Wyoming Economic Indicators

WYOGOV

ECONOMIC ANALYSIS DIVISION • FEBRUARY 2020

▶ **Chart 1: Wyoming Business-Cycle Index as of December 2019**

Index: January 2007 = 100

100.30

Note: Shaded area represents U.S. recession.
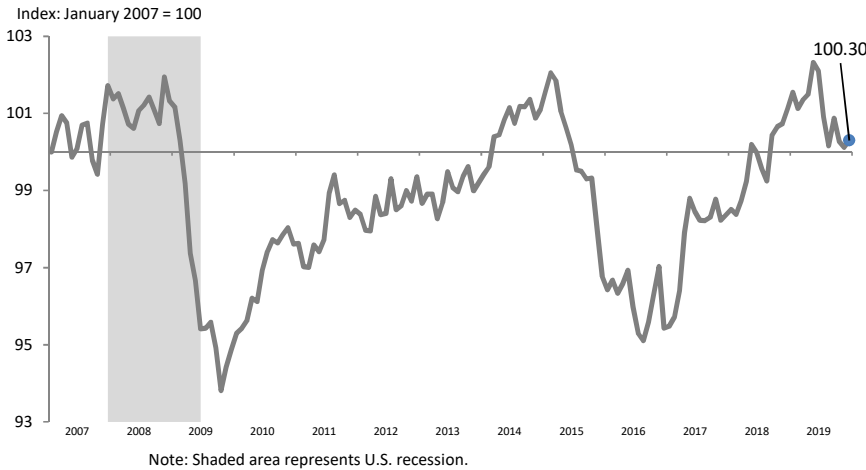
▸▸ **SUMMARY:** The Wyoming Business-Cycle Index (WBCI) registered an index value of 100.30 in December 2019 (see Chart 1), a slight improvement compared to the November 2019 value of 100.12 but less by comparison to the December 2018 value of 101.11.
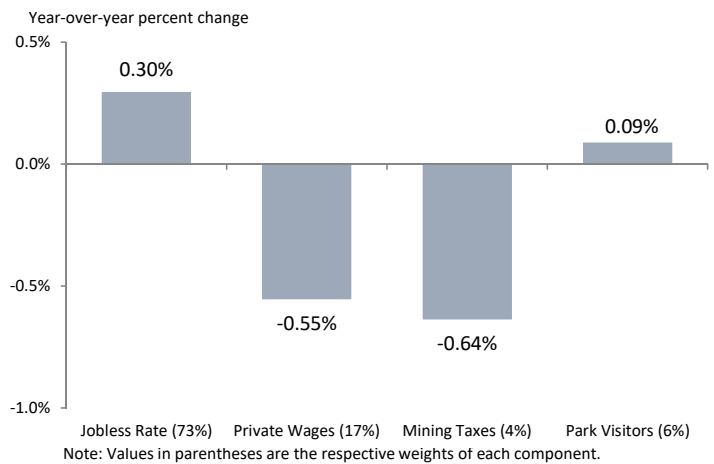
For the July through September period, the WBCI recorded year-over-year increases (see Chart 2) while October through December saw declines each month. The December 2019 index value recorded a decrease of 0.81 percent over the previous year.

As Chart 3 demonstrates, two of the four components of the WBCI were positive in December. The state's unemployment rate was at 3.7 percent in December, lower than the previous year's measure. Visits to the state's national parks also made a positive contribution to the index. The private wages component decreased as two of the three sub-components, hours worked, and private jobs, declined, more than offsetting the slight increase in hourly wages. The last component, the state's collection of the 4 percent sales and use tax associated with the mining sector, had also declined.
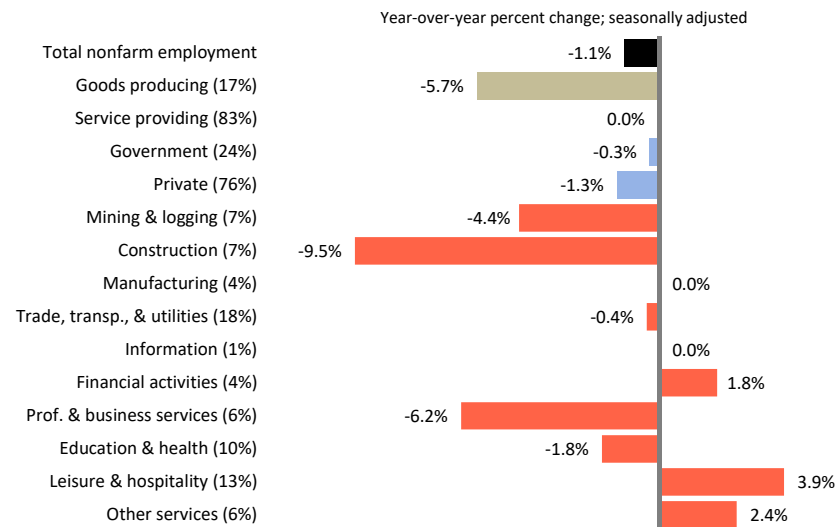
▶ **Chart 2: Change in Business-Cycle Index — Last 6 Months**

