

## **Update April 9: The U.S. and Michigan Economic Outlook for 2020–2022**

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This brief interim forecast update aims to keep readers informed as economic events continue to unfold. The COVID-19 pandemic has already proven to be extremely disruptive to the economy. We now expect U.S. real GDP to decline by 7 percent from the first quarter to the second quarter of the year, or 25 percent on an annualized basis. We forecast the national unemployment rate to reach a peak of 16 percent in May and to average 14 percent in the second quarter. We expect unemployment to rise even further in Michigan, to 23 percent for the quarter.

It is important to understand why this economic contraction is so severe. This recession is very different from previous downturns because limiting the spread of the disease requires many non-essential workers to stay away from their jobs. Therefore, the current reduction in economic activity is an investment in public health. Indeed, the current slowdown is a proactive goal of public policy, despite the jaw-dropping economic statistics. Of course, along with that goal comes the responsibility to cushion the economic hardship inflicted by the pandemic.

One piece of good news is that the federal response to the pandemic has been fast and aggressive. Several provisions in the Coronavirus Aid, Relief, and Economic Security (CARES)

Act will help to cushion households and businesses from the economic downturn in the second quarter. We believe that more assistance will be needed, especially for small businesses and state and local governments, but the aggressive federal response to the pandemic maintains the possibility of a vigorous recovery when public health conditions allow the economy to begin reopening.

Before turning to our outlook, we would like to offer a reminder that we are not epidemiologists. We believe that the course of the pandemic will be the most important driver of the economy over the remainder of the year, with the federal policy response also playing a major role. Our forecast assumes that the public health situation will improve sufficiently for the economy to begin reopening in early June, and that future outbreaks of the disease will not cause similarly widespread disruptions to economic activity going forward. Although we believe that the range of possible outcomes remains very wide, we hope that this forecast update is informative as our readers form their own judgments on the economic outlook.

### **U.S. Economic Outlook**

The COVID-19 pandemic continues to evolve rapidly. The worldwide case count now stands near 1.5 million, with around 90,000 reported deaths so far. Governments across the world are implementing extreme mitigation measures, while simultaneously trying to manage the economic fallout. Here, we focus on the near-term economic implications of the disease and policy responses.

Unfortunately, over the past several weeks, the United States has become the epicenter of the pandemic. The evolving epidemiology on the disease now suggests substantially higher transmissibility compared with earlier estimates, suggesting that the modest mitigation measures introduced in the first half of March were not enough. Since mid-March, faced with the prospects of overwhelmed healthcare systems and devastating loss of life, most states increased their

mitigation measures dramatically. As of this writing, 42 states, accounting for about 95 percent of the U.S. population, are under “stay at home” orders.

While these measures appear to be effective at slowing the spread of the disease—new case counts now appear to be levelling off in states that instituted these measures first—the economic costs are enormous. Most estimates show that 30–40 percent of jobs can be done from home.<sup>1</sup> Estimates of the share of “essential” employees who are exempt from stay at home orders typically fall in the 40–50 percent range. Together, these estimates suggest that up to 30 percent of the labor force is neither considered “essential” nor can work at home and is, therefore, at a high risk of layoffs and furloughs due to the COVID-19 mitigation measures.

Fortunately, the federal government’s policy response has been extraordinarily swift. As a result, we think the share of workers laid off, either temporarily or permanently, will remain below the 30 percent “at high risk of layoff” figure. We further expect the massive personal and business support programs contained in the CARES Act to limit the damage to the real economy once the public health situation allows the economy to begin reopening.

As the magnitude of the crisis became apparent, the Federal Reserve flipped the “whatever it takes” switch, while Congress put together a 2.2 trillion dollar rescue bill in a matter of days. The CARES Act includes a dramatic expansion of unemployment insurance, economic impact payments (advance tax rebates) for individuals, tax cuts for businesses, funds to help Treasury backstop the Fed’s lending to risky entities, and funds to help states and localities pay for COVID-19 related expenses, among other things.

Perhaps the most important part of the CARES Act, however, is the roughly 360 billion-dollar Paycheck Protection Program, which will cover payroll and some other operating costs for small businesses for 8 weeks. Without such a program, many businesses would have had to

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<sup>1</sup> See, e.g., Jonathan Dingel and Brent Neiman, “[How Many Jobs Can be Done at Home?](#)” University of Chicago Becker Friedman Institute, April 6, 2020.

close permanently, destroying a significant portion of the economy's "relationship capital" between employers, employees, customers, and lenders. Unfortunately, the appropriated amount is likely too small; we believe it will have to be increased in the near future. The Treasury has already requested an extra 200 billion dollars from Congress, and we are hopeful this program will be adequately funded soon. A separate problem concerns the expeditious administration of the program and disbursement of funds. Establishing such a complicated program quickly has proven to be technically challenging, but each day that small businesses go without receiving assistance, the greater the damage the pandemic will do to the economy.

Despite the massive inflow of government funds, we expect the economy to contract at an unprecedented pace in the second quarter, declining nearly 7 percent from the first quarter, or 25 percent at an annual rate. For comparison, the next-worst pace of quarterly contraction since the modern National Income and Product Accounts began in 1947 was observed in the first quarter of 1958, when real GDP fell at a 10 percent annual rate. We estimate that real GDP also contracted slightly in the first quarter of 2020, reflecting the impact of initial containment measures as well as a drop-off in demand for human-contact-intensive services that preceded government interventions.

Our forecast assumes that new COVID-19 cases will taper off quickly by late May or early June, with the economy beginning to reopen around that time. We anticipate a massive expansion of testing capacity; enhanced federal powers allowing health officials to trace contacts of new COVID-19 patients and quarantine them effectively; an expansion in the supply of available facemasks and personal protective equipment; and changes in social norms and requirements, such as wearing facemasks in public places. That is a long list, but it is likely the minimum set of requirements to prevent COVID-19 from resurging once stay at home orders are lifted. Still, we do not expect the most affected industries to come back in full force until a vaccine

for the disease is widely available. Hence, restaurants, hotels, airlines, gyms, and spectator sports, among others, are likely to remain on a lean schedule until the spring or summer of 2021.

Figure 1 displays history and our forecast for quarterly growth of real GDP at an annual rate from the beginning of 2005 to the end of 2022. We expect real GDP growth to rebound partially in 2020q3, but the next surge in growth will have to wait until mid-2021, after a vaccine becomes widely available.

**Figure 1**  
**Quarterly U.S. Real GDP Growth, 2005q1–2022q4**

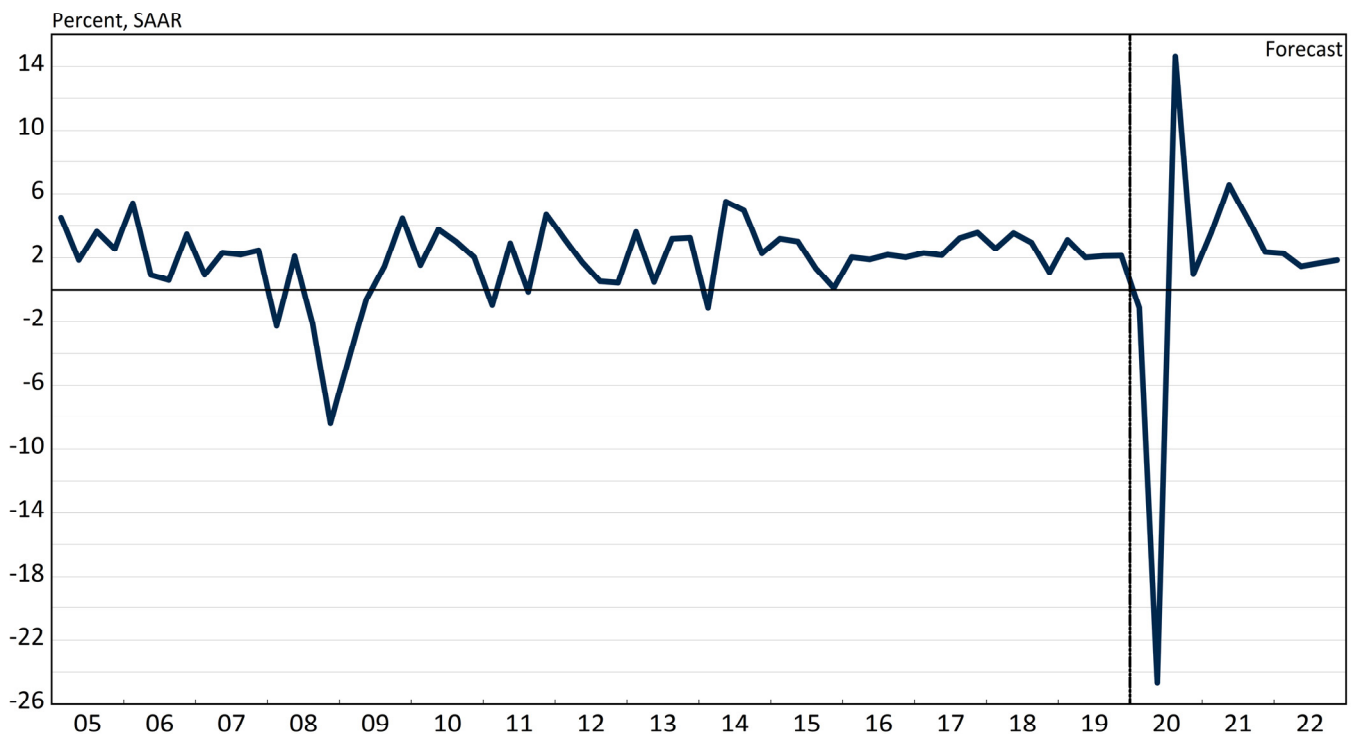


Figure 2 shows the level path of real GDP over history and our forecast. We project the level of real GDP to be more than 7 percent lower in 2020q2 than in 2019q4. As the most severe restrictions on business begin to be lifted, the economy begins to adjust to its new equilibrium. In 2020q3, economic output rebounds by about 3.5 percent, or 15 percent at an annual rate,

ending up some 4 percent below the recent peak in 2019q4.<sup>2</sup> We do not expect real activity to return to its 2019q4 peak until late in 2021.

**Figure 2**  
**Quarterly U.S. Real GDP, 2005q1–2022q4**

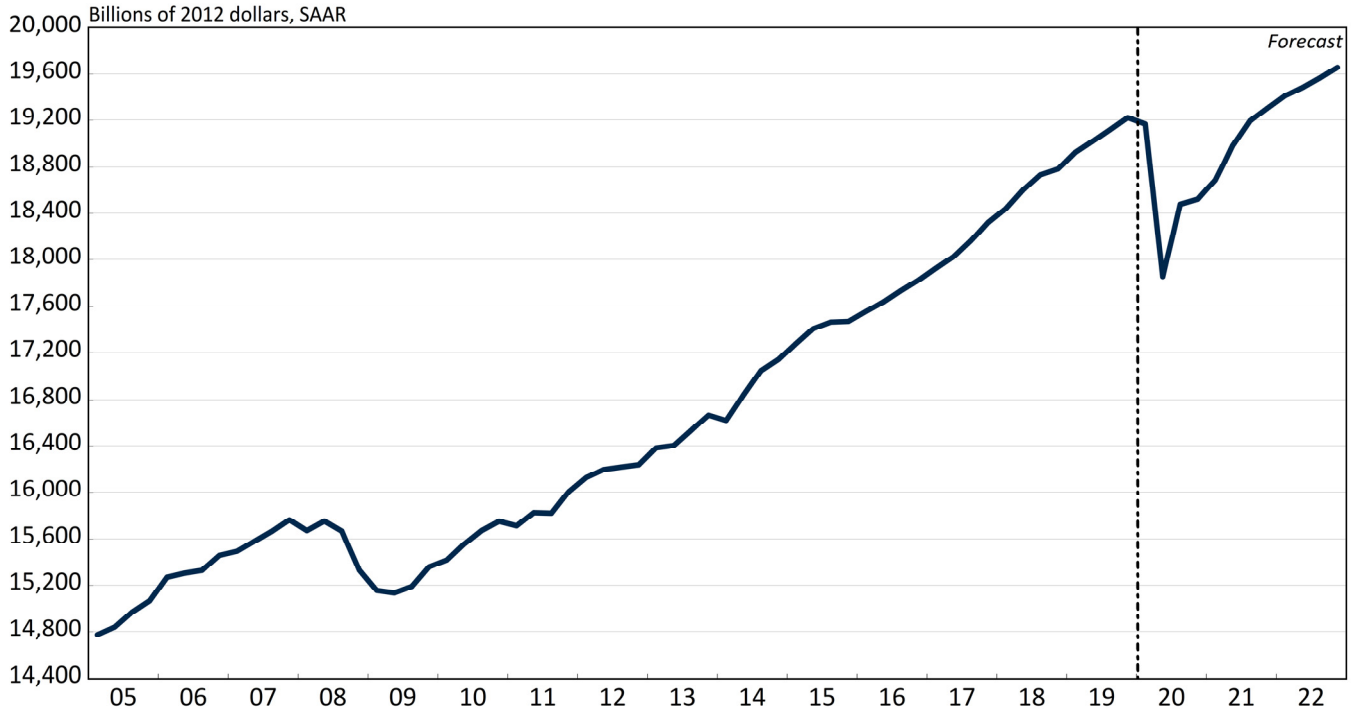


Figure 3 shows our projection for the headline U-3 civilian unemployment rate. We project the unemployment rate to peak at 14 percent on a quarterly basis in the second quarter, with a monthly peak of nearly 16 percent in May. That said, forecasting the near-term unemployment rate is likely to be a losing proposition. Both the employment rolls and labor force participation would likely experience mind-boggling gyrations even if they were measured perfectly. Complicating matters further, however, the existing survey methodology might not be well prepared to handle current circumstances.

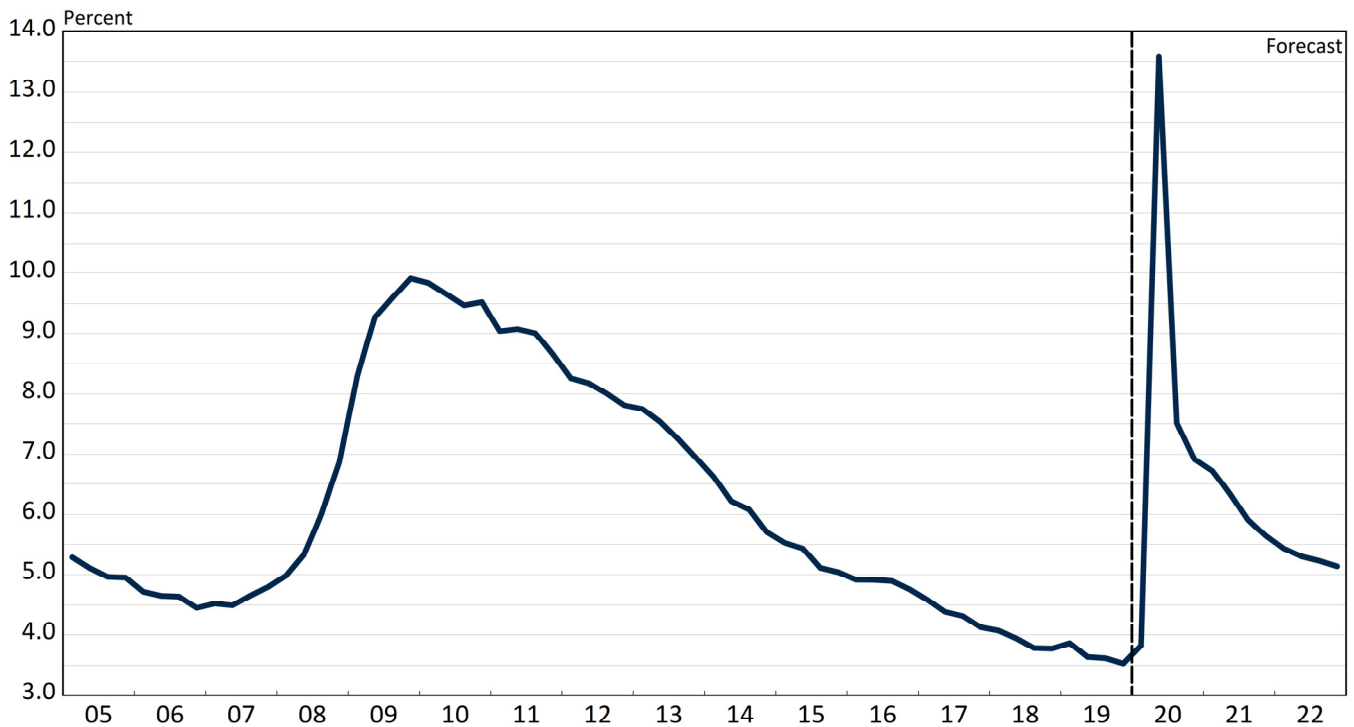
The March employment report gave us a preview of what might be in store for April. People on a temporary layoff with a reasonable expectation of being recalled within the next 6

<sup>2</sup> For comparison, real GDP fell by 4 percent during the Great Recession, but it took 6 quarters from peak to trough.

months are supposed to be counted as unemployed, regardless of job search intensity. On the other hand, people who report being temporarily absent from work are generally classified as employed. The latter category saw a jump of 1.5 million individuals, larger than ever seen previously. We believe that jump likely reflected workers misclassified as employed instead of unemployed, lowering the headline jobless rate by nearly a percentage point. The vastly expanded unemployment benefits eligibility, now covering the self-employed, independent contractors, and people with limited employment history, is also likely to introduce extra noise into the measurement of unemployment. Additionally, many states have temporarily suspended job search requirements to collect unemployment insurance benefits, which could lead the millions of people claiming unemployment benefits to drop out of the measured labor force.

