

# Nebraska Monthly Economic Indicators: February 23, 2022

Prepared by the UNL College of Business, Bureau of Business Research

Author: Dr. Eric Thompson

Leading Economic Indicator.....	1
Coincident Economic Indicator.....	3
Weights and Component Shares.....	5
Performance of the LEI-N and CEI-N.....	6

**Summary:** *The LEI-N rose by 0.58% during January 2022. The increase in the leading indicator, which is designed to predict economic activity six months in the future, signals moderate economic growth in Nebraska through the summer of 2022. The indicator improved for three primary reasons. There were positive business expectations in January according to respondents to the monthly Survey of Nebraska Business. Initial claims for unemployment insurance also fell during the month as a sign of strength for the labor market. The value of the U.S. dollar also fell, which is helpful for Nebraska businesses that compete in international markets.*

## Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during January 2022 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.58% during January.

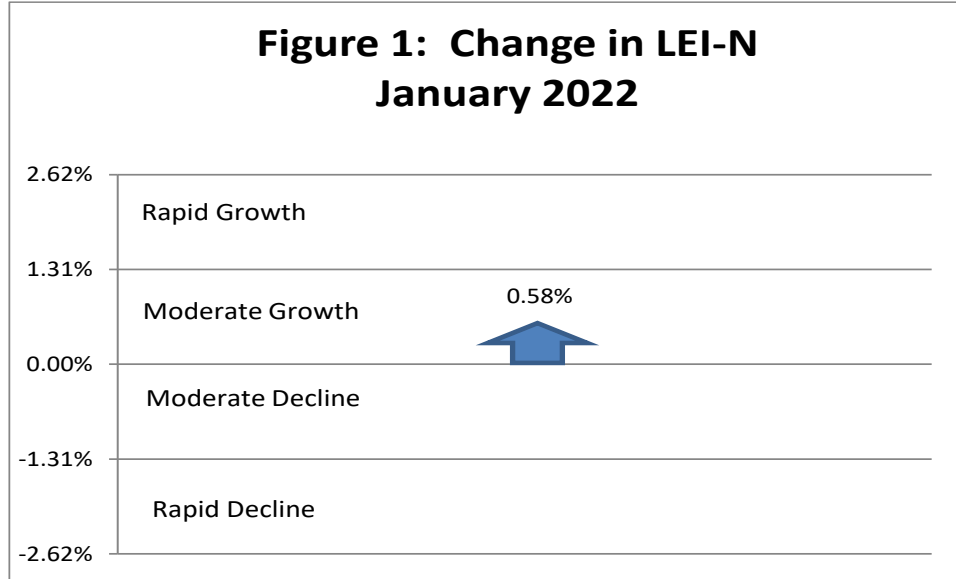


Figure 2 shows the change in the leading indicator over the last six months. The leading indicator has risen steadily for the last four months. This pattern suggests that the Nebraska economy will grow at a moderate pace during mid-2022.