Year-over-year percent change
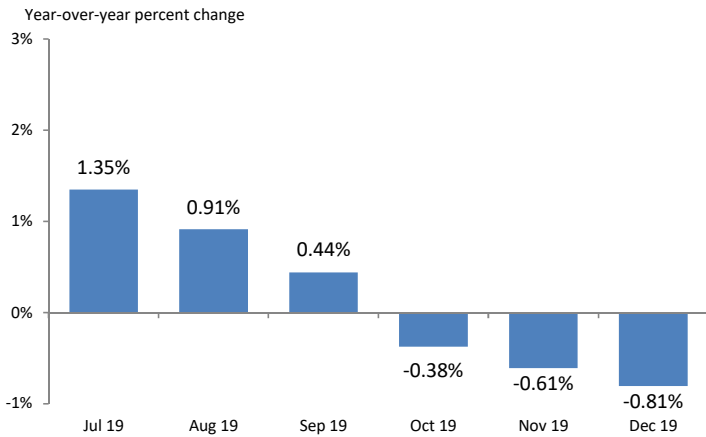
▶ **Chart 3: Component Changes in the Index — December 2019**

Year-over-year percent change

Note: Values in parentheses are the respective weights of each component.

▶ **Chart 4: December 2019 Employment Growth**

Year-over-year percent change; seasonally adjusted

Note: Values in parentheses represent share of total employment.

▸▸ The total number of nonfarm payroll jobs in Wyoming decreased at a 1.1 percent pace in December in a year ago comparison as seen in Chart 4. The December job count was 285,800, lower than the December 2018 level by 3,100 jobs.

The leisure & hospitality sector added the most jobs (+1,400) in December followed by other services, which added 400 jobs. Construction reported the largest decline in the private sector, losing 2,100 jobs compared to a year ago.

▸▸ **NOTE:** The Wyoming Business-Cycle Index unites four state-level indicators to sum up current economic conditions in a single number. The indicators consist of **(1) the state's monthly unemployment rate**, **(2) private sector wages**, estimated by multiplying the total number of private sector jobs in Wyoming each month by the average hours worked per week and by the average hourly wage, **(3) monthly sales and use tax collections related to the mining sector**, and **(4) monthly national park recreation visits**. All data used in calculating the WBCI are seasonally adjusted; all dollar amounts are inflation adjusted.
SOURCES: **Business-cycle index**: Economic Analysis Division; **private sector wages** and **unemployment rate**: U.S. Bureau of Labor Statistics; **mining sales and use taxes**: WY Dept. of Revenue; **national park visits**: National Park Service Visitor Use Statistics.

