▶ Figure 1: Casper Economic Health Index as of December 2020

Index January 2005 = 100

Note: Shaded areas represent U.S. recessions
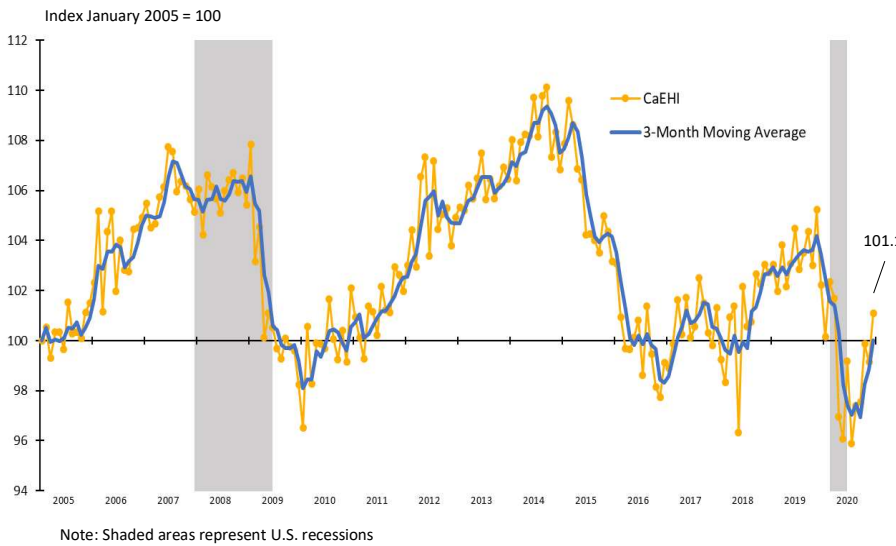
▸ SUMMARY: The Casper Economic Health Index (CaEHI) reported an index value of 101.1 in December 2020 (see Figure 1). This value was higher than the November 2020 value of 99.1, but lower than the December 2019 value of 102.2. This is the first time the CaEHI has been above 100 since March 2020.

▸ NOTE: The Casper Economic Health Index combines four county-level economic indicators into one number in order to sum up the current economic conditions in Natrona County. The four economic indicators are (1) the monthly unemployment rate, (2) monthly total non-farm employment, (3) monthly sales and use tax collections, and (4) the monthly median home sales price. All data used in the CaEHI are seasonally adjusted. Additionally, sales and use tax collection and home prices are inflation adjusted.

SOURCES: U.S. Bureau of Labor Statistics (1), (2);
Wyoming Department of Revenue (3);
Casper Board of REALTORS (4).
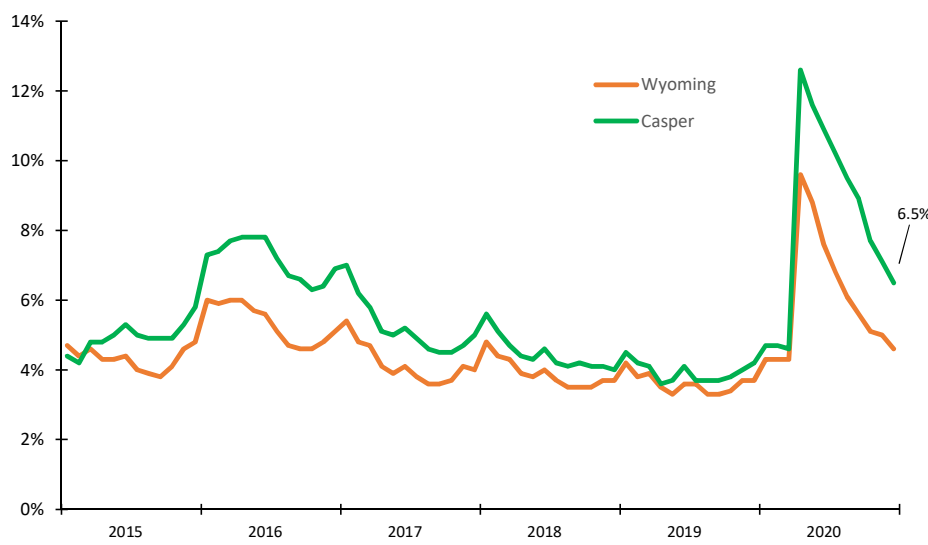
▶ Figure 2: Change in CaEHI - Last 6 Months

