

Nebraska Monthly Economic Indicators: September 21, 2022

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

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Summary: The LEI-N changed little in August 2022, falling by just 0.01%. The leading indicator is designed to predict economic growth six months in the future. As a result, the flat value for the indicator in August signals that economic growth in Nebraska will be slow at the beginning of 2023. Several component of the leading indicator worsened during August. First, there was a decrease in building permits for single-family homes, likely in response to rising interest rates. Second, initial claims for unemployment insurance rose during August, suggesting some softening of the state’s strong labor market. By contrast, positive business expectations supported the leading indicator. In particular, respondents to the August Survey of Nebraska Business reported plans to increase sales and employment over the next six months.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during August 2022 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N was essentially unchanged in August, falling by just 0.01%.

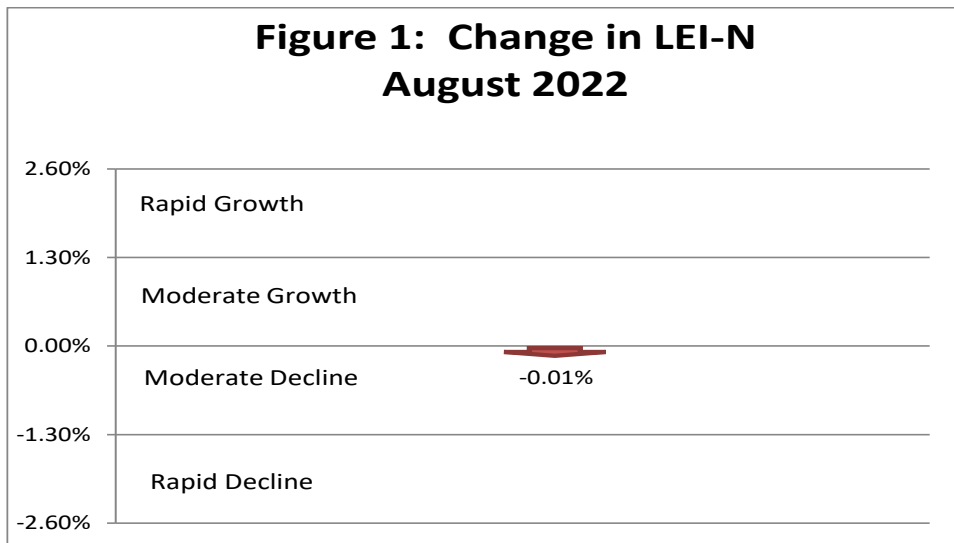


Figure 2 shows the change in the leading indicator over the last six months. After rising in March and April, the leading indicator fell in both May and July. This pattern is consistent with a significant slowdown in Nebraska’s economic growth.

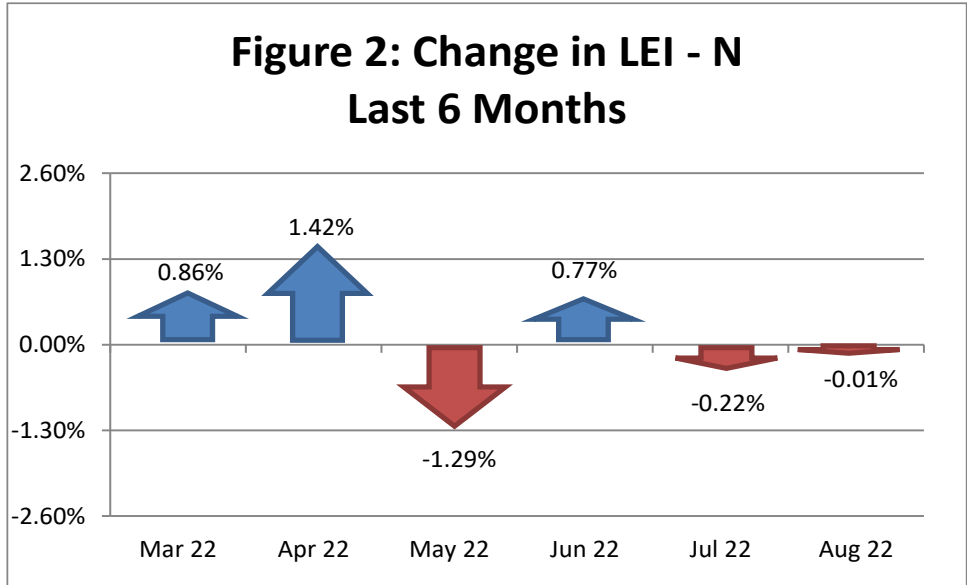
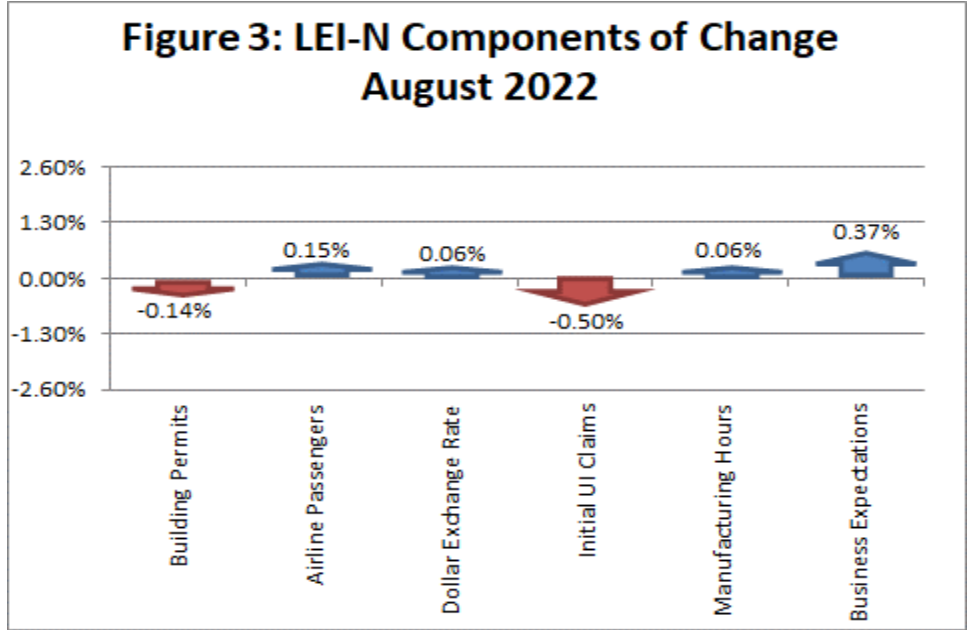