Chart 5: Wyoming Labor Market as of December 2019

Thousands of jobs
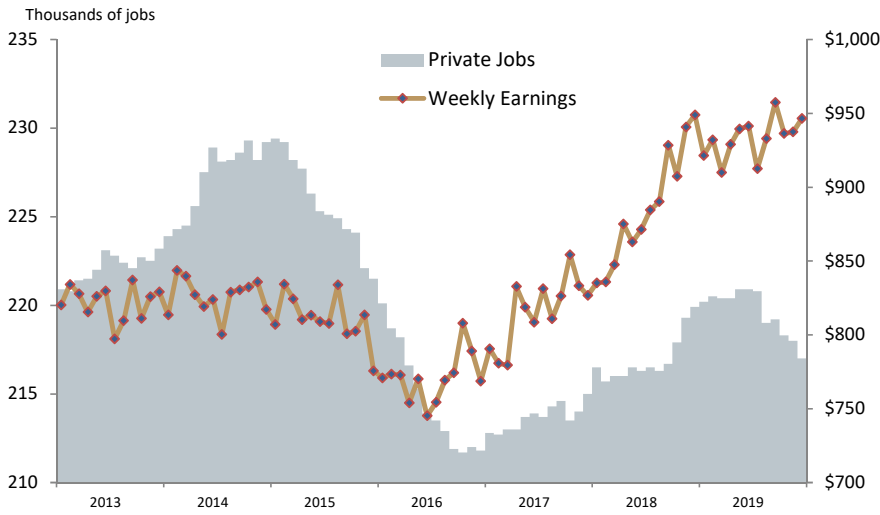
▸▸ Jobs associated with Wyoming's private sector decreased in December by 1,000 compared to November (see Chart 5). The December 2019 private job count was 217,000, lower than the December 2018 level by 2,900 jobs.

  The private sector's weekly earnings fell in December to $946.60, lower than the level attained in December 2018 of $948.96. The weekly earnings indicator is a product of average weekly hours multiplied by average hourly earnings. Weekly hours decreased to 35.6 in December 2019 from 36.0 in a year ago comparison. However, hourly earnings increased to $26.59 compared to a level of $26.36 reached one year ago.

Chart 6: Wyoming 4% Sales and Use Tax Collections — Mining Sector

Millions of dollars
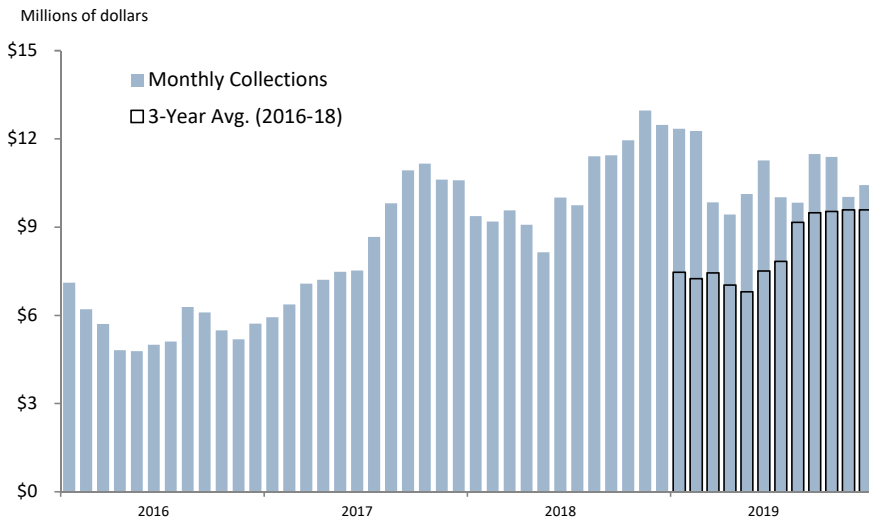
▸▸ Wyoming's collection of the 4 percent sales and use tax related to the mining sector reached $10.4 million in December of 2019 (these are January 2020 collections that for the most part represent sales that took place in December 2019), $2.0 million lower than December collections from a year ago (see Chart 6). After twelve months of calendar year 2019, total mining collections exceeded the 3-year average over the same number of months by $29.7 million or 30.1 percent.