Year-over-year percent change
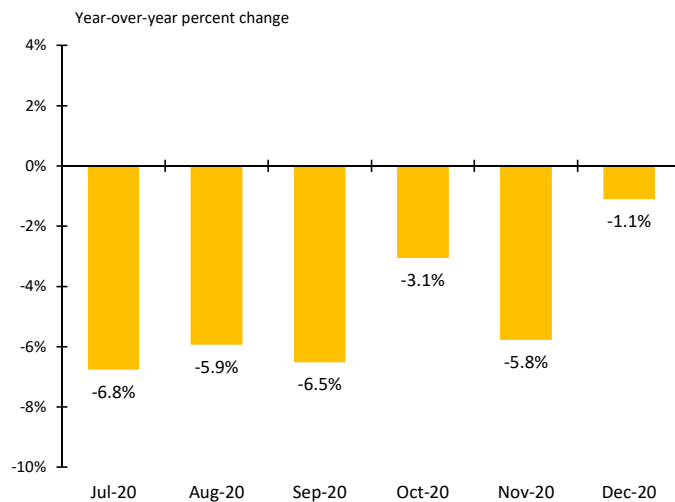
▶ Figure 3: Change in Components of CaEHI - December 2020

Year-over-year percent change
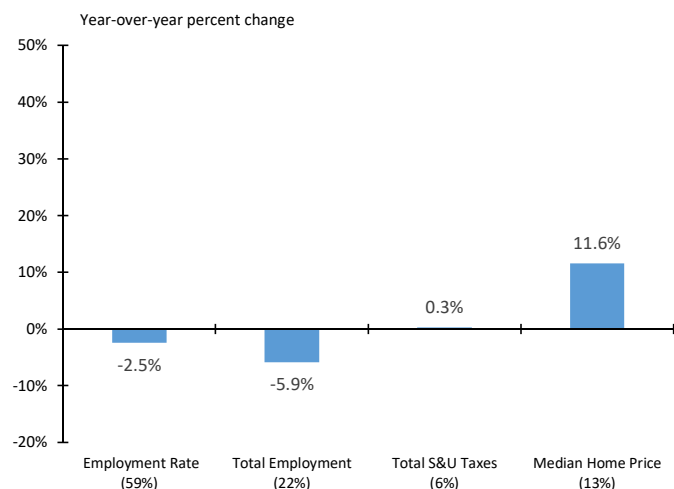
Note: Values in parantheses are the weights for each component of the CaEHI.

## ▶ Figure 4: Natrona County and Wyoming Unemployment Rate (Not Seasonally Adjusted)

▸ As seen in Figure 2, the CaEHI reported year-over-year declines in each of the last six months, with December recording the smallest decline at 1.1%.

▸ Two of the four components of the CaEHI were better in December 2020 compared to December 2019, with median home prices increasing the most, up 11.6%. (see Figure 3).

▸ The unemployment rate for Natrona County in December 2020 was 6.5%, higher than the December 2019 unemployment rate of 4.2% and the state-wide December 2020 unemployment rate of 4.6% (see Figure 4). This is the eighth consecutive month the unemployment rate has decreased, reflecting the ongoing recovery in the labor market from the Covid-19 business shutdowns.

Note: Both unemployment rates in Figure 4 are not seasonally adjusted.

