 2 presents the recent history for state revenues as well as our forecast for fiscal years 2021–23. The upper portion details GFGP revenues, and the lower portion summarizes SAF revenues. More detailed breakdowns of our tax revenue forecast are provided in the additional tables at the back of this report.

Net Income Tax Revenue

- Net income tax revenue managed to grow by 0.7 percent in fiscal 2020 despite expectations a year earlier for deep losses. That is, of course, thanks largely to the expansion of unemployment insurance eligibility and the additional benefits stipulated by the CARES Act. Those benefits were taxable, and many recipients elected to withhold state and federal income tax as they received benefits.
- We forecast net income tax revenue growth to accelerate over the next few years, with 1.8 percent growth in fiscal 2021, 2.9 percent growth in fiscal 2022, and 5.6 percent growth in fiscal 2023. The amount of income tax revenue distributed to the General Fund accelerates similarly over the forecast period.
- Withholding provides most of the boost in fiscal 2021 due to the large amount of emergency unemployment assistance provided over the course of the fiscal year. With the additional benefits set to expire after Labor Day, we expect quarterly and annual payments to pull ahead in fiscal 2022–23, with combined growth of 4.9 percent in fiscal 2022 and 7.4 percent in fiscal 2023.

Consumption Tax Revenue

- GFGP consumption tax revenue in Michigan is driven by distributions from the sales and use taxes, with smaller contributions from excise taxes on cigarettes and alcohol.
- The resiliency of consumer spending in fiscal 2020, supported by federal stimulus and expanded unemployment assistance, and the shift of consumer expenditures from untaxed services to taxable goods, led GFGP consumption tax revenue to gain 1.4 percent in fiscal 2020.
- We forecast combined gross sales and use tax revenue to jump by 11.5 percent in fiscal 2021 as consumer spending remains strong, again supported by federal stimulus and unemployment assistance along with the recovery economy. We expect gross sales and use tax revenue to flatten out in fiscal 2022–23 as federal support wanes, growing by 0.9 percent in fiscal 2022 and by 0.6 percent in fiscal 2023.

- Pulling out the General Fund's share of gross sales and use tax revenue and combining with excise taxes, our forecast calls for GFGP consumption tax revenue to rocket up by 20.1 percent in fiscal 2021 before pulling back by 5.3 percent in fiscal 2022 and treading water in fiscal 2023.

Business Tax Revenue

- Business tax revenue comes primarily from the state's corporate income tax (CIT), insurance company premiums, and oil and gas severance tax payments. Certain businesses continue to pay taxes and claim credits under the previously used Michigan Business Tax (MBT) instead of the CIT. Variability in the timing of when MBT refunds are claimed often leads to swings in the state's overall business tax revenue. All business tax revenue accrues to the General Fund.
- Business tax revenue fell by 1.5 percent in fiscal 2020 due to a drop in CIT collections and a rise in MBT refunds. Strong growth in insurance company premiums cushioned the decline.
- Based on fiscal year-to-date collections, CIT revenue is expected to rebound hard in fiscal 2021, leading overall business tax revenue to 14.2 percent growth for the fiscal year. Total business tax revenue is projected to return to its historical trend in fiscal 2022, pulling back by 11.6 percent. Strong growth resumes in fiscal 2023 to the tune of 15.6 percent as the CIT picks up speed.

Total General Fund Revenue

- Although combined GFGP and SAF revenue grew by $100 million in fiscal 2020, the General Fund's share fell by 3.2 percent due to the drop in business tax collections as well as increases in personal income tax refunds and earmarks.[2]
- Summing up all the components in addition to non-tax revenue, we forecast strong growth for total GFGP revenue of 5.9 percent in fiscal 2021. With most federal assistance expected to taper off in September 2021, we forecast total GFGP revenue to stay flat in fiscal 2022 as tax revenue realigns with the underlying economy. Healthy growth picks up again in fiscal 2023 as the state's economic recovery continues, with total GFGP revenue climbing 5.8 percent.

Total School Aid Fund Revenue

- School Aid Fund revenue grew by 3.2 percent in fiscal 2020 with every component posting positive growth except for real estate transfer tax collections and casino tax revenue. In addition, the SAF receives its contribution from the personal income tax before earmarks and revenues, which can drive large swings in the General Fund's contribution from personal income taxes; in fiscal 2020, the SAF contribution from the personal income tax jumped by 8.7 percent.
- Almost half of total SAF revenue comes from sales and use tax collections. In fiscal 2021, the exceptional 11.5 percent projected growth of gross sales and use tax revenue helps to boost total SAF revenue by 6.7 percent. As sales and use collections flatten out in fiscal 2022–23, total SAF growth falls to the 1–2 percent range.
- Noteworthy contributors to the SAF over the forecast period include the housing-market related state education property tax and the real estate transfer tax. Revenue growth from the state education property tax picks up speed from 1.6 percent in fiscal 2021 to 4.5 percent by fiscal 2023. The real estate transfer tax makes up for fiscal 2020 losses with a 31.4 percent gain in fiscal 2020, followed by more modest growth of 1.4 percent in fiscal 2022 and 6.4 percent in fiscal 2023.

