# MISSISSIPPI ECONOMIC OUTLOOK

FALL 2016 VOLUME 2, NUMBER 4

A publication of the University Research Center, Mississippi Institutions of Higher Learning

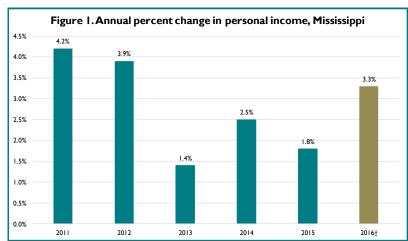
## U.S., MISSISSIPPI FORECASTS WEAKEN SLIGHTLY

ississippi's economy is projected to grow 1.5 percent in 2016 according to the latest URC forecast. This estimate represents a slight reduction of 0.1 percentage point from the forecast of the previous quarter. Most significantly, however, if this forecast is realized 2016 would mark the first increases in real GDP in Mississippi in consecutive years since 2008 according to the U.S. Bureau of Economic Analysis (BEA). The agency reported Mississippi's economy grew 0.7 percent in 2015, the first increase in the state's real GDP since 2012. The projection for the Mississippi economy in 2016 reflects the latest forecast for the U.S. economy, which was also revised downward slightly. According to BEA, U.S. real GDP increased 0.8 percent and 1.1 percent in the first and second quarters of 2016, respectively, considerably less than the previous estimates.

Real GDP in Mississippi is projected to grow at an annual rate of 1.6 percent in 2017, which represents a slight increase over 2016. However, this forecast reflects a reduction of 0.2 percentage point from the previous quarter. As with the projection for 2016, the decrease in the forecast for the Mississippi economy in 2017 stems largely from a reduction in the forecast of U.S. real GDP growth for 2017. In 2018, real GDP in Mississippi is projected to grow 1.9 percent, which represents a decrease of 0.1 percentage point from the forecast of the previous quarter.

The latest forecast for growth in the U.S. economy in 2016 stands at 1.4 percent, a reduction of 0.5 percentage point from the previous forecast. It reflects the latest estimates of real GDP growth in the first two quarters of 2016 by BEA, but also the latest analysis by IHS Markit. This analysis finds fewer housing starts and less residential investment as well as a longer period of inventory buildup. The forecasts of U.S. real GDP growth for 2017 and 2018 are both 2.2 percent, which represent reductions of 0.2 percentage point in both years from the previous forecast.

To download the current issue of Mississippi Economic Outlook, please visit: www.mississippi.edu/urc/publications.asp As seen in Figure 1 below, URC estimates personal income in Mississippi will grow 3.3 percent in 2016, a slight increase of 0.1 percent from the previous forecast. This projection reflects stronger income growth in Mississippi in the first two quarters of 2016 as reported by BEA. The forecast also reflects the revised estimate by BEA of personal income growth in Mississippi for 2015 of 1.8 percent. This revised estimate was reduced by 1.1 percentage point from the estimate BEA released earlier in the year. If the forecast of 3.3 percent growth for 2016 is realized, it will represent the largest increase in personal income in Mississippi since 2012, when personal income grew 3.9 percent as seen in Figure 1. The forecast for growth in personal income in Mississippi improves to 3.8 percent for 2017; for 2018, personal income in the state is projected to grow 4.8 percent. If the forecast for 2018 is realized, it would mark the largest increase in personal income in Mississippi since 2008, when personal income in the state grew 5.2 percent. Similar to Mississippi, U.S. personal income is projected to grow 3.4 percent in 2016. The forecast for growth in U.S. personal income in 2017 improves a full percentage point to 4.4 percent. For 2018, however, the forecast is again similar to Mississippi, as personal income is expected to increase by 4.9 percent.



†Projected. Source: U.S. Bureau of Economic Analysis and URC

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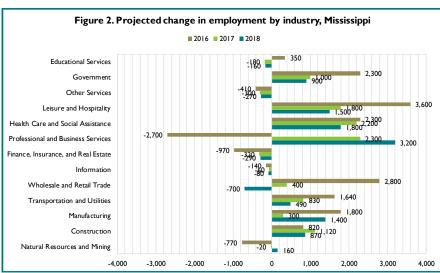
## SHORT-TERM FORECASTS