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during August. The change in the LEI–N is the weighted average of changes in each component (see page 5). Several indicator components worsened during August. First, there was a decline in building permits for single-family homes, likely due to rising interest rates. Second, there was an increase in initial claims for unemployment insurance, suggesting some softening of Nebraska’s strong labor market. On the positive side, Nebraska businesses remained confident about the future. Respondents to the *August Survey of Nebraska Business* reported plans to increase employment and sales over the next six months.



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 1.84% during August 2022, as seen in Figure 4.

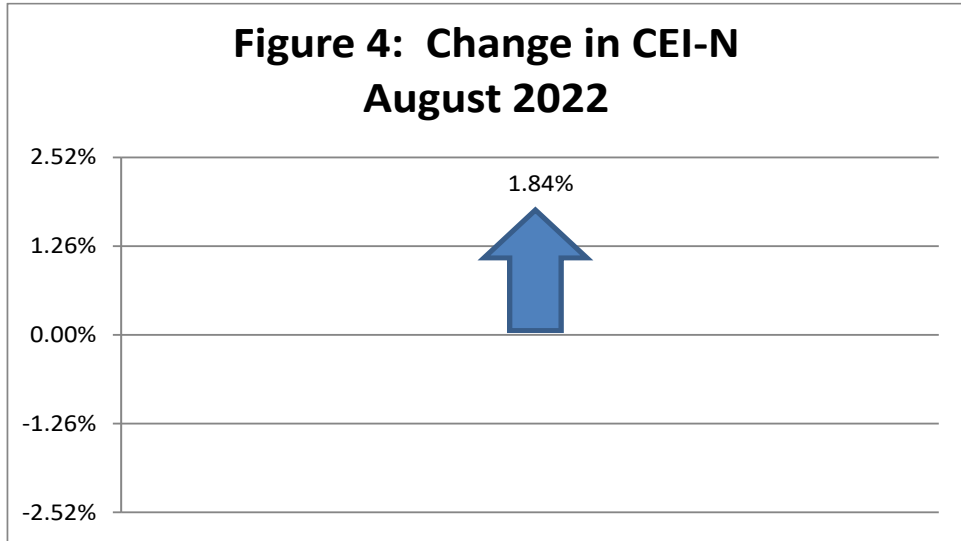
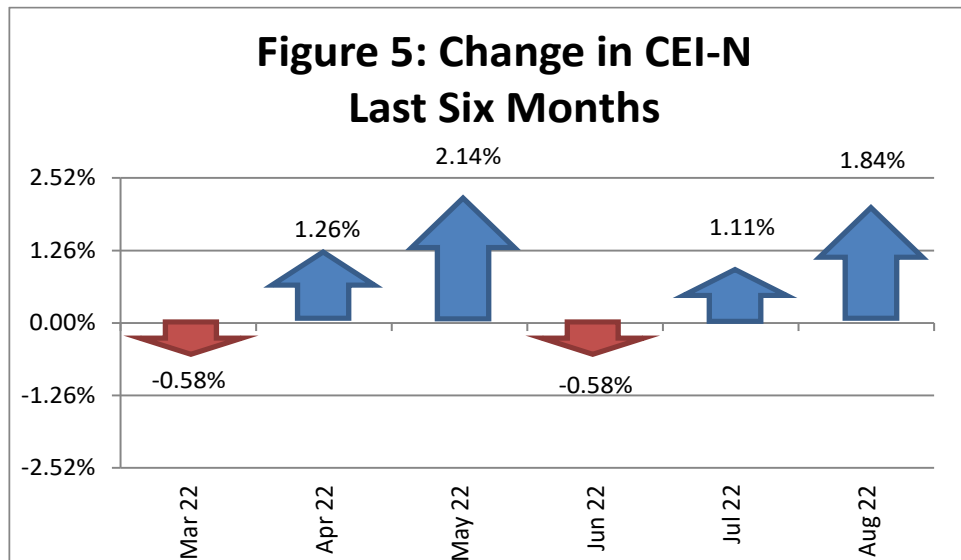