Combining all of these factors, we expect nearly 32 million people, or 20 percent of workers in the household employment survey, to lose their jobs (some temporarily) through May. We expect nearly 14 million of those workers to drop temporarily out of the labor force from March through May, restricting the jump in the measured rate of unemployment. We expect the unemployment rate to drop sharply once the public health situation improves sufficiently for states to begin replacing stay at home orders with less stringent mitigation measures, as people go back to work. We project the unemployment rate to drop to about 7 percent by the end of 2020 and edge down from there as the economy recovers. The unemployment rate declines to about 5 percent by the end of 2022.

**Figure 3**  
**U.S. Unemployment Rate, 2005q1–2022q4**



Given our economic projections, further fiscal support from the federal government is imperative. The duration of unemployment insurance benefits will likely need to be extended further than the additional thirteen weeks provided in the CARES Act. States and municipalities will need hundreds of billions of dollars to fill the revenue holes resulting from the sharp contraction in economic activity and the business tax cuts contained in the CARES Act. Should this help take too long to arrive, state-level balanced budget amendments and reductions in revenue sharing will force dramatic cuts in a sector of the economy that only recently recouped its Great Recession-era employment losses, five years after the private economy had done so. The CARES Act focused primarily on government transfers to households, loans, and credit market support. Given the deep recession we are projecting, a bill increasing government spending that contributes to GDP directly would also be welcome.



## Michigan Economic Outlook

Figure 4 displays history and our forecast for Michigan payroll employment on a quarterly basis from 2005 through 2022. We expect the state’s payroll job count to fall by nearly 1.2 million jobs in the second quarter. For comparison, Michigan lost about 140,000 jobs in the first quarter of 2009, during the depths of the Great Recession. We arrived at our estimate for job losses in four steps:

- First, we analyzed federal guidance from the Department of Homeland Security’s Cyber & Infrastructure Security Agency regarding essential workers and Governor Whitmer’s “Stay Home, Stay Safe” executive order to estimate the share of workers in each industry who can continue in-person work.<sup>3</sup> We estimate that 49 percent of Michigan workers might reasonably qualify as “essential,” legally allowing them to perform in-person work under the order.
- Second, we analyzed the share of workers who are able to perform their jobs remotely. We consulted several data sources, ultimately settling on the estimates of Dingel and Neiman (2020) as the basis for our own calculations.<sup>4</sup> We estimate that 33 percent of Michigan workers are able to perform their jobs remotely. We further assumed that the probabilities that a worker can perform their job remotely and that a worker qualifies as essential are independent within broad industry sectors. That assumption along with these estimates implies that 34.4 percent of

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<sup>3</sup> Christopher Krebs, “[Advisory Memorandum on Identification Of Essential Critical Infrastructure Workers During Covid-19 Response](#).” Cybersecurity & Infrastructure Security Agency, March 28, 2020.

Gretchen Whitmer, [Executive Order 2020-21](#). March 23, 2020.

<sup>4</sup> Jonathan Dingel and Brent Neiman, “[How Many Jobs Can be Done at Home?](#)” University of Chicago Becker Friedman Institute, April 6, 2020.

Michigan's payroll employees are unable to work under the current Executive Order.

- Third, we estimate that more than 500,000 workers are currently out of work because of deficient demand for their services. Guerrieri et al. (2020) provide a formal explanation for how the initial supply shock from the pandemic can also cause deficient demand.<sup>5</sup>
- Fourth, we estimate that nearly 740,000 workers who are not presently working will continue to be paid in the near term. Those workers may be using sick leave and vacation time, work for small business employers maintaining employment relationships under the Paycheck Protection Program, or work for large employers refraining from layoffs despite workers' inability to work.

Combining those estimates suggests that payroll employment will decline by nearly 30 percent in April from its first-quarter level. The decline is larger in May as workers exhaust their paid time off and employers become less able or willing to maintain idle workers on payrolls. The decline then reverses substantially in June, as the economy begins to reopen.

Figure 4 shows that we expect nearly three-quarters of those workers to return to the job in the third quarter. That is arguably an optimistic forecast, but it reflects our judgment that the assistance in the CARES Act and the additional aid we expect to be forthcoming will prevent much of the long-term scarring that we would otherwise expect to result from the recession. The recovery slows down substantially following the third quarter, with payroll employment remaining slightly below its level in the first quarter of 2020 at the end of our forecast horizon in the fourth quarter of 2022.

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<sup>5</sup> Veronica Guerrieri, Guido Lorenzoni, Ludwig Straub, and Iván Werning, "[Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?](#)" NBER Working Paper No. 26918. April 2020.

**Figure 4**  
**Quarterly Michigan Payroll Employment, 2005q1–2022q4**

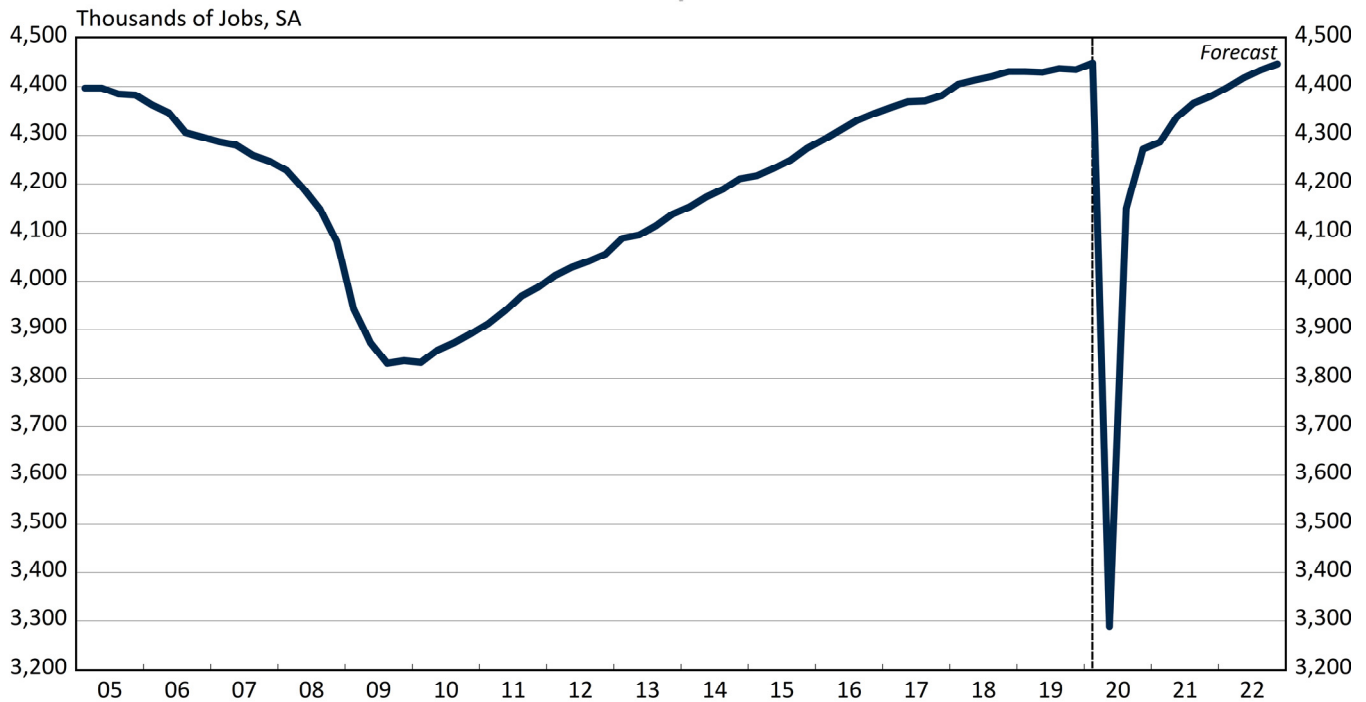
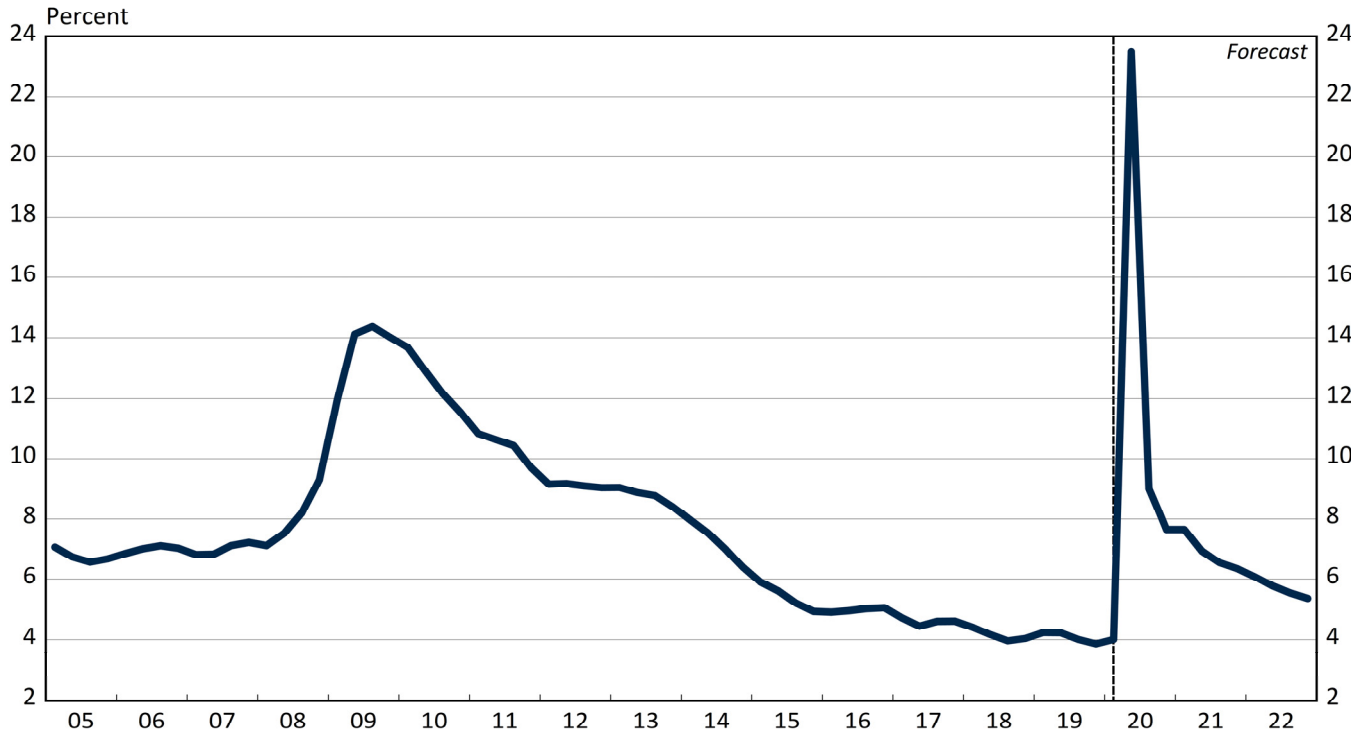


Figure 5 displays history and our forecast for Michigan's unemployment rate on a quarterly basis from 2005 to 2022. We are forecasting the state's unemployment rate to jump to 23 percent in the second quarter, easily its highest level since the current state-level data series begins in 1976. For comparison, Michigan's previous peak unemployment rate was 16.4 percent in the fourth quarter of 1982, and the state's unemployment rate peaked in the Great Recession period at 14.4 percent in the third quarter of 2009. The increase in unemployment we are forecasting is limited by a decline in the reported labor force participation rate; if the labor force participation rate does not decline, we expect the unemployment rate to rise even further than we are forecasting. We expect Michigan's unemployment rate to fall to 9 percent in the third quarter of 2020 and to decline more slowly after that, to between 5 and 6 percent by the end of our forecast horizon in the fourth quarter of 2022. The jump in Michigan's unemployment rate we are forecasting is larger than for the nation as a whole, reflecting the traditionally more cyclical

nature of the state's economy, our expectation that U.S. light vehicle sales will slow sharply, and the greater prevalence of COVID-19 in Michigan than nationally, among other factors.

**Figure 5**  
**Quarterly Michigan Unemployment Rate, 2005q1–2022q4**



Figures 6 and 7 illustrate one of the main reasons for our relative optimism about the potential pace of the economic recovery, namely the support that the Pandemic Unemployment Assistance (PUA) provisions in the CARES Act should provide for personal incomes. Figure 6 displays our estimate of the distribution of usual weekly earnings for payroll and self-employed workers and potential unemployment insurance (UI) benefits for unemployed workers in Michigan in 2019. We estimate that in 2019, roughly 65 percent of Michigan workers (including the self-employed and unemployed) earned or received less than the state's \$962 maximum weekly UI benefit under the PUA.<sup>6</sup> Those workers' aggregate usual weekly earnings and

<sup>6</sup> The PUA provides an additional \$600 per week flat benefit in addition to Michigan's standard benefit schedule, which reaches a maximum amount of \$362 per week.

potential UI benefits accounted for a bit less than one-third of total wage and salary income in the state.

**Figure 6**  
**Estimated Distribution of Weekly Earnings & Potential Unemployment Insurance Benefits in Michigan, 2019 Average**

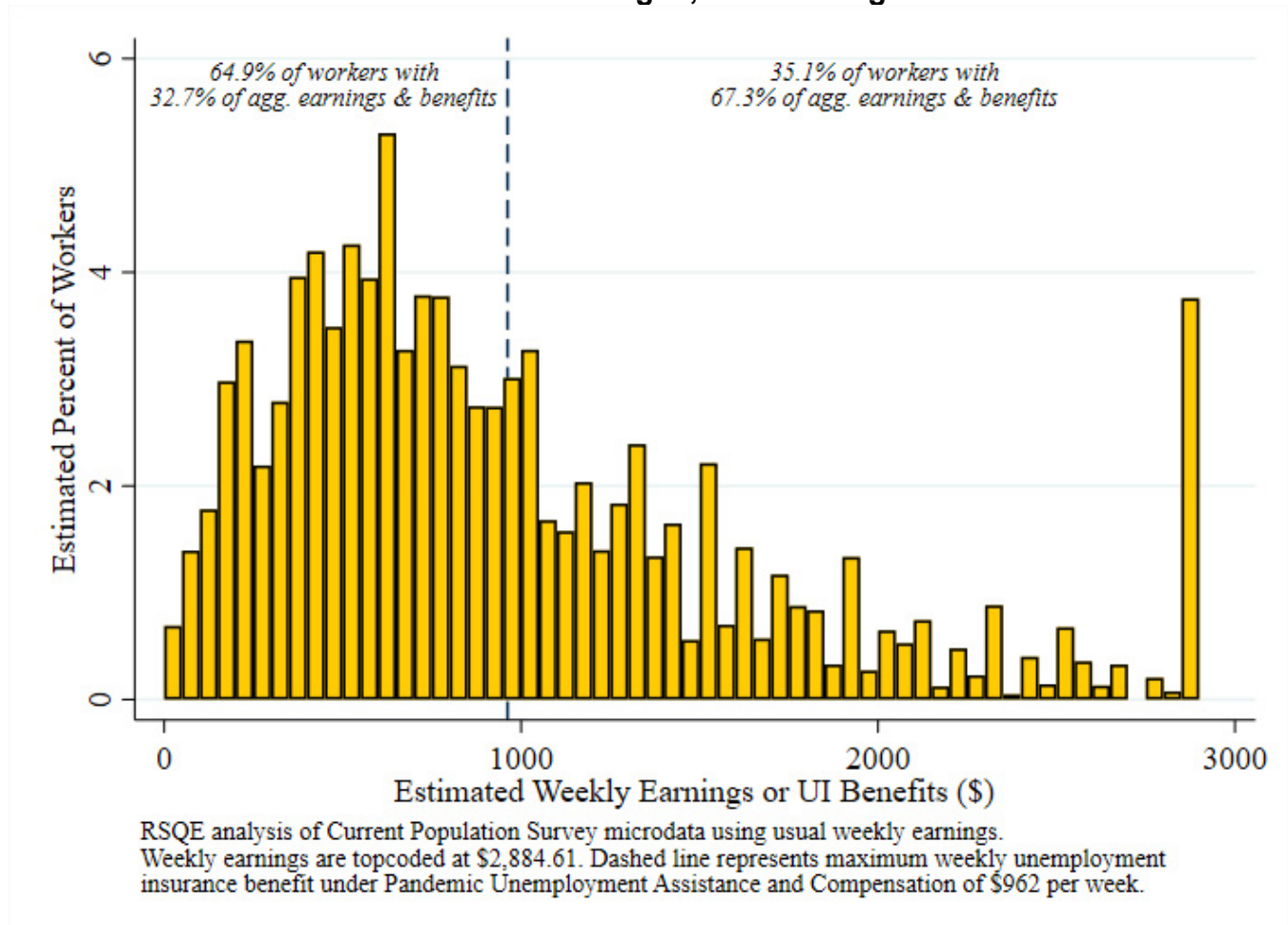
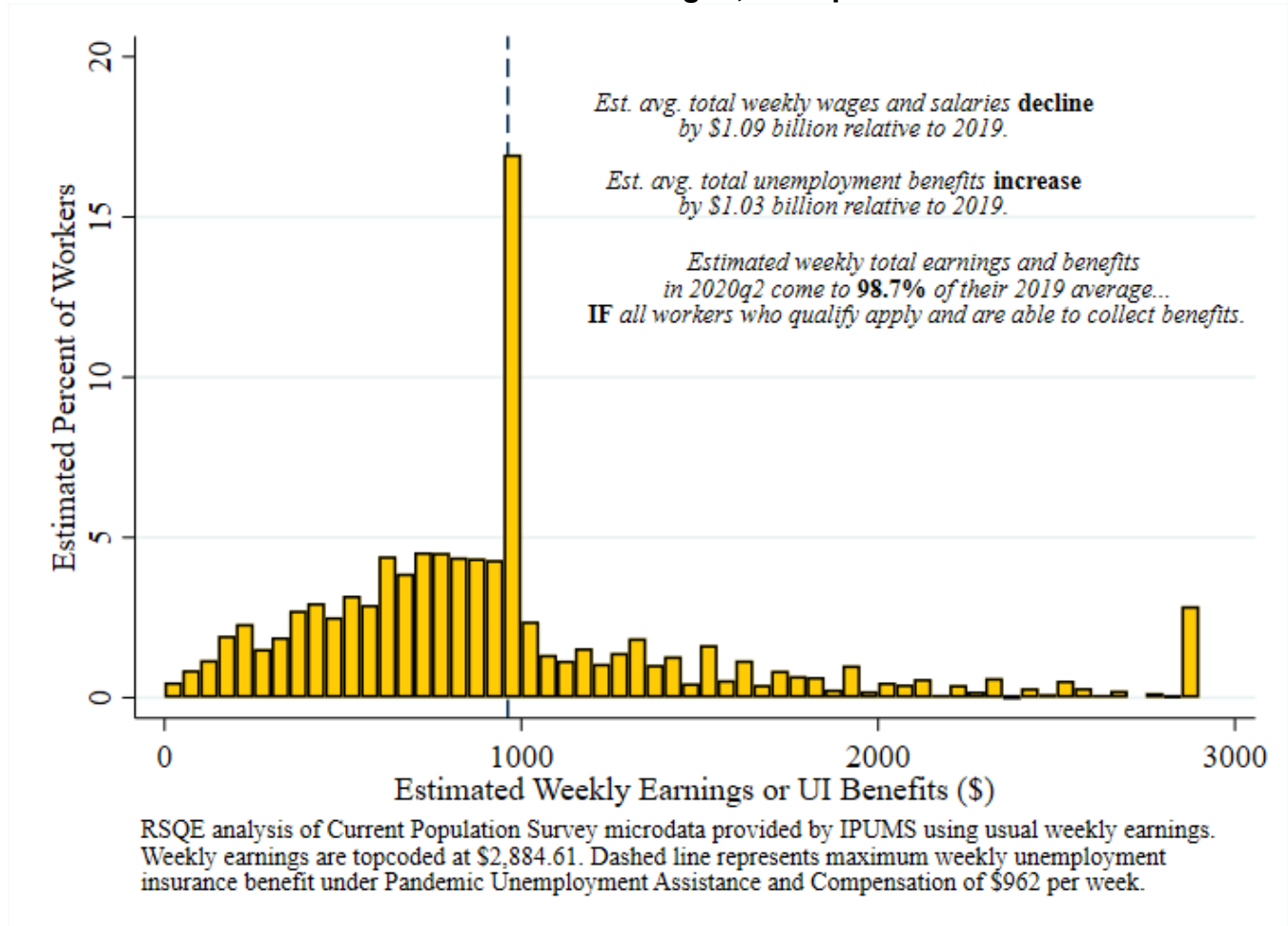


