

Nebraska Monthly Economic Indicators: November 24, 2021

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

Author: Dr. Eric Thompson

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Summary: The LEI-N rose by 0.61% during October 2021. The increase in the leading indicator, which is designed to predict economic activity six months in the future, signals moderate economic growth in Nebraska during the spring of 2022. There was an increase in building permits for single-family homes in October and positive business expectations. There also was a decline in initial claims for unemployment insurance. However, several indicator components worsened during October. Airline passenger counts and manufacturing hours worked both declined slightly. There also was a modest uptick in the value of the U.S. dollar. A higher dollar is challenging 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 October 2021 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.61% during October.

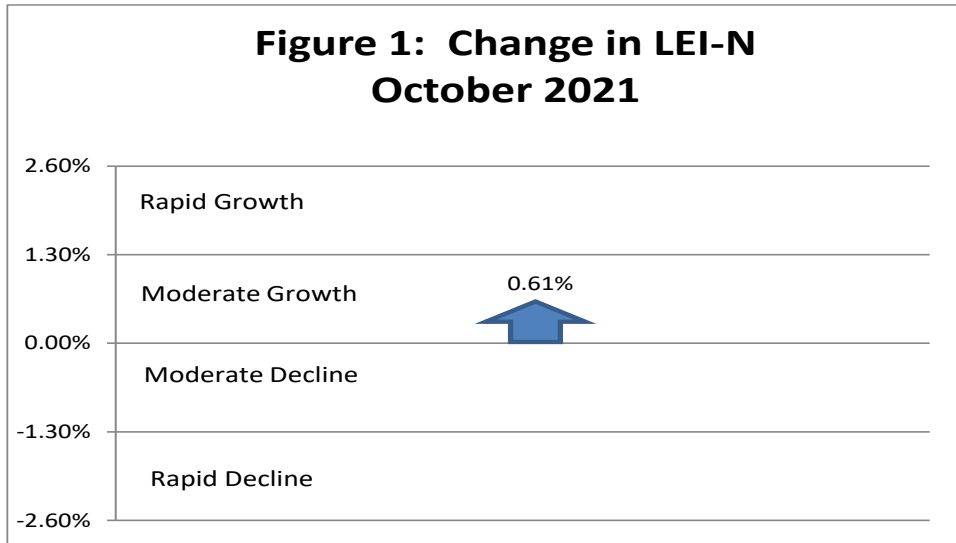


Figure 2 shows the change in the leading indicator over the last six months. The leading indicator rose during May and June but was mixed before the October increase. This pattern suggests that economic growth will slow significantly in Nebraska in the first few months of 2022 but will improve in the spring.

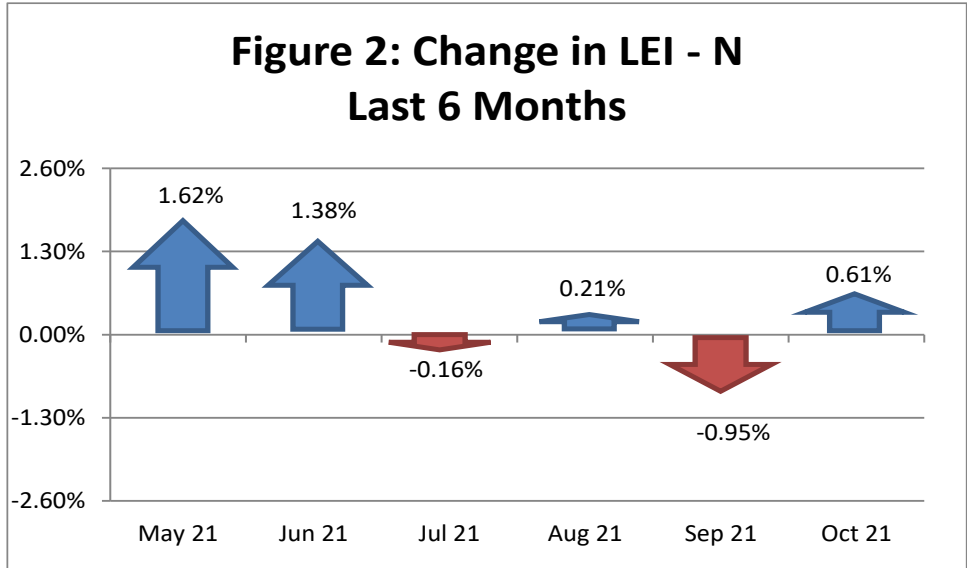
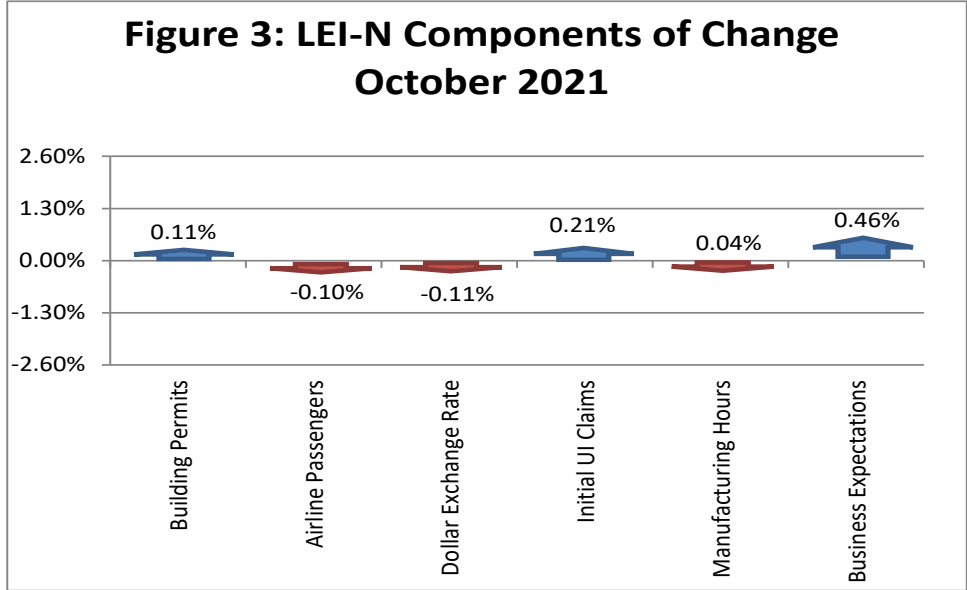


