DEPARTMENT OF
ECONOMICS
Spears School of Business

Center for Applied Economic Research

Economic Outlook: Fiscal Year 2021 Update

Prepared by

Dan Rickman

and

Hongbo Wang

Center for Applied Economic Research
Spears School of Business
Oklahoma State University

January 31, 2020

272F College of Business, Stillwater, OK 74078

Oil prices rose throughout 2017 and into 2018 while natural gas prices remained fairly stable during the period. The improvement in oil prices spurred growth in energy sector employment and in the Oklahoma economy more broadly. After falling below 60 in 2016 in response to previous energy price declines, the number of oil and gas drilling rigs in Oklahoma as reported by Baker Hughes, Inc. increased to over 140. However, the subsequent declines in oil and gas prices have now brought the number of rigs operating in Oklahoma down to levels below those of 2016.

As shown in Figure 1, based on the January U.S. Energy Information Administration (EIA) forecasts through 2021both natural gas and oil prices are expected to remain fairly flat in 2020 before increasing slightly in 2021. While the rebound in the energy sector spurred by the previous price increases helped turn the overall Oklahoma economy around from the employment and output declines in 2016, the energy price declines that began in 2018 have already brought reductions in energy sector employment and contributed to the stagnation of overall employment growth in Oklahoma. Coupled with the slowing of the national economy, particularly with the difficulties in manufacturing, this is forecast to produce a fairly flat Oklahoma economy throughout 2020 and 2021.

As shown in Figure 2, the only years that Oklahoma total nonfarm employment has grown faster than that of the nation since 2010 were in the energy boom years of 2011 and 2012. Oklahoma's employment growth fell below national growth in 2013 as energy sector employment growth stagnated. The decline in energy prices from their peaks in 2014 led to a recession in the state, with negative annual employment growth occurring in 2016. With the rebound in the energy sector Oklahoma total nonfarm employment nearly matched national growth in 2018. But once again, weakness in the energy sector is contributing to Oklahoma's employment growth lagging that of the nation, with a slight decline in employment forecasted for 2020 and a subsequent slight tick up forecasted for 2021.