Figure 7 shows our estimate of how the same distribution will look in the second quarter of 2020, using our estimated layoff probabilities by industry and assuming all eligible workers collect the full UI benefits to which they are entitled.<sup>7</sup> We estimate that under those conditions, aggregate usual weekly earnings would decline by an average of roughly \$1.1 billion per week

<sup>7</sup> We used Current Population Survey (CPS) microdata provided by the University of Minnesota's Integrated Public Use Microdata Series to perform these calculations. The citation for that data is: Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren. Integrated Public Use Microdata Series, Current Population Survey: Version 7.0 [dataset]. Minneapolis, MN: IPUMS, 2020. <https://doi.org/10.18128/D030.V7.0>. We also used estimates of average earnings beyond the CPS topcode to estimate aggregate earnings. The citation for those estimates is: Center for Economic and Policy Research. 2020. CPS ORG Uniform Extracts, Version 2.5. Washington, DC.

in the second quarter, but aggregate UI benefits would rise by a bit over \$1 billion per week. Crucially, many low-wage workers are likely to receive higher UI benefits under the PUA than their typical wages, an income boost that can last up to four months.

**Figure 7**  
**Estimated Distribution of Weekly Earnings & Potential Unemployment Insurance Benefits in Michigan, 2020q2**



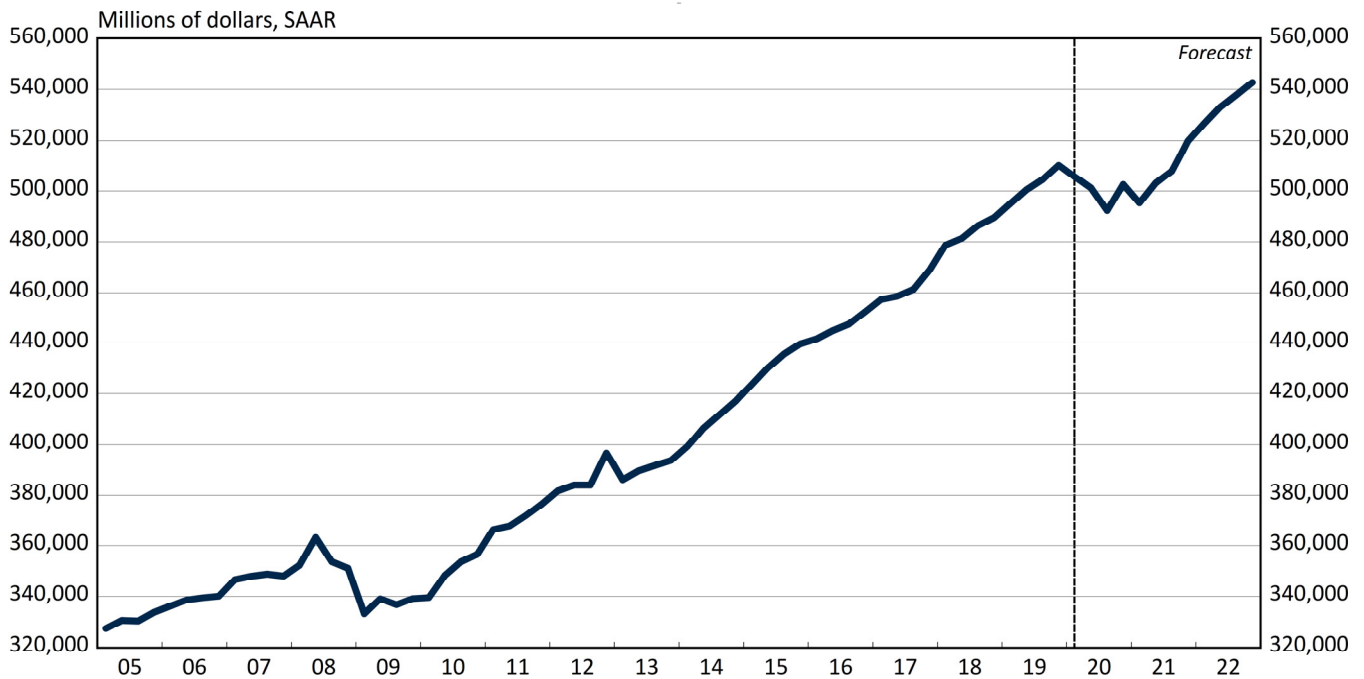
An important caveat to this analysis is that substantially fewer than 100 percent of eligible workers are likely to receive UI benefits. The Bureau of Labor Statistics estimates that in 2018, nearly three-quarters of unemployed people did not apply for UI benefits.<sup>8</sup> We expect the proportion applying for benefits to be substantially higher in the current recession than in the past, given the greatly expanded benefits and eligibility, waived job search requirements, and

<sup>8</sup> Bureau of Labor Statistics, "[Most unemployed people in 2018 did not apply for unemployment insurance benefits.](#)" TED: The Economics Daily, October 1, 2019.

substantial public attention paid to their availability. We have therefore assumed that 75 percent of eligible workers will receive benefits. Nonetheless, this proportion is largely unknown and could be lower. A significantly lower proportion of workers collecting UI benefits would reduce the PUA's effectiveness in protecting household incomes and alleviating the economic hardship caused by the pandemic. It would also reduce the likely speed of the economic recovery.

Figure 8 shows history and our forecast for the path of Michigan personal income. The near-term path of personal income will benefit from the economic impact payments established in the CARES Act in addition to the expanded unemployment insurance provided by the PUA. We estimate that total economic impact payments to Michigan households will sum to just over \$8 billion. Because of this federal government assistance, we expect personal incomes to fall much less drastically than employment during the downturn. By 2020q3, Michigan personal income stands 3.5 percent beneath its peak level in 2019q4, after which it begins a choppy rebound. It surpasses its 2019q4 level in the fourth quarter of 2021, followed by an increase of over 5 percent in 2022.

**Figure 8**  
**Michigan Personal Income, 2005q1–2022q4**



The sharp contraction in economic activity will also feed into state tax revenues. One complication to assessing the precise magnitude of those impacts is the changes to the tax code contained in the CARES Act. The act appears to reduce the tax base for the state's individual and corporate income taxes via Net Operating Loss carryover provisions, but estimates are not yet available as to the magnitude of those changes. We thought it was nonetheless useful to provide our provisional estimates of the pandemic's effect on state revenues to give a sense of the magnitude of the declines. The Michigan forecast tables 3 through 5 at the back of this document present our forecast for state revenues.

Compared with our forecast from February, we are projecting combined General Fund and School Aid Fund revenues to be \$2.6 billion lower in fiscal year 2020, \$3.2 billion lower in fiscal 2021, and \$2.2 billion lower in fiscal 2022. These estimates clarify the urgently needed federal assistance for state and local governments, which will be facing increased expenses at the same time that they encounter these shortfalls in revenue.



## **Risks to the Outlook and Concluding Thoughts**

Disease epidemiology remains the key to projecting the near-term economic outlook, as well as the source of major risks. We believe that the range of plausible scenarios is still extremely wide, and the risks are not only to the downside. Getting an accurate estimate of asymptomatic cases is of utmost priority to narrow down the set of trajectories the epidemic may take. Widespread blood antibody studies to assess the true scale of the epidemic are currently ongoing, with early results due soon. Should those tests reveal that a larger than currently estimated proportion of the population has already been exposed, it might be possible to adjust mitigation strategies to accelerate the economic recovery.

Still, plenty of downside possibilities remain. Even the most severe mitigation measures we have seen domestically fall short of the wartime-like restrictions that yielded sharp declines in new cases in China and some regions of Italy. As a result, a significant decline in new cases, which would allow the most severe current restrictions on economic activity to be lifted, could be further away than anticipated. The possibility of another surge in new cases and the associated return of stay at home orders once cooler temperatures return this fall cannot be discounted. Economic risks separate from the pandemic are also non-trivial. While help from the U.S. government is on the way for most, it may be too late for many.

It will take several months to get an accurate picture of the economic damage caused by the pandemic. Nonetheless, the dramatic events of the past several weeks and the decisions taken during this time are likely to shape the economy and society for the next decade or longer.



## U.S. Economic Outlook for 2020-2022

RSQE Forecast, 9 April 2020

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Forecast Based on MQEM

The Michigan Quarterly Econometric Model of the U.S. Economy

RSQE

Research Seminar in Quantitative Economics

The University of Michigan

Ann Arbor, Michigan 48109

**Table 1**  
Gross Domestic Product in Current Dollars  
(Billions of Current Dollars, SAAR)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
GDP	21729.12	21726.60	20121.52	20847.93	20984.73	21220.03	21641.51	21989.18	22230.68	22472.70
Consumption	14795.02	14711.19	13414.06	13881.02	14011.19	14310.02	14658.61	14924.29	15152.16	15365.03
Durables	1547.63	1504.93	1321.27	1436.69	1416.79	1424.37	1466.95	1494.09	1518.87	1542.88
Vehicles & Parts	541.05	507.19	373.93	502.47	481.05	474.99	499.86	507.82	516.48	524.67
Furn & HH Equipment	356.34	354.98	338.90	334.29	326.34	329.77	334.43	340.16	345.24	350.88
Rec Goods & Vehicles	424.04	420.42	395.47	390.06	398.06	404.91	413.97	423.82	432.04	439.25
Other	226.21	222.34	212.98	209.88	211.33	214.70	218.69	222.30	225.11	228.07
Nondurables	3010.87	2981.38	2938.03	2927.84	2924.15	2930.54	2957.40	2997.34	3039.66	3082.33
Food	1040.57	1047.57	1145.23	1115.67	1094.65	1083.56	1081.02	1086.23	1092.95	1100.07
Clothing & Footwear	400.62	395.81	382.34	382.41	384.61	385.45	391.34	396.33	401.04	405.37
Gasoline & Oil	321.54	275.45	120.00	182.59	201.90	215.88	229.70	244.77	259.00	272.55
Fuel Oil & Coal	20.05	15.86	8.09	6.64	7.72	7.92	8.39	8.83	9.28	9.69
Other	1228.09	1246.69	1282.37	1240.53	1235.27	1237.72	1246.95	1261.18	1277.38	1294.65
Services	10236.53	10224.88	9154.76	9516.50	9670.25	9955.11	10234.26	10432.86	10593.63	10739.82
Private Investment	3698.27	3744.57	3079.44	3371.46	3446.55	3372.79	3464.94	3603.18	3699.66	3779.52
Nonresidential	2862.49	2811.05	2533.28	2555.89	2556.48	2616.05	2695.05	2772.68	2852.46	2911.57
Structures	609.57	598.61	519.98	483.39	454.63	461.70	473.48	491.61	514.10	527.67
Equipment	1224.73	1178.71	994.31	1061.68	1061.99	1091.74	1137.12	1175.13	1210.67	1236.20
Info Processing	406.76	404.83	384.04	372.84	369.18	374.97	385.97	392.57	397.59	402.00
Industrial Equipment	249.26	245.76	232.12	219.76	214.44	216.79	219.41	224.97	231.19	237.62
New Vehicles	359.94	319.42	174.36	334.48	307.78	298.90	323.49	334.22	345.60	354.79
Other Equipment	208.78	208.70	203.80	134.61	170.59	201.08	208.25	223.37	236.29	241.79
Intellectual Property	1028.20	1033.72	1018.99	1010.82	1039.86	1062.61	1084.45	1105.94	1127.69	1147.71
Residential	817.74	826.44	764.78	817.74	732.80	737.63	757.18	763.13	774.02	795.92
Priv Inventory Change	18.04	107.07	-218.62	-2.17	157.27	19.11	12.71	67.37	73.17	72.03
Farm	-4.31	-7.01	0.09	0.09	0.09	0.09	-1.12	-2.28	-3.28	-3.30
Nonfarm	22.35	114.09	-218.71	-2.26	157.18	19.02	13.83	69.64	76.45	75.32
Net Exports	-577.87	-575.90	-380.10	-374.79	-429.74	-448.67	-494.30	-572.16	-619.85	-659.16
Exports	2497.73	2436.49	2014.91	2186.03	2235.34	2299.15	2363.96	2404.84	2447.21	2488.99
Imports	3075.59	3012.39	2395.02	2560.82	2665.08	2747.82	2858.26	2977.00	3067.06	3148.15
Government Purchases	3813.69	3846.74	4008.11	3970.23	3956.74	3985.88	4012.26	4033.87	3998.71	3987.32
Federal	1449.82	1459.24	1474.72	1482.28	1503.97	1551.70	1586.48	1596.29	1569.15	1565.58
Defense	862.09	869.85	877.67	885.54	897.61	922.71	941.34	947.49	935.17	934.41
Nondefense	587.73	589.39	597.05	596.75	606.36	628.99	645.14	648.80	633.98	631.17
State & Local	2363.87	2387.50	2533.39	2487.95	2452.77	2434.18	2425.78	2437.57	2429.56	2421.74
ADDENDA										
GDP Deflator (2012=100)	113.04	113.35	112.69	112.83	113.30	113.57	114.00	114.56	115.15	115.75
Unemployment Rate (%)	3.53	3.82	13.60	7.51	6.92	6.72	6.33	5.91	5.65	5.43

