# Wyoming Economic Indicators

WYOGOV

## ECONOMIC ANALYSIS DIVISION • NOVEMBER 2021

## ▶ Figure 1: Wyoming Economic Health Index as of September 2021

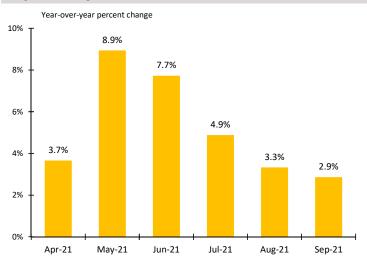


➡ SUMMARY: The Wyoming Economic Health Index (WEHI) reported a value of 102.6 in September 2021 (see Figure 1). This value was higher than the September 2020 value of 99.8, but lower than the September 2019 value of 106.8.

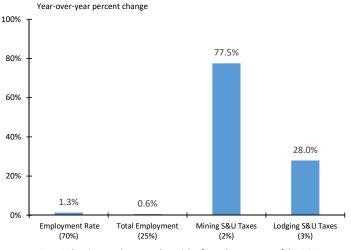
➤ NOTE: The Wyoming Economic Health Index combines four state-level economic indicators into one number in order to sum up the current economic conditions in Wyoming. The four economic indicators are (1) the monthly unemployment rate, (2) monthly total non-farm employment, (3) monthly sales and use (s&u) tax collections from the mining sector, and (4) monthly sales and use tax collections from lodging. All data used in the WEHI are seasonally adjusted. Additionally, both tax collection indicators are inflation adjusted.

SOURCES: U.S. Bureau of Labor Statistics (1), (2); Wyoming Department of Revenue (3), (4).

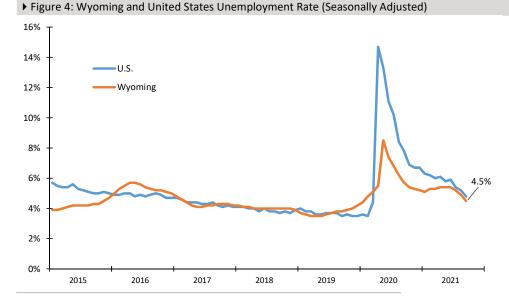
#### Figure 2: Change in WEHI - Last 6 Months



#### ▶ Figure 3: Change in Components of WEHI - September 2021



Note: Values in parantheses are the weights for each component of the WEHI.



✤ As seen in Figure 2, in each of the past six months (April 2021 - September 2021), the WEHI reported year-over-year increases, with the largest increase occurring in May (+8.9%).

➤ All four components of the WEHI improved in September 2021 compared to September 2020 (see Figure 3). Mining sales & use taxes saw the largest year-over-year increase in September, up 77.5%.

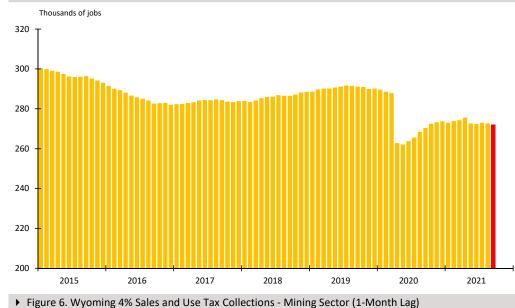
➤ The unemployment rate for Wyoming in September was 4.5%, lower than the August 2021 unemployment rate of 4.9% and the September 2020 unemployment rate of 5.7% (see Figure 4). The fact that the unemployment rate has returned close to pre-covid levels signifies that the labor market has certainly improved from the worst parts of the pandemic.

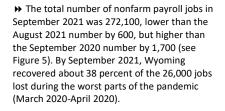


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Figure 5. Wyoming Total Nonfarm Employment (Seasonally Adjusted)





➤ Wyoming's collection of the 4% sales and use tax from the mining sector was \$6.8 million in September 2021, \$3.2 million more than September 2020 (see Figure 6). Through the first nine months of 2021 (January-September), total collections from the mining sector summed to \$41.5 million, \$31.4 million less (-43.1%) than the 5-year average sum from January to September.

Note: The value for September 2021 in Figure 6 is actually collections from October 2021 because there is approximately a 1-month lag between collections and sales activity.