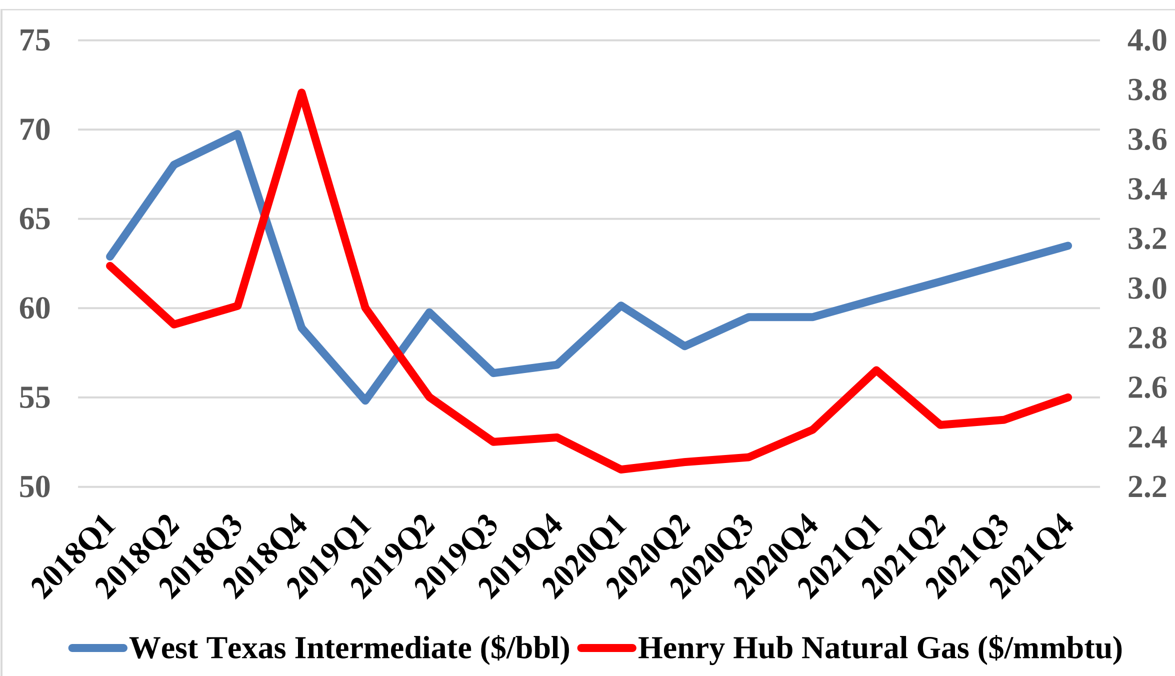

Figure 1: Oil and Natural Gas Prices (EIA forecast begins 2020Q1)

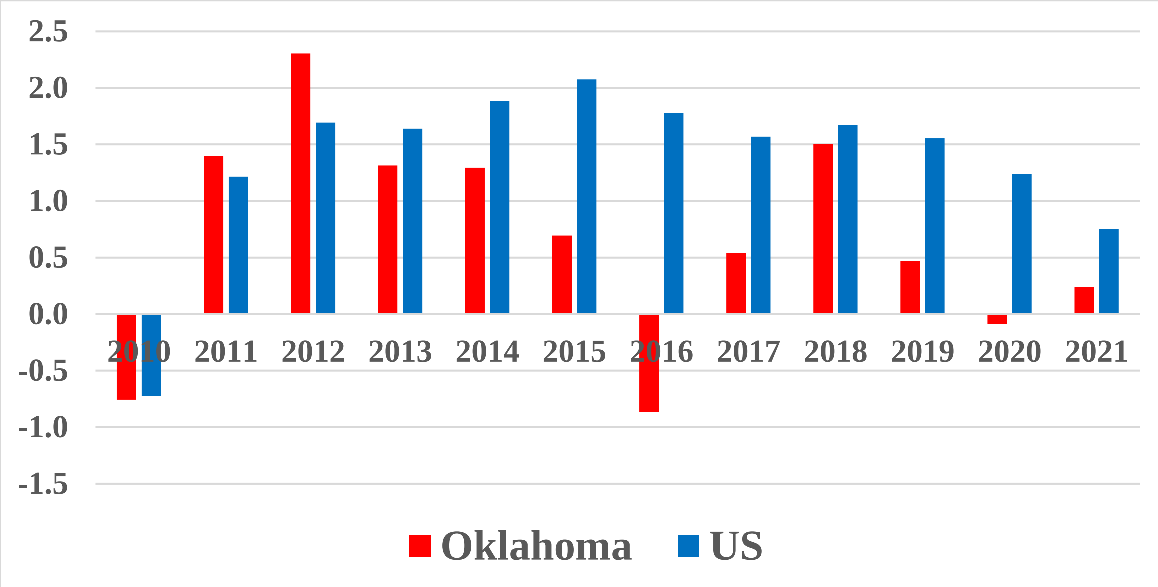

Figure 2: Annual Nonfarm Wage and Salary Employment Growth Rates (%) (Quarterly-based forecasts begin 2020Q1)

As shown in Figure 3, fastest annual employment growth from 2019 to 2021 is forecast for Heavy and Civil Engineering Construction, followed by Administration, Support, Waste Management and Remediation Services, Accommodation and Foods Services and Transportation and Warehousing Services, all exceeding one-percent growth per year. Employment declines for 2019-2021 of over one-percent per year are forecast for the manufacturing sectors (except Aerospace Manufacturing), Publishing Industries, Telecommunications, Specialty Trade Contractors Construction, Natural Resources and Mining (the energy sector) and Utilities.

This represents more pessimistic forecasts for the energy sector and some of the manufacturing and construction sectors compared to our November forecasts. The primary reason for the slight downward adjustment in forecasts was a weaker than expected performance during the fourth quarter of 2019. Natural Resources and Mining employment declined by nearly seventeen percent during the last quarter on an annualized basis. The comparable declines for Fabricated Metals Manufacturing and Nonelectrical Machinery Manufacturing during the quarter are sixteen and twelve percent. These declines contributed to an annualized decline in total nonfarm employment of nearly one percent in the fourth quarter.