Figure 5 shows the change in the CEI-N over the last 6 months. The Nebraska economy has grown solidly during four of the last five months. The Nebraska economy grew during the 2nd Quarter of 2022 and likely will grow during the 3rd Quarter.



Three components of the CEI-N rose during August. There was an increase in agricultural commodity prices. Business conditions also were positive according to respondents to the August *Survey of Nebraska Business*. Electricity sales also increased in August after accounting for weather and seasonality. There was, however, a decline in real private wages during the month. 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*.

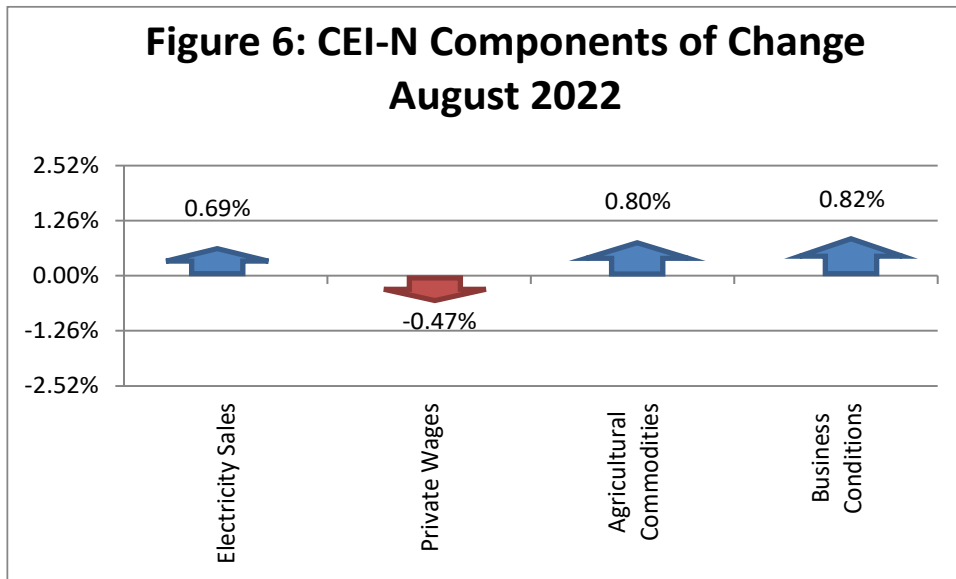
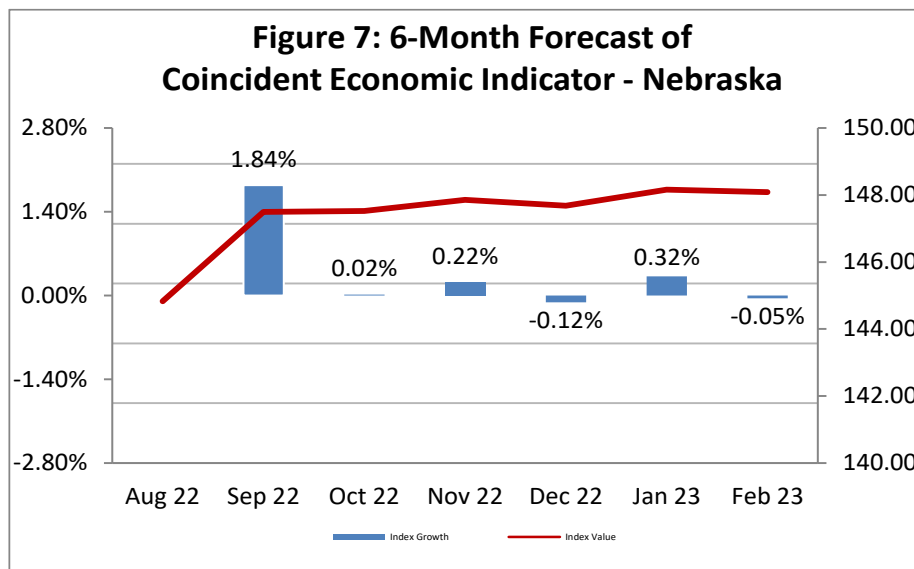