Chart 7: National Park Recreation Visits — Cumulative Year-to-Date
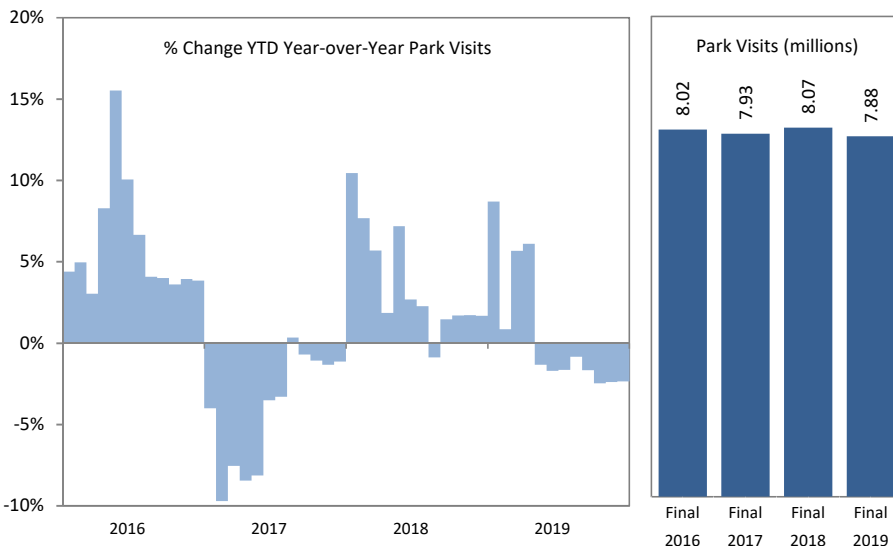
▸▸ For the twelve months of 2019, visits to the state's national parks lagged behind the previous year's attendance as seen in Chart 7. Starting in May of 2019, cumulative park visits fell behind the 2018 pace finishing with an overall decline of 2.4 percent in attendance by year's end.

▸▸ NOTE: The data used in the construction of charts 5, 6, and 7, with the exception of private jobs, are not seasonally adjusted and all dollar amounts have not been adjusted for inflation.

▸ **CONTACT:**   Jim Robinson, Principal Economist, Economic Analysis Division, Dept. of Admin. & Info., WY State Government.

▸ **QUESTIONS?**   Phone: 307.777.7221   E-mail: jim.robinson@wyo.gov   Website: http://eadiv.state.wy.us

