



## ECONOMY AT A GLANCE

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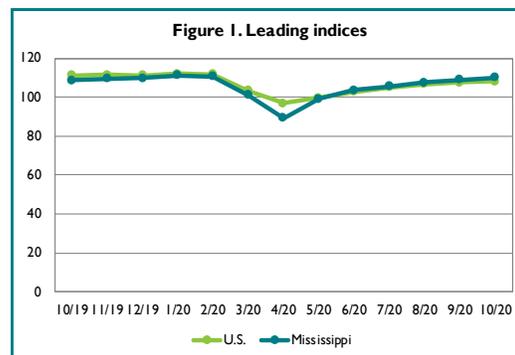
Figure 1 below indicates the value of the Mississippi Leading Index (MLI) increased 1.1 percent in October. Compared to one year earlier the value of the MLI for the month was 1.3 percent higher.

As seen in Figure 2 below the value of the Mississippi Coincident Index (MCI) fell 0.3 percent in October. The value for the month was 0.8 percent lower compared to one year ago.

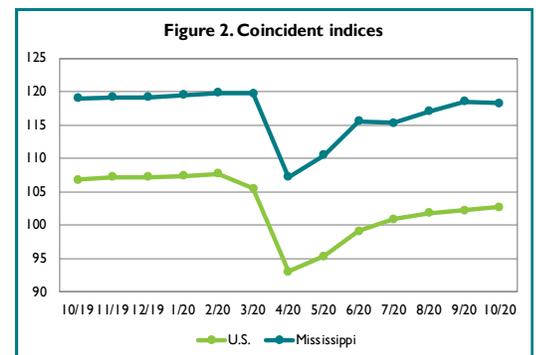
The U.S. Bureau of Economic Analysis (BEA) reported in its second estimate of the change in U.S. real GDP in the third quarter of 2020 an increase of 33.1 percent at a seasonally-adjusted, annualized rate, the same as in the agency's first estimate. While the overall estimate remained the same, within the estimate non-residential fixed investment, residential investment, and exports were all revised up while downward revisions occurred in

state and local government spending, private inventory investment, and consumer spending. As in the first estimate the only component of real GDP that decreased in the third quarter was Government expenditures, both federal and state and local.

The sixth consecutive increase in the MLI in October reflects the slow but steady improvement in the state's economy. The Mississippi Manufacturing Employment Intensity Index improved for the month thanks to a rise in average weekly hours. Both initial and continued unemployment claims posted sizable decreases in October, but remain at recessionary levels. Increasing COVID-19 infections could inhibit the steady growth in Mississippi's economy, while at the same time additional federal stimulus could accelerate it. At the end of 2020, much about the U.S. and state economies remains uncertain.



Sources: University Research Center and The Conference Board



Sources: Federal Reserve Bank of Philadelphia and The Conference Board

**Notes:** The Mississippi Coincident Index is constructed by the Federal Reserve Bank of Philadelphia and re-indexed to 2007. The index is based on changes in nonfarm employment, the unemployment rate, average manufacturing work-week length, and wage and salary disbursements. The Mississippi Leading Index is constructed by the Mississippi University Research Center. The U.S. Indices are from The Conference Board. All series are indexed to a base year of 2007.

**MISSISSIPPI'S BUSINESS****MISSISSIPPI LEADING INDEX, OCTOBER 2020**

Figure 3 indicates the value of the **Mississippi Leading Index of Economic Indicators (MLI)** increased in October for the sixth consecutive month. The value rose 1.1 percent for the month. Compared to one year earlier the value of the MLI was up 1.3 percent in October and was only 0.5 percent below the February value. The value of the MLI gained 23.4 percent over the last six months.

For the third consecutive month five of the seven components of the MLI made positive contributions in October. The Mississippi Manufacturing Employment Intensity Index made the largest contribution, closely followed by initial unemployment claims. The two components that contributed negatively were the ISM Manufacturing Index and building permits. Each component is discussed below in order of largest to smallest contribution.

In October the **Mississippi Manufacturing Employment Intensity Index** climbed 2.7 percent as Figure 4 indicates. Compared to one year earlier the value for the month was 5.2 percent lower. The 3.3 percent increase in the average weekly hours of production employees in Mississippi in October more than offset a relatively small decline in employment in Manufacturing in the state.

Figure 5 indicates the number of seasonally-adjusted **initial unemployment claims** in Mississippi fell 22.4 percent in October. Compared to one year earlier the value for October was 228.8 percent higher, the smallest year-over-year change since February. The number of seasonally-adjusted continued unemployment claims in Mississippi decreased 26.8 percent in October as seen in Figure 16 on page 6, the largest monthly decline since June. The number of continued unemployment claims in Mississippi was 586.3 percent higher compared to one year ago. The seasonally-adjusted unemployment rate in Mississippi rose 0.2 percentage point in October to 7.4 percent as seen in Figure 17 on page 6. The September rate was revised up by 0.1 percentage point to 7.2 percent. Compared to one year earlier the state's unemployment rate in October was 1.8 percentage points higher.

The value of **Mississippi income tax withholdings** (three-month moving average) edged up 0.9 percent in October as seen in Figure 6, the second consecutive monthly gain. For the month the value of withholdings was 1.1 higher percent compared to one year earlier. Over the last six months the value of income tax withholdings in Mississippi rose 6.0 percent.

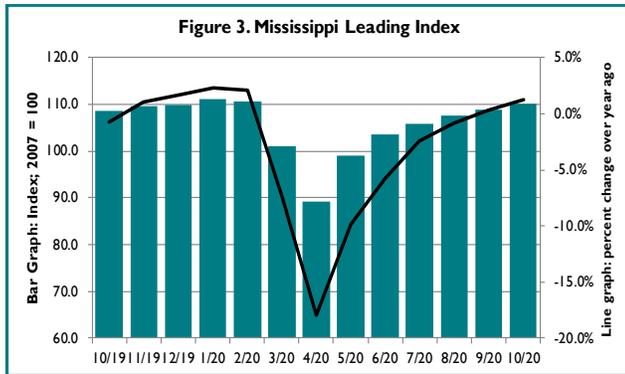
The value of **U.S. retail sales** rose in October for the sixth consecutive month as seen in Figure 7. However, the increase was 0.3 percent, the smallest monthly gain since April. The value of sales for September was revised down by 0.3 percentage point while the value for August was revised up by 0.8 percentage point. Compared to one year earlier the value of sales in October was up 5.7 percent. The largest increase for the month occurred at non-store retailers. The largest decreases in sales occurred in clothing and accessories and sporting goods and hobbies.

Figure 8 indicates the value of the **University of Michigan Index of Consumer Expectations** (three-month moving average) rose 0.9 percent in October, its fourth consecutive monthly gain. The value for the month was down 11.6 percent compared to one year earlier, the eighth consecutive month with a year-over-year decrease. Rising numbers of COVID-19 infections across the country are likely to weigh on both consumer sentiment and expectations. Both short-term (one-year) and long-term (five-year) inflation expectations increased slightly in the most recent survey.

As seen in Figure 9 the value of **Mississippi residential building permits** (three-month moving average) fell 2.1 percent in October, the first decrease since May. The value for the month was 17.9 percent higher compared to one year earlier. The number of units in the state decreased 3.8 percent in October, the largest monthly decline since June 2019. The number of units in the state for the month remained 13.1 percent higher compared to one year earlier, however. The number of privately-owned housing units authorized by building permits in the U.S. in October was essentially unchanged from the revised September rate. The number of units in the U.S. in October was 2.8 percent higher compared to one year ago.

In November the value of the **ISM Index of U.S. Manufacturing Activity** fell 3.0 percent, the largest monthly decline since March. As Figure 10 indicates, the value for the month was 19.5 percent higher compared to one year earlier. The only component of the Index that increased in November was Supplier Deliveries, which rose slightly. The largest decline among all components occurred in Employment, which fell back into contraction territory. All of the other components remained above the 50.0 level. The prices paid index edged slightly lower in November.

