

# Nebraska Monthly Economic Indicators: November 30, 2022

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**Summary:** *The LEI-N fell by 0.12% in October 2022. The leading indicator, which is designed to predict economic growth six months in the future, has fallen in four of the last six months. Such a decline signals a stagnant economy in Nebraska at the beginning of 2023. Four components of the leading indicator worsened during October. There was an increase in initial claims for unemployment insurance, signaling some softening of the Nebraska labor market. There was also an increase in the value of the U.S. Dollar in October. A rising dollar creates challenges for Nebraska businesses that compete in international markets. Finally, there was a drop in airline passenger counts and building permits for single-family homes during the month.*

## Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during October 2022 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N fell modestly by 0.12%.

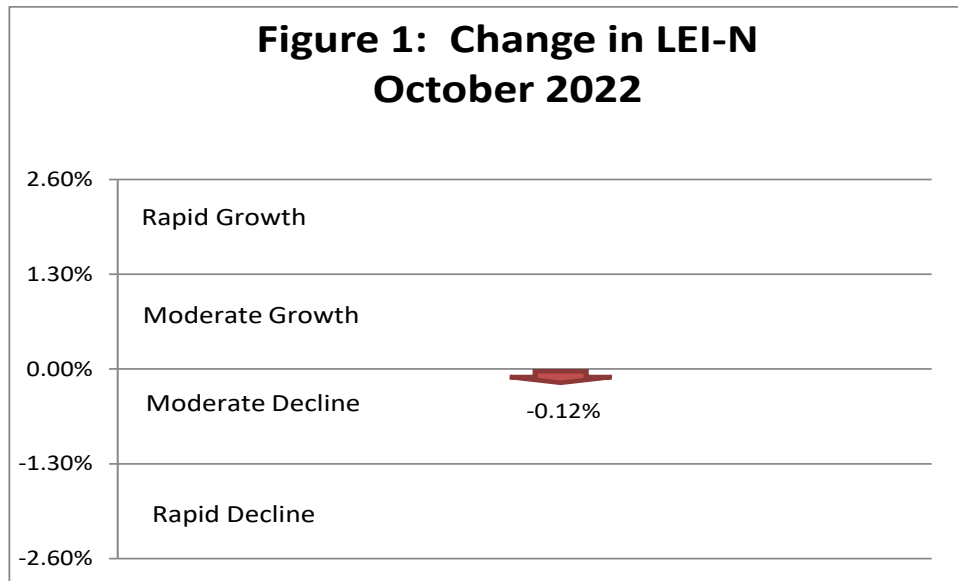


Figure 2 shows the change in the leading indicator over the last six months. The leading indicator is essentially flat over the last six months. This pattern is consistent with a stagnant economy in Nebraska at the beginning of 2023.