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[2] In fiscal 2020, the GFGP earmark from gross income tax revenue to the Michigan Transportation Fund increased by $204 million. This earmark expands by another $132 million in fiscal 2021 to a total of $600 million, where it stays for fiscal 2022 as well.

Table 2
State Revenues by Fiscal Year
(Millions of dollars, except as noted)

	Actual	RSQE Forecast		
	2020	2021	2022	2023
General Fund General Purpose				
Personal income tax	6,870	6,891	7,133	7,618
(% change)	(-5.3)	(0.3)	(3.5)	(6.8)
Consumption taxes	2,362	2,837	2,687	2,689
(% change)	(1.4)	(20.1)	(-5.3)	(0.1)
Sales	1,311	1,429	1,451	1,468
Use	748	1,119	948	929
Other consumption	303	290	288	292
Business taxes	1,021	1,165	1,030	1,190
(% change)	(-1.5)	(14.2)	(-11.6)	(15.6)
MBT/SBT/Corporate income	551	757	605	750
Other business	470	408	425	439
Other GFGP taxes	108	138	146	152
GFGP tax revenue	10,360	11,031	10,996	11,649
(% change)	(-3.5)	(6.5)	(-0.3)	(5.9)
Nontax revenue	407	371	383	391
GFGP revenue	10,767	11,402	11,379	12,040
(% change)	(-3.2)	(5.9)	(-0.2)	(5.8)
School Aid Fund				
SAF taxes	12,815	13,719	14,010	14,330
(% change)	(2.6)	(7.0)	(2.1)	(2.3)
Lottery transfer	1,180	1,208	1,094	1,101
(% change)	(10.2)	(2.4)	(-9.5)	(0.6)
Earmarked state SAF revenue	13,995	14,927	15,104	15,431
(% change)	(3.2)	(6.7)	(1.2)	(2.2)
Addendum				
Combined GFGP and SAF revenue	24,763	26,329	26,483	27,471
(% change)	(0.3)	(6.3)	(0.6)	(3.7)
Gross sales and use taxes	10,135	11,305	11,401	11,464
(% change)	(0.9)	(11.5)	(0.9)	(0.6)

RSQE: May 2021

The Michigan Economic Outlook for 2021-2023

RSQE Forecast, 28 May 2021

The State of Michigan

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Forecast Based on
The Econometric Model of the State of Michigan

RSQE
Research Seminar in Quantitative Economics
The University of Michigan
Ann Arbor, Michigan 48109

RSQE Forecast

Table 1
Michigan Personal Income
(Millions of Current Dollars, SAQR)

28 May 2021

	Actual	Forecast								
	2021q1	**2021q2**	**2021q3**	**2021q4**	**2022q1**	**2022q2**	**2022q3**	**2022q4**	**2023q1**	**2023q2**
Personal Income	145824.81	134630.80	131524.60	130400.10	132352.70	134122.70	135595.50	137103.10	138613.00	140138.40
Wage and Salary	61856.19	61649.45	62224.92	63477.14	64859.05	65924.44	66743.84	67634.19	68387.35	69292.19
Private	54055.41	53688.92	54066.30	55119.83	56313.26	57217.63	57922.86	58720.15	59391.56	60196.67
Government	7800.78	7960.52	8158.62	8357.31	8545.79	8706.82	8820.99	8914.04	8995.78	9095.52
Other Labor Income	14590.68	14559.17	14723.73	15037.93	15401.79	15642.68	15814.17	15996.36	16166.42	16362.45
Proprietors' Income	8918.72	10374.46	10261.00	9374.29	9499.96	9644.85	9770.29	9876.67	9986.12	10124.45
Property Income	21804.08	22092.56	22216.42	22489.89	22838.69	23240.91	23632.92	23997.63	24296.10	24565.02
Transfer Payments	48092.71	35360.30	31589.62	29701.13	29789.17	29858.55	29935.46	30020.30	30384.19	30523.38
Residence Adjustment	639.78	645.31	650.88	656.51	662.18	667.90	673.66	679.48	685.35	691.27
Less:										
Social Ins Contribution	10077.34	10050.47	10141.94	10336.77	10698.12	10856.58	10974.83	11101.49	11292.48	11420.32
Less:										
Federal Pers Taxes	11106.70	11262.78	11369.06	11492.22	12077.41	12318.08	12493.19	12661.04	13030.89	13214.07
Mich Witholding	2882.03	2820.62	2757.85	2658.26	2736.94	2758.49	2798.77	2768.24	2826.24	2843.03
Equals:										
Disp Personal Income	131836.10	120547.40	117397.70	116249.60	117538.40	119046.20	120303.50	121673.90	122755.90	124081.30
ADDENDA:										
Consumer Price Index										
Detroit 1982-84=100	241.13	244.36	245.53	246.77	248.25	249.88	251.51	253.15	254.74	256.39
Real Disposable Income										
Millions of 1982-84 $	54673.60	49332.05	47813.74	47108.85	47345.90	47642.28	47833.26	48063.92	48189.10	48395.85
MI Gross Domestic Prod (SAAR)										
Mil. of Current $	538478.44	554640.80	570629.00	583385.30	595922.60	606036.70	614556.90	622620.50	630050.80	637790.60
Mil. of Chained 2012 $	460090.10	469857.50	479510.50	486565.70	493546.50	498670.20	502542.90	506088.50	509153.20	512474.30
Impl. Defl. 2012=100	117.04	118.04	119.00	119.90	120.74	121.53	122.29	123.03	123.74	124.45