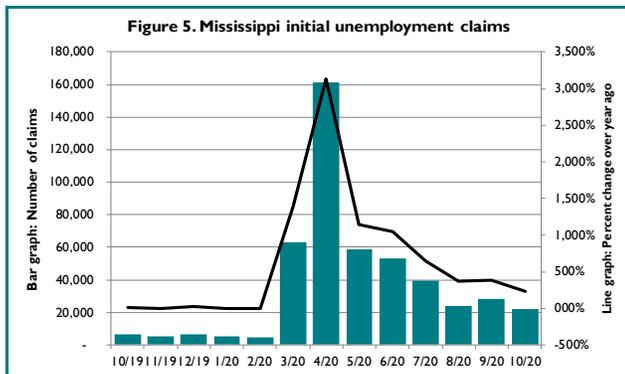
# MISSISSIPPI LEADING INDEX AND COMPONENTS, IN FIGURES



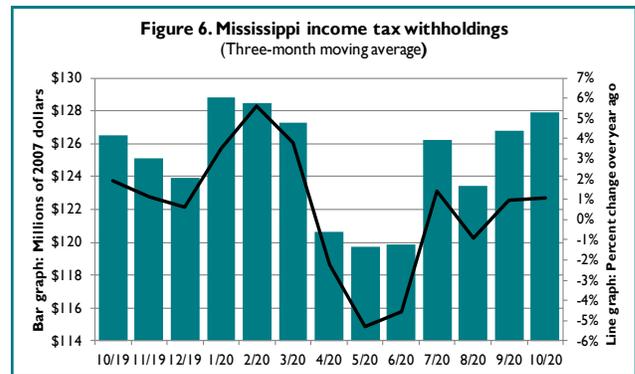
Source: University Research Center



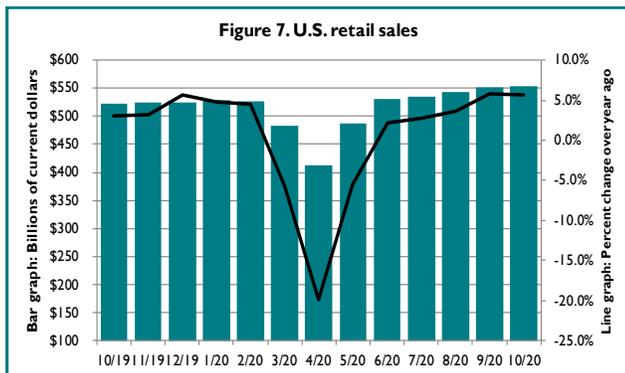
Source: URC using data from U.S. Bureau of Labor Statistics



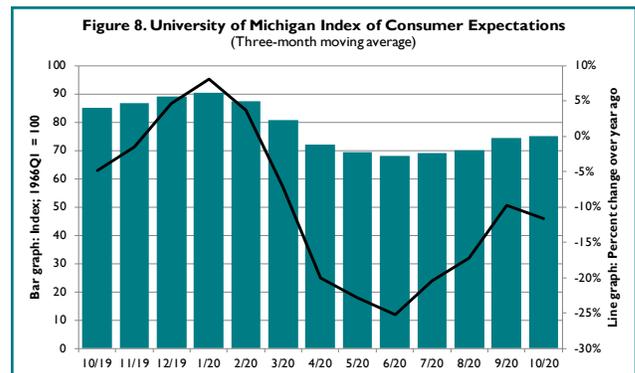
Source: U.S. Department of Labor; seasonally adjusted



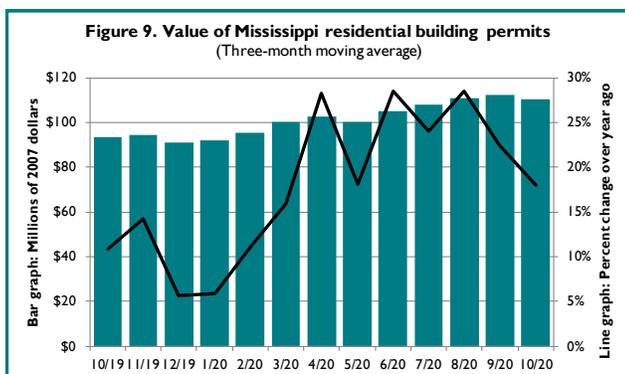
Source: Mississippi Department of Revenue; seasonally adjusted