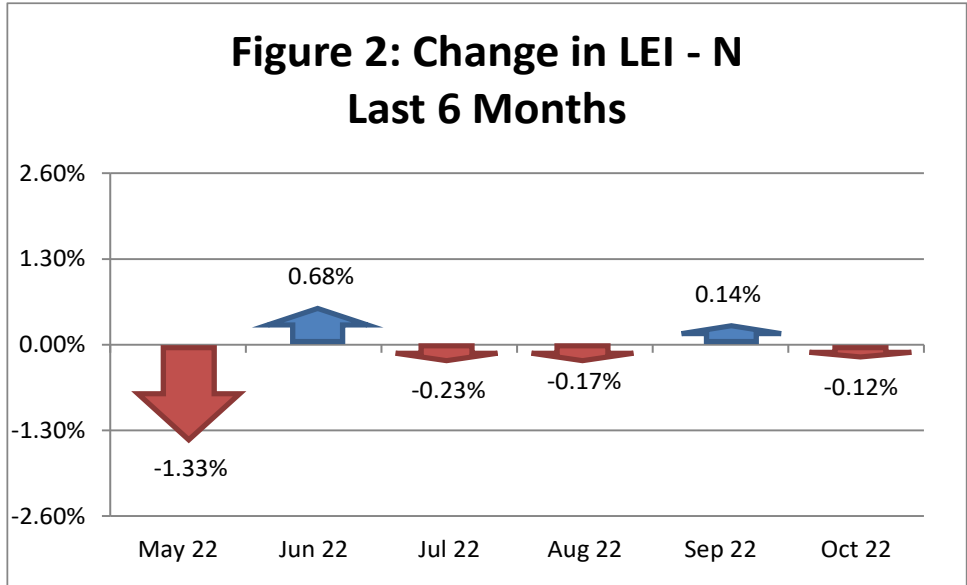
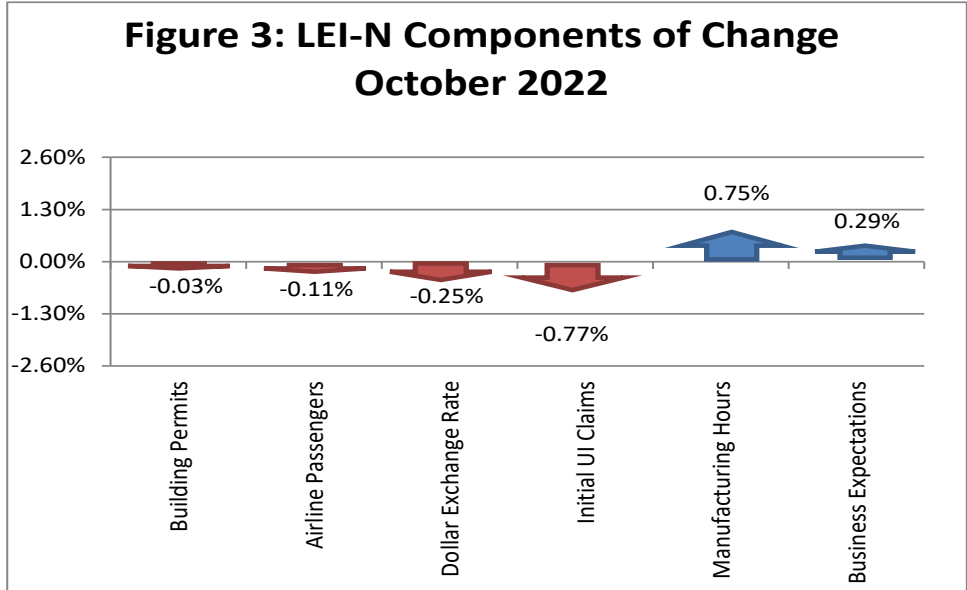


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during October. The change in the LEI-N is the weighted average of changes in each component (see page 5). Four indicator components worsened during October. There was an increase in initial claims for unemployment insurance during the month, suggesting some softening in the Nebraska labor market. The value of the U.S. dollar also rose, which creates challenges for Nebraska businesses that compete in international markets. Airline passenger enplanements and building permits for single-family homes also declined during October



## Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. The CEI-N rose by 0.64% during October 2022, as seen in Figure 4.