s in the previous quarter, URC projects three sectors in Mississippi's economy will contract in 2016 as seen in the first section of Table 1 on page 3. However, while Educational Services and Government remain among the sectors where output is expected to decrease, the latest forecast includes Transportation and Utilities. Despite that most sectors in Mississippi are expected to expand in 2016, the 0.5 percent contraction in Government is important because the sector represents the largest portion of state real GDP. Transportation and Utilities is expected to experience the largest percentage decrease in real output in the state in 2016 of 2.4 percent. The largest increase in output

forecast among all sectors in 2016 is for Natural Resources and Mining, which is projected to increase 6.2 percent. In the previous forecast this sector was expected to contract in 2016. In contrast, in 2017 Natural Resources and Mining is the only sector in Mississippi expected to contract. The projected decrease is relatively small at 0.2 percent. The largest percentage increase in output forecast among all industries in the state in 2017 is for Information at 3.6 percent. Information is a relatively small sector in Mississippi, however; the next largest increase is the 3.2 percent growth expected in Professional and Business Services. For 2018, the forecast is similar as the 0.2 percent decrease expected in Natural Resources and Mining is the only sector projected to contract. The largest increase in output forecast for 2018 is again in Information at 3.8 percent, closely followed by Professional and Business Services at 3.6 percent.

The second section of Table 1 indicates payroll employment in Mississippi is forecast to increase 1.0 percent in 2016. This forecast represents a decrease of 0.1 percent from the previous quarter. Nevertheless, if realized this forecast would mark only the second annual increase in employment in the state of 1.0 percent or more since 1999, following the 1.2 percent increase in 2015. Payroll employment in the state in 2018 is projected to increase 0.8 percent, which represents a reduction of 0.1 percentage point from the forecast of the previous quarter. For 2018, the forecast of a 0.7 percent increase in payroll employment is the same as in the previous quarter.

Figure 2 above depicts the change in employment by industry in Mississippi forecast for 2016, 2017, and 2018. In 2016, Leisure and Hospitality is expected to add the most



Source: URC

jobs among all industries in the state with a gain in employment of 3,600. The sector with the largest decline in employment forecast for 2016 is Professional and Business Services, which is expected to lose 2,700 jobs for the year. Transportation and Utilities is expected to experience the largest percentage increase in employment in 2016 of 3.1 percent, while Natural Resources and Mining is projected to experience the largest percentage decline in employment of 9.5 percent. Employment in Professional and Business Services is expected to add 2,300 jobs in 2017, the most among all industries in Mississippi. Declines in employment in the state are forecast to be relatively small in 2017, as Finance, Insurance, and Real Estate is projected to lose 320 jobs, the most among all industries. Employment in Construction is expected to increase by the largest percentage in 2017, rising 2.4 percent. The largest percentage decline in employment is forecast for Educational Services, which is projected to fall 1.4 percent. Professional and Business Services is expected to experience the largest increase in employment among all industries in the state in 2018, adding 2,300 jobs. As in 2017, relatively small declines in employment are expected in 2018; Wholesale and Retail Trade is forecast to lose 700 jobs for the year, the most among all sectors in the state. The largest percentage increase in employment in Mississippi projected for 2018 is also in Professional and Business Services, which is expected to increase 3.1 percent. Educational Services, as in 2017, is expected to experience the largest percentage decline in employment in 2018 among all sectors in the state of 1.3 percent. Figure 2 also indicates Educational Services, Other Services, Finance, Insurance, and Real Estate, and Information are all expected to lose jobs each year from 2016 to 2018.