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during October. The change in the LEI-N is the weighted average of changes in each component (see page 5). Three components of the LEI-N rose during October. Building permits for single-family homes rose while business expectations were positive. Respondents to the October *Survey of Nebraska Business* reported plans to increase employment and sales over the next six months. There also was a decline in initial claims for unemployment insurance during October. Among other components, there was a slight drop in airline passenger counts and manufacturing hours worked in October and an uptick in the value of the U.S. dollar. A higher U.S. dollar creates challenges for Nebraska businesses that compete in international markets.



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 a rapid 1.73% during October 2021, as seen in Figure 4.

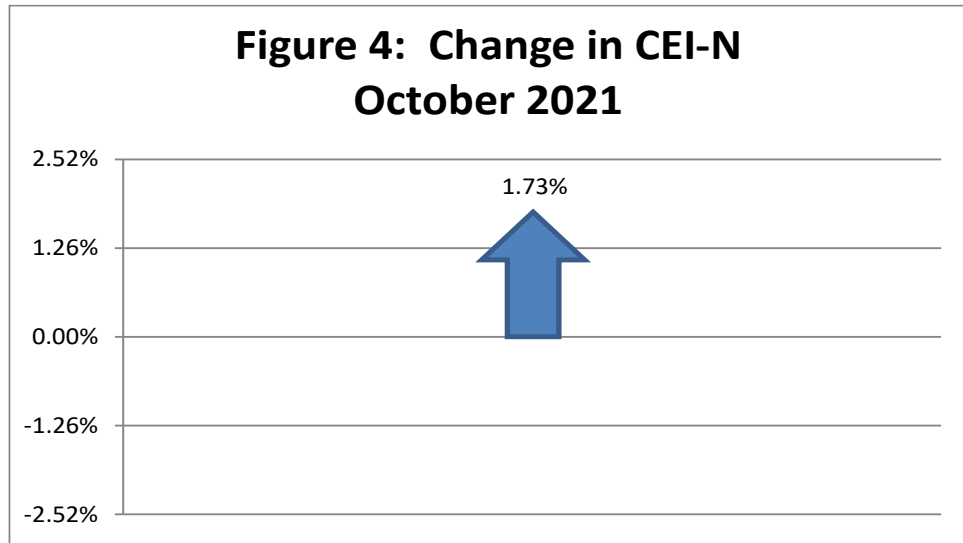
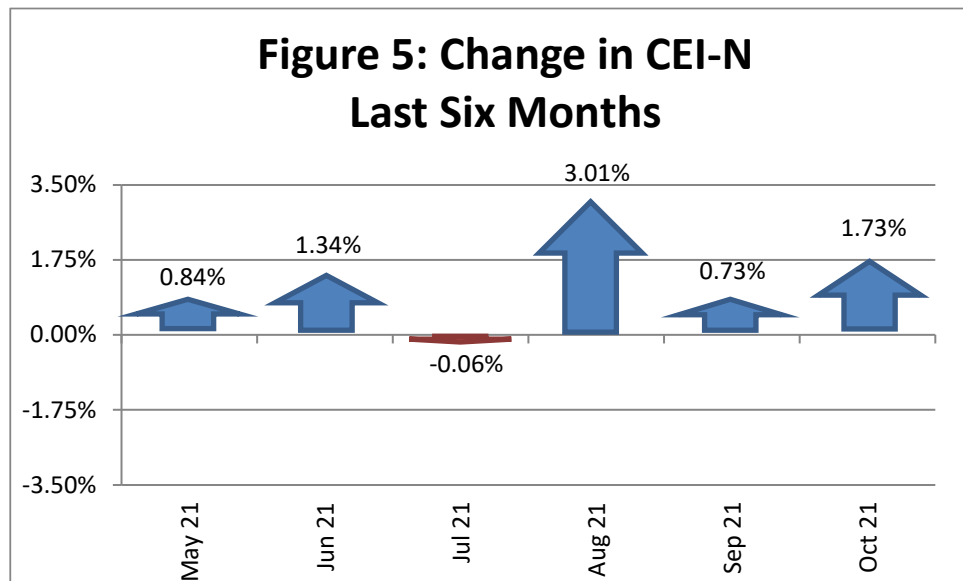