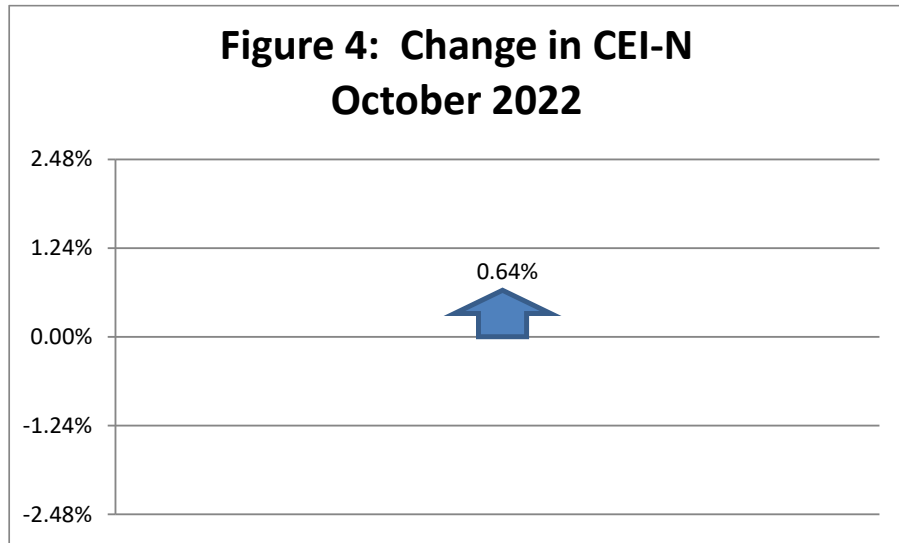
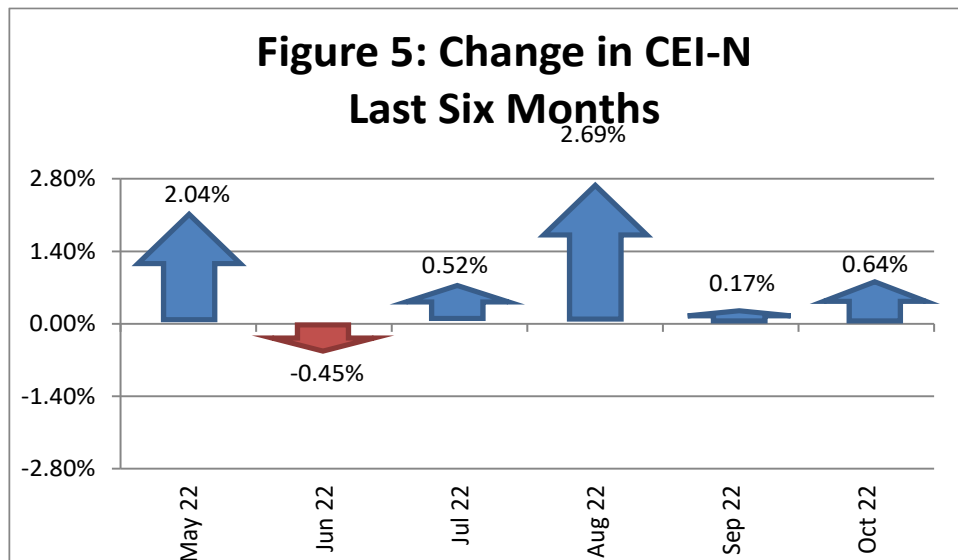


Figure 5 shows the change in the CEI-N over the last 6 months. The Nebraska economy has expanded steadily during the period, including rapidly in May and August.



Three components of the CEI-N rose during October. Private wages expanded faster than inflation, leading to an increase in real wages. There also was an increase in agricultural commodity prices in both crops and livestock. Business conditions also were positive according to respondents to the October *Survey of Nebraska Business*. Electricity sales were the one declining component in October after accounting for weather and seasonality. A detailed discussion of the components of the CEI-N and LEI-N can be found at <https://business.unl.edu/research/bureau-of-business-research/> in *Technical Report: Coincident and Leading Economic Indicators-Nebraska*.