TABLE I. BASELINE MISSISSIPPI AND U.S. FORECASTS

	2015 Percent		Annual Forecasts				casts						
Variable						Annualized Quarterly Forecast 2016Q3 2016Q4 2017Q1 2017Q2 2017Q3 2017Q						01801 2	01802
Mississippi Forecast													
Gross State Product (projected)													
In current dollars	107,100	2.1	2.6	3.9	4.1	2.7	3.8	4.3	4.5	4.3	4.0	4.2	4.0
In millions of 2009 dollars	95,451	0.7	1.5	1.6	1.9	0.6	1.4	2.1	2.0	2.0	1.9	2.0	1.6
Natural Resources and Mining Contract Construction	3,956 4,098	8.3 -3.8	6.2 5.2	-0.2 0.9	-0.2 2.0	-1.0 -0.1	1.6 2.2	-1.7 1.2	1.0 0.7	1.5 1.8	1.6 1.7	-2.2 2.6	-0.5 2.1
Manufacturing	14,488	2.3	2.8	1.9	2.8	0.0	1.0	3.0	3.0	2.6	2.7	2.8	2.8
Durable Goods	8,054	-0.8	1.8	2.3	4.0	-0.9	0.8	3.6	3.6	4.1	3.8	3.9	4.2
Nondurable Goods	6,396	6.1	4.2	1.6	1.4	2.5	1.3	2.5	1.9	1.4	1.4	1.4	1.2
Transportation and Utilities	6,056	-2.9	-2.4	1.9	1.9	1.6	1.3	2.3	2.4	1.9	1.9	2.0	2.1
Wholesale and Retail Trade	12,983	2.5	2.6	2.1	2.1	1.5	2.3	2.4	2.2	2.3	2.0	2.1	2.1
Information	2,412	1.5	4.5	3.6	3.8	6.2	0.2	5.3	4.0	3.1	4.0	3.9	4.3
Finance, Insurance, and Real Estate	13,976	0.1	0.5	2.1	1.6	2.5	2.5	1.9	1.9	1.5	1.6	1.7	1.6
Professional and Business Services Health Care and Social Assistance	6,900 7,257	1.6 2.2	1.6 2.2	3.2 3.0	3.6 2.9	1.6 1.1	2.2 2.8	3.8 4.2	4.3 2.8	4.2 3.3	3.6 2.7	3.6 3.5	3.6 2.3
Leisure and Hospitality	4,224	-1.7	0.0	1.2	1.7	1.1	0.4	2.1	2.0	1.2	1.4	1.7	2.1
Educational Services	644	-6.8	-1.4	1.0	1.7	-1.3	0.2	2.1	2.3	1.7	2.0	1.6	1.7
Other Services	2,195	-0.4	0.3	0.0	0.0	0.0	0.0	0.2	0.0	0.2	-0.2	0.0	0.0
Government	16,093	-0.9	-0.5	0.0	0.3	-0.3	-0.3	0.2	0.5	0.3	0.5	0.4	0.2
Payroll Employment (thousands)	. 0,070	0.17	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	• • • • • • • • • • • • • • • • • • • •	0.2
Residents†	1.188	3.3	1.7	-0.4	0.7	-3.6	0.3	-0.3	0.0	0.7	1.0	0.7	1.0
Payroll†	1,134	1.2	1.0	0.8	0.7	1.4	0.3	1.0	0.7	1.0	0.7	0.7	0.7
Natural Resources and Mining	8	-12.3	-9.5	-0.3	2.2	-5.0	1.1	0.0	1.1	3.3	6.6	1.1	1.1
Contract Construction	46	-5.8	1.8	2.4	1.8	7.4	2.3	2.4	1.2	2.3	0.9	2.2	2.2
Manufacturing	142	1.6	1.3	0.2	1.0	-0.3	-0.8	0.6	1.1	0.8	0.6	0.8	1.1
Durable Goods	95	1.2	0.9	0.4	1.5	-2.4	-1.0	1.5	1.8	1.2	1.5	1.4	1.7
Nondurable Goods	47	2.6	1.8	0.2	0.1	4.9	-1.7	0.3	-0.5	0.0	0.1	0.2	-0.2
Transportation and Utilities	52	3.6	3.1	1.5	0.9	1.7	2.9	1.5	1.0	0.9	1.0	0.9	1.2
Wholesale and Retail Trade	173	1.6	1.6	0.2	-0.4	2.5	0.5	0.2	-0.5	-0.2	-0.5	-0.7	-0.2
Information	13	1.8	-1.0	-0.4	-0.6	-0.3	1.5	0.6	-1.2	-0.9	-0.9	-0.9	-0.3
Finance, Insurance, and Real Estate	44	0.4	-2.2	-0.8	-0.7	1.1	0.2	-0.2	-0.6	-0.7	-0.9	-0.9	-0.4
Professional and Business Services	105	3.1	-2.6	2.3	3.1	-2.7	0.8	4.3	4.3	3.1	3.8	3.0	2.3