**Table 1**  
Gross Domestic Product in Current Dollars  
(Billions of Current Dollars, SAAR)

	Forecast			Calendar Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
GDP	22678.30	22890.44	23108.45	21427.69	20920.19	21770.35	22787.47	-2.37	4.06	4.67
Consumption	15561.04	15726.01	15902.75	14562.66	14004.37	14761.27	15638.71	-3.83	5.40	5.94
Durables	1558.61	1559.43	1579.48	1526.83	1419.92	1476.07	1560.10	-7.00	3.95	5.69
Vehicles & Parts	527.58	516.92	525.73	531.19	466.16	499.79	523.73	-12.24	7.21	4.79
Furn & HH Equipment	355.54	359.69	363.59	353.68	338.63	337.40	357.43	-4.26	-0.36	5.94
Rec Goods & Vehicles	444.96	450.11	455.68	417.75	401.00	418.68	447.50	-4.01	4.41	6.88
Other	230.53	232.71	234.48	224.20	214.13	220.20	231.45	-4.49	2.83	5.11
Nondurables	3127.18	3160.01	3190.75	2978.13	2942.85	2981.23	3140.07	-1.18	1.30	5.33
Food	1107.49	1115.02	1122.59	1032.19	1100.78	1085.94	1111.29	6.65	-1.35	2.33
Clothing & Footwear	409.52	412.85	416.29	398.94	386.29	393.54	411.01	-3.17	1.88	4.44
Gasoline & Oil	287.76	291.89	294.24	317.45	194.99	237.34	286.61	-38.58	21.72	20.76
Fuel Oil & Coal	10.10	10.32	10.48	20.24	9.58	8.61	10.15	-52.69	-10.13	17.87
Other	1312.32	1329.92	1347.15	1209.31	1251.22	1255.81	1321.01	3.47	0.37	5.19
Services	10875.24	11006.56	11132.53	10057.70	9641.59	10303.97	10938.54	-4.14	6.87	6.16
Private Investment	3839.35	3896.15	3941.41	3743.93	3410.50	3535.14	3864.11	-8.91	3.65	9.31
Nonresidential	2960.82	3003.14	3041.58	2878.12	2614.17	2734.06	2979.28	-9.17	4.59	8.97
Structures	537.74	549.83	561.39	626.98	514.15	485.22	544.16	-18.00	-5.63	12.15
Equipment	1253.77	1264.62	1274.40	1241.01	1074.17	1153.67	1257.25	-13.44	7.40	8.98
Info Processing	404.59	407.34	410.30	412.74	382.72	387.77	406.06	-7.27	1.32	4.71
Industrial Equipment	244.03	249.83	254.85	252.46	228.02	223.09	246.58	-9.68	-2.16	10.53
New Vehicles	360.50	361.92	363.85	365.24	284.01	325.55	360.26	-22.24	14.63	10.66
Other Equipment	244.64	245.53	245.40	210.58	179.42	217.25	244.34	-14.80	21.08	12.47
Intellectual Property	1169.32	1188.69	1205.79	1010.12	1025.85	1095.17	1177.87	1.56	6.76	7.55
Residential	814.74	832.64	847.59	797.52	785.44	757.99	822.72	-1.51	-3.50	8.54
Priv Inventory Change	63.78	60.37	52.25	68.29	10.89	43.09	62.11	NA	NA	NA
Farm	-3.31	-3.33	-3.35	-7.58	-1.69	-1.65	-3.32	NA	NA	NA
Nonfarm	67.09	63.70	55.59	75.87	12.58	44.74	65.43	NA	NA	NA
Net Exports	-686.49	-707.59	-723.30	-631.85	-440.13	-533.74	-694.13	NA	NA	NA
Exports	2527.15	2553.37	2577.67	2504.29	2218.19	2378.79	2536.79	-11.42	7.24	6.64
Imports	3213.64	3260.95	3300.97	3136.14	2658.33	2912.53	3230.93	-15.24	9.56	10.93
Government Purchases	3964.41	3975.87	3987.58	3752.95	3945.46	4007.68	3978.79	5.13	1.58	-0.72
Federal	1550.30	1548.05	1545.85	1422.98	1480.05	1575.91	1552.44	4.01	6.48	-1.49
Defense	927.68	927.47	927.29	846.19	882.67	936.68	929.21	4.31	6.12	-0.80
Nondefense	622.62	620.58	618.56	576.79	597.39	639.23	623.23	3.57	7.00	-2.50
State & Local	2414.11	2427.81	2441.73	2329.98	2465.40	2431.77	2426.35	5.81	-1.36	-0.22
ADDENDA										
GDP Deflator (2012=100)	116.38	116.99	117.56	112.34	113.04	114.32	116.67	0.62	1.13	2.05
Unemployment Rate (%)	5.30	5.23	5.14	3.66	7.96	6.15	5.27	NA	NA	NA

**Table 2**  
Gross Domestic Product in Chained Dollars  
(Billions of Chained (2012) Dollars, SAAR)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
GDP	19221.97	19167.81	17855.68	18476.69	18521.80	18684.51	18983.01	19193.98	19306.25	19415.01
Consumption	13413.81	13311.89	12190.77	12590.84	12662.77	12884.00	13147.97	13328.72	13469.04	13594.30
Durables	1806.11	1765.25	1564.32	1724.93	1703.31	1719.70	1778.08	1815.97	1850.64	1884.59
Vehicles & Parts	554.84	522.94	391.79	537.87	507.17	498.62	522.84	528.26	534.79	541.28
Furn & HH Equipment	411.65	407.85	390.42	388.00	381.41	387.60	395.02	403.29	410.45	418.14
Rec Goods & Vehicles	588.27	590.00	560.00	560.00	579.64	597.35	618.13	640.00	659.12	676.59
Other	267.20	265.00	256.00	254.00	257.24	262.45	268.42	273.85	278.22	282.77
Nondurables	3025.75	3024.49	3062.00	3027.24	2997.63	2985.85	2995.34	3015.53	3037.29	3059.73
Food	995.83	996.26	1080.23	1050.00	1027.87	1014.35	1008.69	1010.15	1012.60	1015.43
Clothing & Footwear	412.84	403.00	390.00	391.00	394.00	395.17	401.58	406.89	411.74	416.23
Gasoline & Oil	420.54	409.61	300.00	404.00	398.45	400.91	404.06	406.73	409.18	411.51
Fuel Oil & Coal	25.86	23.82	26.96	23.15	24.71	23.66	23.89	23.87	23.84	23.82
Other	1152.30	1169.00	1200.00	1160.00	1154.39	1155.18	1162.04	1172.92	1184.83	1197.41
Services	8639.14	8574.87	7648.48	7930.80	8035.76	8237.39	8432.27	8556.13	8643.84	8717.76
Private Investment	3363.40	3386.50	2827.53	3084.78	3136.89	3091.47	3176.44	3289.02	3365.81	3425.61
Nonresidential	2725.74	2674.55	2402.20	2449.59	2455.14	2514.10	2591.52	2663.43	2736.04	2787.33
Structures	500.14	489.82	425.00	397.04	376.01	381.88	389.77	401.88	417.00	424.07
Equipment	1255.58	1208.13	1008.71	1099.42	1100.28	1132.60	1183.85	1225.04	1263.80	1291.73
Info Processing	516.47	518.08	495.29	485.48	485.48	497.77	516.79	529.87	540.58	550.12
Industrial Equipment	237.21	233.57	220.89	209.24	204.12	205.96	207.93	212.51	217.50	222.55
New Vehicles	344.24	305.19	166.33	319.32	293.53	284.71	307.81	317.60	327.97	336.30
Other Equipment	174.98	174.09	164.65	107.29	138.73	165.55	172.16	184.90	196.13	200.74
Intellectual Property	982.02	986.89	975.00	970.00	999.32	1021.52	1042.31	1062.02	1081.14	1098.40
Residential	603.09	605.96	561.80	600.85	539.05	543.66	558.09	560.85	564.59	574.86
Priv Inventory Change	13.07	85.52	-183.90	-1.75	131.11	15.91	9.70	53.71	57.49	56.26
Farm	-7.72	-10.96	0.14	0.14	0.14	0.14	-1.71	-3.46	-4.96	-4.96
Nonfarm	18.99	96.48	-184.04	-1.89	130.97	15.77	11.41	57.17	62.45	61.23
Net Exports	-900.69	-898.80	-644.44	-636.12	-699.59	-722.25	-784.31	-879.16	-939.37	-989.64
Exports	2536.37	2524.09	2159.04	2334.46	2365.00	2406.59	2453.85	2476.31	2499.99	2522.77
Imports	3437.06	3422.89	2803.48	2970.58	3064.59	3128.84	3238.16	3355.47	3439.36	3512.41
Government Purchases	3331.06	3352.71	3508.89	3468.26	3438.80	3444.73	3447.61	3444.82	3391.85	3358.65
Federal	1295.06	1299.47	1314.02	1317.24	1332.03	1369.20	1393.47	1394.91	1363.39	1351.97
Defense	783.31	789.08	797.85	803.02	811.33	831.71	844.99	846.59	831.37	825.99
Nondefense	511.50	510.27	516.05	514.26	520.70	537.37	548.29	548.17	532.08	526.13
State & Local	2035.03	2052.12	2192.10	2148.81	2105.31	2075.14	2054.54	2050.40	2028.57	2006.86
ADDENDA										
Final Sales to Domestic Purchasers	20065.57	19941.80	18678.34	19126.31	19096.80	19383.61	19738.77	19985.73	20141.89	20291.63
Unemployment Rate (%)	3.53	3.82	13.60	7.51	6.92	6.72	6.33	5.91	5.65	5.43

**Table 2**  
Gross Domestic Product in Chained Dollars  
(Billions of Chained (2012) Dollars, SAAR)

	Forecast			Calendar Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
GDP	19486.03	19566.68	19656.54	19073.06	18505.49	19041.93	19531.07	-2.98	2.90	2.57
Consumption	13700.54	13784.44	13881.50	13280.07	12689.07	13207.43	13740.19	-4.45	4.09	4.03
Durables	1908.36	1912.70	1942.73	1766.39	1689.45	1791.09	1912.10	-4.36	6.02	6.76
Vehicles & Parts	542.30	528.70	536.95	542.65	489.94	521.13	537.31	-9.71	6.37	3.10
Furn & HH Equipment	424.56	430.19	435.47	405.66	391.92	399.09	427.09	-3.39	1.83	7.02
Rec Goods & Vehicles	691.87	706.20	721.21	569.27	572.41	628.65	698.97	0.55	9.82	11.19
Other	286.70	290.23	293.27	263.41	258.06	270.73	288.24	-2.03	4.91	6.47
Nondurables	3081.83	3102.62	3123.09	3002.92	3027.84	3008.50	3091.82	0.83	-0.64	2.77
Food	1018.44	1021.22	1024.09	988.45	1038.59	1011.45	1019.79	5.07	-2.61	0.83
Clothing & Footwear	420.49	423.80	427.28	406.97	394.50	403.84	421.95	-3.06	2.37	4.48
Gasoline & Oil	413.38	415.98	418.44	422.30	378.01	405.22	414.83	-10.49	7.20	2.37
Fuel Oil & Coal	23.74	23.71	23.72	26.24	24.66	23.82	23.75	-6.03	-3.42	-0.29
Other	1210.04	1222.07	1233.64	1142.08	1170.85	1168.74	1215.79	2.52	-0.18	4.03
Services	8781.36	8838.41	8890.93	8562.89	8047.48	8467.41	8807.11	-6.02	5.22	4.01
Private Investment	3467.64	3504.40	3530.75	3421.33	3108.93	3230.69	3482.10	-9.13	3.92	7.78
Nonresidential	2827.91	2860.07	2887.84	2748.13	2495.37	2626.27	2840.79	-9.20	5.25	8.17
Structures	427.78	432.84	437.55	517.83	421.97	397.63	430.56	-18.51	-5.77	8.28
Equipment	1310.90	1321.98	1331.00	1271.33	1104.14	1201.32	1313.90	-13.15	8.80	9.37
Info Processing	557.04	564.05	571.14	517.86	496.08	521.25	560.59	-4.21	5.07	7.55
Industrial Equipment	227.46	231.64	235.01	241.07	216.96	210.98	229.17	-10.00	-2.76	8.62
New Vehicles	341.33	342.28	343.73	349.32	271.09	309.52	340.91	-22.39	14.18	10.14
Other Equipment	202.96	202.93	201.37	179.25	146.19	179.68	202.00	-18.44	22.91	12.42
Intellectual Property	1117.00	1132.95	1146.83	969.25	982.80	1051.75	1123.79	1.40	7.01	6.85
Residential	583.25	590.76	596.05	593.79	576.92	556.79	586.23	-2.84	-3.49	5.29
Priv Inventory Change	49.30	46.31	39.56	66.98	7.74	34.20	47.86	NA	NA	NA
Farm	-4.96	-4.96	-4.96	-11.06	-2.63	-2.50	-4.96	NA	NA	NA
Nonfarm	54.27	51.27	44.52	75.27	10.38	36.70	52.82	NA	NA	NA
Net Exports	-1028.71	-1058.74	-1081.87	-953.87	-719.74	-831.27	-1039.74	NA	NA	NA
Exports	2538.79	2549.30	2560.66	2532.91	2345.65	2459.19	2542.88	-7.39	4.84	3.40
Imports	3567.50	3608.04	3642.53	3486.78	3065.39	3290.46	3582.62	-12.09	7.34	8.88
Government Purchases	3315.61	3301.90	3289.24	3299.03	3442.16	3432.25	3316.35	4.34	-0.29	-3.38
Federal	1330.24	1319.69	1309.21	1275.52	1315.69	1380.24	1327.78	3.15	4.91	-3.80
Defense	815.14	810.17	805.10	773.40	800.32	838.66	814.10	3.48	4.79	-2.93
Nondefense	515.39	509.89	504.56	501.98	515.32	541.48	513.99	2.66	5.08	-5.08
State & Local	1985.38	1982.00	1979.59	2022.32	2124.58	2052.16	1988.46	5.06	-3.41	-3.10
ADDENDA										
Final Sales to Domestic Purchasers	20399.87	20507.59	20622.69	19909.70	19210.81	19812.50	20455.44	-3.51	3.13	3.25
Unemployment Rate (%)	5.30	5.23	5.14	3.66	7.96	6.15	5.27	NA	NA	NA

**Table 3**  
Personal Income and its Disposition  
(Billions of Current Dollars, SAAR)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
PERSONAL INCOME	18821.02	19050.00	19433.12	18973.86	18642.22	18582.13	18848.55	19100.82	19361.31	19642.38
Wages & Salaries	9396.28	9487.90	8483.95	9195.32	9328.26	9235.95	9406.20	9551.19	9683.42	9815.46
Private	7924.17	8002.77	6985.47	7681.08	7811.38	7707.81	7867.43	8001.75	8123.49	8245.22
Government	1472.11	1485.13	1498.48	1514.23	1516.88	1528.14	1538.77	1549.44	1559.93	1570.24
Supplements to W&S For Employee Pension & Ins Funds	2151.92	2180.82	1829.42	1909.87	1916.48	2285.53	2300.04	2322.20	2346.02	2380.41
For Govt Soc Ins	1496.26	1511.37	1512.30	1514.30	1517.42	1522.26	1531.07	1543.61	1559.15	1576.69
For Govt Soc Ins	655.67	669.45	317.12	395.57	399.06	763.26	768.97	778.59	786.87	803.72
Proprietors' Income	1695.57	1734.67	1703.17	1746.50	1751.31	1771.24	1800.48	1832.28	1862.44	1890.28
Farm	42.06	47.83	79.20	79.20	49.90	42.26	37.73	34.94	33.19	32.10
Nonfarm	1653.51	1686.83	1623.97	1667.30	1701.40	1728.98	1762.75	1797.34	1829.24	1858.17
Rental Income	787.66	806.80	822.71	848.66	854.66	858.20	861.76	860.33	858.92	857.52
Pers Receipts on Assets	3002.25	3026.77	2435.57	2426.40	2443.65	2473.63	2513.71	2559.63	2673.12	2752.94
Interest Income	1715.60	1721.77	1525.37	1508.70	1497.90	1492.78	1496.49	1507.01	1522.24	1542.11
Dividend Income	1286.65	1305.00	910.20	917.70	945.74	980.85	1017.22	1052.62	1150.88	1210.83
Transfer Payments	3220.28	3276.18	5179.60	3977.60	3490.86	3491.54	3512.66	3542.99	3523.56	3570.46
Unemployment Benefits	26.04	26.69	995.58	298.80	96.99	90.84	89.82	87.71	35.53	33.95
Other	3194.25	3249.49	4184.01	3678.81	3393.87	3400.70	3422.84	3455.28	3488.03	3536.51
Less: Contributions for Social Insurance	1432.94	1463.14	1021.29	1130.49	1142.98	1533.95	1546.30	1567.80	1586.16	1624.68
Less:										
PERSONAL TAXES	2195.72	2211.80	2036.50	2060.58	2083.95	1848.16	1891.77	1879.75	1922.91	1921.48
Equals:										
DISP PERS INCOME	16625.29	16838.20	17396.62	16913.28	16558.28	16733.97	16956.78	17221.07	17438.41	17720.91
Less:										
PERSONAL OUTLAYS	15356.02	15275.14	13973.58	14441.82	14574.88	14876.62	15227.95	15497.08	15728.89	15946.58
Equals:										
PERSONAL SAVING	1269.28	1563.06	3423.04	2471.46	1983.40	1857.35	1728.83	1723.99	1709.51	1774.33
ADDENDA										
Disposable Personal Income (Bill Chained 2012 \$)	15073.21	15236.59	15810.14	15341.26	14964.74	15066.40	15209.31	15379.95	15501.32	15678.67
Personal Saving Rate (%)	7.60	9.28	19.68	14.61	11.98	11.10	10.20	10.01	9.80	10.01



