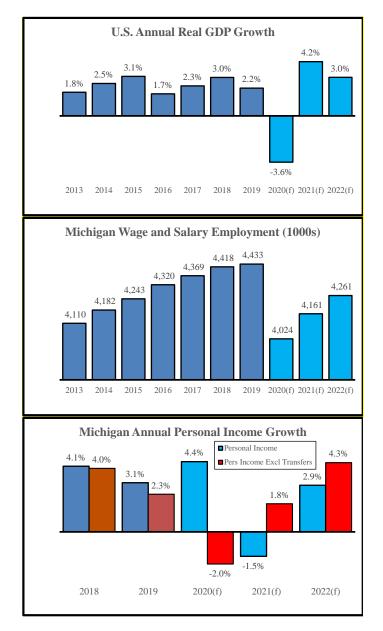


University of Michigan November Economic Forecast

On November 19-20, 2020, the University of Michigan's Research Seminar in Quantitative Economics released its November 2020 economic forecasts. Below are some highlights from those forecasts. ⁽ⁿ⁾:



U.S. Economic Outlook

- After falling an estimated 3.6% in 2020, U.S. real GDP is forecast to rise 4.2% in 2021 to a level slightly (0.5%) higher than in 2019. In 2022, real GDP is forecast to rise 3.0%.
- After falling to an estimated 14.5 million units in 2020, U.S. light vehicle sales are forecast to rebound to 16.3 million units in 2021 and 16.7 million units in 2022 just shy of their 2019 level.
- After rising from 3.7% in 2019 to an estimated 8.1% in 2020, the U.S. unemployment rate is forecast to fall to 5.9% in 2021 and 5.3% in 2022.

Michigan Employment Outlook

- The Michigan unemployment rate rose from 4.1% to an estimated 10.1% in 2020 (a nine-year high). The State's unemployment rate is forecast to fall to 7.1% in 2021 and 6.0% in 2022.
- Michigan wage and salary employemnt fell from 4,432,600 to an estimated 4,023,900 in 2020 – a 9.2% decline. After rising a forecasted 3.4% in 2021 and 2.4% in 2022, Michigan employment would remain 3.9% below its 2019 level.

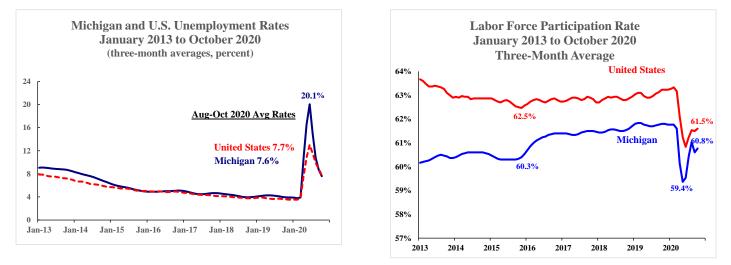
Michigan Personal Income Outlook

- Despite the economic downturn in 2020, total Michigan personal income rose 4.4% as a result of massive government assistance programs. Excluding government transfer payments, Michigan personal income fell an estimated 2.0% in 2020.
- In 2021, total Michigan personal income is forecast to decline 1.5% with government assistance declining substantially. In 2022, State personal income rises a forecasted 2.9%.
- After falling an estimated 3.7% in 2020, Michigan wages and salaries are forecast to rise 2.0% in 2021 and 5.2% in 2022.

October 2020 Summary Unemployment Rates Trend Down But Remain High

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- The monthly Michigan unemployment rate estimate declined to 5.5 percent in October. As a result, the three-month average of the Michigan unemployment rate trended downward from 8.7 percent to 7.6 percent in October, but remains 3.7 percentage points higher than a year ago.
- The average number of people employed in Michigan between August, September and October was 267,000 lower than in February. Compared to the three-month average of people employed between August-October 2019, the current average is down 242,800 people. The August-October 2020 three-month average of people unemployed is 188,500 people higher than the number of unemployed in February.
- The U.S. unemployment rate declined to 6.9 percent in October. October's national jobless rate is 7.8 percentage points lower than April's peak rate (14.7 percent), but 3.4 percentage points higher than February's rate (3.5 percent) and 3.3 percentage points higher than a year ago (3.6 percent).