Table 1
Michigan Personal Income
(Millions of Current Dollars, SAQR)

	Forecast		Calendar Years				Percent Changes		
	2023q3	**2023q4**	**2020**	**2021**	**2022**	**2023**	**2020-21**	**2021-22**	**2022-23**
Personal Income	141404.40	143336.30	528093.39	542380.31	539174.00	563492.10	2.71	-0.59	4.51
Wage and Salary	69945.84	71265.23	239866.12	249207.70	265161.52	278890.61	3.89	6.40	5.18
Private	60769.27	62009.44	208054.72	216930.46	230173.90	242366.94	4.27	6.10	5.30
Government	9176.57	9255.79	31811.39	32277.24	34987.63	36523.67	1.46	8.40	4.39
Other Labor Income	16493.15	16768.52	56092.46	58911.51	62854.99	65790.54	5.03	6.69	4.67
Proprietors' Income	10253.61	10339.81	34499.16	38928.47	38791.76	40703.99	12.84	-0.35	4.93
Property Income	24832.22	25083.42	87337.92	88602.95	93710.15	98776.76	1.45	5.76	5.41
Transfer Payments	30691.19	30872.34	146766.06	144743.76	119603.48	122471.10	-1.38	-17.37	2.40
Residence Adjustment	697.24	703.27	2480.97	2592.48	2683.22	2777.13	4.49	3.50	3.50
Less:									
Social Ins Contribution	11508.85	11696.25	38949.31	40606.52	43631.02	45917.90	4.25	7.45	5.24
Less:									
Federal Pers Taxes	13353.67	13582.29	43723.13	45230.76	49549.72	53180.92	3.45	9.55	7.33
Mich Witholding	2880.56	2870.71	10642.65	11118.76	11062.44	11420.54	4.47	-0.51	3.24
Equals:									
Disp Personal Income	125170.20	126883.30	473727.61	486030.80	478562.00	498890.70	2.60	-1.54	4.25
ADDENDA:									
Consumer Price Index									
Detroit 1982-84=100	258.05	259.73	237.72	244.45	250.70	257.23	2.83	2.56	2.60
Real Disposable Income									
Millions of 1982-84 $	48506.56	48851.29	199381.71	198928.24	190885.36	193942.80	-0.23	-4.04	1.60
MI Gross Domestic Prod (SAAR)									
Mil. of Current $	644374.70	651502.20	515928.28	561783.38	609784.17	640929.58	8.89	8.54	5.11
Mil. of Chained 2012 $	514844.40	517611.70	446249.38	474005.95	500212.03	513520.90	6.22	5.53	2.66
Impl. Defl. 2012=100	125.16	125.87	115.61	118.50	121.90	124.81	2.50	2.87	2.39

Table 2
Employment in Michigan
(Thousands of Persons, Seasonally Adjusted)