**Table 3**  
Personal Income and its Disposition  
(Billions of Current Dollars, SAAR)

	Forecast			Calendar Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
PERSONAL INCOME	19876.14	20084.16	20298.72	18602.30	19024.80	18973.20	19975.35	2.27	-0.27	5.28
Wages & Salaries	9927.53	10032.85	10139.70	9297.75	9123.86	9469.19	9978.88	-1.87	3.78	5.38
Private	8346.93	8437.56	8529.61	7846.00	7620.18	7925.12	8389.83	-2.88	4.00	5.86
Government	1580.60	1595.29	1610.08	1451.75	1503.68	1544.07	1589.05	3.58	2.69	2.91
Supplements to W&S For Employee Pension & Ins Funds	2405.61	2431.27	2457.12	2123.10	1959.14	2313.45	2418.60	-7.72	18.08	4.55
For Govt Soc Ins	1595.13	1614.04	1632.97	1473.21	1513.85	1539.02	1604.71	2.76	1.66	4.27
For Govt Soc Ins	810.49	817.23	824.14	649.89	445.30	774.43	813.90	-31.48	73.91	5.10
Proprietors' Income	1915.01	1938.06	1960.80	1658.25	1733.91	1816.61	1926.04	4.56	4.77	6.02
Farm	31.45	31.09	30.94	31.98	64.03	37.03	31.40	100.23	-42.17	-15.21
Nonfarm	1883.56	1906.97	1929.85	1626.26	1669.88	1779.58	1894.64	2.68	6.57	6.47
Rental Income	856.14	854.77	853.42	777.90	833.21	859.80	855.46	7.11	3.19	-0.50
Pers Receipts on Assets	2803.87	2841.02	2878.31	2992.89	2583.09	2555.02	2819.03	-13.69	-1.09	10.33
Interest Income	1563.44	1583.74	1609.11	1720.57	1563.43	1504.63	1574.60	-9.13	-3.76	4.65
Dividend Income	1240.43	1257.28	1269.19	1272.32	1019.66	1050.39	1244.43	-19.86	3.01	18.47
Transfer Payments	3607.40	3640.26	3678.50	3171.94	3981.06	3517.69	3624.16	25.51	-11.64	3.03
Unemployment Benefits	33.11	32.79	32.42	26.15	354.51	75.97	33.07	1255.75	-78.57	-56.48
Other	3574.29	3607.48	3646.08	3145.79	3626.55	3441.71	3591.09	15.28	-5.10	4.34
Less: Contributions for Social Insurance	1639.42	1654.07	1669.11	1419.53	1189.47	1558.55	1646.82	-16.21	31.03	5.66
Less: PERSONAL TAXES	1942.05	1957.04	1984.24	2182.02	2098.21	1885.65	1951.20	-3.84	-10.13	3.48
Equals: DISP PERS INCOME	17934.09	18127.12	18314.48	16420.28	16926.59	17087.56	18024.15	3.08	0.95	5.48
Less: PERSONAL OUTLAYS	16147.85	16318.85	16502.43	15122.34	14566.36	15332.63	16228.93	-3.68	5.26	5.85
Equals: PERSONAL SAVING	1786.24	1808.27	1812.05	1297.94	2360.24	1754.92	1795.22	81.84	-25.65	2.30
ADDENDA Disposable Personal Income (Bill Chained 2012 \$)	15789.87	15889.11	15986.70	14974.37	15338.18	15289.25	15836.09	2.43	-0.32	3.58
Personal Saving Rate (%)	9.96	9.98	9.89	7.90	13.89	10.28	9.96	NA	NA	NA

**Table 4**  
Relation of GDP, GNP, NNP and Personal Income  
(Billions of Current Dollars, SAAR)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
Gross Domestic Product	21729.12	21726.60	20121.52	20847.93	20984.73	21220.03	21641.51	21989.18	22230.68	22472.70
Plus:										
Income Receipts from the Rest of the World	1148.75	1153.03	1157.33	1161.65	1165.98	1170.33	1174.69	1179.07	1183.47	1187.88
Less:										
Income Payments to the Rest of the World	834.51	838.65	842.82	847.00	851.20	855.43	859.67	863.94	868.23	872.54
Equals:										
Gross National Product	22043.36	22040.97	20436.03	21162.58	21299.51	21534.93	21956.53	22304.31	22545.92	22788.05
Less:										
Consump of Fixed Cap	3517.27	3544.08	3557.97	3559.83	3562.49	3572.62	3590.49	3615.36	3647.10	3684.07
Private	2923.86	2947.31	2958.45	2959.33	2961.27	2969.34	2983.77	3004.46	3031.48	3063.15
Government	593.42	596.77	599.53	600.50	601.22	603.28	606.72	610.90	615.63	620.91
Equals:										
Net National Prod	18526.09	18496.89	16878.06	17602.75	17737.01	17962.31	18366.04	18688.95	18898.81	19103.98
Less:										
Statistical Discrepancy	126.24	-54.67	453.05	-62.18	-134.56	-257.58	-172.71	-128.52	-148.37	-175.77
Equals:										
National Income	18399.84	18551.56	16425.01	17664.93	17871.58	18219.89	18538.75	18817.47	19047.18	19279.75
Less:										
Corporate Profits with IVA & Cap Consump Adjust Taxes on Production and Imports less Subsidies	2131.00	2085.19	1903.63	2027.10	2028.44	2091.33	2176.91	2242.53	2266.06	2286.45
Social Ins Contributions	1438.04	1446.18	1045.14	1337.79	1416.75	1418.95	1444.59	1468.56	1490.49	1503.16
Net Interest	1432.94	1463.14	1021.29	1130.49	1142.98	1533.95	1546.30	1567.80	1586.16	1624.68
Business Transfers (net)	641.48	649.15	498.87	459.29	432.98	413.69	401.47	395.76	395.23	400.53
Surplus of Govt Enterprises	169.58	172.29	169.31	166.35	163.39	160.44	157.49	154.56	154.30	155.38
	-11.69	-11.44	-31.19	-25.94	-20.69	-15.44	-10.19	-9.94	-9.69	-9.44
Plus:										
Pers Receipts on Assets	3002.25	3026.77	2435.57	2426.40	2443.65	2473.63	2513.71	2559.63	2673.12	2752.94
Pers Transfer Receipts	3220.28	3276.18	5179.60	3977.60	3490.86	3491.54	3512.66	3542.99	3523.56	3570.46
Equals:										
Personal Income	18821.02	19050.00	19433.12	18973.86	18642.22	18582.13	18848.55	19100.82	19361.31	19642.38

**Table 4**  
Relation of GDP, GNP, NNP and Personal Income  
(Billions of Current Dollars, SAAR)

	Forecast			Calendar Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
Gross Domestic Product	22678.30	22890.44	23108.45	21427.69	20920.19	21770.35	22787.47	-2.37	4.06	4.67
Plus:										
Income Receipts from the Rest of the World	1192.31	1196.76	1201.22	1158.83	1159.50	1176.89	1194.54	0.06	1.50	1.50
Less:										
Income Payments to the Rest of the World	876.87	881.22	885.59	863.31	844.92	861.82	879.05	-2.13	2.00	2.00
Equals:										
Gross National Product	22993.74	23205.98	23424.07	21723.21	21234.77	22085.42	23102.96	-2.25	4.01	4.61
Less:										
Consump of Fixed Cap	3723.06	3763.63	3804.90	3462.96	3556.09	3606.39	3743.91	2.69	1.41	3.81
Private	3096.59	3131.39	3166.73	2876.12	2956.59	2997.26	3114.47	2.80	1.38	3.91
Government	626.47	632.24	638.17	586.84	599.50	609.13	629.45	2.16	1.61	3.34
Equals:										
Net National Prod	19270.68	19442.35	19619.17	18260.26	17678.68	18479.03	19359.05	-3.18	4.53	4.76
Less:										
Statistical Discrepancy	-202.91	-223.69	-239.14	105.07	50.41	-176.80	-210.38	NA	NA	NA
Equals:										
National Income	19473.59	19666.04	19858.31	18155.19	17628.27	18655.83	19569.42	-2.90	5.83	4.90
Less:										
Corporate Profits with IVA & Cap Consump Adjust Taxes on Production and Imports less Subsidies	2295.15	2313.58	2332.74	2074.64	2011.09	2194.21	2306.98	-3.06	9.11	5.14
Social Ins Contributions	1639.42	1654.07	1669.11	1419.53	1189.47	1558.55	1646.82	-16.21	31.03	5.66
Net Interest	404.34	408.21	409.36	644.95	510.07	401.54	405.61	-20.91	-21.28	1.01
Business Transfers (net)	156.47	157.56	158.67	170.73	167.83	156.70	157.02	-1.70	-6.64	0.21
Surplus of Govt Enterprises	-9.19	-8.94	-8.94	-12.18	-22.31	-11.31	-9.12	83.15	-49.30	-19.34
Plus:										
Pers Receipts on Assets	2803.87	2841.02	2878.31	2992.89	2583.09	2555.02	2819.03	-13.69	-1.09	10.33
Pers Transfer Receipts	3607.40	3640.26	3678.50	3171.94	3981.06	3517.69	3624.16	25.51	-11.64	3.03
Equals:										
Personal Income	19876.14	20084.16	20298.72	18602.30	19024.80	18973.20	19975.35	2.27	-0.27	5.28

**Table 5**  
Foreign Transactions in the NIPAs  
(Billions of Current Dollars, SAAR)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
RECEIPTS FROM REST OF WORLD	3646.47	3589.52	3172.24	3347.68	3401.32	3469.48	3538.65	3583.91	3630.68	3676.87
Exports	2497.73	2436.49	2014.91	2186.03	2235.34	2299.15	2363.96	2404.84	2447.21	2488.99
Goods	1629.20	1574.94	1216.79	1347.37	1394.68	1447.58	1504.58	1539.20	1574.56	1609.17
Services	868.53	861.55	798.13	838.66	840.66	851.57	859.38	865.63	872.65	879.82
Income Receipts	1148.75	1153.03	1157.33	1161.65	1165.98	1170.33	1174.69	1179.07	1183.47	1187.88
PAYMENTS TO REST OF WORLD	4084.16	4015.64	3401.81	3567.82	3672.80	3754.39	3865.60	3985.08	4078.60	4164.40
Imports	3075.59	3012.39	2395.02	2560.82	2665.08	2747.82	2858.26	2977.00	3067.06	3148.15
Goods	2458.98	2404.33	1866.05	1980.04	2075.18	2146.86	2243.71	2350.11	2429.72	2500.55
Services	616.61	608.06	528.97	580.78	589.90	600.96	614.55	626.89	637.34	647.60
Income Payments	834.51	838.65	842.82	847.00	851.20	855.43	859.67	863.94	868.23	872.54
Taxes & Transfers (net)	174.06	164.60	163.98	160.01	156.52	151.15	147.67	144.15	143.31	143.71
From Persons	92.82	93.51	94.20	94.90	95.61	96.31	97.03	97.75	98.47	99.20
From Government	45.60	39.42	42.08	41.38	41.16	39.04	38.82	38.54	38.28	37.92
From Business	35.64	31.67	27.70	23.73	19.76	15.79	11.83	7.86	6.56	6.59
BALANCE ON CURRENT ACCOUNT (% of GDP)	-443.89 -2.04	-426.12 -1.96	-229.57 -1.14	-220.15 -1.06	-271.49 -1.29	-284.92 -1.34	-326.95 -1.51	-401.18 -1.82	-447.92 -2.01	-487.53 -2.17

**Table 5**  
Foreign Transactions in the NIPAs  
(Billions of Current Dollars, SAAR)

	Forecast			Calendar Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
RECEIPTS FROM REST OF WORLD	3719.46	3750.12	3778.89	3663.12	3377.69	3555.68	3731.33	-7.79	5.27	4.94
Exports	2527.15	2553.37	2577.67	2504.29	2218.19	2378.79	2536.79	-11.42	7.24	6.64
Goods	1639.29	1657.98	1674.64	1643.76	1383.44	1516.48	1645.27	-15.84	9.62	8.49
Services	887.86	895.39	903.03	860.53	834.75	862.31	891.52	-3.00	3.30	3.39
Income Receipts	1192.31	1196.76	1201.22	1158.83	1159.50	1176.89	1194.54	0.06	1.50	1.50
PAYMENTS TO REST OF WORLD	4234.74	4286.93	4331.84	4161.87	3664.52	3920.92	4254.48	-11.95	7.00	8.51
Imports	3213.64	3260.95	3300.97	3136.14	2658.33	2912.53	3230.93	-15.24	9.56	10.93
Goods	2556.68	2594.16	2624.29	2530.08	2081.40	2292.60	2568.92	-17.73	10.15	12.05
Services	656.96	666.80	676.68	606.06	576.93	619.93	662.01	-4.81	7.45	6.79
Income Payments	876.87	881.22	885.59	863.31	844.92	861.82	879.05	-2.13	2.00	2.00
Taxes & Transfers (net)	144.23	144.76	145.28	162.42	161.28	146.57	144.50	-0.70	-9.12	-1.42
From Persons	99.94	100.68	101.43	90.92	94.55	97.39	100.31	4.00	3.00	3.00
From Government	37.67	37.42	37.17	38.34	41.01	38.67	37.54	6.95	-5.70	-2.91
From Business	6.62	6.66	6.69	33.16	25.71	10.51	6.64	-22.45	-59.13	-36.82
BALANCE ON CURRENT ACCOUNT (% of GDP)	-515.28 -2.27	-536.80 -2.35	-552.96 -2.39	-502.88 -2.35	-286.83 -1.36	-365.24 -1.67	-523.14 -2.29	NA NA	NA NA	NA NA

**Table 6**  
Supplementary Data  
(SAAR Where Applicable)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
GDP Deflator (2012=100)	113.04	113.35	112.69	112.83	113.30	113.57	114.00	114.56	115.15	115.75
PCE Deflator (2012=100)	110.30	110.51	110.03	110.25	110.65	111.07	111.49	111.97	112.50	113.03
CPI-U (nsa, 1982-84=100)	257.18	257.37	252.78	253.48	254.25	255.97	258.44	259.46	260.01	261.78
PPI ('82=100)	207.33	206.51	199.58	201.27	203.24	205.09	205.69	206.41	207.41	208.39
Value of US \$(1/97=100)	129.81	132.00	135.00	133.00	132.00	131.00	131.00	131.00	131.00	131.00
Housing Starts (Thous)	1440.67	1449.33	611.67	911.67	928.26	1005.86	1095.05	1154.80	1201.13	1232.31
<b>PRIVATE NONFARM SECTOR</b>										
Price Deflator (2012=100)	111.43	111.71	111.18	111.02	111.11	111.42	111.72	112.16	112.73	113.24
Output/Hour (2012=100)	108.17	108.55	113.77	111.08	110.66	111.14	111.85	112.38	112.34	112.31
Compensation/Hour (2012=100)	120.75	121.91	123.55	123.58	124.22	124.69	125.37	126.03	126.79	127.71
Unit Labor Cost (2012=100)	111.63	112.31	108.60	111.25	112.26	112.19	112.08	112.14	112.86	113.71
<b>INDUSTRIAL SECTOR</b>										
Industrial Prod (2012=100)	109.53	109.20	96.67	102.62	102.66	104.11	106.60	108.43	109.95	111.55
Capacity Utilization Rate (%)	77.21	76.70	67.75	71.88	72.00	73.20	75.19	76.70	77.93	79.08
<b>EMPLOYMENT</b>										
Payroll Employment (Mill)	151.79	152.16	135.29	145.24	146.28	148.59	150.25	151.83	153.10	154.21
Household Employment (Mill)	158.63	157.75	132.61	150.93	152.46	153.08	154.41	155.54	156.35	157.09
Unemployment Rate, Total (%)	3.53	3.82	13.60	7.51	6.92	6.72	6.33	5.91	5.65	5.43
<b>MONETARY SECTOR</b>										
Federal Funds Rate (%)	1.64	1.42	0.62	0.12	0.12	0.12	0.12	0.12	0.12	0.12
3-Mo Treasury Bill Rate (%)	1.58	1.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.20
5-Year TIPS Rate (%)	0.09	-0.22	-0.31	-0.50	-0.60	-0.60	-0.55	-0.50	-0.45	-0.40
5-Year Govt Rate (%)	1.62	1.16	0.40	0.32	0.27	0.36	0.49	0.61	0.72	0.80
10-Year Govt Rate (%)	1.79	1.38	0.70	0.71	0.70	0.77	0.85	0.93	1.00	1.06
Aaa Rate, Industrials (%)	3.03	2.92	2.90	2.14	2.31	2.32	2.30	2.31	2.34	2.38
Conv Mortgage Rate (%)	3.70	3.52	3.50	3.25	3.18	3.19	3.22	3.26	3.32	3.37
Par Value of Privately Held Government Debt (Bill \$)	14841.58	14747.52	14919.33	15726.89	16419.23	17174.27	17404.26	18032.85	18674.17	19242.19
<b>VEHICLE SALES</b>										
Light Vehicles (Mill)	16.73	15.01	7.67	16.33	15.00	14.40	15.55	15.75	16.03	16.26
Autos (Mill)	4.41	3.82	1.99	4.25	3.81	3.57	3.76	3.72	3.69	3.70
Domestic (Mill)	3.33	2.93	1.53	3.31	2.91	2.69	2.81	2.76	2.73	2.73
Imports (Mill)	1.09	0.89	0.46	0.93	0.90	0.88	0.95	0.96	0.96	0.97
Import Share (%)	24.63	23.40	23.00	22.00	23.66	24.64	25.24	25.70	26.05	26.30
Light Trucks (Mill)	12.32	11.18	5.67	12.09	11.19	10.83	11.79	12.03	12.35	12.56
Domestic (Mill)	9.64	8.85	4.45	9.67	8.93	8.56	9.32	9.54	9.79	9.97
Imports (Mill)	2.68	2.33	1.22	2.42	2.26	2.26	2.47	2.50	2.56	2.59
Import Share (%)	21.72	20.86	21.50	20.00	20.23	20.90	20.92	20.76	20.71	20.65