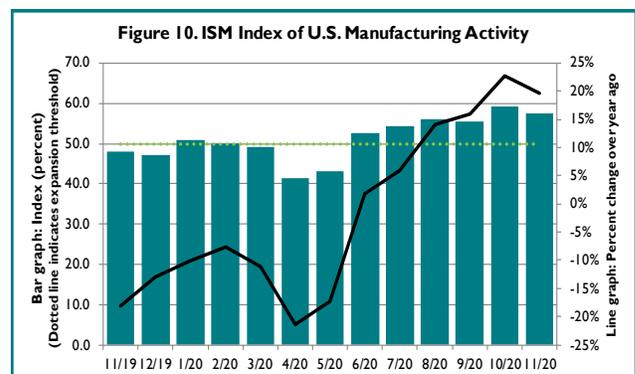
Source: U.S. Bureau of the Census



Source: Thomson Reuters/University of Michigan Surveys of Consumers



Source: U.S. Bureau of the Census; seasonally adjusted



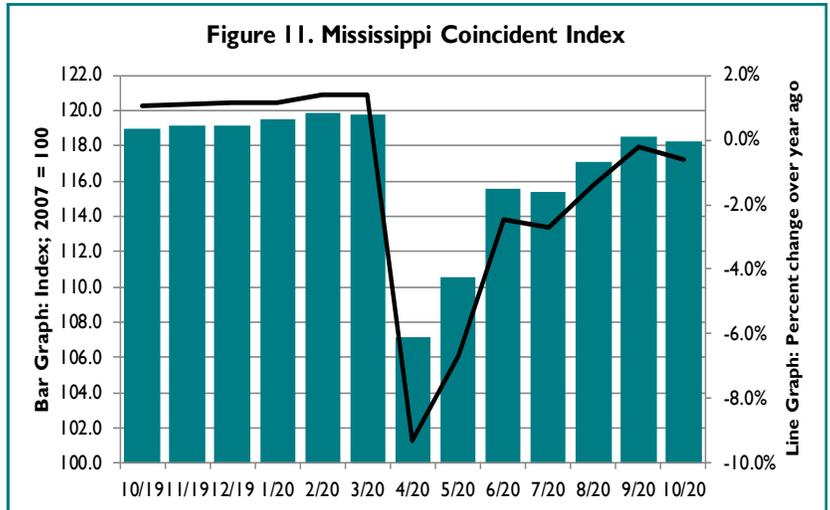
Source: Institute for Supply Management

MISSISSIPPI'S BUSINESS

MISSISSIPPI COINCIDENT INDEX, OCTOBER 2020

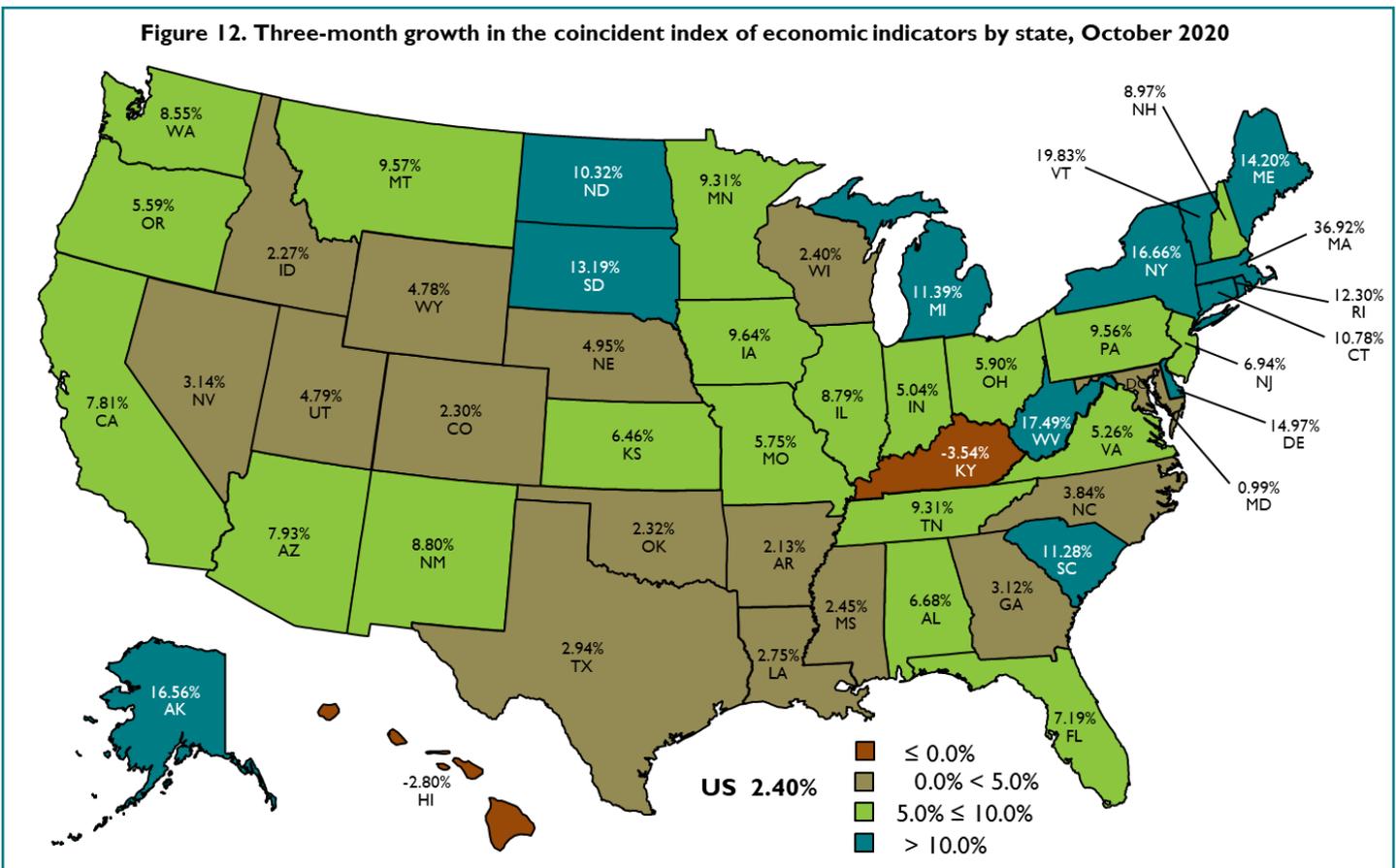
The Federal Reserve Bank of Philadelphia reported the value of the **Mississippi Coincident Index of Economic Indicators (MCI)** fell 0.3 percent in October as seen in Figure 11, its first decrease since July. Compared to one year ago the value of the MCI for the month was 0.8 percent lower.

The values of the coincident indices in October compared to July were higher in forty-eight states as Figure 12 indicates. In fifteen states including Mississippi the value of the coincident index rose less than 5.0 percent in October compared to three months prior. The value of the coincident index increased between 5.0 and 10.0 percent in October compared to July in twenty states. In thirteen states the value of the coincident index increased more than 10.0 percent in October compared to three months prior. The largest increase among all states in October compared to July occurred in Massachusetts where the value of the coincident index was up 36.9 percent. In Hawaii and Kentucky the value of the coincident index decreased in October compared to three months prior.



Source: Federal Reserve Bank of Philadelphia

Figure 12. Three-month growth in the coincident index of economic indicators by state, October 2020



Source: Federal Reserve Bank of Philadelphia

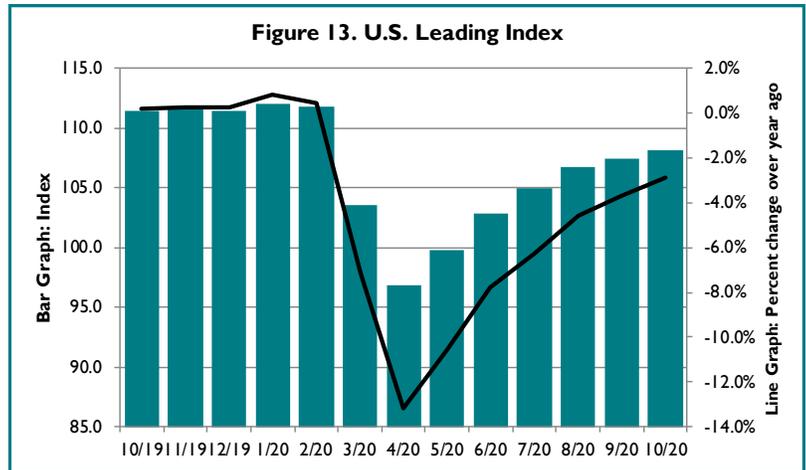
## NATIONAL TRENDS

Figure 13 indicates the value of the U.S. Leading Economic Index (LEI) rose for the sixth consecutive month in October according to The Conference Board. For the month the value increased 0.7 percent. Compared to one year earlier the value of the LEI in October remained 2.9 percent lower. Of the ten components of the LEI seven made positive contributions in October, and the ISM New Orders Index made the largest contribution. The only negative contributor for the month was manufacturers' new orders for nondefense capital goods. The value of the LEI increased 11.7 percent.

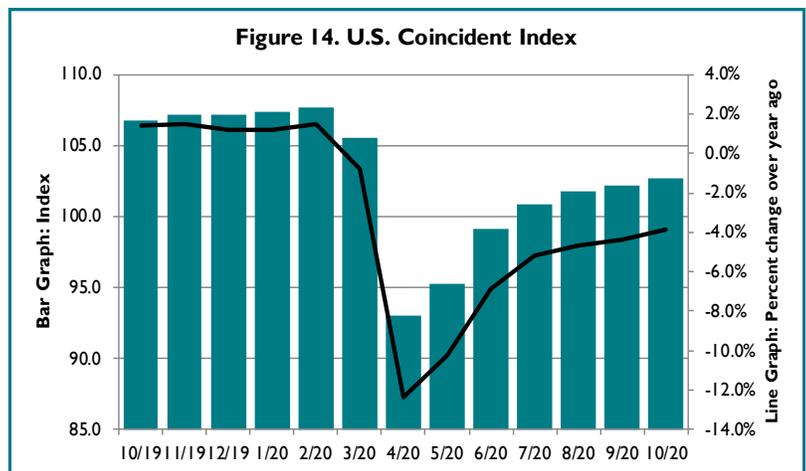
The value of the U.S. Coincident Economic Index (CEI) increased 0.5 percent in October according to The Conference Board as seen in Figure 14. Compared to one year earlier the value of the CEI for the month was down 3.8 percent. All four components of the CEI made positive contributions in October; as in the previous month the largest contribution came from employees on nonagricultural payrolls. The value of the CEI increased 10.4 percent over the last six months.

Figure 15 indicates the value of the National Federation of Independent Businesses (NFIB) Small Business Optimism Index was unchanged in October. The value of the Index was 1.6 percent higher in October compared to one year earlier, just the fourth year-over-year increase in 2020. Only four of the ten components increased for the month; the largest increase once again occurred in the "earnings trends" component. The largest decreases for the month were in the "plans to increase employment" and "expect economy to improve" components.