	Actual	Forecast								
	2021q1	**2021q2**	**2021q3**	**2021q4**	**2022q1**	**2022q2**	**2022q3**	**2022q4**	**2023q1**	**2023q2**
Total Employment	4460.69	4492.29	4539.89	4593.14	4636.82	4662.84	4682.76	4698.66	4713.47	4726.92
Wage and Salary	4102.70	4147.29	4194.93	4247.28	4297.47	4328.51	4354.02	4375.42	4394.78	4413.33
Private	3533.13	3574.69	3611.93	3654.28	3694.67	3718.45	3739.95	3758.83	3776.37	3793.44
Nat. Res. & Mining	7.13	7.20	7.15	7.19	7.20	7.21	7.21	7.21	7.20	7.20
Construction	173.53	176.00	179.46	183.19	187.18	191.11	193.90	196.07	197.82	199.37
Manufacturing	573.73	567.00	572.93	583.59	592.90	600.37	605.48	609.06	612.12	615.56
Trans. Equipment	177.43	169.00	174.00	177.97	181.22	183.93	185.63	186.66	187.63	189.03
Other Mfg.	396.30	398.00	398.93	405.62	411.67	416.44	419.85	422.40	424.49	426.53
Trade, Trans. & Util.	777.03	781.00	779.71	781.86	784.48	780.66	779.79	780.26	781.43	782.46
Information	49.13	50.70	51.11	51.43	51.77	52.09	52.28	52.41	52.51	52.60
Financial Activities	224.67	225.07	226.07	227.19	228.33	229.56	230.78	231.77	232.60	233.35
Prof. & Bus. Serv.	616.07	624.00	631.19	637.91	645.20	652.08	657.13	661.01	664.20	667.09
Edu. & Health Serv.	643.87	643.00	647.00	652.16	658.53	662.78	666.67	670.28	673.70	677.10
Lesiure & Hospitality	324.30	353.50	369.46	380.81	388.82	393.04	397.00	400.69	404.23	407.71
Other Services	143.67	147.22	147.84	148.95	150.27	149.56	149.70	150.07	150.56	151.01
Government	569.57	572.60	583.00	593.00	602.80	610.06	614.07	616.60	618.41	619.89
Non Wage and Salary	357.99	345.00	344.96	345.86	339.35	334.32	328.74	323.24	318.69	313.58
Labor Force	4711.66	4716.00	4766.00	4816.00	4848.45	4870.58	4885.06	4895.31	4904.10	4910.96
Unemployment	250.97	223.71	226.11	222.86	211.63	207.75	202.30	196.65	190.63	184.05
Unemployment Rate (%)	5.33	4.74	4.74	4.63	4.36	4.27	4.14	4.02	3.89	3.75
ADDENDA: U.S. DATA (Billions of chained 2009 $, except where noted)										
Gross Domestic Prod	19087.57	19432.16	19766.13	19983.46	20156.97	20316.53	20456.43	20593.67	20729.69	20868.76
Business Fixed Invest	2807.47	2859.81	2894.44	2954.92	3000.47	3040.45	3075.87	3107.04	3138.95	3171.09
Gross Vehicle Product	560.97	559.13	595.80	606.49	616.61	619.23	624.07	628.41	633.09	638.34
Personal Cons Expend										
New Autos + Trucks	349.76	349.55	325.09	313.47	313.18	314.70	315.99	316.50	317.61	318.86
Light Vehicle Sales (mil)	16.88	17.51	17.19	17.39	17.41	17.54	17.60	17.58	17.60	17.62
Unemployment Rate (%)	6.20	5.90	5.34	5.34	5.06	4.87	4.69	4.56	4.44	4.32
Personal Consumption										
Deflator, 2009=100	112.80	113.85	114.43	115.06	115.75	116.40	117.05	117.72	118.38	119.04
Consumer Price Index										
1982-84=100	263.16	267.25	268.59	269.02	271.08	273.49	275.19	275.89	277.97	280.40

Table 2
Employment in Michigan
(Thousands of Persons, Seasonally Adjusted)

	Forecast		Calendar Years				Percent Changes		
	2023q3	**2023q4**	**2020**	**2021**	**2022**	**2023**	**2020-21**	**2021-22**	**2022-23**
Total Employment	4739.22	4749.19	4360.72	4521.50	4670.27	4732.20	3.69	3.29	1.33
Wage and Salary	4429.93	4443.95	4035.11	4173.05	4338.86	4420.50	3.42	3.97	1.88
Private	3808.98	3822.17	3453.61	3593.51	3727.97	3800.24	4.05	3.74	1.94
Nat. Res. & Mining	7.19	7.19	6.54	7.17	7.21	7.20	9.58	0.56	-0.16
Construction	200.84	202.17	164.90	178.05	192.07	200.05	7.97	7.87	4.16
Manufacturing	618.66	620.80	557.17	574.31	601.95	616.78	3.08	4.81	2.46
Trans. Equipment	190.17	190.63	164.74	174.60	184.36	189.36	5.99	5.59	2.71
Other Mfg.	428.49	430.17	392.43	399.71	417.59	427.42	1.86	4.47	2.35
Trade, Trans. & Util.	783.31	783.88	747.46	779.90	781.29	782.77	4.34	0.18	0.19
Information	52.67	52.73	50.42	50.59	52.14	52.63	0.35	3.05	0.93
Financial Activities	234.06	234.76	223.27	225.75	230.11	233.69	1.11	1.93	1.56
Prof. & Bus. Serv.	669.62	671.91	596.48	627.29	653.85	668.20	5.17	4.23	2.19
Edu. & Health Serv.	680.18	682.83	639.25	646.51	664.56	678.45	1.14	2.79	2.09
Lesiure & Hospitality	411.02	414.06	324.57	357.02	394.89	409.25	10.00	10.61	3.64
Other Services	151.43	151.84	143.56	146.92	149.90	151.21	2.34	2.03	0.87
Government	620.94	621.78	581.50	579.54	610.88	620.26	-0.34	5.41	1.53
Non Wage and Salary	309.29	305.24	325.61	348.45	331.41	311.70	7.01	-4.89	-5.95
Labor Force	4918.04	4924.10	4839.37	4752.41	4874.85	4914.30	-1.80	2.58	0.81
Unemployment	178.82	174.92	478.64	230.91	204.58	182.10	-51.76	-11.40	-10.99
Unemployment Rate (%)	3.64	3.55	9.97	4.86	4.20	3.71	NA	NA	NA
ADDENDA: U.S. DATA (Billions of chained 2009 $, except where noted)									
Gross Domestic Prod	20989.88	21105.12	18426.08	19567.33	20380.90	20923.36	6.19	4.16	2.66
Business Fixed Invest	3205.60	3240.18	2665.09	2879.16	3055.96	3188.95	8.03	6.14	4.35
Gross Vehicle Product	639.00	640.38	493.71	580.60	622.08	637.70	17.60	7.14	2.51
Personal Cons Expend									
New Autos + Trucks	320.00	321.26	277.62	334.47	315.09	319.43	20.48	-5.79	1.38
Light Vehicle Sales (mil)	17.62	17.63	14.44	17.24	17.53	17.62	19.43	1.69	0.49
Unemployment Rate (%)	4.22	4.15	8.10	5.69	4.80	4.28	NA	NA	NA
Personal Consumption									
Deflator, 2009=100	119.73	120.42	111.14	114.04	116.73	119.39	2.60	2.36	2.28
Consumer Price Index									
1982-84=100	282.10	282.83	258.81	267.00	273.91	280.82	3.17	2.59	2.52