**Table 6**  
Supplementary Data  
(SAAR Where Applicable)

	Forecast			Calendar Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
GDP Deflator (2012=100)	116.38	116.99	117.56	112.34	113.04	114.32	116.67	0.62	1.13	2.05
PCE Deflator (2012=100)	113.58	114.09	114.56	109.65	110.36	111.76	113.81	0.64	1.26	1.84
CPI-U (nsa, 1982-84=100)	264.54	265.21	265.28	255.66	254.47	258.47	264.20	-0.46	1.57	2.22
PPI ('82=100)	209.85	210.99	212.25	205.78	202.65	206.15	210.37	-1.52	1.73	2.05
Value of US \$(1/97=100)	131.00	131.00	131.00	128.62	133.00	131.00	131.00	3.40	-1.50	0.00
Housing Starts (Thous)	1249.87	1254.71	1259.80	1297.75	975.23	1114.21	1249.17	-24.85	14.25	12.11
<b>PRIVATE NONFARM SECTOR</b>										
Price Deflator (2012=100)	113.79	114.42	115.00	110.88	111.25	112.01	114.11	0.33	0.68	1.88
Output/Hour (2012=100)	112.35	112.54	112.79	107.79	111.02	111.93	112.50	2.99	0.82	0.51
Compensation/Hour (2012=100)	128.64	129.59	130.60	120.09	123.31	125.72	129.13	2.68	1.95	2.72
Unit Labor Cost (2012=100)	114.50	115.15	115.80	111.41	111.10	112.32	114.79	-0.28	1.10	2.20
<b>INDUSTRIAL SECTOR</b>										
Industrial Prod (2012=100)	112.63	113.27	113.91	109.49	102.79	107.27	112.84	-6.12	4.36	5.19
Capacity Utilization Rate (%)	79.72	79.92	79.99	77.79	72.08	75.75	79.68	NA	NA	NA
<b>EMPLOYMENT</b>										
Payroll Employment (Mill)	155.07	155.79	156.40	150.94	144.74	150.94	155.37	-4.10	4.28	2.93
Household Employment (Mill)	157.66	158.10	158.53	157.53	148.43	154.85	157.84	-5.77	4.32	1.94
Unemployment Rate, Total (%)	5.30	5.23	5.14	3.66	7.96	6.15	5.27	NA	NA	NA
<b>MONETARY SECTOR</b>										
Federal Funds Rate (%)	0.12	0.26	0.57	2.16	0.57	0.12	0.27	NA	NA	NA
3-Mo Treasury Bill Rate (%)	0.26	0.53	0.75	2.06	0.35	0.10	0.44	NA	NA	NA
5-Year TIPS Rate (%)	-0.35	-0.30	-0.25	0.35	-0.41	-0.53	-0.33	NA	NA	NA
5-Year Govt Rate (%)	0.88	0.97	1.08	1.96	0.54	0.54	0.93	NA	NA	NA
10-Year Govt Rate (%)	1.12	1.19	1.27	2.14	0.87	0.89	1.16	NA	NA	NA
Aaa Rate, Industrials (%)	2.42	2.48	2.55	3.39	2.57	2.32	2.46	NA	NA	NA
Conv Mortgage Rate (%)	3.43	3.49	3.57	3.94	3.36	3.25	3.47	NA	NA	NA
Par Value of Privately Held Government Debt (Bill \$)	19235.22	19676.77	20238.61	14412.49	15453.24	17821.39	19598.20	7.22	15.32	9.97
<b>VEHICLE SALES</b>										
Light Vehicles (Mill)	16.37	16.34	16.38	16.89	13.50	15.43	16.34	-20.08	14.31	5.85
Autos (Mill)	3.68	3.63	3.60	4.71	3.47	3.68	3.66	-26.35	6.24	-0.80
Domestic (Mill)	2.71	2.67	2.65	3.54	2.67	2.75	2.69	-24.58	2.89	-2.20
Imports (Mill)	0.97	0.96	0.96	1.17	0.80	0.94	0.97	-31.70	17.48	3.30
Import Share (%)	26.45	26.54	26.57	24.81	23.01	25.41	26.47	NA	NA	NA
Light Trucks (Mill)	12.69	12.70	12.77	12.18	10.03	11.75	12.68	-17.65	17.10	7.94
Domestic (Mill)	10.07	10.08	10.13	9.58	7.97	9.30	10.06	-16.71	16.66	8.17
Imports (Mill)	2.62	2.62	2.64	2.61	2.06	2.45	2.62	-21.11	18.82	7.06
Import Share (%)	20.63	20.64	20.67	21.42	20.65	20.82	20.65	NA	NA	NA

**Table 7**  
Federal Government Receipts and Expenditures  
(Billions of Current Dollars, SAAR)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
CURRENT RECEIPTS	3641.74	3689.28	2956.86	3122.25	3176.88	3375.73	3476.78	3556.97	3618.16	3650.05
Tax Receipts	2065.41	2072.90	1803.29	1852.07	1879.88	1669.78	1742.56	1800.58	1842.77	1835.39
Personal Tax	1718.86	1719.03	1563.70	1611.97	1632.01	1385.67	1404.13	1407.91	1437.88	1422.53
Taxes on Production and Imports	177.13	178.87	172.06	170.04	175.10	162.34	165.27	168.00	170.47	164.66
Corporate Income Tax	140.74	146.03	38.28	40.53	42.95	91.64	142.74	193.95	203.39	216.88
Taxes from Rest of World	28.68	28.96	29.25	29.54	29.83	30.12	30.42	30.72	31.02	31.33
Social Ins Contributions	1415.36	1447.18	1002.88	1112.40	1124.72	1517.41	1529.58	1550.95	1569.16	1607.63
Receipts on Assets	104.59	105.87	107.32	108.79	117.65	127.28	137.74	137.88	138.03	138.18
Transfer Receipts	57.87	63.94	64.31	64.70	65.08	66.47	66.86	67.25	67.65	68.05
From Business	32.03	38.00	38.28	38.57	38.85	39.14	39.43	39.72	40.02	40.31
From Persons	25.84	25.94	26.03	26.13	26.23	27.33	27.43	27.53	27.63	27.74
Surplus of Govt Enterprises	-7.15	-6.90	-26.65	-21.40	-16.15	-10.90	-5.65	-5.40	-5.15	-4.90
CURRENT EXPENDITURES	4873.81	4914.63	7394.47	5807.62	5293.54	5300.56	5368.95	5416.10	5382.52	5339.57
Consumption Expenditures	1132.75	1139.24	1151.75	1156.31	1174.32	1212.36	1240.43	1248.54	1226.67	1224.37
Defense	687.64	693.26	698.91	704.58	714.42	734.28	749.16	754.06	743.97	743.44
Nondefense	445.11	445.98	452.84	451.73	459.89	478.07	491.27	494.48	482.69	480.93
NonCCC	445.14	446.00	452.87	451.76	459.92	478.10	491.30	494.50	482.72	480.95
Transfers	3079.65	3122.16	5301.40	3965.17	3484.14	3440.50	3467.23	3493.13	3469.22	3416.35
To Persons	2377.63	2420.16	4296.18	3056.74	2572.47	2575.57	2599.03	2621.64	2594.43	2637.44
To Rest of World	85.41	82.00	82.13	82.27	82.40	82.53	82.67	82.80	82.94	83.07
Grants-in-Aid	616.62	620.00	923.08	826.17	829.28	782.40	785.54	788.69	791.86	695.84
Interest Payments	580.03	576.73	536.22	559.04	572.86	585.37	598.83	611.87	623.94	636.05
Subsidies	81.37	76.50	405.10	127.10	62.22	62.33	62.45	62.57	62.68	62.80
NET FEDERAL GOVT SAVING	-1232.07	-1225.35	-4437.61	-2685.37	-2116.65	-1924.83	-1892.17	-1859.13	-1764.36	-1689.52
ADDENDA										
Receipts	3641.74	3689.28	2956.86	3122.25	3176.88	3375.73	3476.78	3556.97	3618.16	3650.05
Outlays	4893.61	4935.92	7417.40	5832.81	5321.46	5336.46	5409.35	5455.91	5414.86	5368.45
Current Expenditures	4873.81	4914.63	7394.47	5807.62	5293.54	5300.56	5368.95	5416.10	5382.52	5339.57
Gross Investment	317.07	320.00	322.97	325.97	329.65	339.34	346.05	347.76	342.48	341.21
Less: Consumption of Fixed Capital	297.27	298.71	300.04	300.78	301.73	303.45	305.64	307.95	310.13	312.34
Receipts Minus Outlays	-1251.87	-1246.64	-4460.54	-2710.55	-2144.58	-1960.73	-1932.57	-1898.94	-1796.71	-1718.39



**Table 7**  
Federal Government Receipts and Expenditures  
(Billions of Current Dollars, SAAR)

	Forecast			Fiscal Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
CURRENT RECEIPTS	3707.40	3746.07	3793.04	3580.05	3352.53	3396.59	3680.42	-6.36	1.31	8.36
Tax Receipts	1877.04	1900.10	1931.31	2015.63	1948.42	1773.20	1863.82	-3.33	-8.99	5.11
Personal Tax	1450.26	1460.06	1477.90	1677.87	1653.39	1457.43	1442.68	-1.46	-11.85	-1.01
Taxes on Production and Imports	166.80	168.88	170.66	169.90	174.53	167.67	167.70	2.72	-3.93	0.02
Corporate Income Tax	228.34	239.21	250.49	139.38	91.39	117.82	221.96	-34.43	28.92	88.38
Taxes from Rest of World	31.64	31.95	32.26	28.48	29.11	30.27	31.48	2.20	4.00	4.00
Social Ins Contributions	1622.19	1636.67	1651.53	1386.24	1244.45	1430.67	1608.91	-10.23	14.96	12.46
Receipts on Assets	138.66	139.15	139.63	112.18	106.64	130.14	138.51	-4.94	22.03	6.43
Transfer Receipts	68.45	68.86	69.26	66.04	62.70	66.41	68.25	-5.06	5.91	2.77
From Business	40.61	40.91	41.22	39.94	36.72	39.29	40.46	-8.07	6.99	3.00
From Persons	27.84	27.94	28.05	26.10	25.98	27.13	27.79	-0.45	4.40	2.43
Surplus of Govt Enterprises	-4.65	-4.40	-4.40	-7.31	-15.53	-9.52	-4.78	112.50	-38.65	-49.87
CURRENT EXPENDITURES	5324.40	5368.26	5419.49	4730.98	5747.63	5344.79	5353.69	21.49	-7.01	0.17
Consumption Expenditures	1212.34	1210.34	1208.38	1099.06	1145.01	1218.91	1218.43	4.18	6.45	-0.04
Defense	737.93	737.43	736.94	668.86	696.10	737.98	740.69	4.07	6.02	0.37
Nondefense	474.41	472.92	471.43	430.20	448.92	480.93	477.74	4.35	7.13	-0.66
NonCCC	474.44	472.94	471.46	430.25	448.94	480.95	477.76	4.34	7.13	-0.66
Transfers	3398.45	3431.41	3464.68	2984.26	3867.10	3471.25	3428.86	29.58	-10.24	-1.22
To Persons	2665.40	2694.21	2723.29	2300.18	3037.68	2592.18	2647.87	32.06	-14.67	2.15
To Rest of World	83.20	83.34	83.47	80.72	82.95	82.60	83.14	2.77	-0.42	0.65
Grants-in-Aid	649.84	653.86	657.91	603.36	746.47	796.48	697.85	23.72	6.70	-12.38
Interest Payments	650.69	663.48	683.28	573.69	563.00	592.23	643.54	-1.86	5.19	8.66
Subsidies	62.92	63.03	63.15	73.97	172.52	62.39	62.86	133.22	-63.84	0.75
NET FEDERAL GOVT SAVING	-1617.00	-1622.20	-1626.45	-1150.93	-2395.10	-1948.20	-1673.27	NA	NA	NA
ADDENDA										
Receipts	3707.40	3746.07	3793.04	3580.05	3352.53	3396.59	3680.42	-6.36	1.31	8.36
Outlays	5347.95	5389.55	5438.57	4743.28	5769.93	5380.80	5380.20	21.64	-6.74	-0.01
Current Expenditures	5324.40	5368.26	5419.49	4730.98	5747.63	5344.79	5353.69	21.49	-7.01	0.17
Gross Investment	337.95	337.71	337.47	304.42	321.50	340.70	339.84	5.61	5.97	-0.25
Less: Consumption of Fixed Capital	314.40	316.42	318.39	292.11	299.20	304.69	313.32	2.43	1.84	2.83
Receipts Minus Outlays	-1640.56	-1643.49	-1645.54	-1163.24	-2417.40	-1984.20	-1699.79	NA	NA	NA

**Table 8**  
State and Local Government Receipts and Expenditures  
(Billions of Current Dollars, SAAR)

	Actual	Forecast								
	2019q4	2020q1	2020q2	2020q3	2020q4	2021q1	2021q2	2021q3	2021q4	2022q1
CURRENT RECEIPTS	2756.12	2779.13	2987.10	2890.08	2908.01	2895.56	2953.59	2968.93	3007.24	2947.83
Tax Receipts	1889.27	1907.65	1810.70	1808.75	1821.71	1854.26	1907.26	1917.54	1950.76	1985.44
Personal Tax	476.87	492.76	472.80	448.61	451.94	462.49	487.64	471.84	485.03	498.95
Taxes on Production and Imports	1342.87	1344.41	1278.79	1295.46	1304.49	1319.57	1342.40	1363.76	1383.34	1401.95
Corporate Income Tax	69.53	70.47	59.11	64.68	65.28	72.20	77.23	81.95	82.39	84.55
Social Ins Contributions	23.05	23.28	23.51	23.74	23.98	24.21	24.45	24.69	24.93	25.18
Receipts on Assets	94.65	94.59	95.10	95.60	96.11	96.62	97.13	97.65	98.17	98.69
Transfer Receipts	753.68	758.15	1062.33	966.53	970.75	925.01	929.28	933.58	937.91	843.05
Federal Grants in Aid	616.62	620.00	923.08	826.17	829.28	782.40	785.54	788.69	791.86	695.84
From Business (net)	53.27	53.54	53.80	54.07	54.34	54.61	54.88	55.15	55.43	55.70
From Persons	83.79	84.61	85.45	86.29	87.14	88.00	88.86	89.74	90.62	91.52
Surplus of Govt Enterprises	-4.54	-4.54	-4.54	-4.54	-4.54	-4.54	-4.54	-4.54	-4.54	-4.54
CURRENT EXPENDITURES	2987.77	3023.36	3173.22	3183.38	3153.85	3141.64	3139.67	3147.96	3156.50	3159.24
Consumption Expenditures	1930.44	1951.80	2073.40	2045.23	2017.31	2005.96	2004.79	2003.78	2002.96	2002.31
Transfers	787.72	800.60	827.52	864.49	861.53	858.62	855.78	863.00	870.28	873.66
Interest Payments	269.02	270.35	271.69	273.04	274.40	276.43	278.48	280.55	282.63	282.63
Subsidies	0.60	0.60	0.61	0.61	0.62	0.62	0.63	0.63	0.64	0.64
NET STATE & LOCAL GOVT SAVING	-231.65	-244.22	-186.12	-293.29	-245.84	-246.07	-186.08	-179.03	-149.27	-211.41

**Table 8**  
State and Local Government Receipts and Expenditures  
(Billions of Current Dollars, SAAR)

	Forecast			Fiscal Years				Percent Changes		
	2022q2	2022q3	2022q4	2019	2020	2021	2022	2019-20	2020-21	2021-22
CURRENT RECEIPTS	2915.18	2942.00	2974.04	2705.46	2853.11	2931.52	2953.06	5.46	2.75	0.73
Tax Receipts	1996.84	2017.67	2043.67	1852.41	1854.09	1875.19	1987.68	0.09	1.14	6.00
Personal Tax	491.79	496.98	506.34	474.57	472.76	468.48	493.19	-0.38	-0.91	5.28
Taxes on Production and Imports	1419.29	1433.47	1448.60	1313.69	1315.38	1332.56	1409.51	0.13	1.31	5.78
Corporate Income Tax	85.76	87.21	88.73	64.15	65.95	74.16	84.98	2.81	12.46	14.58
Social Ins Contributions	25.43	25.68	25.93	22.59	23.40	24.33	25.31	3.57	4.00	4.00
Receipts on Assets	99.22	99.75	100.28	93.52	94.99	96.88	98.96	1.57	1.99	2.14
Transfer Receipts	798.23	803.44	808.69	738.91	885.17	939.66	845.66	19.79	6.16	-10.00
Federal Grants in Aid	649.84	653.86	657.91	603.36	746.47	796.48	697.85	23.72	6.70	-12.38
From Business (net)	55.98	56.25	56.53	53.24	53.67	54.74	55.84	0.80	2.00	2.00
From Persons	92.42	93.33	94.25	82.31	85.03	88.43	91.97	3.31	4.00	4.00
Surplus of Govt Enterprises	-4.54	-4.54	-4.54	-4.44	-4.54	-4.54	-4.54	2.25	0.00	0.00
CURRENT EXPENDITURES	3167.23	3190.49	3219.02	2925.71	3091.93	3145.78	3168.37	5.68	1.74	0.72
Consumption Expenditures	2001.84	2021.55	2041.44	1890.94	2000.22	2007.96	2007.16	5.78	0.39	-0.04
Transfers	882.12	885.66	894.29	763.07	820.08	859.73	877.93	7.47	4.83	2.12
Interest Payments	282.63	282.63	282.63	271.11	271.03	277.47	282.63	-0.03	2.38	1.86
Subsidies	0.65	0.65	0.66	0.59	0.61	0.62	0.64	2.83	3.00	3.00
NET STATE & LOCAL GOVT SAVING	-252.05	-248.50	-244.98	-220.24	-238.82	-214.26	-215.31	NA	NA	NA