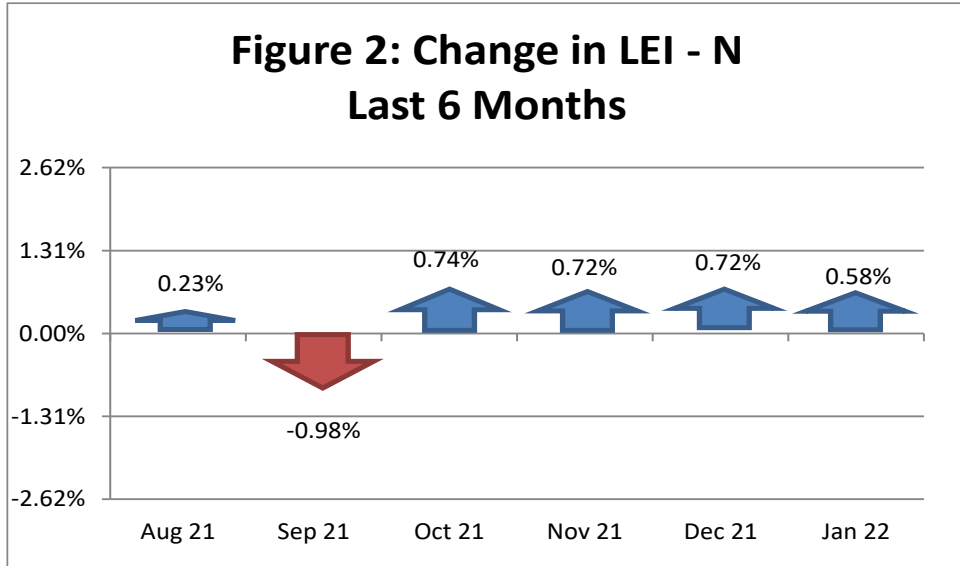
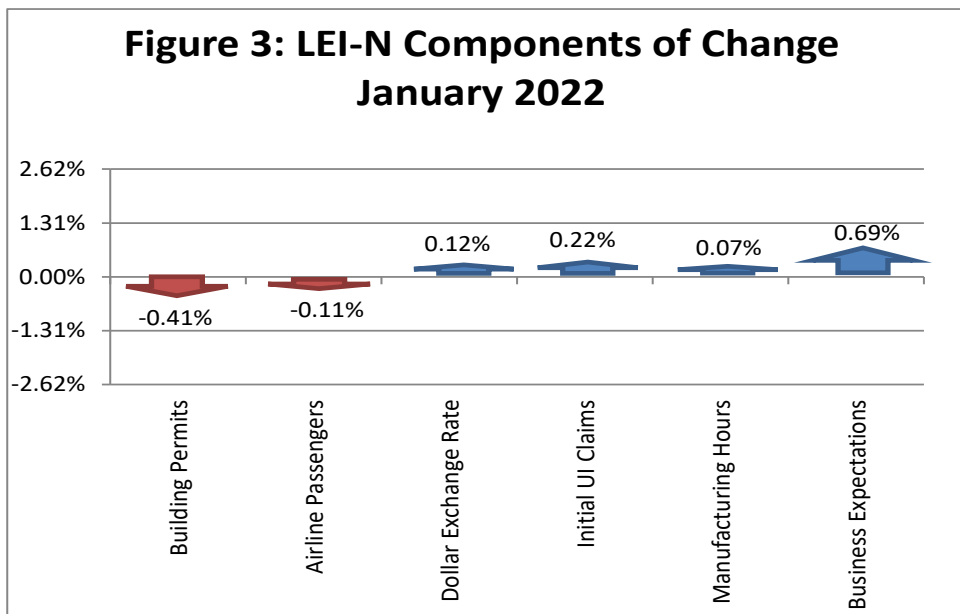


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during January. The change in the LEI–N is the weighted average of changes in each component (see page 5). The January rise in the LEI–N was primarily due to three components. The first was business expectations. In particular, respondents to the January *Survey of Nebraska Business* reported plans to increase employment and sales over the next six months. There also was another decline in initial claims for unemployment insurance, suggesting continued strength in Nebraska’s labor market. The value of the U.S. dollar also fell in January, which is positive for Nebraska businesses that compete in international markets. One of the declining components was airline passenger enplanements. Airline activity was down in January, likely reflecting high counts of Covid-19 cases in Nebraska during the month.



## 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 0.35% during January 2022, as seen in Figure 4.

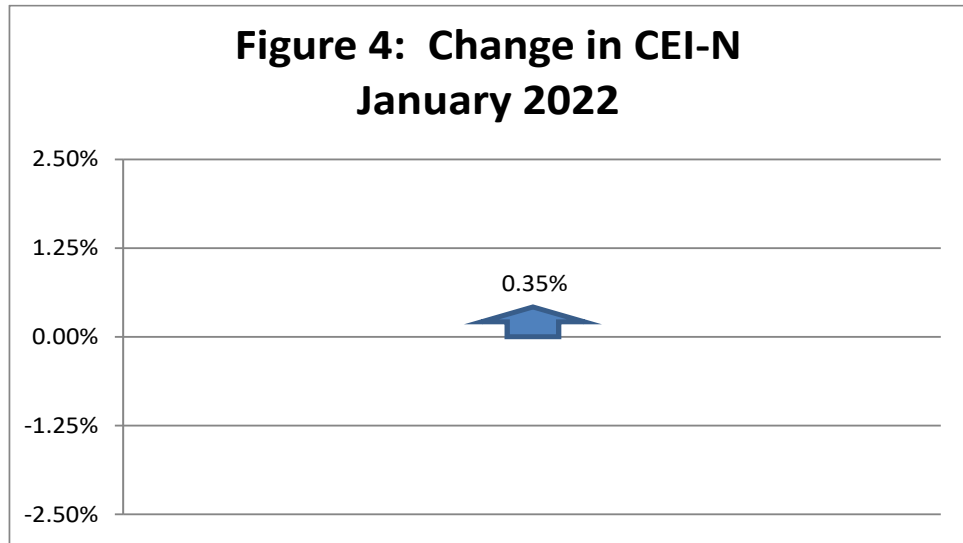
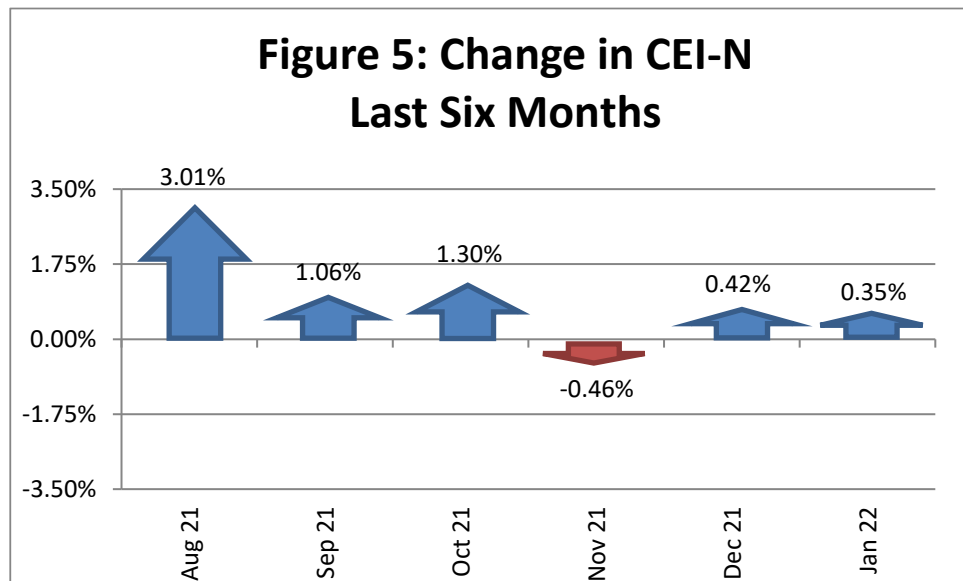