Figure 5 shows the change in the CEI-N over the last 6 months. Economic growth has been strong in Nebraska. The CEI-N has grown for five of the last six months and grown rapidly over the last three months.



All four components of the CEI-N rose during October. There was solid growth in real private wages, with increases in employment and hours worked per week. There also was good growth in agricultural commodity prices and an improvement in electricity sales on a seasonally adjusted basis. Business conditions also were positive as respondents to the October *Survey of Nebraska Business* reported an increase in sales during recent months. 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*.

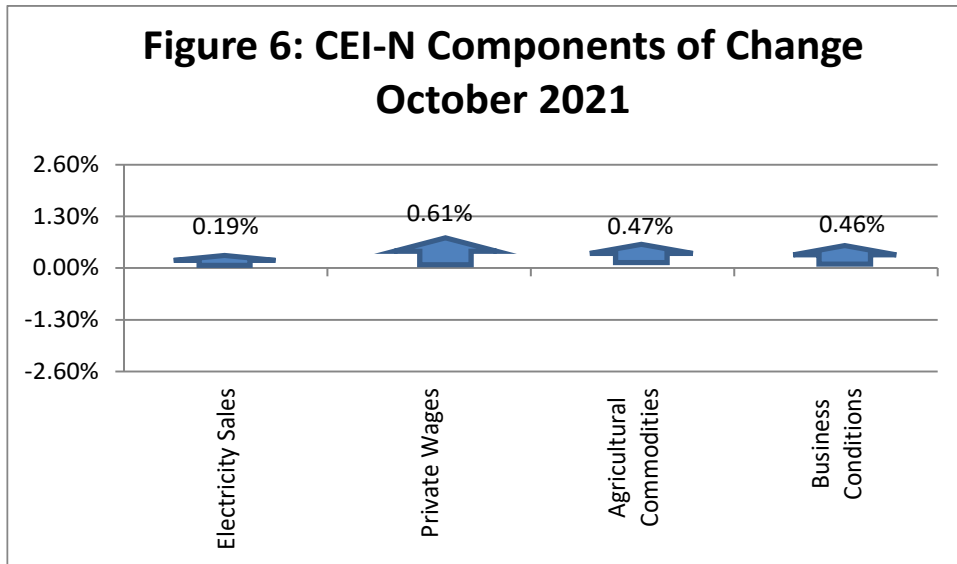
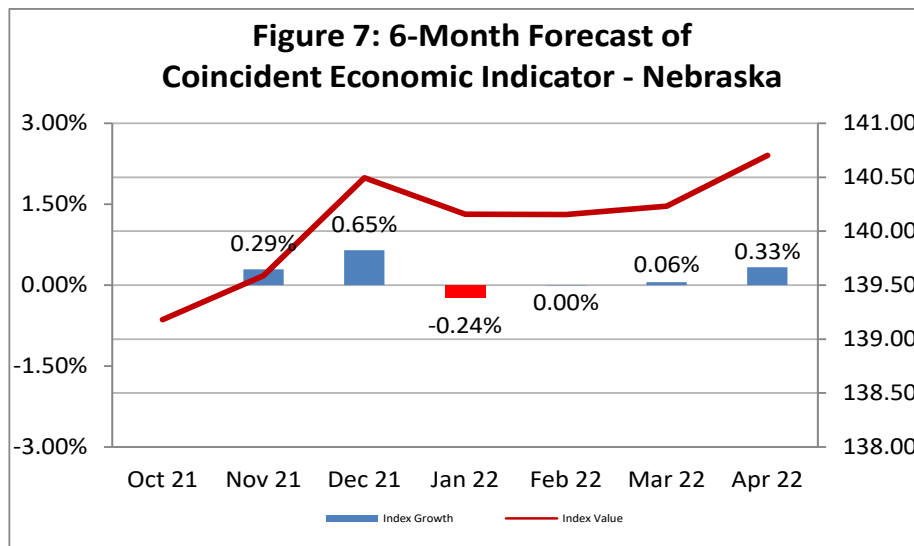