**The Michigan Economic Outlook for 2020-2022**

RSQE Forecast, 9 April 2020

The State of Michigan

**I N D E X O F T A B L E S**

Table 1: Michigan Personal Income

Table 2: Employment in Michigan

Table 3: State of Michigan GFGP Revenue

Table 4: State of Michigan SAF and Transportation Tax Revenue

Table 5: Selected State of Michigan Tax Revenues

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

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

	Actual	Forecast									
	2019a4	2020a1	2020a2	2020a3	2020a4	2021a1	2021a2	2021a3	2021a4	2022a1	2022a2
Personal Income	127558.04	126377.20	125304.10	123106.90	125634.40	123847.20	125765.00	126947.70	129961.00	131651.50	133255.70
Wage and Salary	62688.95	61040.68	46734.76	58879.34	61371.69	60107.99	61914.55	62885.29	64868.13	65915.15	66909.34
Private	54393.77	52674.49	38421.84	50553.01	53000.49	51694.07	53456.64	54408.84	56354.39	57376.26	58335.29
Government	8295.17	8366.20	8312.93	8326.32	8371.20	8413.92	8457.90	8476.45	8513.74	8538.88	8574.05
Other Labor Income	15175.52	14773.97	11165.13	13130.34	13360.17	14297.37	14493.04	14573.65	14928.50	15132.46	15330.94
Proprietors' Income	8739.58	8793.11	7540.28	7662.61	8359.15	8378.16	8463.91	8657.50	8815.75	8972.89	9116.34
Property Income	23732.15	24002.31	20148.68	20408.33	20580.78	20780.80	21031.44	21278.11	21968.23	22408.97	22661.42
Transfer Payments	26774.62	27133.96	45407.29	30061.98	29327.09	29316.88	29169.38	29000.17	29109.00	29207.91	29363.54
Residence Adjustment	619.33	624.68	630.07	635.51	641.00	646.54	652.12	657.76	663.44	669.17	674.95
Less:											
Social Ins Contribution	10172.10	9991.51	6322.14	7671.17	8005.47	9680.55	9959.46	10104.78	10392.05	10655.09	10800.85
Less:											
Federal Pers Taxes	11605.75	11296.34	8979.88	10283.52	10671.86	9071.26	9252.18	9273.06	9580.51	9490.54	9694.52
Mich Witholding	2508.03	2462.38	2056.08	2431.97	2467.01	2419.10	2489.60	2547.66	2582.69	2663.28	2698.97
Equals:											
Disp Personal Income	113444.27	112618.50	114268.10	110391.50	112495.50	112356.80	114023.20	115127.00	117797.80	119497.60	120862.20
ADDENDA:											
Consumer Price Index											
Detroit 1982-84=100	238.80	238.90	231.97	232.08	232.77	233.91	234.95	236.12	237.33	238.51	239.85
Real Disposable Income											
Millions of 1982-84 \$	47506.37	47140.43	49259.57	47565.32	48328.19	48033.91	48531.88	48757.27	49633.87	50101.98	50389.96
MI Gross Domestic Prod (SAAR)											
Mil. of Current \$	548763.06	549431.00	396329.80	553779.20	483795.50	545573.20	527878.50	545290.20	545943.70	555036.80	559106.40
Mil. of Chained 2012 \$	475872.30	474537.20	345688.90	484856.10	423305.80	477082.10	457387.40	469429.90	467499.20	472932.60	474043.20
Impl. Defl. 2012=100	115.32	115.78	114.65	114.22	114.29	114.36	115.41	116.16	116.78	117.36	117.94

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

	Forecast		Calendar Years					Percent Changes			
	2022q3	2022q4	2018	2019	2020	2021	2022	2018-19	2019-20	2020-21	2021-22
Personal Income	134430.60	135670.70	484029.84	502539.84	500422.60	506520.90	535008.50	3.82	-0.42	1.22	5.62
Wage and Salary	67572.81	68304.32	240365.36	246802.07	228026.47	249775.96	268701.62	2.68	-7.61	9.54	7.58
Private	58961.74	59653.12	208546.80	214033.19	194649.83	215913.94	234326.41	2.63	-9.06	10.92	8.53
Government	8611.07	8651.19	31818.56	32768.88	33376.64	33862.02	34375.20	2.99	1.85	1.45	1.52
Other Labor Income	15472.03	15630.26	57885.98	59572.69	52429.61	58292.56	61565.69	2.91	-11.99	11.18	5.62
Proprietors' Income	9226.69	9315.62	32565.04	34079.60	32355.15	34315.31	36631.53	4.65	-5.06	6.06	6.75
Property Income	22832.77	23011.70	91960.76	94376.96	85140.10	85058.58	90914.86	2.63	-9.79	-0.10	6.88
Transfer Payments	29541.02	29720.31	97776.35	105337.96	131930.32	116595.43	117832.78	7.73	25.24	-11.62	1.06
Residence Adjustment	680.78	686.66	2367.80	2474.82	2531.27	2619.86	2711.56	4.52	2.28	3.50	3.50
Less:											
Social Ins Contribution	10895.46	10998.13	38891.44	40104.24	31990.28	40136.84	43349.53	3.12	-20.23	25.47	8.00
Less:											
Federal Pers Taxes	9748.69	9861.77	44059.58	45712.37	41231.60	37177.00	38795.52	3.75	-9.80	-9.83	4.35
Mich Witholding	2745.28	2724.58	9595.03	10151.25	9417.43	10039.04	10832.10	5.80	-7.23	6.60	7.90
Equals:											
Disp Personal Income	121936.70	123084.40	430375.23	446676.23	449773.60	459304.80	485380.90	3.79	0.69	2.12	5.68
ADDENDA:											
Consumer Price Index											
Detroit 1982-84=100	240.78	241.63	232.26	235.46	233.93	235.58	240.19	1.38	-0.65	0.70	1.96
Real Disposable Income											
Millions of 1982-84 \$	50642.85	50939.94	185297.01	189699.52	192293.51	194956.93	202074.73	2.38	1.37	1.39	3.65
MI Gross Domestic Prod (SAAR)											
Mil. of Current \$	564702.50	568756.60	527095.80	541599.49	495833.88	541171.40	561900.58	2.75	-8.45	9.14	3.83
Mil. of Chained 2012 \$	476427.70	477547.20	470529.23	473574.48	432097.00	467849.65	475237.68	0.65	-8.76	8.27	1.58
Impl. Defl. 2012=100	118.53	119.10	112.02	114.36	114.73	115.68	118.23	2.09	0.33	0.82	2.21

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

	Actual	Forecast									
	2019a4	2020a1	2020a2	2020a3	2020a4	2021a1	2021a2	2021a3	2021a4	2022a1	2022a2
Total Employment	4750.68	4748.80	3519.05	4301.41	4437.02	4463.08	4519.55	4553.88	4573.44	4596.68	4621.94
Wage and Salary	4435.50	4448.80	3289.05	4150.24	4272.08	4286.63	4337.14	4365.36	4379.20	4397.67	4418.19
Private	3820.93	3834.00	2674.25	3534.74	3659.05	3673.64	3724.59	3753.31	3767.55	3786.18	3806.90
Nat. Res. & Mining	7.37	7.40	3.40	6.60	7.40	7.43	7.43	7.41	7.45	7.49	7.51
Construction	176.70	181.60	97.58	160.00	165.00	162.68	170.68	178.78	180.83	181.89	183.16
Manufacturing	621.40	626.10	398.81	569.00	586.90	580.05	598.66	607.55	609.24	615.74	621.92
Trans. Equipment	180.51	188.40	105.23	160.00	169.52	169.11	169.02	177.53	180.32	182.41	184.64
Other Mfg.	440.89	437.70	293.57	409.00	417.38	410.94	429.64	430.02	428.93	433.33	437.28
Trade, Trans. & Util.	799.93	803.50	501.31	726.52	764.27	766.00	773.94	774.62	777.21	781.02	785.64
Information	54.83	55.10	53.69	54.82	53.76	54.47	54.45	54.67	54.74	54.72	54.73
Financial Activities	226.93	228.90	182.93	219.71	229.55	229.60	231.39	233.12	231.80	232.56	233.10
Prof. & Bus. Serv.	652.10	656.00	473.17	605.62	626.00	635.07	636.38	643.26	648.07	651.85	655.75
Edu. & Health Serv.	681.97	683.00	656.64	677.73	685.00	682.06	685.79	685.33	687.67	688.45	690.27
Leisure & Hospitality	434.83	428.40	223.23	366.85	387.23	398.53	406.30	407.67	409.20	410.84	412.86
Other Services	164.87	164.00	83.49	147.90	153.94	157.75	159.56	160.89	161.33	161.62	161.96
Government	614.57	614.80	614.80	615.50	613.03	612.99	612.55	612.06	611.65	611.49	611.30
Non Wage and Salary	315.18	300.00	230.00	151.18	164.94	176.45	182.41	188.51	194.24	199.01	203.75
Labor Force	4941.30	4947.20	4600.00	4727.28	4804.63	4832.63	4856.94	4873.65	4884.07	4894.09	4905.34
Unemployment	190.63	198.40	1080.95	425.87	367.61	369.55	337.39	319.78	310.63	297.41	283.39
Unemployment Rate (%)	3.86	4.01	23.50	9.01	7.65	7.65	6.95	6.56	6.36	6.08	5.78
ADDENDA: U.S. DATA (Billions of chained 2009 \$, except where noted)											
Gross Domestic Prod	19221.97	19167.81	17855.68	18476.69	18521.80	18684.51	18983.01	19193.98	19306.25	19415.01	19486.03
Business Fixed Invest	2725.74	2674.55	2402.20	2449.59	2455.14	2514.10	2591.52	2663.43	2736.04	2787.33	2827.91
Gross Vehicle Product	542.36	514.70	165.75	558.87	569.36	492.29	522.92	534.88	547.71	561.53	565.38
Personal Cons Expend											
New Autos + Trucks	282.44	255.94	137.79	280.87	258.65	248.75	270.27	275.09	281.22	285.87	288.09
Light Vehicle Sales (mil)	16.73	15.01	7.67	16.33	15.00	14.40	15.55	15.75	16.03	16.26	16.37
Unemployment Rate (%)	3.53	3.82	13.60	7.51	6.92	6.72	6.33	5.91	5.65	5.43	5.30
Personal Consumption											
Deflator, 2009=100	110.30	110.51	110.03	110.25	110.65	111.07	111.49	111.97	112.50	113.03	113.58
Consumer Price Index											
1982-84=100	257.18	257.37	252.78	253.48	254.25	255.97	258.44	259.46	260.01	261.78	264.54

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

	Forecast		Calendar Years					Percent Changes			
	2022a3	2022a4	2018	2019	2020	2021	2022	2018-19	2019-20	2020-21	2021-22
Total Employment	4643.17	4660.60	4705.08	4735.16	4251.57	4527.49	4630.60	0.64	-10.21	6.49	2.28
Wage and Salary	4434.60	4447.29	4417.85	4433.74	4040.04	4342.08	4424.44	0.36	-8.88	7.48	1.90
Private	3823.42	3836.16	3809.27	3820.32	3425.51	3729.77	3813.16	0.29	-10.33	8.88	2.24
Nat. Res. & Mining	7.52	7.52	7.26	7.35	6.20	7.43	7.51	1.26	-15.63	19.84	1.04
Construction	184.19	185.33	169.18	173.52	151.04	173.24	183.64	2.57	-12.95	14.69	6.01
Manufacturing	626.18	627.58	628.61	627.39	545.20	598.88	622.85	-0.19	-13.10	9.84	4.00
Trans. Equipment	186.39	186.59	192.20	188.62	155.79	173.99	185.01	-1.86	-17.40	11.69	6.33
Other Mfg.	439.79	440.98	436.41	438.78	389.41	424.88	437.84	0.54	-11.25	9.11	3.05
Trade, Trans. & Util.	789.62	793.12	790.82	796.42	698.90	772.94	787.35	0.71	-12.24	10.59	1.86
Information	54.75	54.74	55.94	55.21	54.34	54.59	54.73	-1.31	-1.57	0.45	0.27
Financial Activities	233.48	233.70	220.78	224.37	215.27	231.48	233.21	1.62	-4.05	7.53	0.75
Prof. & Bus. Serv.	659.36	662.37	659.50	653.93	590.20	640.70	657.33	-0.84	-9.75	8.56	2.60
Edu. & Health Serv.	691.44	693.04	677.54	681.07	675.59	685.21	690.80	0.52	-0.80	1.42	0.82
Lesiure & Hospitality	414.62	416.24	433.64	434.96	351.43	405.43	413.64	0.30	-19.20	15.36	2.03
Other Services	162.26	162.52	165.99	166.10	137.33	159.88	162.09	0.07	-17.32	16.42	1.38
Government	611.18	611.13	608.58	613.43	614.53	612.31	611.27	0.80	0.18	-0.36	-0.17
Non Wage and Salary	208.58	213.31	287.23	301.42	211.53	185.40	206.16	4.94	-29.82	-12.35	11.20
Labor Force	4915.65	4924.72	4908.86	4936.91	4769.78	4861.82	4909.95	0.57	-3.39	1.93	0.99
Unemployment	272.47	264.13	203.78	201.75	518.21	334.34	279.35	-1.00	156.86	-35.48	-16.45
Unemployment Rate (%)	5.54	5.36	4.15	4.09	11.04	6.88	5.69	NA	NA	NA	NA
ADDENDA: U.S. DATA (Billions of chained 2009 \$, except where noted)											
Gross Domestic Prod	19566.68	19656.54	18638.16	19073.06	18505.49	19041.93	19531.07	2.33	-2.98	2.90	2.57
Business Fixed Invest	2860.07	2887.84	2692.30	2748.13	2495.37	2626.27	2840.79	2.07	-9.20	5.25	8.17
Gross Vehicle Product	563.21	563.65	559.15	557.13	452.17	524.45	563.44	-0.36	-18.84	15.99	7.43
Personal Cons Expend											
New Autos + Trucks	287.63	288.46	281.19	277.72	233.31	268.83	287.51	-1.23	-15.99	15.22	6.95
Light Vehicle Sales (mil)	16.34	16.38	17.21	16.89	13.50	15.43	16.34	-1.86	-20.08	14.31	5.85
Unemployment Rate (%)	5.23	5.14	3.89	3.66	7.96	6.15	5.27	NA	NA	NA	NA
Personal Consumption											
Deflator, 2009=100	114.09	114.56	108.14	109.65	110.36	111.76	113.81	1.40	0.64	1.26	1.84
Consumer Price Index											
1982-84=100	265.21	265.28	251.11	255.66	254.47	258.47	264.20	1.81	-0.46	1.57	2.22



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

	Actual	Forecast									
	2019a4	2020a1	2020a2	2020a3	2020a4	2021a1	2021a2	2021a3	2021a4	2022a1	2022a2
NET PERS INCOME TAX	2385.82	2361.86	2172.00	2576.65	2319.51	2222.27	2988.04	2298.88	2472.04	2498.22	3233.39
Less: School Aid	667.14	656.42	604.58	689.10	654.60	627.34	789.85	628.72	692.17	692.47	847.87
Camp Fund	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.80	0.00	0.00	0.00
MI Trans Fund	117.00	117.00	117.00	117.00	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	17.25
GFGP INCOME TAX	1635.43	1571.18	1433.17	1752.50	1497.65	1427.68	2030.95	1502.11	1612.62	1638.50	2218.27
CONSUMPTION TAXES											
Sales	338.18	255.68	308.64	320.11	329.80	259.82	366.96	345.59	358.17	286.87	390.87
Cigarette Excise	43.53	40.73	45.66	44.40	43.59	40.58	45.48	44.25	43.47	40.48	45.40
Beer and Wine	12.41	11.24	13.04	14.90	12.72	11.26	13.00	14.98	12.78	11.34	13.10
Liquor Specific	17.40	12.69	13.30	14.68	14.71	11.63	12.85	14.48	14.56	11.46	12.69
Use	180.74	151.68	128.74	99.94	102.32	100.86	140.05	154.52	142.11	139.26	176.81
GFGP CONSUM TAXES	592.27	472.03	509.37	494.03	503.14	424.14	578.34	573.82	571.10	489.42	638.87
BUSINESS TAXES											
Single Business	0.00	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	0.00	-641.00	0.00	0.00	0.00	-643.90	0.00	0.00	0.00
Corporate Income	0.00	0.00	0.00	960.00	0.00	0.00	0.00	970.00	0.00	0.00	0.00
Insur Co Premium	0.00	0.00	0.00	300.00	0.00	0.00	0.00	325.00	0.00	0.00	0.00
Oil + Gas Severance	4.70	2.79	1.26	1.60	1.91	3.48	3.65	3.94	4.26	4.47	4.73
GFGP BUSINESS TAXES	4.70	2.79	1.26	620.60	1.91	3.48	3.65	655.04	4.26	4.47	4.73
OTHER GFGP TAXES	0.00	0.00	0.00	131.00	0.00	0.00	0.00	142.00	0.00	0.00	0.00
TOTAL GFGP TAXES	2232.40	2046.00	1943.80	2998.13	2002.70	1855.30	2612.94	2872.97	2187.98	2132.38	2861.87
NONTAX REVENUE	0.00	0.00	0.00	300.00	0.00	0.00	0.00	325.00	0.00	0.00	0.00
TOTAL GFGP REVENUE	2232.40	2046.00	1943.80	3298.13	2002.70	1855.30	2612.94	3197.97	2187.98	2132.38	2861.87
ADDENDA:											
Pers Income Adjusted	110955.52	109234.70	86218.93	100716.10	104312.80	104210.90	106555.10	108052.30	111244.00	113098.60	114693.00
Total Employment	4750.68	4748.80	3519.05	4301.41	4437.02	4463.08	4519.55	4553.88	4573.44	4596.68	4621.94
Wage + Salary Income	62688.95	61040.68	46734.76	58879.34	61371.69	60107.99	61914.55	62885.29	64868.13	65915.15	66909.34