02

Wyoming Business-Cycle Index Values					Wyoming Business-Cycle Index Values					Wyoming Business-Cycle Index Values			
			YOY					YOY					YOY
Year	Month	Index	Change		Year	Month	Index	Change		Year	Month	Index	Change
2007	Jan	100.00			2013	Jan	98.67	0.29%		2019	Jan	101.55	3.09%
2007	Feb	100.53			2013	Feb	98.91	0.96%		2019	Feb	101.12	2.79%
2007	Mar	100.94			2013	Mar	98.91	0.97%		2019	Mar	101.36	2.66%
2007	Apr	100.75			2013	Apr	98.27	-0.59%		2019	Apr	101.50	2.28%
2007	May	99.86			2013	May	98.68	0.32%		2019	May	102.32	2.13%
2007	Jun	100.09			2013	Jun	99.49	1.11%		2019	Jun	102.11	2.12%
2007	Jul	100.70			2013	Jul	99.07	-0.24%		2019	Jul	100.91	1.35%
2007	Aug	100.75			2013	Aug	98.97	0.48%		2019	Aug	100.16	0.91%
2007	Sep	99.79			2013	Sep	99.36	0.76%		2019	Sep	100.88	0.44%
2007	Oct	99.42			2013	Oct	99.62	0.63%		2019	Oct	100.28	-0.38%
2007	Nov	100.73			2013	Nov	98.99	0.27%		2019	Nov	100.12	-0.61%
2007	Dec	101.72			2013	Dec	99.21	-0.16%		2019	Dec	100.30	-0.81%
2008	Jan	101.38	1.38%		2014	Jan	99.42	0.76%		2020	Jan		
2008	Feb	101.52	0.99%		2014	Feb	99.62	0.71%		2020	Feb		
2008	Mar	101.13	0.19%		2014	Mar	100.40	1.51%		2020	Mar		
2008	Apr	100.72	-0.03%		2014	Apr	100.45	2.22%		2020	Apr		
2008	May	100.61	0.75%		2014	May	100.84	2.18%		2020	May		
2008	Jun	101.08	0.99%		2014	Jun	101.15	1.67%		2020	Jun		
2008	Jul	101.22	0.52%		2014	Jul	100.75	1.69%		2020	Jul		
2008	Aug	101.42	0.67%		2014	Aug	101.18	2.24%		2020	Aug		
2008	Sep	101.08	1.30%		2014	Sep	101.18	1.82%		2020	Sep		
2008	Oct	100.73	1.32%		2014	Oct	101.37	1.75%		2020	Oct		
2008	Nov	101.95	1.21%		2014	Nov	100.87	1.90%		2020	Nov		
2008	Dec	101.33	-0.39%		2014	Dec	101.11	1.92%		2020	Dec		
2009	Jan	101.16	-0.21%		2015	Jan	101.59	2.18%		2021	Jan		
2009	Feb	100.30	-1.20%		2015	Feb	102.06	2.45%		2021	Feb		
2009	Mar	99.18	-1.93%		2015	Mar	101.86	1.45%		2021	Mar		
2009	Apr	97.37	-3.32%		2015	Apr	101.04	0.59%		2021	Apr		
2009	May	96.67	-3.92%		2015	May	100.63	-0.21%		2021	May		
2009	Jun	95.41	-5.60%		2015	Jun	100.19	-0.95%		2021	Jun		
2009	Jul	95.43	-5.72%		2015	Jul	99.53	-1.20%		2021	Jul		
2009	Aug	95.58	-5.76%		2015	Aug	99.50	-1.67%		2021	Aug		
2009	Sep	94.92	-6.09%		2015	Sep	99.30	-1.86%		2021	Sep		
2009	Oct	93.81	-6.88%		2015	Oct	99.32	-2.02%		2021	Oct		
2009	Nov	94.42	-7.39%		2015	Nov	98.00	-2.85%		2021	Nov		
2009	Dec	94.87	-6.37%		2015	Dec	96.77	-4.29%		2021	Dec		
2010	Jan	95.30	-5.79%		2016	Jan	96.42	-5.09%		2022	Jan		
2010	Feb	95.43	-4.85%		2016	Feb	96.67	-5.28%		2022	Feb		
2010	Mar	95.63	-3.58%		2016	Mar	96.33	-5.43%		2022	Mar		
2010	Apr	96.21	-1.20%		2016	Apr	96.58	-4.42%		2022	Apr		
2010	May	96.12	-0.57%		2016	May	96.93	-3.67%		2022	May		
2010	Jun	96.93	1.59%		2016	Jun	95.98	-4.20%		2022	Jun		
2010	Jul	97.42	2.09%		2016	Jul	95.30	-4.26%		2022	Jul		
2010	Aug	97.73	2.24%		2016	Aug	95.10	-4.41%		2022	Aug		
2010	Sep	97.64	2.86%		2016	Sep	95.59	-3.73%		2022	Sep		
2010	Oct	97.86	4.32%		2016	Oct	96.34	-3.00%		2022	Oct		
2010	Nov	98.03	3.83%		2016	Nov	97.03	-0.99%		2022	Nov		
2010	Dec	97.61	2.89%		2016	Dec	95.43	-1.38%		2022	Dec		
2011	Jan	97.63	2.45%		2017	Jan	95.48	-0.98%		2023	Jan		
2011	Feb	97.02	1.67%		2017	Feb	95.71	-0.99%		2023	Feb		
2011	Mar	97.01	1.44%		2017	Mar	96.40	0.07%		2023	Mar		
2011	Apr	97.59	1.43%		2017	Apr	97.92	1.38%		2023	Apr		
2011	May	97.41	1.35%		2017	May	98.80	1.93%		2023	May		
2011	Jun	97.74	0.84%		2017	Jun	98.46	2.58%		2023	Jun		
2011	Jul	98.93	1.55%		2017	Jul	98.23	3.07%		2023	Jul		
2011	Aug	99.41	1.72%		2017	Aug	98.22	3.28%		2023	Aug		
2011	Sep	98.66	1.05%		2017	Sep	98.30	2.84%		2023	Sep		
2011	Oct	98.75	0.91%		2017	Oct	98.78	2.53%		2023	Oct		
2011	Nov	98.30	0.27%		2017	Nov	98.23	1.23%		2023	Nov		
2011	Dec	98.49	0.90%		2017	Dec	98.37	3.08%		2023	Dec		
2012	Jan	98.38	0.77%		2018	Jan	98.51	3.18%		2024	Jan		
2012	Feb	97.97	0.98%		2018	Feb	98.38	2.79%		2024	Feb		
2012	Mar	97.95	0.97%		2018	Mar	98.74	2.42%		2024	Mar		
2012	Apr	98.85	1.29%		2018	Apr	99.24	1.36%		2024	Apr		
2012	May	98.37	0.98%		2018	May	100.19	1.41%		2024	May		
2012	Jun	98.40	0.68%		2018	Jun	99.99	1.55%		2024	Jun		
2012	Jul	99.31	0.38%		2018	Jul	99.56	1.36%		2024	Jul		
2012	Aug	98.50	-0.91%		2018	Aug	99.25	1.05%		2024	Aug		
2012	Sep	98.61	-0.05%		2018	Sep	100.44	2.17%		2024	Sep		
2012	Oct	99.00	0.25%		2018	Oct	100.66	1.91%		2024	Oct		
2012	Nov	98.72	0.43%		2018	Nov	100.74	2.56%		2024	Nov		
2012	Dec	99.36	0.88%		2018	Dec	101.11	2.79%		2024	Dec		