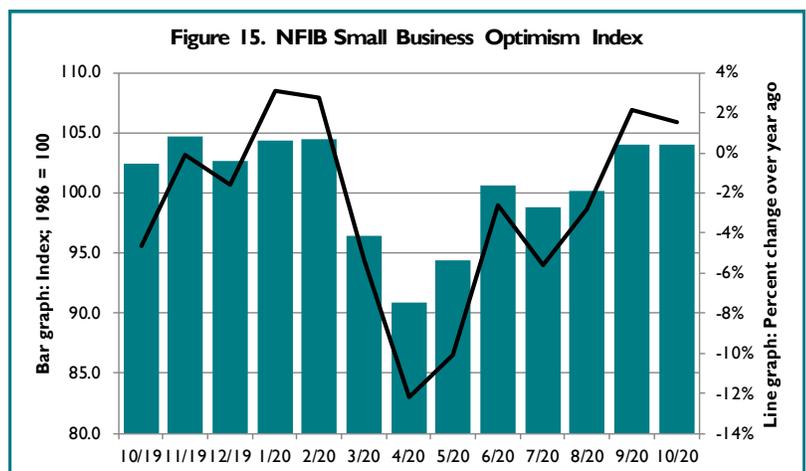
Federal Reserve officials announced no new policy changes from their November meeting, but reiterated their intentions to continue to provide stimulus to the economy. Officials expressed concern that the economic recovery could be impeded by rising numbers of COVID-19 infections as well as consumers drawing down their savings—a not-so-subtle signal to Congress and the White House that the Fed believes more fiscal stimulus is needed to sustain the recovery. Officials discussed adjusting the central bank's monthly purchases of securities if more stimulus does not occur.



Source: The Conference Board



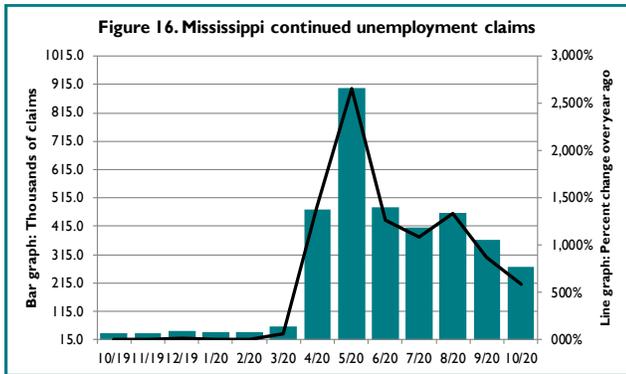
Source: The Conference Board



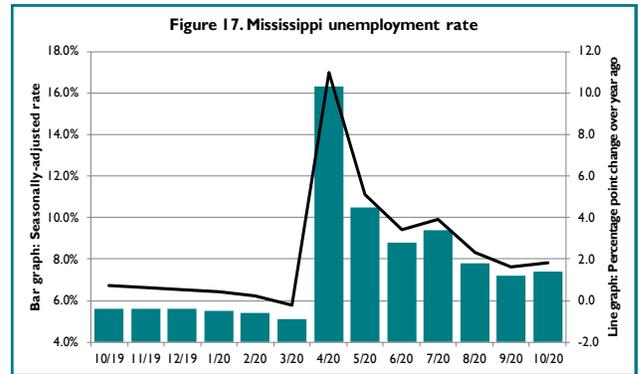
Source: National Federation of Independent Businesses

MISSISSIPPI'S BUSINESS

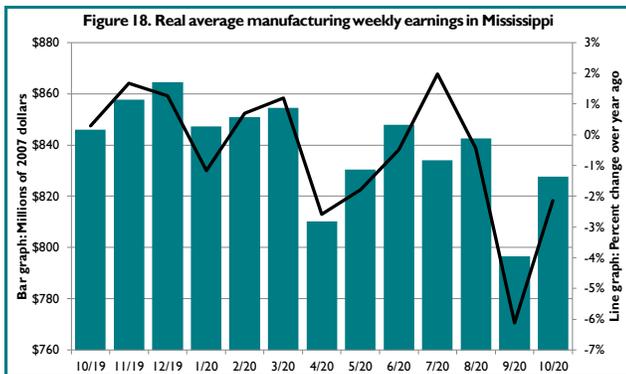
MISCELLANEOUS ECONOMIC INDICATORS, IN FIGURES



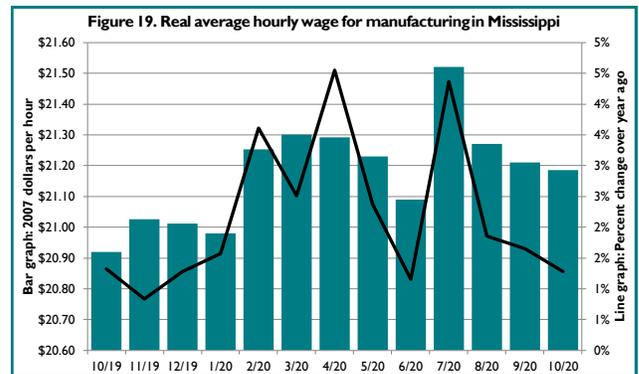
Source: U.S. Department of Labor; seasonally adjusted



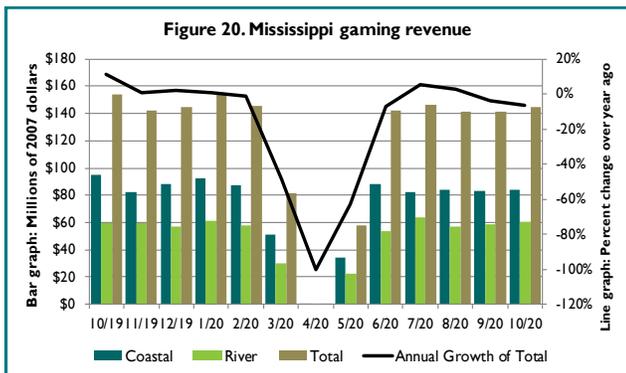
Source: U.S. Bureau of Labor Statistics; seasonally adjusted



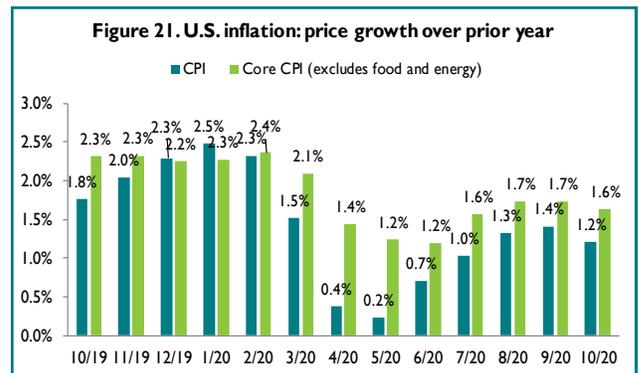
Source: U.S. Bureau of Labor Statistics; non-seasonally adjusted



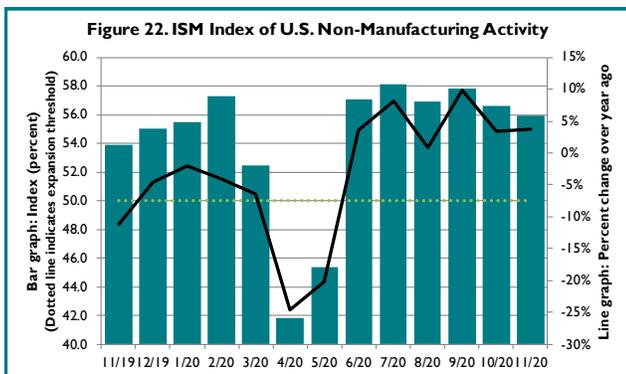
Source: U.S. Bureau of Labor Statistics; seasonally adjusted