Table 3
State of Michigan GFGP Revenue by Fiscal Years
(Millions of Current Dollars, NSA)

	Actual	Forecast								
	2021q1	**2021q2**	**2021q3**	**2021q4**	**2022q1**	**2022q2**	**2022q3**	**2022q4**	**2023q1**	**2023q2**
NET PERS INCOME TAX	2726.07	3250.28	2334.71	2442.90	2543.10	3487.05	2526.86	2657.95	2710.16	3616.75
Less: School Aid	818.66	931.09	704.61	738.33	755.83	969.62	733.47	785.35	791.59	996.78
Camp Fund	0.00	0.00	0.80	0.00	0.00	0.00	0.80	0.00	0.00	0.00
MI Trans Fund	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Renew MI Fund	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25
GFGP INCOME TAX	1773.16	2151.93	1462.05	1537.32	1620.02	2350.18	1625.34	1705.35	1751.32	2452.72
CONSUMPTION TAXES										
Sales	314.00	408.97	382.73	378.74	299.28	401.44	371.23	380.54	300.96	408.15
Cigarette Excise	39.06	44.17	43.24	42.88	40.12	45.12	44.03	43.52	40.62	45.59
Beer and Wine	12.12	12.67	15.07	12.75	11.89	12.66	15.15	12.86	11.99	12.77
Liquor Specific	18.10	16.21	17.18	17.33	14.00	15.34	17.21	17.66	14.32	15.72
Use	307.15	244.66	237.17	219.96	215.31	255.27	257.62	222.27	208.73	247.93
GFGP CONSUM TAXES	690.43	726.68	695.40	671.67	580.60	729.83	705.25	676.84	576.61	730.16
BUSINESS TAXES										
Single Business	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Michigan Business	0.00	0.00	-626.90	0.00	0.00	0.00	-592.90	0.00	0.00	0.00
Corporate Income	0.00	0.00	1384.10	0.00	0.00	0.00	1197.90	0.00	0.00	0.00
Insur Co Premium	0.00	0.00	390.00	0.00	0.00	0.00	405.00	0.00	0.00	0.00
Oil + Gas Severance	4.60	4.92	4.95	4.97	4.84	4.93	4.87	4.94	4.82	4.90
GFGP BUSINESS TAXES	4.60	4.92	1152.15	4.97	4.84	4.93	1014.87	4.94	4.82	4.90
OTHER GFGP TAXES	0.00	0.00	138.00	0.00	0.00	0.00	146.00	0.00	0.00	0.00
TOTAL GFGP TAXES	2468.19	2883.53	3447.60	2213.95	2205.47	3084.94	3491.46	2387.13	2332.74	3187.78
NONTAX REVENUE	0.00	0.00	371.30	0.00	0.00	0.00	383.20	0.00	0.00	0.00
TOTAL GFGP REVENUE	2468.19	2883.53	3818.90	2213.95	2205.47	3084.94	3874.66	2387.13	2332.74	3187.78
ADDENDA:										
Pers Income Adjusted	107809.45	109321.00	110077.00	111035.70	113261.70	115120.80	116634.90	118184.30	119521.30	121035.40
Total Employment	4460.69	4492.29	4539.89	4593.14	4636.82	4662.84	4682.76	4698.66	4713.47	4726.92
Wage + Salary Income	61856.19	61649.45	62224.92	63477.14	64859.05	65924.44	66743.84	67634.19	68387.35	69292.19