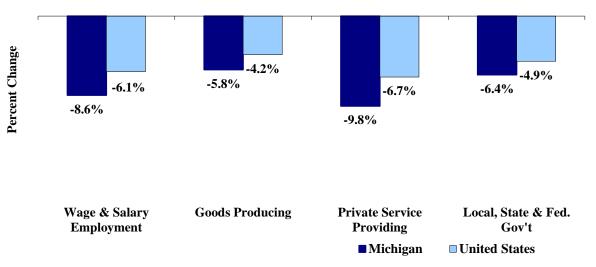
Employment by Place of Residence (in thousands)^(a)

	Annual	Aug	Sep	Oct	Chg Fr Mo Ago	Chg Fr Mo Ago	Chg Fr Yr Ago	Chg Fr Yr Ago	Three Month
	<u>2019</u>	<u>2020</u>	2020	2020	Level	<u>%</u>	Level	<u>%</u>	Average
Michigan									
Labor Force	4,902	4,914	4,841	4,860	19	0.4%	-81	-1.6%	4,872
Employed	4,699	4,489	4,426	4,594	168	3.8%	-157	-3.3%	4,503
Unemployed	203	425	415	266	-149	-35.9%	76	39.6%	369
Unemployment Rate	4.1%	8.7%	8.6%	5.5%	n.a.	-3.1% pts	n.a.	1.6% pts	7.6%
United States									
Labor Force	162,075	160,838	160,143	160,867	724	0.5%	-3,534	-2.1%	160,616
Employed	155,761	147,288	147,563	149,806	2,243	1.5%	-8,738	-5.5%	148,219
Unemployed	6,314	13,550	12,580	11,061	-1,519	-12.1%	5,204	88.9%	12,397
Unemployment Rate	3.9%	8.4%	7.9%	6.9%	n.a.	-1.0% pts	n.a.	3.3% pts	7.7%

Source: Michigan Department. of Technology, Management & Budget and Bureau of Labor Statistics, U.S. Department. of Labor

Employment by Place of Work (Payroll) Page 3

• Michigan regained a net 15,900 jobs in October and a cumulative 632,300 jobs over the past six months after losing a record 1.0 million jobs in April from the ongoing pandemic. However, Michigan payroll employment in October 2020 was 381,200 jobs (-8.6 percent) below its October 2019 level. Nationally, October 2020 payroll employment was down 9.2 million (-6.1 percent) from a year ago. The national economy has regained a cumulative 12.1 million jobs over the last six months after losing a record 20.8 million jobs in April.



Payroll Employment Growth

Source: Bureau of Labor Statistics, Michigan Department of Technology, Management & Budget

- In the goods-producing sector, Michigan payroll employment dropped 5.8 percent in October from a year ago; employment in the private service-providing sector declined 9.8 percent. From a year ago, September national payroll employment fell 4.2 percent in the goods-producing sector and decreased 6.7 percent in the private service-providing sector. Government employment dropped 6.4 percent in Michigan and fell 4.9 percent nationally.
- At 40.1 hours, manufacturing weekly hours in Michigan were down 2.3 hours from last year.

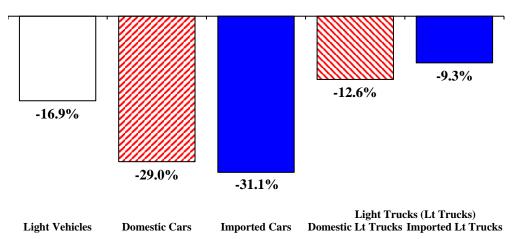
Wage and Salary (Payroll) Employment (in thousands) ⁽⁰⁾								
		MI	MI			US	US	
	2019	Oct	Oct	Percent	2019	Oct	Oct	Percent
	<u>Annual</u>	<u>2019</u>	<u>2020</u>	<u>Change</u>	<u>Annual</u>	<u>2019</u>	<u>2020</u>	<u>Change</u>
Wage & Salary Employment	4,432.6	4,414.6	4,033.4	-8.6%	148,908	151,553	142,373	-6.1%
Goods Producing	808.0	792.0	745.7	-5.8%	20,704	21,086	20,198	-4.2%
Manufacturing	627.2	607.9	564.7	-7.1%	12,688	12,810	12,231	-4.5%
Private Service Providing	3,011.4	3,008.9	2,713.3	-9.8%	105,750	107,822	100,646	-6.7%
Trade, Trans. & Utilities	795.9	797.3	766.3	-3.9%	27,607	27,750	26,751	-3.6%
Services	1,935.8	1,930.2	1,674.0	-13.3%	66,714	68,415	62,547	-8.6%
Local, State & Fed. Gov't	613.3	613.7	574.4	-6.4%	22,455	22,645	21,529	-4.9%
Manufacturing Weekly Hours	43.3	42.4	40.1	-2.3 hrs	42.2	41.4	41.2	-0.2 hrs

Wage and Salary (Payroll) Employment (in thousands)^(b)