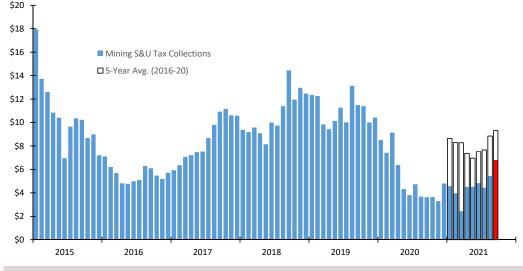
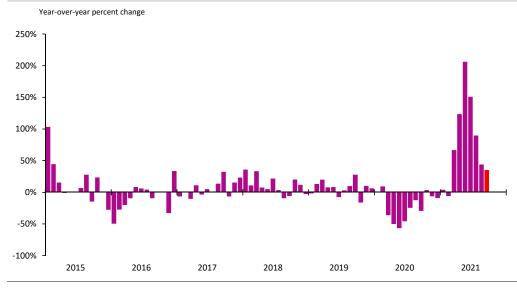


Figure 7. Change in Wyoming 4% Sales and Use Tax Collections - Lodging (1-Month Lag)



➤ Wyoming's collection of the 4% sales and use tax from lodging was \$4.3 million in September 2021, 34.8% more than September 2020 (see Figure 7). This is the sixth consecutive month of year-over-year increases in collections, a bright sign that the tourism sector is recovering from the pandemic.

Note: The value for September 2021 in Figure 7 is actually based on collections from October 2021 because there is approximately a 1-month lag between collections and sales activity.

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Millions of Dollars

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# Wyoming Economic Health Index Addendum

The Wyoming Economic Health Index (WEHI) is a coincident economic indicator that is designed to provide a current assessment of the state's economy. There are four components of the WEHI. The first two components, unemployment rate and total nonfarm employment, are included to capture overall labor market activity for Wyoming. The third component, sales and use tax collections related to the mining sector, captures economic activity related to mineral production in the state. The fourth component, sales and use tax collections related to lodging, serves as a proxy for tourism activity in the state.

Unemployment Rate: The first component of the WEHI is the unemployment rate. This statistic measures the percentage of people in Wyoming who are actively looking for work, but do not have jobs. In the WEHI model, the employment rate (100% minus the unemployment rate) is indexed rather than the unemployment rate because an increase in the employment rate, similar to an increase in total employment, mining activity, and tourism activity, is considered to be a positive for the state's economy. The unemployment rate is available monthly, seasonally adjusted, from the U.S. Bureau of Labor Statistics.

Total Nonfarm Employment: The second component of the WEHI is total nonfarm employment. This statistic measures the number of people who have wage or salary jobs in Wyoming. The total nonfarm employment is available monthly, seasonally adjusted, from the U.S. Bureau of Labor Statistics.

Mining Sales & Use Tax: The third component of the WEHI is sales and use tax collections related to the mining sector (including oil and gas extraction). 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 in the WEHI model. This statistic is available monthly from the State of Wyoming's Department of Revenue. The data is adjusted for inflation using the Consumer Price Index for All Urban Consumers from the U.S. Bureau of Labor Statistics. The data is also seasonally adjusted.

Lodging Sales & Use Tax: The fourth component of the WEHI is sales and use tax collections from lodging. Again, because sales and use tax collections received by the state for a given month of transactions represent transactions that took place 4 to 6 weeks prior, the data is lagged one month in the WEHI model. This statistic is available monthly from the State of Wyoming's Department of Revenue. The data is adjusted for inflation using the Consumer Price Index for All Urban Consumers from the U.S. Bureau of Labor Statistics. The data is also seasonally adjusted.

Methodology: Each series for the components discussed above are standardized starting in January 2005, resulting in a value of 100 for each component and the WEHI. As each component changes from month to month, the WEHI value changes. Next, the standard deviation of each component's standardized series values is calculated, followed by the calculation of the inverse of each component's standard deviation. Lastly, the individual inverse standard deviations are standardized, resulting in weights that sum to 1. The rationale for this weighting approach is that the components that are more stable over time will have a smaller standard deviation and thus, a larger inverse standard deviation and weight. A large shift in a typically stable data series would provide a better signal of a change in the economy than a large shift in a data series that typically has large fluctuations. Therefore, this weighting approach allows the WEHI to put a larger weight on the more stable components so that if they do experience a large shift, the WEHI's value will be affected more to represent the change in the state's economic conditions.