Table 3
State of Michigan GFGP Revenue by Fiscal Years
(Millions of Current Dollars, NSA)

	Forecast		Fiscal Years				Percent Changes		
	2023q3	**2023q4**	**2020**	**2021**	**2022**	**2023**	**2020-21**	**2021-22**	**2022-23**
NET PERS INCOME TAX	2631.51	2792.39	10500.30	10692.42	10999.91	11616.36	1.83	2.88	5.60
Less: School Aid	754.87	813.29	3092.90	3198.12	3197.26	3328.59	3.40	-0.03	4.11
Camp Fund	0.80	0.00	0.60	0.80	0.80	0.80	33.33	0.00	0.00
MI Trans Fund	150.00	150.00	468.00	600.00	600.00	600.00	28.21	0.00	0.00
Renew MI Fund	17.25	17.25	69.00	69.00	69.00	69.00	0.00	0.00	0.00
GFGP INCOME TAX	1708.59	1811.86	6869.80	6890.50	7132.86	7617.97	0.30	3.52	6.80
CONSUMPTION TAXES									
Sales	377.99	390.86	1310.70	1428.69	1450.69	1467.63	9.00	1.54	1.17
Cigarette Excise	44.45	43.81	179.33	171.58	172.16	174.18	-4.32	0.34	1.18
Beer and Wine	15.27	12.96	51.40	53.41	52.45	52.88	3.90	-1.79	0.82
Liquor Specific	17.65	18.11	72.00	64.59	63.88	65.35	-10.29	-1.10	2.30
Use	250.04	224.77	748.40	1118.76	948.17	928.97	49.49	-15.25	-2.02
GFGP CONSUM TAXES	705.40	690.51	2361.83	2837.02	2687.35	2689.01	20.12	-5.28	0.06
BUSINESS TAXES									
Single Business	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--
Michigan Business	-526.70	0.00	-553.70	-626.90	-592.90	-526.70	13.22	-5.42	-11.17
Corporate Income	1277.10	0.00	1104.80	1384.10	1197.90	1277.10	25.28	-13.45	6.61
Insur Co Premium	420.00	0.00	456.80	390.00	405.00	420.00	-14.62	3.85	3.70
Oil + Gas Severance	4.84	4.93	12.80	18.07	19.62	19.49	41.13	8.60	-0.63
GFGP BUSINESS TAXES	1175.24	4.93	1020.70	1165.27	1029.62	1189.89	14.16	-11.64	15.57
OTHER GFGP TAXES	152.00	0.00	107.80	138.00	146.00	152.00	28.01	5.80	4.11
TOTAL GFGP TAXES	3741.23	2507.30	10360.13	11030.79	10995.82	11648.88	6.47	-0.32	5.94
NONTAX REVENUE	391.10	0.00	407.30	371.30	383.20	391.10	-8.84	3.20	2.06
TOTAL GFGP REVENUE	4132.33	2507.30	10767.43	11402.09	11379.02	12039.98	5.89	-0.20	5.81
ADDENDA:									
Pers Income Adjusted	122222.10	124160.20	420621.57	434856.66	456053.10	480963.10	3.38	4.87	5.46
Total Employment	4739.22	4749.19	4436.28	4487.86	4643.89	4719.57	1.16	3.48	1.63
Wage + Salary Income	69945.84	71265.23	240473.48	247483.95	261004.47	275259.57	2.92	5.46	5.46

Table 4
State of Michigan SAF and Transportation Tax Revenue by Fiscal Years
(Millions of Current Dollars, NSA)

	Actual	Forecast								
	2021q1	**2021q2**	**2021q3**	**2021q4**	**2022q1**	**2022q2**	**2022q3**	**2022q4**	**2023q1**	**2023q2**
SAF TAXES										
Sales	1445.34	1729.31	1750.78	1756.27	1507.51	1717.67	1715.36	1747.76	1508.77	1736.41
Use	211.81	183.77	180.02	175.14	172.82	192.80	193.97	179.63	172.86	192.47
Income	818.66	931.09	704.61	738.33	755.83	969.62	733.47	785.35	791.59	996.78
Mich Business	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquor Excise	18.10	16.21	17.18	17.33	14.00	15.34	17.21	17.66	14.32	15.72
Tobacco	70.78	80.05	84.53	77.57	72.58	81.62	85.81	78.16	73.40	82.39
State Education Property	0.00	0.00	2218.55	0.00	0.00	0.00	2265.82	0.00	0.00	0.00
Real Estate Transfer	101.30	97.85	121.48	106.00	91.54	112.66	136.58	114.91	98.97	119.57
Ind and Comm Facilities	0.00	0.00	37.00	0.00	0.00	0.00	37.00	0.00	0.00	0.00
Casino	0.00	0.00	134.90	0.00	0.00	0.00	181.70	0.00	0.00	0.00
Other SAF Taxes	0.00	0.00	45.80	0.00	0.00	0.00	68.50	0.00	0.00	0.00
TOTAL SAF TAXES	2665.99	3038.28	5294.86	2870.63	2614.27	3089.71	5435.43	2923.47	2659.92	3143.34
Lottery Transfer	0.00	0.00	1208.10	0.00	0.00	0.00	1093.90	0.00	0.00	0.00
EARMARKED STATE SAF REVENUE	2665.99	3038.28	6502.96	2870.63	2614.27	3089.71	6529.33	2923.47	2659.92	3143.34
TRANSPORTATION TAXES										
Diesel	47.80	59.27	63.97	61.25	54.13	60.53	65.05	62.16	55.09	61.85
Gasoline	239.10	288.54	306.45	298.71	281.39	306.74	318.11	304.94	285.14	310.68
Motor Vehicle Registrati	0.00	0.00	1396.24	0.00	0.00	0.00	1451.00	0.00	0.00	0.00