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for slow growth beginning in October 2022. This expectation is consistent with the recent changes in the LEI-N reported in Figure 2.



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.

Table 1: Component Weights for LEI-N and CEI-N							
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	13.0016	0.0769	0.0390	Electricity Sales	4.5554	0.2195	0.1775
Airline Passengers	6.2798	0.1592	0.0808	Private Wages	2.0670	0.4838	0.3913
Exchange Rate	1.1434	0.8746	0.4437	Agricultural Commodities	3.5997	0.2778	0.2247
Initial UI Claims	19.5198	0.0512	0.0260	Survey Business Conditions	3.9162	0.2553	0.2065
Manufacturing Hours	1.7442	0.5733	0.2909				
Survey Business Expectations	4.2390	0.2359	0.1197				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between July and August 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.

Table 2: Component Contributions to the Change in Leading Economic Indicator						
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	67.12	73.72	-6.60	0.04	-0.26	-0.14%
Airline Passengers	105.38	102.04	3.34	0.08	0.27	0.15%
U.S. Dollar Exchange Rate (Inverse)	76.94	76.72	0.22	0.44	0.10	0.06%
Initial Unemployment Insurance Claims (Inverse)	187.32	221.63	-34.32	0.03	-0.89	-0.50%
Manufacturing Hours	87.52	87.16	0.36	0.29	0.11	0.06%
Survey Business Expectations ¹	55.56		5.56	0.12	0.67	0.37%
Total (weighted average)	177.90	177.91			-0.01	-0.01%

¹ Survey results are a diffusion Index, which is always compared to 50

Table 3: Component Contributions to the Change in Coincident Economic Indicator						
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	175.13	169.48	5.65	0.18	1.00	0.69%
Private Wage	112.35	114.10	-1.74	0.39	-0.68	-0.47%
Agricultural Commodities	174.27	169.09	5.19	0.22	1.17	0.80%
Survey Business Conditions ¹	55.74		5.74	0.21	1.18	0.82%
Total (weighted average)	147.50	144.83			2.67	1.84%

¹ 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.

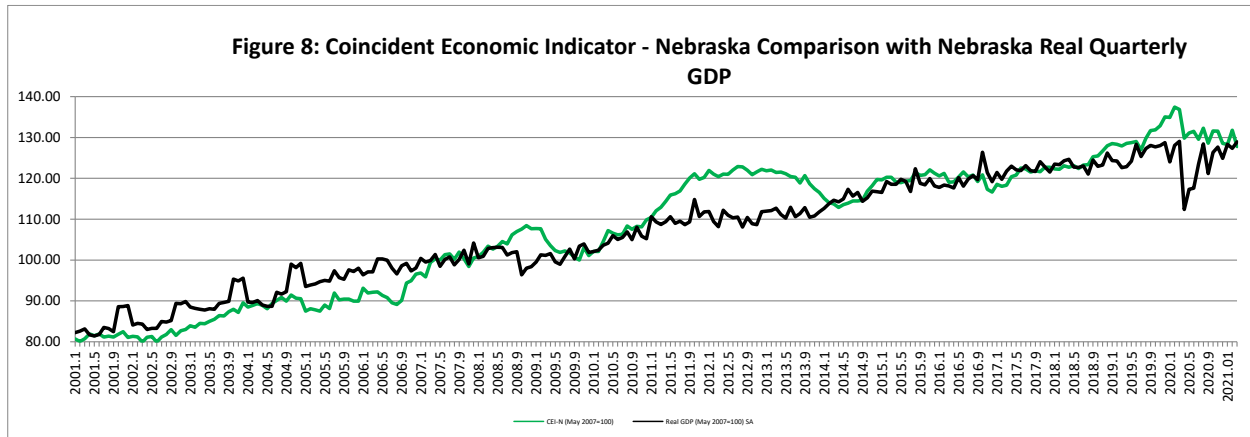


Figure 9 again shows the values for the CEI-N. It also graphs six-month forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