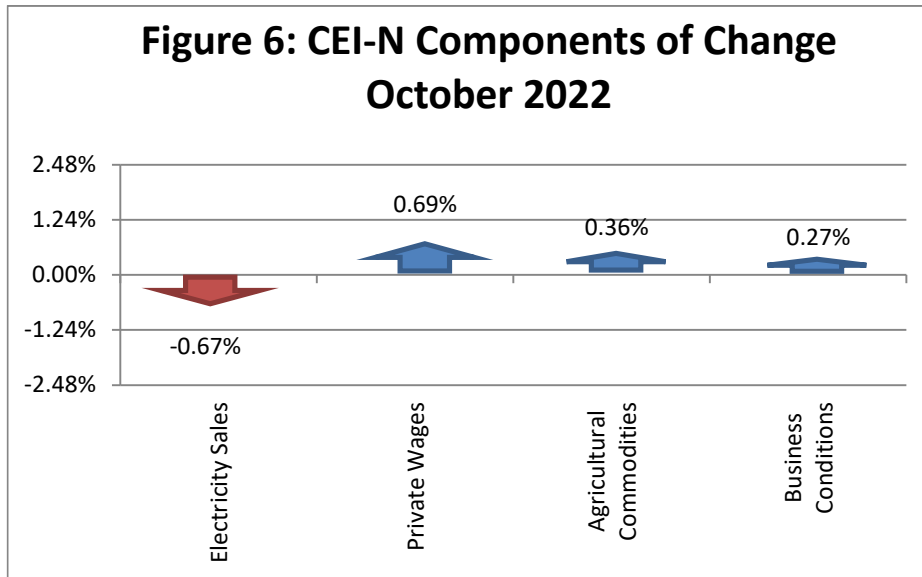
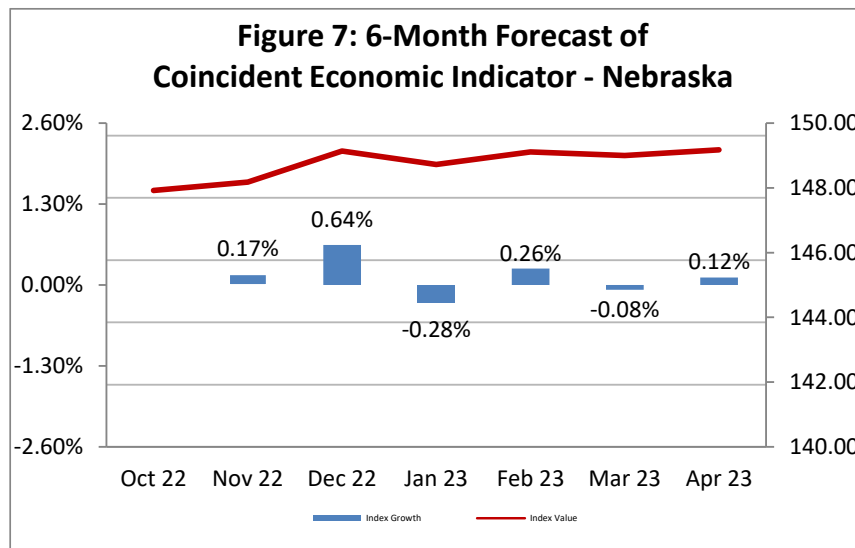


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for little change in the size of the Nebraska economy during the first four months of 2023. This expectation is consistent with the recent changes in the LEI-N reported in Figure 2.



## Weights and Component Shares

Table 1 shows the weights used to aggregate the individual components into the LEI-N and CEI-N. The weights are the inverse of the “standardized” standard deviation of each component variable. The term standardized simply means that the inverse standard deviations are adjusted proportionately to sum to 1. This weighting scheme makes sense since individual components that are more stable have a smaller standard deviation, and therefore, a larger inverse standard deviation. A large movement in a typically stable economic series would provide a more powerful signal of economic change than a large movement in a series with significant month-to-month fluctuations.

<b>Table 1: Component Weights for LEI-N and CEI-N</b>							
Leading Economic Indicator - Nebraska				Coincident Economic Indicator - Nebraska			
Variable	Standard Deviation	Inverse STD	Weight (Inverse STD Standardize)	Variable	Standard Deviation	Inverse STD	Weight (Inverse STD Standardize)
SF Housing Permits	12.9315	0.0773	0.0394	Electricity Sales	4.6477	0.2152	0.1740
Airline Passengers	6.2535	0.1599	0.0814	Private Wages	2.0592	0.4856	0.3928
Exchange Rate	1.1457	0.8728	0.4441	Agricultural Commodities	3.5738	0.2798	0.2263
Initial UI Claims	19.6173	0.0510	0.0259	Survey Business Conditions	3.9086	0.2558	0.2069
Manufacturing Hours	1.7622	0.5675	0.2888				
Survey Business Expectations	4.2247	0.2367	0.1204				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between September and October of 2022. Weights (from Table 1) are multiplied by the change to calculate the contribution of each component. Contributions are converted to percentage terms and summed.