Figure 5 shows the change in the CEI-N over the last 6 months. The Nebraska economy grew rapidly from August to October of 2021, but the pace of growth has slowed significantly over the last 3 months.



Two components of the CEI-N rose during January. Business conditions were positive as respondents to the January *Survey of Nebraska Business* reported an increase in sales during recent months. Real private wages also are thought to have risen in January. There was little change in agricultural commodity prices during the month and electricity sales declined on a seasonally adjusted basis. 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*.

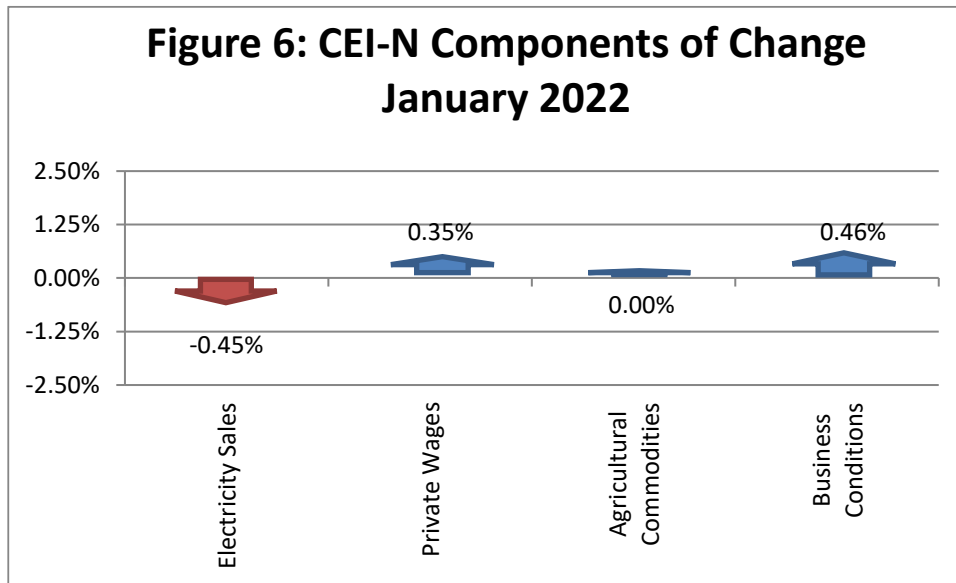
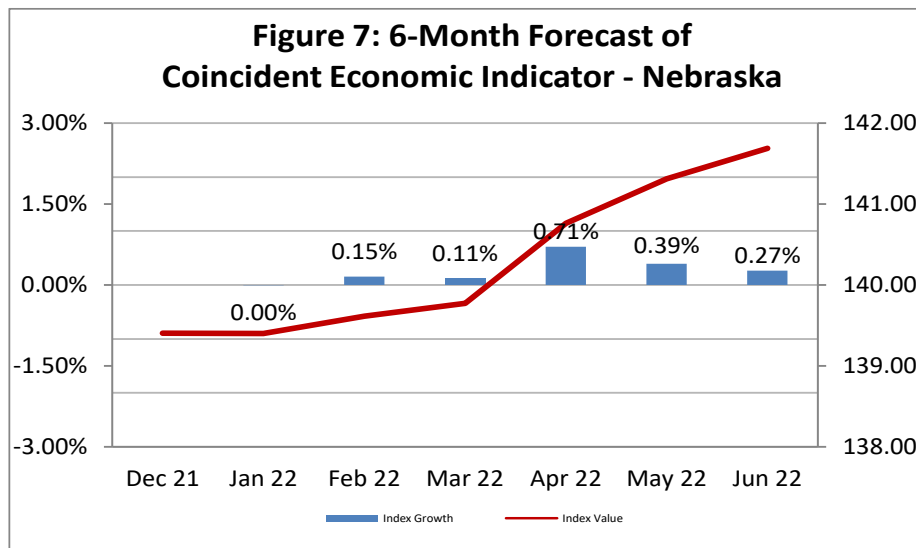