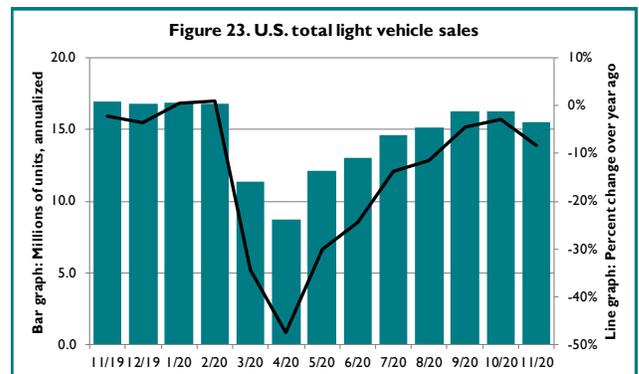
Source: Mississippi Department of Revenue; seasonally adjusted



Source: U.S. Bureau of Labor Statistics



Source: Institute for Supply Management



Source: Bureau of Economic Analysis; seasonally adjusted at annual rates

TABLE I. SELECTED ECONOMIC INDICATORS

Indicator	October	September	October	Percent change from	
	2020	2020	2019	September 2020	October 2019
<b>U.S. Leading Economic Index</b> 2007 = 100. Source: The Conference Board	108.2	107.5	111.4	▲0.7%	▼2.9%
<b>U.S. Coincident Economic Index</b> 2007 = 100. Source: The Conference Board	102.7	102.2	106.8	▲0.5%	▼3.8%
<b>Mississippi Leading Index</b> 2007 = 100. Source: University Research Center	110.1	108.9	108.7	▲1.1%	▲1.3%
<b>Mississippi Coincident Index</b> 2007 = 100. Source: Federal Reserve Bank of Philadelphia	118.2	118.5	119.1	▼0.3%	▼0.8%
<b>Mississippi initial unemployment claims</b> Seasonally adjusted. Source: U.S. Department of Labor	22,073	28,433	6,714	▼22.4%	▲228.8%
<b>Value of Mississippi residential building permits</b> Three-month moving average; seasonally adjusted; millions of 2007 dollars. Source: Bureau of the Census	110.2	112.5	93.4	▼2.1%	▲17.9%
<b>Mississippi income tax withholdings</b> Three-month moving average; seasonally adjusted; millions of 2007 dollars. Source: Mississippi Department of Revenue	127.9	126.8	126.5	▲0.9%	▲1.1%
<b>Mississippi Manufacturing Employment Intensity Index</b> 2007 = 100. Source: URC using data from U.S. Bureau of Labor Statistics	82.3	80.1	86.8	▲2.7%	▼5.2%
<b>University of Michigan Index of Consumer Expectations</b> Three-month moving average; index 1966Q1 = 100. Source: Thomson Reuters/University of Michigan Surveys of Consumers	75.1	74.4	85.0	▲0.9%	▼11.6%
<b>ISM Index of U.S. Manufacturing Activity</b> Advanced one month. Source: Institute for Supply Management	57.5	59.3	48.1	▼3.0%	▲19.5%
<b>U.S. retail sales</b> Current dollars, in billions. Source: Bureau of the Census	553.3	551.9	524.9	▲0.3%	▲5.7%
<b>U.S. Consumer Price Index (CPI)</b>	125.6	125.5	124.1	◀▶0.0%	▲1.2%
<b>U.S. Core CPI (excludes food and energy)</b> 2007 = 100. Source: URC using data from Bureau of Labor Statistics	127.8	127.8	125.8	◀▶0.0%	▲1.6%
<b>Mississippi unemployment rate</b> Percentage point change. Seasonally-adjusted. Source: U.S. Bureau of Labor Statistics	7.4%	7.2%	5.6%	▲0.2	▲1.8
<b>Mississippi continued unemployment claims</b> Seasonally adjusted. Source: U.S. Department of Labor	270,354	369,288	39,392	▼26.8%	▲586.3%
<b>ISM Index of U.S. Non-Manufacturing Activity</b> Advanced one month. Source: Institute for Supply Management	55.9	56.6	53.9	▼1.2%	▲3.7%
<b>U.S. mortgage rates</b> Percentage point change. Seasonally adjusted; 30-year conventional. Source: Federal Home Loan Mortgage Corporation	2.81%	2.96%	3.68%	▼0.15	▼0.86
<b>Mississippi average hourly wage for manufacturing</b> Seasonally adjusted; 2007 dollars. Source: U.S. Bureau of Labor Statistics	21.19	21.21	20.92	▼0.1%	▲1.3%
<b>Mississippi average weekly earnings for manufacturing</b> Seasonally adjusted; 2007 dollars. Source: U.S. Bureau of Labor Statistics	827.75	796.62	845.90	▲3.9%	▼2.1%
<b>NFIB Small Business Optimism Index</b> 1986 = 100. Source: National Federation of Independent Businesses	104.0	104.0	102.4	◀▶0.0%	▲1.6%
<b>U.S. total light vehicle sales</b> Millions of units seasonally adjusted at annual rates. Source: U.S. Bureau of Economic Analysis	15.55	16.28	16.97	▼4.5%	▼8.4%
<b>Gaming revenue</b>	144.43	141.81	154.0	▲1.8%	▼6.2%
<b>Coastal counties</b>	83.77	82.83	94.6	▲1.1%	▼11.4%
<b>River counties</b> Seasonally adjusted; millions of 2007 dollars. Source: Mississippi Department of Revenue	60.66	58.99	59.4	▲2.8%	▲2.0%

Economic Indices

Components of the Mississippi Leading Index

Miscellaneous Indicators

## MISSISSIPPI'S BUSINESS

### MISSISSIPPI EMPLOYMENT TRENDS

Mississippi added 3,500 jobs in October according to the U.S. Bureau of Labor Statistics (BLS). Total non-farm employment in rose 0.3 percent. However, BLS revised September employment in the state down by 3,700 jobs to an increase of 0.3 percent. Employment in Mississippi in October was 2.5 percent lower compared to one year earlier as seen in Table 2, a decrease of 28,800 jobs.

BLS reported thirty-two states added jobs, two states lost jobs, and in sixteen states employment was unchanged in October. California added 145,500 jobs, the most among all states, followed by Texas, which added 118,100 jobs. The largest percentage increase among all states occurred in Alaska, where employment rose 2.9 percent. The largest decrease in employment for the month was in Wisconsin, which lost 14,700 jobs. The largest percentage decrease in employment occurred in New Hampshire, a decline of 0.6 percent and a loss of 3,700 jobs.

Compared to one year earlier employment was down in forty-eight states and the District of Columbia in October and was essentially unchanged in Idaho and Utah. Over the last twelve months the largest decrease in employment occurred in California, which lost 1,369,400 jobs, followed by New York, which lost 1,015,500 jobs.

The largest percentage decrease in employment among all states compared to one year earlier once again occurred in Hawaii, where employment was down 17.3 percent.

Most sectors in Mississippi added jobs in October. The Accommodation and Food Services sector added 1,800 jobs for the month, the most among all sectors. The largest percentage increase in employment occurred in Arts and Entertainment, up 4.7 percent in October, an increase of 300 jobs. The largest decline in employment for the month occurred in Manufacturing, which lost 800 jobs. The largest percentage decrease in employment in October occurred in Educational Services, which fell 4.4 percent.