Table 4
State of Michigan SAF and Transportation Tax Revenue by Fiscal Years
(Millions of Current Dollars, NSA)

	Forecast		Fiscal Years				Percent Changes		
	2023q3	**2023q4**	**2020**	**2021**	**2022**	**2023**	**2020-21**	**2021-22**	**2022-23**
SAF TAXES									
Sales	1740.83	1785.53	6048.70	6463.03	6696.80	6733.77	6.85	3.62	0.55
Use	193.52	180.88	612.10	798.73	734.73	738.48	30.49	-8.01	0.51
Income	754.87	813.29	3092.90	3198.12	3197.26	3328.59	3.40	-0.03	4.11
Mich Business	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--
Liquor Excise	17.65	18.11	72.00	64.59	63.88	65.35	-10.29	-1.10	2.30
Tobacco	86.48	78.20	336.60	317.10	317.58	320.42	-5.79	0.15	0.89
State Education Property	2367.35	0.00	2182.90	2218.55	2265.82	2367.35	1.63	2.13	4.48
Real Estate Transfer	141.99	119.05	335.40	440.74	446.77	475.45	31.41	1.37	6.42
Ind and Comm Facilities	37.50	0.00	40.90	37.00	37.00	37.50	-9.54	0.00	1.35
Casino	183.50	0.00	67.00	134.90	181.70	183.50	101.34	34.69	0.99
Other SAF Taxes	79.30	0.00	27.00	45.80	68.50	79.30	69.63	49.56	15.77
TOTAL SAF TAXES	5602.98	2995.06	12815.50	13718.55	14010.05	14329.71	7.05	2.12	2.28
Lottery Transfer	1100.90	0.00	1179.90	1208.10	1093.90	1100.90	2.39	-9.45	0.64
EARMARKED STATE SAF REVENUE	6703.89	2995.06	13995.40	14926.65	15103.95	15430.61	6.65	1.19	2.16
TRANSPORTATION TAXES									
Diesel	66.55	63.55	220.60	229.84	240.96	245.66	4.19	4.84	1.95
Gasoline	322.25	308.98	1079.80	1088.19	1204.95	1223.01	0.78	10.73	1.50
Motor Vehicle Registrati	1501.57	0.00	1346.50	1396.24	1451.00	1501.57	3.69	3.92	3.49

Table 5
Selected State of Michigan Tax Revenues by Fiscal Years
(Millions of Current Dollars, NSA)