▶ Figure 5. Natrona County Total Nonfarm Employment (Seasonally Adjusted)

Thousands of jobs
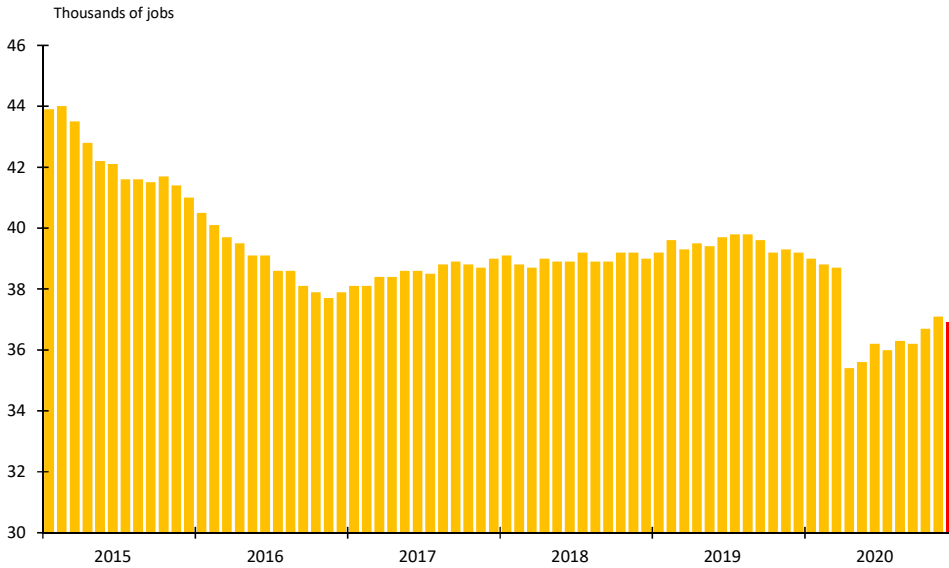
▸▸ The total number of nonfarm payroll jobs in December 2020 was 36,900, lower than the November 2020 number by 200 (-0.5%) and lower than the December 2019 number by 2,300 (-5.9%) (see Figure 5).

▸▸ NOTE: MSA stands for Metropolitan Statistical Area. The Casper MSA covers all of Natrona County.

▶ Figure 6. Natrona County 4% Sales and Use Tax Collections (1-Month Lag)

Millions of Dollars

■ Total S&U Tax Collections
☐ 5-Year Avg. (2015-19)
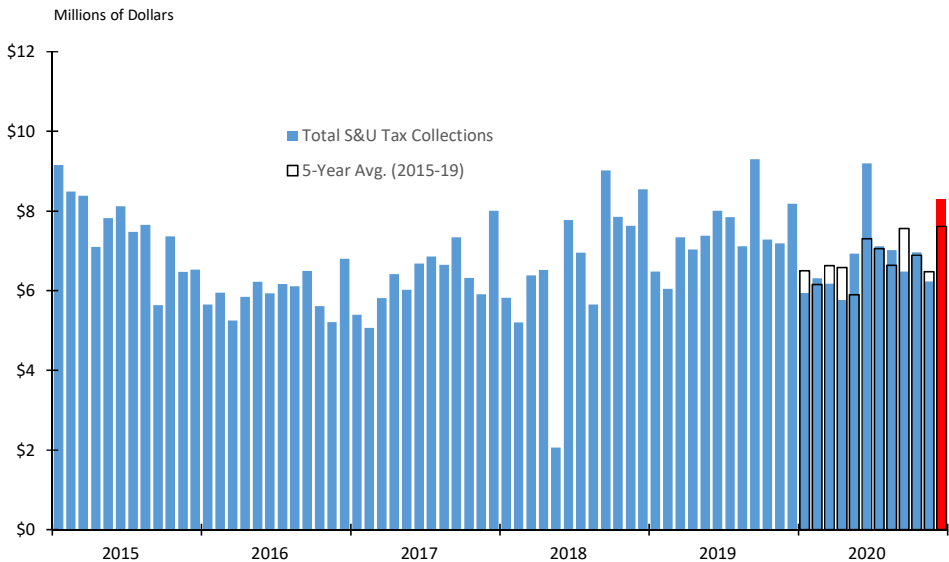
▸▸ Natrona County's collection of the 4% sales and use tax was $8.3 million in December 2020, $2.1 million more than November 2020 and $0.1 million more than December 2019 (see Figure 6). At the end of calendar year 2020 (January-December), total collections summed to $82.4 million, $1.1 million more (+1.4%) than the 5-year average sum from January to December.