Health Care and Social Assistance	126	1.9	1.8	1.7	1.4	0.3	1.9	2.8	1.9	1.2	1.8	1.8	0.6
Leisure and Hospitality	129	2.3	2.8	1.4	1.1	4.2	0.6	1.2	0.3	1.5	0.9	0.9	1.2
Educational Services Other Services	12 40	4.4 2.0	2.9 -1.0	-1.4 -0.8	-1.3 -0.7	-7.0 -2.4	0.6 -0.4	-1.6 -0.4	-0.3 -1.6	-1.6 0.2	0.0 -1.6	-2.6 -0.2	-1.6 -1.6
Government	244	0.0	0.9	0.4	0.4	2.6	0.0	-0.4	0.0	0.2	1.0	0.3	0.0
Unemployment Rate (%)†‡	6.5	-0.9	6.1	6.3	6.2	5.9	6.1	6.3	6.4	6.3	6.2	6.2	6.2
Personal Income (millions of current \$)	0.5	0.7	0.1	0.5	0.2	5.7	0.1	0.5	0.1	0.5	0.2	0.2	0.2
Wages and Salaries	46,433	2.3	3.8	4.0	4.2	4.1	3.4	4.3	4.1	4.5	3.7	4.5	3.9
Other Labor Income	11,108	0.3	4.5	3.4	3.3	3.5	3.1	4.1	3.1	3.1	3.2	3.4	3.1
Proprietors' Income	8,582	-7.1	3.2	3.1	5.2	-10.4	5.1	4.5	5.5	5.2	5.5	5.4	3.7
Farm Proprietors	867	-47.7	-3.0	-17.9	0.9	-124.1	3.8	-10.5	14.9	-31.1	26.4	-8.4	1.5
Non-farm Proprietors	7,714	1.8	3.8	5.1	5.7	3.4	4.7	5.8	5.9	6.2	5.1	5.9	5.1
Property Income	15,664	3.4	1.6	2.6	4.1	2.9	2.5	2.3	2.5	2.6	3.6	4.7	4.5
Transfer Payments	27,334	3.8	3.2	4.2	4.8	3.9	4.0	4.6	4.1	4.3	3.8	6.2	4.4
Less: Social Security Payments	7,932	2.4	3.8	4.0	4.2	3.3	3.7	5.6	3.0	3.4	4.8	4.7	4.8
Plus: Residence Adjustment Equals: Total Personal Income	2,857	3.1	3.4	5.6	5.5	5.3	5.1	6.1	5.6	5.0	5.4	5.5	5.3
Less: Individual IRS Collections	104,045 6,708	1.8 6.5	3.3 1.2	3.8 5.0	4.4 5.0	2.7 4.2	3.7 3.2	4.1 6.3	4.1 5.8	4.2 5.5	3.9 3.8	5.0 6.8	4.7 3.6
Less: Individual IKS Collections  Less: Individual State and Local Taxes	2,143	5.4	0.6	3.8	6.1	-3.3	1.7	5.7	6.8	4.9	5.5	6.0	6.9
Equals: Disposable Personal Income	95,195	1.4	3.6	3.8	4.4	2.7	3.7	3.9	3.9	4.0	4.0	4.9	4.7
Per Capita Personal Income (thousands of \$)	34.770	1.8	3.2	3.6	4.1	2.6	3.4	4.0	3.8	3.9	3.7	4.7	4.5
Population (thousands)	2,992	0.0	0.1	0.2	0.3	0.1	0.3	0.1	0.3	0.3	0.3	0.3	0.3
U.S. Forecast													
Gross Domestic Product (billions of current \$)	18,037	3.7	2.8	4.5	4.5	4.0	4.5	4.6	4.8	4.5	4.2	4.5	4.4
Gross Domestic Product (billions of 2009 \$)	16,397	2.6	1.4	2.2	2.2	1.9	2.1	2.4	2.3	2.3	2.1	2.3	2.2
GDP Deflator (Nominal GDP ÷ Real GDP × 100)	110	1.1	1.5	2.2	2.2	1.8	2.5	2.1	2.5	2.5	2.1	2.1	2.1
Total Employment, Residents (millions)† Total Payroll Employment (millions)†	149 142	1.7 2.1	1.7	1.3	1.3 0.8	1.6 1.7	0.8 1.4	1.8	0.8	1.6 0.8	1.0	1.6 0.5	). l l . l
Unemployment Rate (%)†‡	5.3	-14.4	4.9	4.8	4.6	4.9	4.9	4.9	4.8	4.8	4.7	4.7	4.7
Personal Income (billions of current \$)	15,459	4.4	3.4	4.4	4.9	4.2	4.2	4.4	4.6	4.4	4.6	5.3	4.9
Per Capita Personal Income (thousands of \$)	48	3.4	2.5	3.7	4.1	3.3	4.0	3.2	4.0	3.1	3.9	4.6	3.8
Consumer Price Index (1982-84 = 100)	237.0	0.0	1.3	2.5	2.4	1.7	3.3	1.7	3.3	3.3	1.6	3.2	1.6
Prime Rate (%)‡	3.3	0.3	3.5	3.8	4.5	3.5	3.5	3.7	3.7	3.8	4.0	4.3	4.3