a&i

Wyoming Business-Cycle Index Addendum

The Wyoming Business-Cycle Index (WBCI) is a coincident economic indicator and is designed to provide a current assessment of the state's economy. There are four main components of the WBCI. Two of these components, unemployment rate and private sector weekly wages, are included to capture aggregate economic activity for Wyoming. The third component, mining taxes, gauges economic activity related to mineral production in the state while the fourth component, national park visits, serves as a proxy for the impact of tourism.

Unemployment Rate: The first component of the WBCI is the unemployment rate. This statistic measures the percentage of people in Wyoming who want to work but don't have jobs. Within the WBCI model, the employment rate statistic (1.00 or 100% minus the unemployment rate) is indexed rather than the unemployment rate because an increase in the employment rate, similar to increases in private wages, mining taxes, and park visits are considered to be positive impacts on the economy. This statistic is available monthly, in seasonally adjusted form, from the U.S. Bureau of Labor Statistics. It is included as a component because it provides an assessment of the state's overall well-being.

Private Sector Weekly Wages: The second component of the WBCI is total private sector weekly wages. This component is estimated by multiplying the number of private sector jobs in Wyoming each month by the average weekly hours and then multiplying this product by the average hourly earnings to achieve a dollar value of private sector jobs in the state. Each of these statistics are available monthly from the U.S. Bureau of Labor Statistics. The data are seasonally adjusted and all dollar amounts have been converted to constant dollars using the Consumer Price Index – All Urban Consumers database. This indicator is included because it is another broad-based measure of the state's economic health. Since earnings account for about 67 percent of Wyoming's personal income, this component serves as a partial estimate of this income statistic.

Mining Taxes: The third component of the WBCI is the State of Wyoming's sales and use tax collections attributed to the mining sector. Because sales and use tax collections received by the state for a given month represent transactions that took place 4 to 6 weeks prior, the data is lagged one month for use in the WBCI model. This statistic is available monthly from the State of Wyoming's Department of Revenue. All dollar amounts have been converted to constant dollars using the Consumer Price Index – All Urban Consumers database and then the data are seasonally adjusted.   This indicator is included because it represents mining activity which is an important part of the Wyoming economy. As of 2014, almost 36 percent of Wyoming's annual GDP was attributed to the mining industry.

National Park Recreation Visits: The fourth component of the WBCI is national park recreation visits. This statistic is compiled by the National Park Service Public Use Statistics Office and is available monthly. The park visits statistic includes recreational visits to Yellowstone and Grand Teton National Parks, and Devils Tower National Monument. The data are seasonally adjusted. Park visits are included because they capture another critical part of Wyoming's economy – tourism.

Methodology: After the data for each component have been adjusted as noted above, each series is then standardized starting in January 2007 resulting in a value of 100.00 for each component and the WBCI in that month. As the components change from month to month, so does the value of the WBCI. Monthly index values for each of the components not including the unemployment rate are then smoothed using a weighted moving average. The unemployment rate is excluded from this treatment because the data are relatively stable to begin with. Next, the standard deviation of each component's monthly standardized values is determined followed by the calculation of the inverse of each component's standard deviation. Finally, the individual inverse standard deviations are standardized resulting in weights that sum to 1.00. The rationale for this weighting approach is the same used by the U.S. Conference Board implying that those components that are more stable over time will generate a smaller standard deviation but a larger inverse standard deviation, and thus, a larger weight. A substantial shift in a traditionally stable data series would provide a more compelling signal of economic change than a large shift in a series that commonly has large shifts.