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

▶ Figure 7. Change in Natrona County Median Home Sales Price

Year-over-year percent change
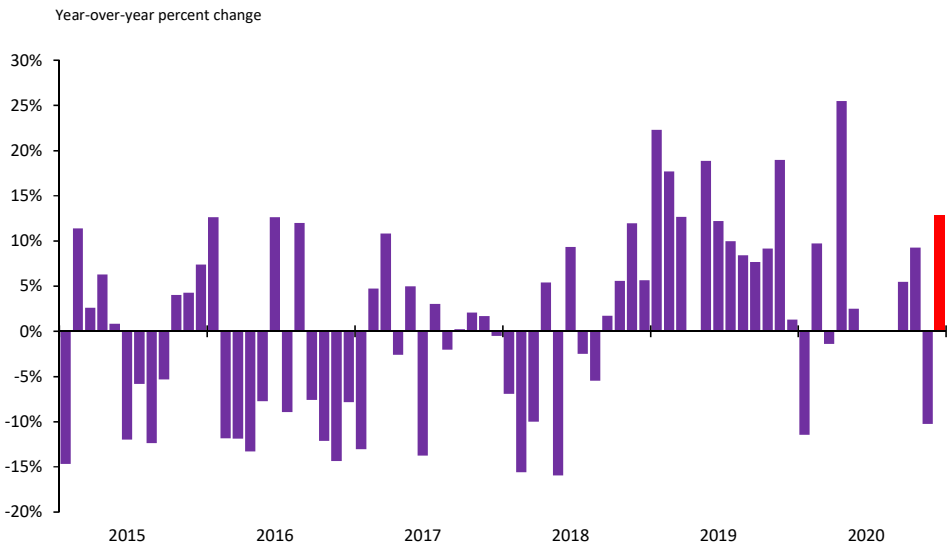
▸▸ Natrona County's median home sales price was $232,000 in December 2020, 12.9% higher than December 2019 (see Figure 7). Housing prices appear to be one of the only economic variables that are not negatively impacted by the Covid-19 pandemic.

◆ **CONTACT:**   Dylan Bainer, Principal Economist, Economic Analysis Division, Dept. of Admin. & Info., WY State Government.

◆ **QUESTIONS?**   Phone: 307.777.7221   E-mail: dylan.bainer@wyo.gov   Website: http://eadiv.state.wy.us

02

Casper Economic Health Index Addendum

The Casper Economic Health Index (CaEHI) is a coincident economic indicator that is designed to provide a current assessment of Natrona County's economy. There are four components of the CaEHI. The first two components, unemployment rate and total nonfarm employment, are included to capture overall labor market activity for Natrona County. The third component, sales and use tax collections, captures economic activity related to taxable sales in Natrona County. The fourth component, median home sales price, serves as a proxy for the housing market.

Unemployment Rate: The first component of the CaEHI is the unemployment rate. This statistic measures the percentage of people in Natrona County who are actively looking for work, but do not have jobs. In the CaEHI 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, sales and use tax collections, and home prices, is considered to be a positive for the county's economy. The unemployment rate is available monthly, not seasonally adjusted, from the U.S. Bureau of Labor Statistics. The data is then seasonally adjusted.

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

Sales & Use Tax: The third component of the CaEHI is sales and use tax collections associated with the state's 4 percent tax rate. Because sales and use tax collections received by the county for a given month represent transactions that took place 4 to 6 weeks prior, the data is lagged one month in the CaEHI 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.

Median Home Sales Price: The fourth component of the CaEHI is the median home sales price. This statistic is available monthly from the Casper Board of REALTORS. This variable is defined as the median sales price for a single family, non-rural residential home. 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 CaEHI. As each component changes from month to month, the CaEHI 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 CaEHI to put a larger weight on the more stable components so that if they do experience a large shift, the CaEHI's value will be affected more to represent the change in the county's economic conditions.