Motor Vehicle Sales Decline Slightly in October

- After dropping to a near 50-year low in April 2020 because of COVID-19, U.S. light vehicle sales partially recovered each month from May through September. In October 2020, light vehicle sales declined 0.5 percent from September and were 3.3 percent below year-ago sales. In October 2020, the annualized sales rate equaled 16.2 million units.
- U.S. sales of domestic light vehicles declined 1.8 percent from last October while foreign sales dropped 8.3 percent. Compared to last October, the foreign share of U.S. light vehicle sales decreased 1.2 percentage points to 21.7 percent in October 2020.
- Auto sales decreased 13.9 percent compared to last October, while light truck sales were up 0.6 percent from October 2019. Year-over-year (y-o-y), heavy truck sales dropped 9.7 percent.
- Year-to-date light vehicle sales through first ten months of the year were down 16.9 percent.

Year-to-Date Light Vehicle Sales Down Sharply from Last Year



Motor Vehicle Sales Statistics

(Millions, Seasonally Adjusted Rates, unless otherwise specified)

Motor Vehicle Sales ^(c)	2019 <u>Total</u>	Aug <u>2020</u>	Sep <u>2020</u>	Oct <u>2020</u>	3 Month <u>Average</u>	Chg fr Yr Ago <u>Level</u>	Chg fr Yr Ago <u>%</u>
Autos	4.7	3.5	3.7	3.8	3.7	(0.6)	-13.9%
Domestics	3.5	2.7	2.9	2.9	2.8	(0.4)	-11.6%
Imports	1.2	0.8	0.9	0.9	0.9	(0.2)	-20.8%
Import Share	24.8%	22.3%	23.4%	23.7%	23.1%	-2.0% 1	ots
Light Trucks	12.2	11.6	12.6	12.4	12.2	0.1	0.6%
Domestics	9.6	9.2	9.9	9.8	9.6	0.2	1.6%
Imports	2.6	2.4	2.6	2.6	2.6	(0.1)	-3.0%
Import Share	21.4%	21.0%	21.0%	21.1%	21.0%	-0.8%]	ots
Total Light Vehicles	17.0	15.1	16.3	16.2	15.9	(0.5)	-3.3%
Heavy Trucks	0.5	0.4	0.4	0.5	0.4	(0.1)	- <u>9.7</u> %
Total Vehicles	17.5	15.6	16.7	16.7	16.3	(0.6)	-3.5%

Retail Inventories, Motor V	Chg fr	Chg fr					
	2019				3 Month	Year Ago	Year Ago
	Average	<u>Jul-20</u>	<u>Aug-20</u>	<u>Sep-20</u>	Average	Level	<u>%</u>
Inventories	\$236.3	\$178.6	\$179.2	\$184.8	\$180.9	-\$53.2	-22.4%
Inventory/Sales Ratio	2.29	1.62	1.61	1.61	1.61	-0.68	

Oct

Oct

Michigan Vehicle Production Little Changed from Year Ago Page 5

- Michigan vehicle production rose from 142,017 units in September to 154,133 units in October. Compared to last October, State production is down 0.4 percent and U.S. production is up 3.4 percent.
- In April, Michigan motor vehicle production came to a standstill because of the ongoing pandemic. Motor vehicle production partially restarted in May, picked up significantly in June and rose further in July but declined in August and September before rising in October.
- In October 2020, Michigan car production was up 48.8 percent from last year but Michigan truck production, which accounts for the vast majority of Michigan's overall vehicle production, was down 4.5 percent. Nationally, car production was down 3.2 percent and truck production was up 5.5 percent compared to last October.
- Despite October's monthly increase, the three-month average of Michigan vehicle production trend was downward. The three-month average of Michigan vehicle production in October was down 5.2 percent from a year ago; nationally, three-month average of production was up 0.4 percent.

Three-Month Averages of Michigan Vehicle Production Down from Year Ago in October



Motor Vehicle Production Statistics

(Thousands, unless otherwise specified)

	2019	usanus, unica		specifica)		Oct	Oct
	Monthly	Aug	Sep	Oct	3 Month		% Chg
	<u>Average</u>	<u>2020</u>	<u>2020</u>	<u>2020</u>	<u>Average</u>	<u>fr Yr Ago</u>	<u>fr Yr Ago</u>
U.S. Production ^(e)							
Autos	214.8	199.8	204.2	214.8	206.3	(7.1)	-3.2%
Trucks	677.1	719.6	688.0	746.2	717.9	38.9	5.5%
Total	891.9	919.3	892.2	961.0	924.2	31.9	3.4%
Michigan Production ^(f)							
Autos	20.2	17.0	18.7	17.7	17.8	5.8	48.8%
Trucks	139.3	142.5	123.3	136.4	134.1	(6.4)	-4.5%
Total	159.5	159.5	142.0	154.1	151.9	(0.6)	-0.4%
Michigan as % of U.S.	17.9%	17.4%	15.9%	16.0%	16.4%	-0.7%	pts