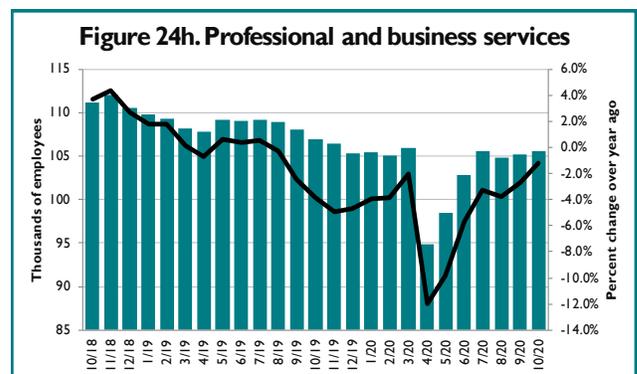
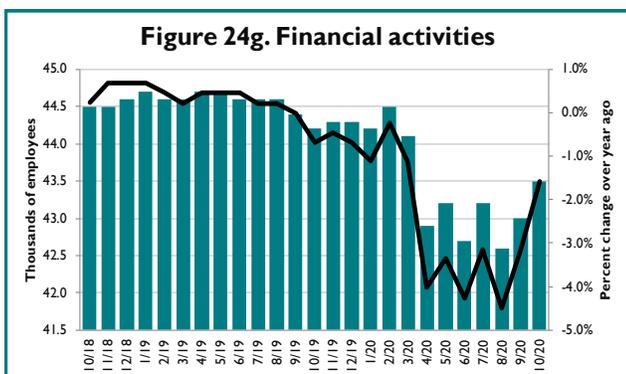
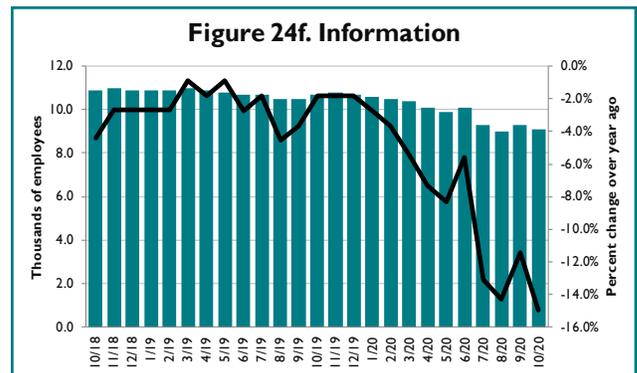
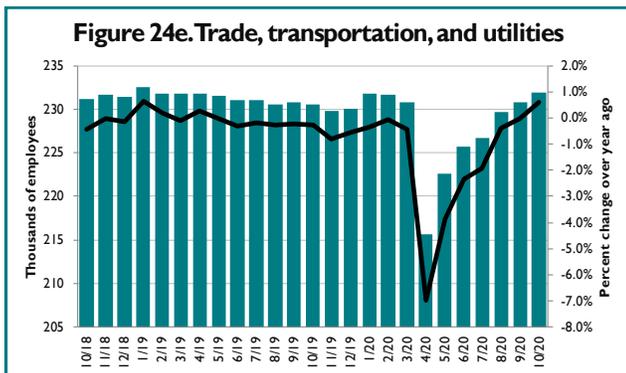
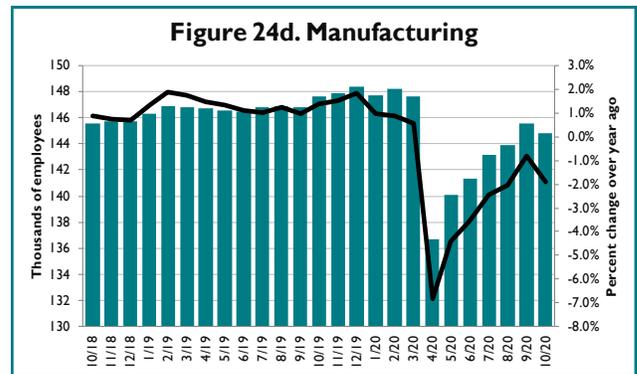
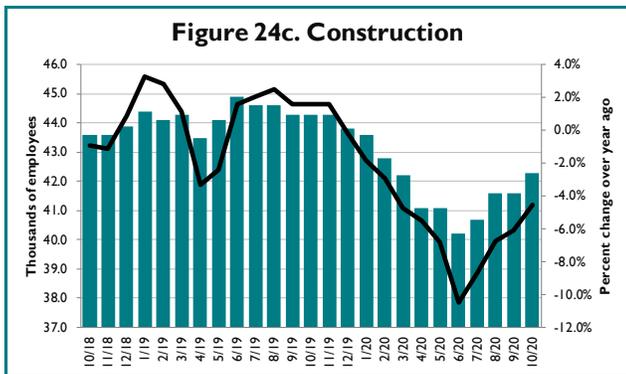
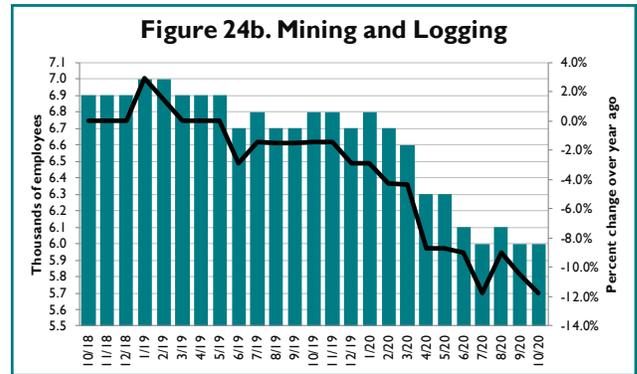
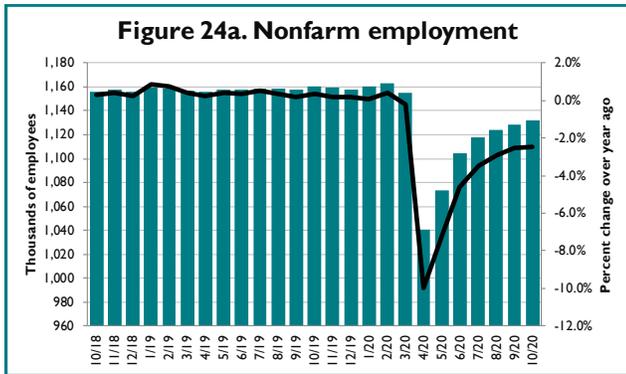
Compared to one year ago the only sector in the state with higher employment as of October was Trade, Transportation and Utilities, which added 1,400 jobs, a 0.6 percent gain. The Retail Trade subsector added 3,400 jobs over the last twelve months. Once again the largest decrease in employment over the past year occurred in Health Care and Social Assistance, which lost 7,700 jobs. The largest percentage decrease in employment over the last twelve months occurred in Arts and Entertainment, as employment fell 31.6 percent, a loss of 3,100 jobs.

**Table 2. Change in Mississippi employment by industry, October 2020**

	Relative share of total <sup>a</sup>	October 2020	September 2019	October 2019	Change from September 2020 Level	Change from September 2020 Percent	Change from October 2019 Level	Change from October 2019 Percent
Total Nonfarm	100.0%	1,131,700	1,128,200	1,160,500	▲3,500	▲0.3%	▼28,800	▼2.5%
Mining and Logging	0.6%	6,000	6,000	6,800	◀▶0	◀▶0.0%	▼800	▼11.8%
Construction	3.7%	42,300	41,600	44,300	▲700	▲1.7%	▼2,000	▼4.5%
Manufacturing	12.8%	144,800	145,600	147,600	▼800	▼0.5%	▼2,800	▼1.9%
Trade, Transportation & Utilities	20.2%	232,000	230,800	230,600	▲1,200	▲0.5%	▲1,400	▲0.6%
Retail Trade	12.0%	139,000	138,600	135,600	▲400	▲0.3%	▲3,400	▲2.5%
Information	0.9%	9,100	9,300	10,700	▼200	▼2.2%	▼1,600	▼15.0%
Financial Activities	3.9%	43,500	43,000	44,200	▲500	▲1.2%	▼700	▼1.6%
Services	36.8%	419,900	417,100	433,800	▲2,800	▲0.7%	▼13,900	▼3.2%
Professional & Business Services	9.2%	105,600	105,200	106,900	▲400	▲0.4%	▼1,300	▼1.2%
Educational Services	1.0%	10,800	11,300	12,000	▼500	▼4.4%	▼1,200	▼10.0%
Health Care and Social Assistance	11.6%	128,700	128,300	136,400	▲400	▲0.3%	▼7,700	▼5.6%
Arts and Entertainment	0.7%	6,700	6,400	9,800	▲300	▲4.7%	▼3,100	▼31.6%
Accommodation and Food Services	10.7%	127,200	125,400	127,500	▲1,800	▲1.4%	▼300	▼0.2%
Other Services	3.6%	40,900	40,500	41,200	▲400	▲1.0%	▼300	▼0.7%
Government	21.1%	234,100	234,800	242,500	▼700	▼0.3%	▼8,400	▼3.5%