As shown in Table 1 and Figure 2, the U.S. economy has experienced robust employment growth since 2012 that only began to slow recently. Oklahoma's employment growth in contrast only exceeded or neared the nation's during expansions of the energy sector. For the nation, the slowing of employment growth reflects a combination of the economy reaching full employment and aging of the labor force on the supply side and the waning of the temporary boost provided by the federal tax cuts and trade frictions on the demand side. Oklahoma's employment growth is forecast to slow yet further because of the current lower energy prices that will continue to manifest themselves in the economy into 2020 and because of slowing national growth. Oklahoma's personal income growth exceeded U.S. personal income growth in 2018. Personal

Figure 3: 2019-2021 Oklahoma Employment Growth (Annualized %)

Table 1. Oklahoma and U.S. Economic Indicators (%)

	2017	2018	2019	2020	2021
Oklahoma Nonfarm Emp. Growth	0.54	1.50	0.47	-0.09	0.24
U.S. Nonfarm Emp. Growth	1.57	1.67	1.57	1.24	0.75
Oklahoma Unemployment Rate	4.24	3.39	3.30	3.31	3.33
U.S. Unemployment Rate	4.35	3.89	3.67	3.46	3.53
Oklahoma Personal Income Growth	4.37	6.24	3.90	1.02	2.59
U.S. Personal Income Growth	4.70	5.57	4.55	3.87	4.43
U.S. Inflation Rate (CPI)	2.14	2.44	1.82	1.83	1.74

income growth in the state has since fallen below national growth in 2019 and is forecast to falter further over the next two years. Forecasted declines in wages and salaries in the energy sector and durable goods manufacturing sectors, along with a decline in nonfarm proprietor income, all linked to energy sector activity, contribute to the expected slow growth in Oklahoma personal income.

IHS Global Insight, Inc. (IHS) notes recent diminishment of several risk factors for the national economy. IHS now assesses the probability of the national economy entering a recession during 2020 at 2 percent, which is down from their estimated probability of 32 percent last August. Although the Conference Board's Leading Economic Index has declined in four of the last five months, the declines are not as steep as those that typically occur before recessions. IHS assesses the path as consistent with continued moderate economic growth. With inflation below 2 percent and moderate growth the FED is expected to remain on hold through 2020 and 2021. IHS assesses the probability of a national recession within the next three years at just 25 percent.

Risks to continued growth though remain. Despite the Phase I agreement on trade between the U.S. and China, most U.S. tariffs remain in place and trade tensions between the U.S. and China continue. The effects of Brexit are unknown as 2020 will be a transition year while the UK and the EU negotiate the terms of Brexit. The recent Coronavirus outbreak in China has the potential to disrupt travel and trade to China. While it is too early to foretell the economic consequences, the SARS epidemic is estimated by IHS to have reduced GDP growth in China by approximately one percent. Oil prices have declined in response to concerns with reduced demand from the virus outbreak. The interest rate on the 10-year Treasury note has dropped below the 3-year Treasury note rate, which is often considered a recession signal.

To assess the potential influence of a decline in energy prices we also produce forecasts based on IHS oil and natural gas price forecasts which are lower than those of EIA. Rather than averaging 59.3 and 62 dollars per barrel in 2020 and 2021 as forecasted by EIA, IHS forecasts average WTI oil prices of 52.8 and 47.5 dollars per barrel for the two years. Likewise, IHS forecasts natural gas prices to average 1.96 and 2.34 dollars per MMBtu for 2020 and 2021 rather than the EIA forecasts of 2.33 and 2.54 for the two years. The lower energy price forecasts reduce the employment forecasts to a contraction of 0.2 percent for each of 2020 and 2021. Personal income forecasts are reduced to 0.6 and 1.2 percent growth for the two years.