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

	Forecast		Fiscal Years					Percent Changes			
	2022a3	2022a4	2018	2019	2020	2021	2022	2018-19	2019-20	2020-21	2021-22
NET PERS INCOME TAX	2476.65	2611.53	10166.60	10431.30	9496.33	9828.69	10680.31	2.60	-8.96	3.50	8.66
Less: School Aid	671.42	726.88	2890.00	2845.00	2617.24	2700.51	2903.93	-1.56	-8.01	3.18	7.53
Camp Fund	0.80	0.00	0.60	0.80	0.80	0.80	0.80	33.33	0.00	0.00	0.00
MI Trans Fund	150.00	150.00	0.00	264.00	468.00	600.00	600.00	--	77.27	28.21	0.00
Renew MI Fund	17.25	17.25	0.00	69.00	69.00	69.00	69.00	--	0.00	0.00	0.00
GFGP INCOME TAX	1637.18	1717.40	7276.00	7252.50	6392.28	6458.38	7106.58	-0.32	-11.86	1.03	10.04
CONSUMPTION TAXES											
Sales	365.81	373.79	1276.70	1288.10	1222.61	1302.17	1401.72	0.89	-5.08	6.51	7.65
Cigarette Excise	44.06	43.36	181.40	175.70	174.32	173.90	173.41	-3.14	-0.79	-0.24	-0.28
Beer and Wine	15.09	12.85	50.80	50.20	51.60	51.95	52.32	-1.18	2.78	0.68	0.71
Liquor Specific	14.33	14.61	57.40	60.70	58.07	53.67	53.05	5.75	-4.34	-7.57	-1.16
Use	184.47	160.42	760.60	753.40	561.10	497.75	642.65	-0.95	-25.52	-11.29	29.11
GFGP CONSUM TAXES	623.76	605.03	2326.90	2328.10	2067.70	2079.44	2323.14	0.05	-11.19	0.57	11.72
BUSINESS TAXES											
Single Business	0.00	0.00	5.40	-67.70	0.00	0.00	0.00	-1353.70	-100.00	--	--
Michigan Business	-598.10	0.00	-641.50	-511.50	-641.00	-643.90	-598.10	-20.27	25.32	0.45	-7.11
Corporate Income	960.00	0.00	1033.80	1278.10	960.00	970.00	960.00	23.63	-24.89	1.04	-1.03
Insur Co Premium	350.00	0.00	393.20	314.90	300.00	325.00	350.00	-19.91	-4.73	8.33	7.69
Oil + Gas Severance	4.76	4.80	26.20	22.20	10.35	12.98	18.21	-15.27	-53.38	25.42	40.31
GFGP BUSINESS TAXES	716.66	4.80	817.10	1036.00	629.35	664.08	730.11	26.79	-39.25	5.52	9.94
OTHER GFGP TAXES	151.00	0.00	159.40	130.00	131.00	142.00	151.00	-18.44	0.77	8.40	6.34
TOTAL GFGP TAXES	3128.60	2327.22	10579.40	10746.60	9220.33	9343.90	10310.83	1.58	-14.20	1.34	10.35
NONTAX REVENUE	350.00	0.00	372.80	379.50	300.00	325.00	350.00	1.80	-20.95	8.33	7.69
TOTAL GFGP REVENUE	3478.60	2327.22	10952.20	11126.10	9520.33	9668.90	10660.83	1.59	-14.43	1.56	10.26
ADDENDA:											
Pers Income Adjusted	115785.10	116948.50	421114.06	433577.82	407125.25	423131.10	454820.70	2.96	-6.10	3.93	7.49
Total Employment	4643.17	4660.60	4690.35	4729.41	4329.99	4493.38	4608.81	0.83	-8.45	3.77	2.57
Wage + Salary Income	67572.81	68304.32	239138.24	244306.40	229343.73	246279.52	265265.43	2.16	-6.12	7.38	7.71

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

	Actual	Forecast									
	2019a4	2020a1	2020a2	2020a3	2020a4	2021a1	2021a2	2021a3	2021a4	2022a1	2022a2
<b>SAF TAXES</b>											
Sales	1577.82	1330.72	1393.64	1449.61	1503.39	1304.96	1544.33	1576.17	1628.59	1426.00	1655.17
Use	148.61	134.08	122.61	108.21	112.60	111.87	131.46	138.70	136.22	134.79	153.57
Income	667.14	656.42	604.58	689.10	654.60	627.34	789.85	628.72	692.17	692.47	847.87
Mich Business	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Liquor Excise	17.40	12.69	13.30	14.68	14.71	11.63	12.85	14.48	14.56	11.46	12.69
Tobacco	80.65	75.46	84.59	88.37	80.38	74.82	83.87	87.67	79.84	74.36	83.39
State Education Property	0.00	0.00	0.00	2159.53	0.00	0.00	0.00	2131.57	0.00	0.00	0.00
Real Estate Transfer	94.60	81.40	60.06	63.94	66.20	55.29	52.99	70.59	64.62	63.16	83.00
Ind and Comm Facilities	0.00	0.00	0.00	38.50	0.00	0.00	0.00	38.00	0.00	0.00	0.00
Casino	0.00	0.00	0.00	90.00	0.00	0.00	0.00	120.00	0.00	0.00	0.00
Other SAF Taxes	0.00	0.00	0.00	47.00	0.00	0.00	0.00	56.94	0.00	0.00	0.00
<b>TOTAL SAF TAXES</b>	<b>2586.22</b>	<b>2290.78</b>	<b>2278.77</b>	<b>4748.93</b>	<b>2431.88</b>	<b>2185.92</b>	<b>2615.35</b>	<b>4862.83</b>	<b>2616.00</b>	<b>2402.25</b>	<b>2835.70</b>
Lottery Transfer	0.00	0.00	0.00	950.00	0.00	0.00	0.00	900.00	0.00	0.00	0.00
<b>EARMARKED STATE SAF REVENUE</b>											
	2586.22	2290.78	2278.77	5698.93	2431.88	2185.92	2615.35	5762.83	2616.00	2402.25	2835.70
<b>TRANSPORTATION TAXES</b>											
Diesel	57.60	50.79	44.13	50.07	56.93	49.77	56.15	60.78	57.89	50.94	56.88
Gasoline	302.50	289.17	184.18	264.49	291.49	290.36	314.79	324.32	309.80	285.93	310.27
Motor Vehicle Registrati	0.00	0.00	0.00	1358.03	0.00	0.00	0.00	1376.81	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			
	2022a3	2022a4	2018	2019	2020	2021	2022	2018-19	2019-20	2020-21	2021-22
<b>SAF TAXES</b>											
Sales	1673.03	1707.55	5881.40	6008.10	5751.78	5928.85	6382.79	2.15	-4.27	3.08	7.66
Use	157.40	148.71	672.80	602.50	513.50	494.63	581.97	-10.45	-14.77	-3.68	17.66
Income	671.42	726.88	2890.00	2845.00	2617.24	2700.51	2903.93	-1.56	-8.01	3.18	7.53
Mich Business	0.00	0.00	0.00	0.00	0.00	0.00	0.00	--	--	--	--
Liquor Excise	14.33	14.61	57.40	60.70	58.07	53.67	53.05	5.75	-4.34	-7.57	-1.16
Tobacco	87.18	79.39	343.80	327.50	329.07	326.74	324.77	-4.74	0.48	-0.71	-0.60
State Education Property	2086.00	0.00	1987.90	2113.20	2159.53	2131.57	2086.00	6.30	2.19	-1.29	-2.14
Real Estate Transfer	105.34	92.01	350.20	350.10	300.00	245.06	316.12	-0.03	-14.31	-18.31	29.00
Ind and Comm Facilities	39.00	0.00	36.30	39.50	38.50	38.00	39.00	8.82	-2.53	-1.30	2.63
Casino	140.00	0.00	115.40	117.30	90.00	120.00	140.00	1.65	-23.27	33.33	16.67
Other SAF Taxes	70.18	0.00	25.10	26.30	47.00	56.94	70.18	4.78	78.69	21.15	23.26
<b>TOTAL SAF TAXES</b>	<b>5043.87</b>	<b>2769.16</b>	<b>12360.30</b>	<b>12490.20</b>	<b>11904.70</b>	<b>12095.97</b>	<b>12897.83</b>	<b>1.05</b>	<b>-4.69</b>	<b>1.61</b>	<b>6.63</b>
Lottery Transfer	950.00	0.00	979.90	1070.60	950.00	900.00	950.00	9.26	-11.26	-5.26	5.56
<b>EARMARKED STATE SAF REVENUE</b>											
	5993.87	2769.16	13340.20	13560.80	12854.70	12995.97	13847.83	1.65	-5.21	1.10	6.55
<b>TRANSPORTATION TAXES</b>											
Diesel	61.11	58.23	217.40	214.40	202.59	223.63	226.82	-1.38	-5.51	10.38	1.43
Gasoline	321.31	308.34	1219.20	1180.20	1040.34	1220.95	1227.31	-3.20	-11.85	17.36	0.52
Motor Vehicle Registrati	1407.68	0.00	1297.90	1351.30	1358.03	1376.81	1407.68	4.11	0.50	1.38	2.24

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

	Actual	Forecast									
	2019a4	2020a1	2020a2	2020a3	2020a4	2021a1	2021a2	2021a3	2021a4	2022a1	2022a2
NET PERS INCOME TAX	2385.82	2361.86	2172.00	2576.65	2319.51	2222.27	2988.04	2298.88	2472.04	2498.22	3233.39
Withheld	2759.28	2431.37	1970.13	2319.29	2714.16	2388.64	2385.53	2429.63	2841.42	2629.75	2586.14
Quarterly	112.48	355.57	327.99	233.05	105.95	295.50	420.49	306.22	148.81	339.68	427.23
Annual	100.32	137.37	395.24	517.54	96.11	110.62	712.68	65.05	93.33	115.49	763.84
Less: Refunds	586.25	562.46	521.36	493.23	596.71	572.49	530.66	502.03	611.51	586.69	543.82
Less: School Aid	667.14	656.42	604.58	689.10	654.60	627.34	789.85	628.72	692.17	692.47	847.87
Camp Fund	0.00	0.00	0.00	0.80	0.00	0.00	0.00	0.80	0.00	0.00	0.00
MI Trans Fund	117.00	117.00	117.00	117.00	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	17.25
GFGP INCOME TAX	1635.43	1571.18	1433.17	1752.50	1497.65	1427.68	2030.95	1502.11	1612.62	1638.50	2218.27
GROSS SALES TAX	2174.11	1836.76	1918.79	1993.40	2064.10	1802.05	2124.70	2166.41	2235.25	1967.52	2276.26
Less: Local Dist	231.36	223.61	189.77	196.93	203.92	210.27	186.41	217.64	221.34	227.50	203.07
School Aid	1577.82	1330.72	1393.64	1449.61	1503.39	1304.96	1544.33	1576.17	1628.59	1426.00	1655.17
Comp Trans	24.50	24.50	24.50	24.50	24.75	24.75	24.75	24.75	24.90	24.90	24.90
Health Init	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
GFGP SALES TAX	338.18	255.68	308.64	320.11	329.80	259.82	366.96	345.59	358.17	286.87	390.87
GROSS USE TAX	445.80	402.24	367.82	324.62	337.80	335.61	394.39	416.09	408.66	404.38	460.70
Less: School Aid	148.61	134.08	122.61	108.21	112.60	111.87	131.46	138.70	136.22	134.79	153.57
Local Dist	116.48	116.48	116.48	116.48	122.88	122.88	122.88	122.88	130.32	130.32	130.32
GFGP USE TAX	180.74	151.68	128.74	99.94	102.32	100.86	140.05	154.52	142.11	139.26	176.81
GROSS CIGARETTE TAX	215.85	201.96	226.37	236.50	215.99	201.07	225.37	235.58	215.24	200.47	224.79
Less: School Aid	80.65	75.46	84.59	88.37	80.38	74.82	83.87	87.67	79.84	74.36	83.39
Medicaid Trust Fund	77.57	72.58	81.35	85.00	77.97	72.59	81.36	85.05	77.93	72.58	81.38
Other Funds	14.09	13.18	14.78	18.74	14.05	13.08	14.66	18.62	14.00	13.04	14.62
GFGP CIGARETTE TAX	43.53	40.73	45.66	44.40	43.59	40.58	45.48	44.25	43.47	40.48	45.40

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

	Forecast		Fiscal Years					Percent Changes			
	2022q3	2022q4	2018	2019	2020	2021	2022	2018-19	2019-20	2020-21	2021-22
NET PERS INCOME TAX	2476.65	2611.53	10166.60	10431.30	9496.33	9828.69	10680.31	2.60	-8.96	3.50	8.66
Withheld	2618.10	2997.52	9656.10	9934.30	9480.08	9917.95	10675.40	2.88	-4.57	4.62	7.64
Quarterly	311.13	151.20	1514.40	1284.00	1029.08	1128.17	1226.85	-15.21	-19.85	9.63	8.75
Annual	61.91	89.49	992.20	1337.50	1150.47	984.46	1034.56	34.80	-13.98	-14.43	5.09
Less: Refunds	514.48	626.68	1996.10	2124.50	2163.30	2201.89	2256.50	6.43	1.83	1.78	2.48
Less: School Aid	671.42	726.88	2890.00	2845.00	2617.24	2700.51	2903.93	-1.56	-8.01	3.18	7.53
Camp Fund	0.80	0.00	0.60	0.80	0.80	0.80	0.80	33.33	0.00	0.00	0.00
MI Trans Fund	150.00	150.00	0.00	264.00	468.00	600.00	600.00	--	77.27	28.21	0.00
Renew MI Fund	17.25	17.25	0.00	69.00	69.00	69.00	69.00	--	0.00	0.00	0.00
GFGP INCOME TAX	1637.18	1717.40	7276.00	7252.50	6392.28	6458.38	7106.58	-0.32	-11.86	1.03	10.04
GROSS SALES TAX	2298.90	2343.34	8077.40	8252.60	7923.06	8157.26	8777.93	2.17	-3.99	2.96	7.61
Less: Local Dist	232.91	234.70	814.20	850.60	841.67	818.24	884.81	4.47	-1.05	-2.78	8.14
School Aid	1673.03	1707.55	5881.40	6008.10	5751.78	5928.85	6382.79	2.15	-4.27	3.08	7.66
Comp Trans	24.90	25.05	96.12	96.80	98.00	99.00	99.60	0.71	1.24	1.02	0.61
Health Init	2.25	2.25	9.00	9.00	9.00	9.00	9.00	0.00	0.00	0.00	0.00
GFGP SALES TAX	365.81	373.79	1276.70	1288.10	1222.61	1302.17	1401.72	0.89	-5.08	6.51	7.65
GROSS USE TAX	472.19	446.13	1844.20	1793.90	1540.48	1483.88	1745.92	-2.73	-14.13	-3.67	17.66
Less: School Aid	157.40	148.71	672.80	602.50	513.50	494.63	581.97	-10.45	-14.77	-3.68	17.66
Local Dist	130.32	137.00	410.80	438.00	465.90	491.50	521.30	6.62	6.37	5.49	6.06
GFGP USE TAX	184.47	160.42	760.60	753.40	561.10	497.75	642.65	-0.95	-25.52	-11.29	29.11
GROSS CIGARETTE TAX	235.01	214.70	920.00	878.50	880.69	878.01	875.50	-4.51	0.25	-0.30	-0.29
Less: School Aid	87.18	79.39	343.80	327.50	329.07	326.74	324.77	-4.74	0.48	-0.71	-0.60
Medicaid Trust Fund	85.08	77.99	330.20	314.70	316.50	316.96	316.97	-4.69	0.57	0.15	0.00
Other Funds	18.68	13.96	62.90	60.60	60.79	60.40	60.34	-3.65	0.31	-0.63	-0.10
GFGP CIGARETTE TAX	44.06	43.36	181.40	175.70	174.32	173.90	173.41	-3.14	-0.79	-0.24	-0.28