U.S. Economic Conditions

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U.S. EU		Conun	10115		Pag
	T 1 00		G 3 0	0 (00	Change from
	<u>Jul-20</u>	<u>Aug-20</u>	<u>Sep-20</u>	<u>Oct-20</u>	<u>Year Ago</u>
KEY ECONOMIC INDICATORS					
Consumer Sentiment ^(h)	72.5	74.1	80.4	81.8	-13.7 points
ISM Manufacturing Index ⁽ⁱ⁾	54.2	56.0	55.4	59.3	10.8 points
ISM Non Manufacturing Index ⁽ⁱ⁾	58.1	56.9	57.8	56.6	2.2 points
	<u>2019.4</u>	<u>2020.1</u>	<u>2020.2</u>	<u>2020.3</u>	
Business Executives' Confidence ^(j)	43.0	34.0	44.0	45.0	3.0 points
INFLATION ^(k)					Change from
1982-84 = 100 (CPI)	<u>Jul-20</u>	<u>Aug-20</u>	<u>Sep-20</u>	<u>Oct-20</u>	Year Ago
Nov 2009 = 100 (PPI)					
U.S. Consumer Price Index	259.1	259.9	260.3	260.4	1.2%
Detroit CPI	NA	240.6	NA	239.9	0.5%
U.S. Producer Price Index	118.2	118.6	118.8	119.4	0.5%
INTEREST RATES					
90 Day T-Bill ⁽¹⁾	0.13%	0.10%	0.11%	0.10%	-1.55% points
10 Year Treasury Securities ⁽¹⁾	0.62%	0.65%	0.68%	0.79%	-0.92% points
INDUSTRIAL PRODUCTION (1)	101.7	102.5	102.1	103.2	-5.3%
CAPACITY UTILIZATION ⁽¹⁾	71.7%	72.2%	72.0%	72.8%	-4.2% points
RETAIL SALES ^(d)	\$535.9	\$543.4	\$551.9	\$553.3	5.7%
HOUSING STARTS and SALES					% Change From
(Millions Annual Rate)	<u>Jul-20</u>	<u>Aug-20</u>	<u>Sep-20</u>	<u>Oct-20</u>	Year Ago
Housing Starts ^(d)	1.487	1.373	1.459	1.530	14.2%
Existing Home Sales ^(m)	5.860	5.980	6.570	6.850	26.6%
DURABLE GOODS ORDERS (d)	\$231.9	\$232.9	\$237.8	\$240.8	-0.3%
PERSONAL INCOME (c)					% Change From
(Billions, Seasonally Adj & Annualized)	<u>2019.3</u>	<u>2019.4</u>	<u>2020.1</u>	<u>2020.2</u>	Year Ago
Michigan	\$492.8	\$496.8	\$497.5	\$554.3	13.1%
U.S.	\$18,590.2 \$	\$18,750.9 \$	\$18,940.5 \$	\$20,386.8	10.4%
GROSS DOMESTIC PRODUCT (C)					Annualized % Chg
(Billions of Chained 2012	2010 /	2020-1	2020.2	2020 3	From Last Atr

(Billions of Chained 2012	<u>2019.4</u>	<u>2020.1</u>	<u>2020.2</u>	<u>2020.3</u>	<u>From Last Qtr</u>
Dollars, Seasonally Adj & Annualized)	\$19,254.0 \$	19,010.8 \$	\$17,302.5 \$	18,583.5	33.1%

SOURCES AND NOTES

- (a) Seasonally adjusted. Sources: Bureau of Labor Statistics, U.S. Department of Labor and Michigan Department of Technology, Management and Budget.
- (b) Bureau of Labor Statistics, U.S. Department of Labor (BLS 790).
- (c) Bureau of Economic Analysis, U.S. Department of Commerce.
- (d) Bureau of the Census, U.S. Department of Commerce. Seasonally adjusted.
- (e) Automotive News.
- (f) Michigan Department of Treasury.
- (g) Michigan Department of Technology, Management and Budget.
- (h) University of Michigan Survey of Consumers.
- (i) Institute for Supply Management (ISM), formerly NAPM.
- (j) The Conference Board.
- (k) Bureau of Labor Statistics, U.S. Department of Labor.
- (1) Seasonally adjusted rates (except interest rates). Federal Reserve System
- Board of Governors. 2012 equals 100. Treasury bill rate (secondary market).
- (m) National Association of Realtors.
- (n) Research Seminar in Quantitative Economics (RSQE), University of Michigan.