<sup>a</sup>Relative shares are for the most recent twelve-month average. Source: U.S. Bureau of Labor Statistics, Current Employment Statistics

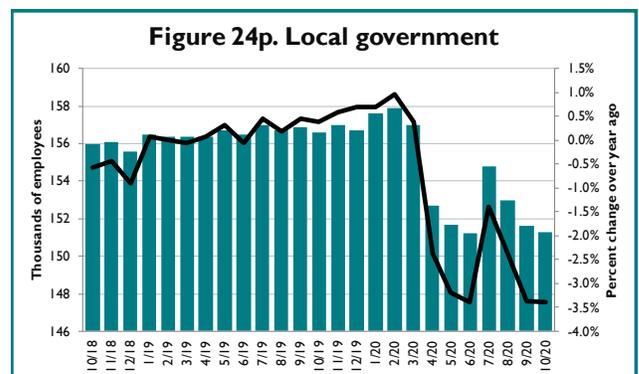
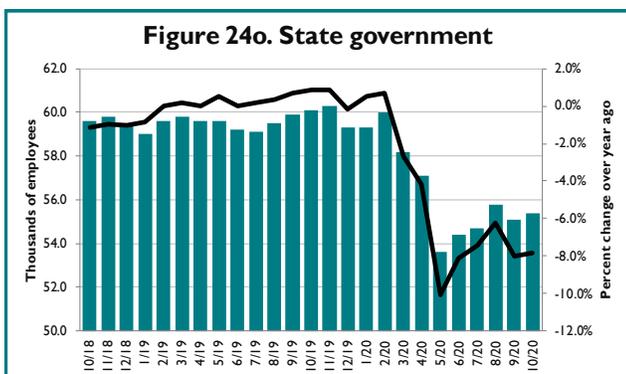
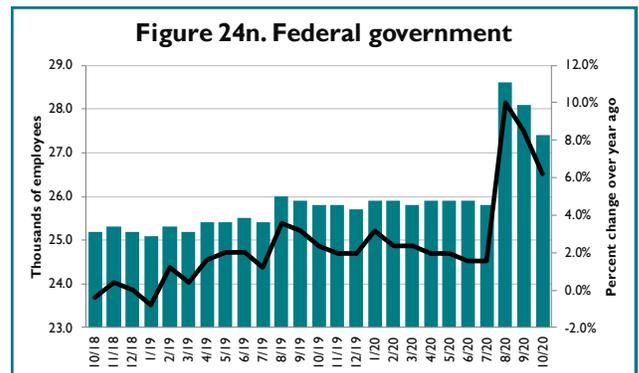
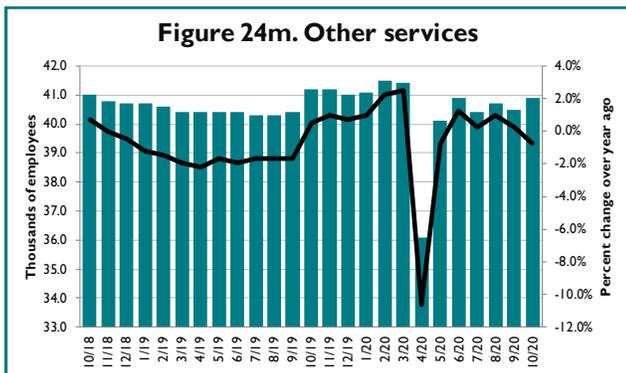
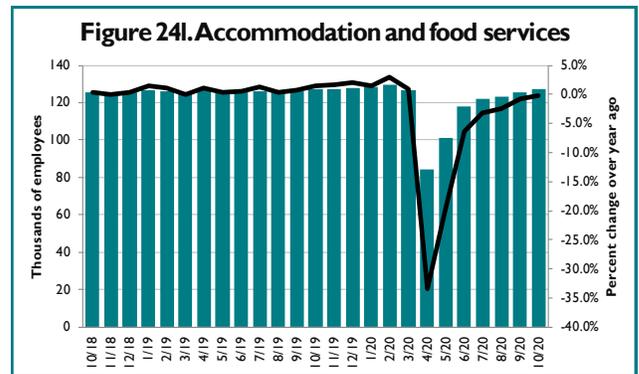
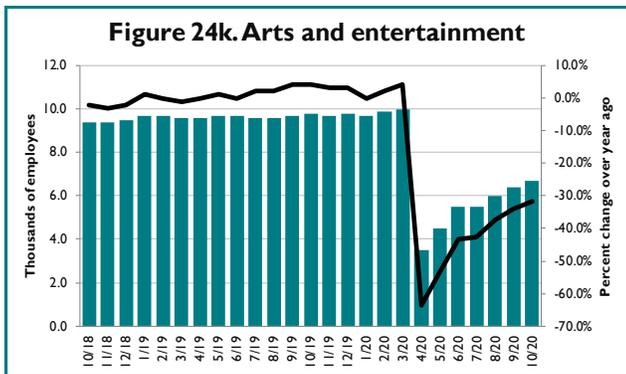
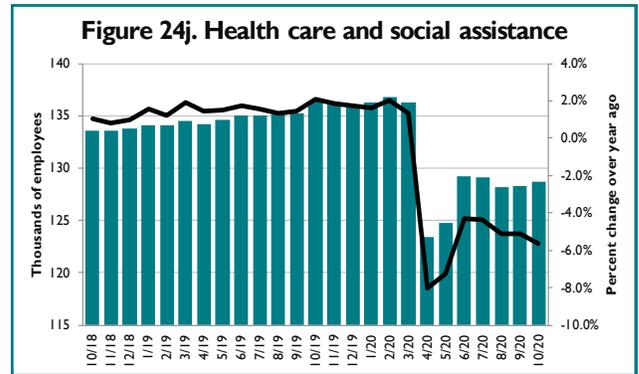
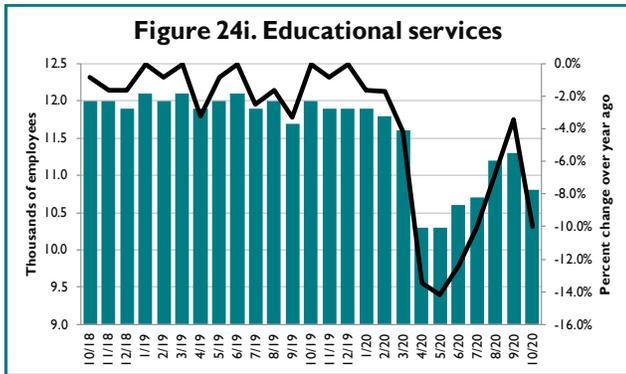
# MISSISSIPPI EMPLOYMENT TRENDS BY SECTOR, IN FIGURES



Source: U.S. Bureau of Labor Statistics (all figures); seasonally adjusted

MISSISSIPPI'S BUSINESS

MISSISSIPPI EMPLOYMENT TRENDS BY SECTOR, IN FIGURES (CONTINUED)



Source: U.S. Bureau of Labor Statistics (all figures); seasonally adjusted

## GROWTH ACCOUNTING AND THE LABOR FORCE PARTICIPATION RATE

Previous issues of *Mississippi's Business* have discussed the labor force participation rate in Mississippi, which is one of the lowest in the country, typically ahead of only West Virginia. The U.S. Bureau of Labor Statistics defines the labor force participation rate as “the percentage of the civilian noninstitutional population sixteen years and older that is working or actively looking for work.” These previous articles went into detail as to the likely reasons for the low rate, which include lower educational attainment, higher rates of disability, and a higher share of African-American men ages twenty-five to fifty-four in the population. Generally speaking, a higher labor force participation rate in the state would lead to a larger gross domestic product (GDP), greater tax revenues, less spending on social programs, and a healthier population.<sup>1</sup> To update the example from a previous article, if Mississippi had the same labor force participation rate in 2019 as the U.S. did—63.1 percent—then the number of people employed in the state would have been higher by almost 159,000 more individuals, assuming the same unemployment rate of 5.4 percent.