	Actual	Forecast								
	2021q1	**2021q2**	**2021q3**	**2021q4**	**2022q1**	**2022q2**	**2022q3**	**2022q4**	**2023q1**	**2023q2**
NET PERS INCOME TAX	2726.07	3250.28	2334.71	2442.90	2543.10	3487.05	2526.86	2657.95	2710.16	3616.75
Withheld	2845.75	2702.72	2630.08	2924.56	2702.48	2643.18	2669.11	3045.56	2790.66	2724.18
Quarterly	424.21	381.20	262.29	92.36	306.41	459.02	334.56	156.68	377.85	477.19
Annual	168.09	826.31	66.69	83.78	165.31	969.84	76.62	95.92	155.87	984.71
Less: Refunds	711.98	659.95	624.36	657.80	631.10	584.98	553.42	640.21	614.22	569.34
Less: School Aid	818.66	931.09	704.61	738.33	755.83	969.62	733.47	785.35	791.59	996.78
Camp Fund	0.00	0.00	0.80	0.00	0.00	0.00	0.80	0.00	0.00	0.00
MI Trans Fund	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00	150.00
Renew MI Fund	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25	17.25
GFGP INCOME TAX	1773.16	2151.93	1462.05	1537.32	1620.02	2350.18	1625.34	1705.35	1751.32	2452.72
GROSS SALES TAX	2006.52	2375.07	2402.02	2405.98	2077.18	2359.48	2354.02	2394.67	2079.20	2385.34
Less: Local Dist	220.18	210.44	242.16	244.22	243.64	213.63	240.68	239.50	242.59	213.91
School Aid	1445.34	1729.31	1750.78	1756.27	1507.51	1717.67	1715.36	1747.76	1508.77	1736.41
Comp Trans	24.75	24.10	24.10	24.50	24.50	24.50	24.50	24.63	24.63	24.63
Health Init	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
GFGP SALES TAX	314.00	408.97	382.73	378.74	299.28	401.44	371.23	380.54	300.96	408.15
GROSS USE TAX	635.40	551.30	540.06	525.43	518.45	578.39	581.92	538.90	518.59	577.40
Less: School Aid	211.81	183.77	180.02	175.14	172.82	192.80	193.97	179.63	172.86	192.47
Local Dist	122.88	122.88	122.88	130.32	130.32	130.32	130.32	137.00	137.00	137.00
GFGP USE TAX	307.15	244.66	237.17	219.96	215.31	255.27	257.62	222.27	208.73	247.93
GROSS CIGARETTE TAX	192.79	218.04	230.23	211.59	197.99	222.65	234.07	214.52	200.22	224.73
Less: School Aid	70.78	80.05	84.53	77.57	72.58	81.62	85.81	78.16	73.40	82.39
Medicaid Trust Fund	70.61	79.86	84.32	77.62	72.63	81.67	85.86	79.16	73.40	82.39
Other Funds	12.34	13.95	18.13	13.53	12.66	14.24	18.37	13.68	12.80	14.37
GFGP CIGARETTE TAX	39.06	44.17	43.24	42.88	40.12	45.12	44.03	43.52	40.62	45.59

Table 5
Selected State of Michigan Tax Revenues by Fiscal Years
(Millions of Current Dollars, NSA)

	Forecast		Fiscal Years				Percent Changes		
	2023q3	**2023q4**	**2020**	**2021**	**2022**	**2023**	**2020-21**	**2021-22**	**2022-23**
NET PERS INCOME TAX	2631.51	2792.39	10500.30	10692.42	10999.91	11616.36	1.83	2.88	5.60
Withheld	2747.11	3158.29	10511.50	11059.54	10939.32	11307.51	5.21	-1.09	3.37
Quarterly	347.88	163.07	1208.40	1197.89	1192.35	1359.60	-0.87	-0.46	14.03
Annual	75.15	94.12	1298.10	1173.39	1295.54	1311.65	-9.61	10.41	1.24
Less: Refunds	538.63	623.09	2517.71	2738.40	2427.30	2362.40	8.77	-11.36	-2.67
Less: School Aid	754.87	813.29	3092.90	3198.12	3197.26	3328.59	3.40	-0.03	4.11
Camp Fund	0.80	0.00	0.60	0.80	0.80	0.80	33.33	0.00	0.00
MI Trans Fund	150.00	150.00	468.00	600.00	600.00	600.00	28.21	0.00	0.00
Renew MI Fund	17.25	17.25	69.00	69.00	69.00	69.00	0.00	0.00	0.00
GFGP INCOME TAX	1708.59	1811.86	6869.80	6890.50	7132.86	7617.97	0.30	3.52	6.80
GROSS SALES TAX	2389.04	2446.47	8308.90	8908.35	9196.66	9248.24	7.21	3.24	0.56
Less: Local Dist	243.35	243.08	850.40	909.94	942.17	939.35	7.00	3.54	-0.30
School Aid	1740.83	1785.53	6048.70	6463.03	6696.80	6733.77	6.85	3.62	0.55
Comp Trans	24.63	24.75	90.12	97.70	98.00	98.50	8.41	0.31	0.51
Health Init	2.25	2.25	9.00	9.00	9.00	9.00	0.00	0.00	0.00
GFGP SALES TAX	377.99	390.86	1310.70	1428.69	1450.69	1467.63	9.00	1.54	1.17
GROSS USE TAX	580.56	542.65	1826.40	2396.16	2204.20	2215.45	31.20	-8.01	0.51
Less: School Aid	193.52	180.88	612.10	798.73	734.73	738.48	30.49	-8.01	0.51
Local Dist	137.00	137.00	465.90	491.50	521.30	548.00	5.49	6.06	5.12
GFGP USE TAX	250.04	224.77	748.40	1118.76	948.17	928.97	49.49	-15.25	-2.02
GROSS CIGARETTE TAX	235.89	215.95	904.20	863.67	866.31	875.36	-4.48	0.30	1.05
Less: School Aid	86.48	78.20	336.60	317.10	317.58	320.42	-5.79	0.15	0.89
Medicaid Trust Fund	86.48	80.21	329.80	316.32	317.78	321.43	-4.09	0.46	1.15
Other Funds	18.48	13.74	61.95	58.67	58.79	59.34	-5.29	0.21	0.93
GFGP CIGARETTE TAX	44.45	43.81	179.33	171.58	172.16	174.18	-4.32	0.34	1.18