<b>Table 2: Component Contributions to the Change in Leading Economic Indicator</b>						
Leading Economic Indicator - Nebraska						
Component Index Value (May 2007=100)						
Component	Current	Previous	Difference	Weight	Contribution	Percentage Contribution (Relative to Previous LEI-N)
SF Building Permits	61.12	62.29	-1.17	0.04	-0.05	-0.03%
Airline Passengers	93.60	95.95	-2.35	0.08	-0.19	-0.11%
U.S. Dollar Exchange Rate (Inverse)	74.10	75.11	-1.01	0.44	-0.45	-0.25%
Initial Unemployment Insurance Claims (Inverse)	168.62	221.72	-53.10	0.03	-1.38	-0.77%
Manufacturing Hours	93.48	88.86	4.62	0.29	1.33	0.75%
Survey Business Expectations <sup>1</sup>	54.25		4.25	0.12	0.51	0.29%
<b>Total (weighted average)</b>	<b>177.98</b>	<b>178.20</b>			<b>-0.22</b>	<b>-0.12%</b>

<sup>1</sup> Survey results are a diffusion Index, which is always compared to 50

<b>Table 3: Component Contributions to the Change in Coincident Economic Indicator</b>						
Coincident Economic Indicator - Nebraska						
Component Index Value (May 2007=100)						
Component	Current	Previous	Difference	Weight	Contribution	Percentage Contribution (Relative to Previous CEI-N)
Electricity Sales	172.05	177.74	-5.69	0.17	-0.99	-0.67%
Private Wage	115.67	113.08	2.59	0.39	1.02	0.69%
Agricultural Commodities	179.75	177.41	2.34	0.23	0.53	0.36%
Survey Business Conditions <sup>1</sup>	51.93		1.93	0.21	0.40	0.27%
<b>Total (weighted average)</b>	<b>149.14</b>	<b>148.18</b>			<b>0.96</b>	<b>0.64%</b>

<sup>1</sup> Survey results are a diffusion Index, which is always compared to 50

## Performance of the LEI-N and CEI-N

Further information is available on both economic indicators to demonstrate how well the CEI-N tracks the Nebraska economy and how well the LEI-N leads the CEI-N. Figure 8 shows the value of CEI-N and the real gross state product (real GDP) in Nebraska from 2001 through the first quarter of 2021, using data provided by the Bureau of Economic Analysis, U.S. Department of Commerce. CEI-N closely tracks Nebraska's real GDP for the period. The correlation coefficient between the two-pictured series is 0.96.

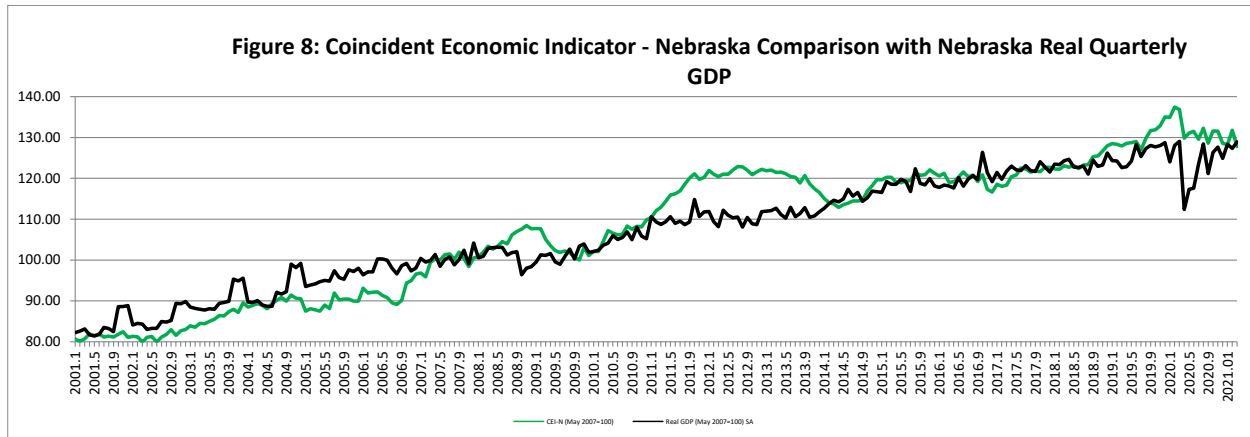


Figure 9 again shows the values for the CEI-N. It also graphs six-month forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months earlier) with the actual movement in CEI-N. In Figure 9, predicted values using the LEI-N track trends and movement in the CEI-N. The long-run correlation coefficient between CEI-N and six-month forward values of LEI-N is 0.89.