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for modest growth in the first quarter of the year but that growth will improve later the year. In particular, economic growth will be moderate in the summer of 2022. These expectations are consistent with the recent 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	13.1554	0.0760	0.0385	Electricity Sales	4.7009	0.2127	0.1726
Airline Passengers	6.2782	0.1593	0.0807	Private Wages	2.0521	0.4873	0.3954
Exchange Rate	1.1496	0.8698	0.4407	Agricultural Commodities	3.5899	0.2786	0.2260
Initial UI Claims	18.9270	0.0528	0.0268	Survey Business Conditions	3.9401	0.2538	0.2059
Manufacturing Hours	1.7275	0.5789	0.2933				
Survey Business Expectations	4.2240	0.2367	0.1200				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between December of 2021 and January 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	77.81	96.26	-18.45	0.04	-0.71	-0.41%
Airline Passengers	81.53	83.97	-2.45	0.08	-0.20	-0.11%
U.S. Dollar Exchange Rate (Inverse)	81.34	80.87	0.47	0.44	0.21	0.12%
Initial Unemployment Insurance Claims (Inverse)	151.28	136.96	14.31	0.03	0.38	0.22%
Manufacturing Hours	95.32	94.89	0.43	0.29	0.13	0.07%
Survey Business Expectations <sup>1</sup>	59.88		9.88	0.12	1.18	0.69%
Total (weighted average)	173.40	172.41			0.99	0.58%

<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	163.07	166.73	-3.66	0.17	-0.63	-0.45%
Private Wage	115.35	114.13	1.22	0.40	0.48	0.35%
Agricultural Commodities	151.03	151.04	-0.01	0.23	0.00	0.00%
Survey Business Conditions <sup>1</sup>	53.09		3.09	0.21	0.64	0.46%
Total (weighted average)	139.37	138.89			0.49	0.35%

<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 for 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.

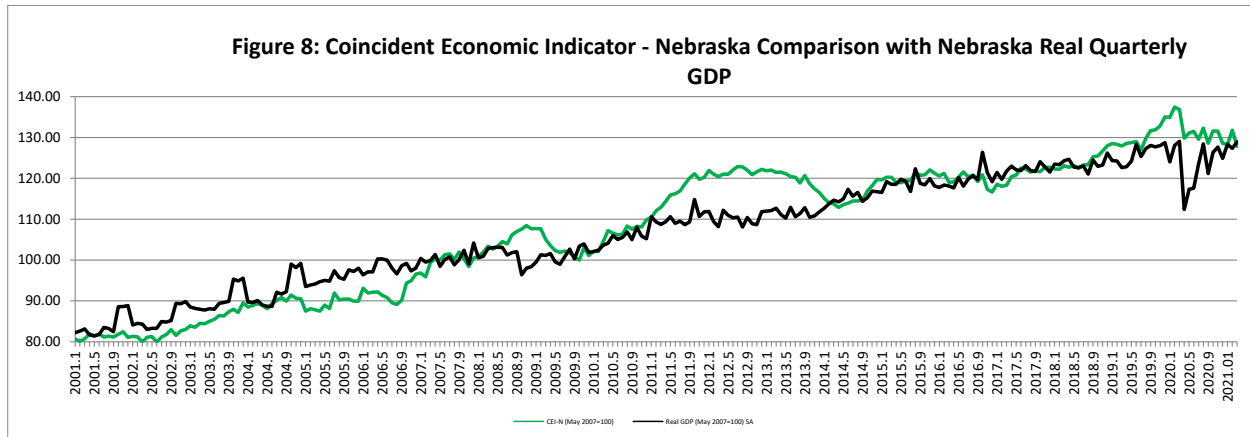


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months 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 0.88.