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for solid growth in the CEI-N for the rest of 2021 before growth slows significantly in the first quarter of 2022. However, growth is expected to rebound in April as spring returns. These expectations are consistent 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.

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	13.1066	0.0763	0.0387	Electricity Sales	4.7479	0.2106	0.1709
Airline Passengers	6.2839	0.1591	0.0807	Private Wages	2.0643	0.4844	0.3930
Exchange Rate	1.1551	0.8657	0.4393	Agricultural Commodities	3.5083	0.2850	0.2312
Initial UI Claims	18.4878	0.0541	0.0274	Survey Business Conditions	3.9599	0.2525	0.2049
Manufacturing Hours	1.7269	0.5791	0.2938				
Survey Business Expectations	4.2275	0.2365	0.1200				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between September and October of 2021. 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	78.29	73.28	5.00	0.04	0.19	0.11%
Airline Passengers	84.58	86.68	-2.10	0.08	-0.17	-0.10%
U.S. Dollar Exchange Rate (Inverse)	81.76	82.19	-0.43	0.44	-0.19	-0.11%
Initial Unemployment Insurance Claims (Inverse)	87.05	73.88	13.17	0.03	0.36	0.21%
Manufacturing Hours	96.20	95.98	0.22	0.29	0.07	0.04%
Survey Business Expectations ¹	56.44		6.44	0.12	0.77	0.46%
Total (weighted average)	169.76	168.72			1.04	0.61%

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	162.60	161.08	1.51	0.17	0.26	0.19%
Private Wage	117.68	115.55	2.13	0.39	0.84	0.61%
Agricultural Commodities	152.51	149.75	2.76	0.23	0.64	0.47%
Survey Business Conditions ¹	53.08		3.08	0.20	0.63	0.46%
Total (weighted average)	139.18	136.82			2.37	1.73%

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 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.

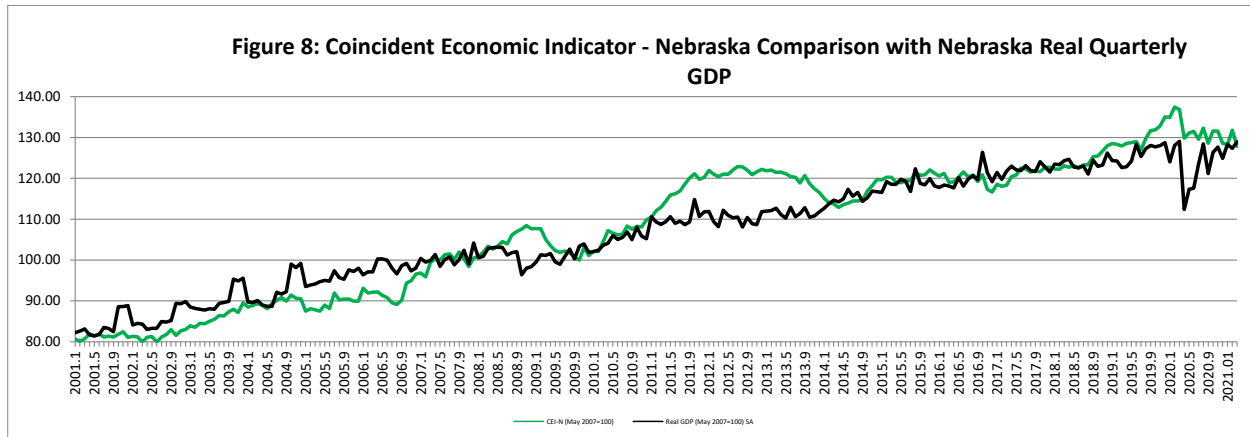


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months 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 0.87.