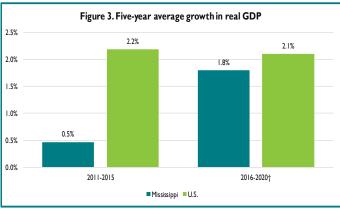
†Seasonally-adjusted. ‡Projected rates. Sources: U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis (levels), and URC (forecasts).

#### MISSISSIPPI ECONOMIC OUTLOOK

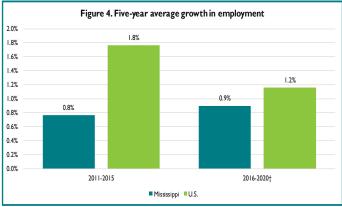
### FIVE-YEAR FORECASTS

like the short-term forecasts, the latest five-year forecasts for growth in U.S. and Mississippi real GDP are slightly lower than in the previous issue of Mississippi Economic Outlook. The average five-year growth in real GDP in Mississippi is forecast at 1.8 percent as seen in Figure 3. This estimate represents a decrease of 0.1 percentage point from the previous quarter. The average five-year forecast for U.S. real GDP growth is 2.1 percent, also a decrease of 0.1 percentage point from the previous estimate. These forecasts represent only a slight change in the growth rate of the U.S. economy over the next five years, while the forecast for the Mississippi economy, if realized, would equal more than three times the growth rate from 2011 to 2015.

Figure 4 indicates the forecasts for average five-year growth in employment in both the U.S. and Mississippi are little changed from the previous quarter's estimates. The average five-year growth in U.S. employment is expected to equal 1.2 percent, an increase of 0.1 percentage point from the forecast of the previous quarter. For Mississippi, average annual employment is expected to grow 0.9 percent from 2016 to 2020, the same as in the forecast of the previous quarter. This forecast, if realized, represents a slight improvement in the average rate growth in employment in Mississippi of 0.8 percent that occurred from 2011 to 2015.



†Projected. Sources: Bureau of Economic Analysis; URC



†Projected. Sources: Bureau of Labor Statistics; URC

# ALTERNATIVE FORECASTS

The alternatives to the baseline forecasts as described by the scenarios defined by IHS Markit are little changed from the previous quarter. The pessimistic scenario continues to estimate the probability of recession at 20 percent. A recession under this scenario persists for six months during the third and fourth quarters of 2017. Essentially, uncertainty resulting from geopolitical events triggers these conditions. The United Kingdom's withdrawal from the European Union and the resulting uncertainty causes the global economy to weaken, indirectly affecting the U.S. economy. The economy in Mississippi experiences the worst effects of this pessimistic scenario in terms of real GDP growth in 2017 and 2018, as the rate falls by 0.3 and 0.7 percentage point, respectively, compared to the baseline. However, over the next five years the effects of the mild recession on the Mississippi economy are relatively small, as average annual growth in real GDP in the state is only 0.1 percentage point lower than in the baseline scenario. U.S. real GDP growth under the pessimistic scenario compared to the baseline is on average 0.6 percentage point lower. Employment growth in Mississippi under the pessimistic scenario is essentially flat in 2018 and on average is 0.2 percentage point lower each year from 2016 to 2020. U.S. employment contracts 0.6 percent in 2018 under the pessimistic scenario and average annual growth is 0.4 percentage point lower from 2016 to 2020.

The probability of the optimistic scenario is 15 percent according to IHS Markit, the same as in previous forecasts. Technological breakthroughs lead to more investment under the optimistic scenario, which results in an increase in U.S. productivity. In terms of real GDP growth, Mississippi benefits only slightly under the optimistic scenario compared to the baseline. Average annual growth in real GDP reaches equals 1.8 percent from 2016 to 2020 under both scenarios. Average U.S. real GDP growth, in contrast, is 0.5 percentage point higher each year from 2016 to 2020 under the optimistic scenario compared to the baseline forecast. Like real GDP growth, employment growth in Mississippi is essentially unchanged under the optimistic scenario compared to the baseline forecast for 2016 to 2020. Annual U.S. employment growth, on the other hand, is on average 0.3 percentage point higher under the optimistic scenario compared to the baseline forecast.