Growth accounting is an approach that allows for a more specific analysis of the implications of changes in the labor force participation rate on Mississippi's economy. Growth accounting was developed in the 1950s by Nobel prize-winning economist Robert Solow as a way to decompose the components of growth as measured by GDP. In the traditional production function, output or GDP is the product of different combinations of capital and labor. In Solow's approach, the accounting identity is balanced by the inclusion of technology as a third major component. As capital and labor can be measured, whereas technology cannot, the difference between total output and the combination of capital and labor is referred to as the Solow residual.

In order to investigate the effects of changes in the labor force participation rate on real GDP, the growth accounting identity can be alternatively expressed following Panday and Bovino (2017). These authors decompose real GDP into GDP per labor force participant and labor inputs. By consolidating terms they reach the following expression for real GDP:

$$\text{GDP} = \left( \frac{\text{GDP}}{\text{labor force}} \right) \times \text{labor force participation rate} \times \text{working age population}$$

In this equation real GDP is the product of real GDP per person in the labor force, the labor force participation rate, and the total working age population; the latter is defined as the number of non-institutionalized individuals in the state age sixteen and over. Thus, by expressing the production function in this format we can examine what happens to real GDP as a result of changes to the size of the labor force, the labor force participation rate, or the size of the working age population.

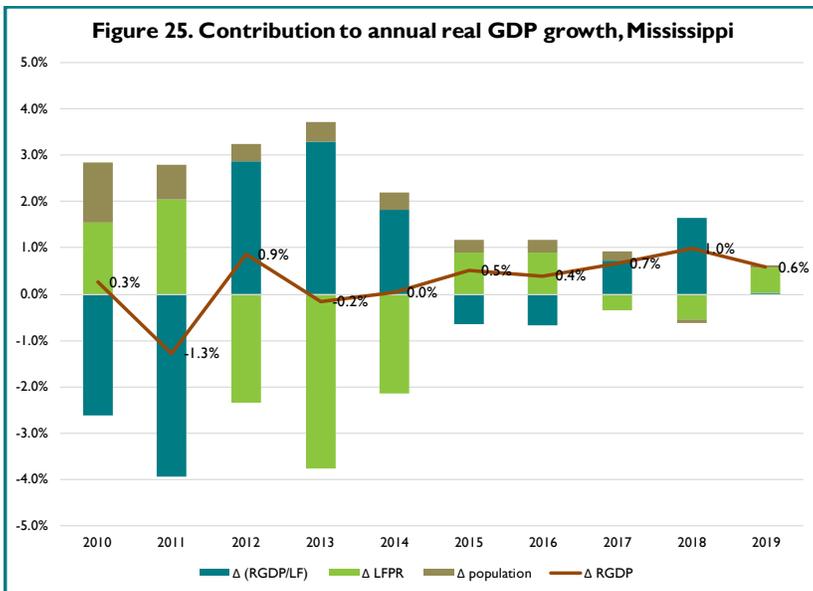
Before delving into the implications of changes in the individual components of the above equation, we should note that each component is often expressed in terms of the percentage change from the previous period, or the growth rate—the reason the approach is referred to as growth accounting. This expression means the individual components can be decomposed into their contributions to the change in real GDP for a particular year. Figure 25 depicts the change in real GDP for Mississippi in each of the last ten years along with the contribution to that change from the components of the above equation. As seen in this graph, the labor force participation rate was a drag on real GDP growth in five of the last ten years, from 2012 to 2014 and again in 2017 and 2018. Real GDP growth in 2019 is noteworthy as the gain of 0.6 percent was almost entirely due to the increase in the labor force participation rate. Additionally, 2019 was the only time in the last ten years when all three components made positive contributions to real GDP growth, although the contributions of real GDP per labor force participant and the civilian population were relatively small. The growth in real GDP in 2018 is also important as it was the only year when the civilian population acted as a slight drag on total growth in output.

Between 2010 and 2019, the annual labor force participation rate in Mississippi ranged from 55.0 percent to 59.8 percent, an average of 56.7 percent each year. During this same time period, annual real GDP growth ranged from -1.3

<sup>1</sup>See “Labor Force Participation in Mississippi” in the September 2018 issue of *Mississippi's Business*.

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## GROWTH ACCOUNTING AND THE LABOR FORCE PARTICIPATION RATE, CONTINUED



Source: U.S. Bureau of Economic Analysis and U.S. Bureau of Labor Statistics. URC calculations.

percent to 1.0 percent, an average of 0.3 percent per year. The value of real GDP from 2010 to 2019 ranged from \$98.8 billion to \$102.7 billion (in 2012 dollars), an average of \$100.4 billion per year.

With the above information in mind, a “what if” analysis allows for the examination of changes to the state’s labor force participation rate. Suppose Mississippi’s labor force participation rate had been 1.0 percentage point higher in each of the last ten years. The average rate therefore would have equaled 57.7 percent per year, and real GDP for the state would have been an average of 1.8 percent larger each year. Average growth in real GDP for Mississippi would have been 0.01 percentage point higher per year under this scenario. Another way to measure real GDP is on a per person basis, which involves

dividing real GDP for a given year by the total population. From 2010 to 2019, real GDP per person in Mississippi averaged about \$33,600 per year. If the labor force participation rate had been 1.0 percentage point higher in each of those years, then real GDP per person would have averaged about \$34,200 per year. For a more striking example, suppose the labor force participation rate in Mississippi was equal to that of the U.S. in each of the last ten years. The average annual rate over this period would equal 63.3 percent. Real GDP for the state would have been an average of 11.8 percent larger per year, or \$11.2 billion per year. Real GDP per person would have equaled on average \$37,600 per year, or nearly an additional \$4,000 per year compared to the actual level.

The GDP per person measure is worth mentioning because it is often used as a measure of an economy’s standard of living. For example, while the GDP of China is greater than that of the U.S., the GDP per person measure is much larger for the U.S. and is a reflection of the overall higher standard of living for U.S. residents. Therefore, an increase in GDP per person represents an improvement in the standard of living, all else equal.

A couple of caveats should be kept in mind when considering this exercise. First, the assumed change in the labor force participation rate only considers the static effects of more workers in the labor force. That is, any potential dynamic benefits such as increased worker productivity or an improvement in the quality of labor are not captured. Thus, the gains from a higher labor force participation rate could exceed those discussed above. Secondly, the growth accounting approach does not consider the source of growth, only how it is delineated. In other words, assuming the labor force participation rate increases is simple; actually achieving a higher labor force participation in the economy is a much more difficult undertaking.

## REFERENCE

Panday, S., and B.A. Bovino. “Declining Labor Force Participation will Weigh on U.S. GDP Growth—and Fed Monetary Policy.” Available at: <https://www.spglobal.com/en/research-insights/articles/declining-labor-force-participation-will-weigh-on-us-gdp-growth-and-fed-monetary-policy>. October 27, 2017.