

# Nebraska Monthly Economic Indicators: August 25, 2021

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

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**Summary:** The LEI-N fell by 0.17% during July 2021, the first decline in ten months. The decline in the leading indicator, which is designed to predict economic activity six months in the future, suggests that economic growth will slow in Nebraska during the first months of 2022. Four components of the leading indicator worsened during July. Building permits for single-family homes declined while there was a small drop in manufacturing hours-worked. Initial claims for unemployment insurance and the value of the U.S. dollar also rose during July. A rising U.S. dollar is challenging for Nebraska businesses, which compete in international markets. Business expectations were one positive factor in July. Respondents to the July Survey of Nebraska Business reported plans to increase sales and employment in the state over the next six months. Airline passenger enplanements also rose during July.

## Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during July 2021 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N fell by 0.17% during July.

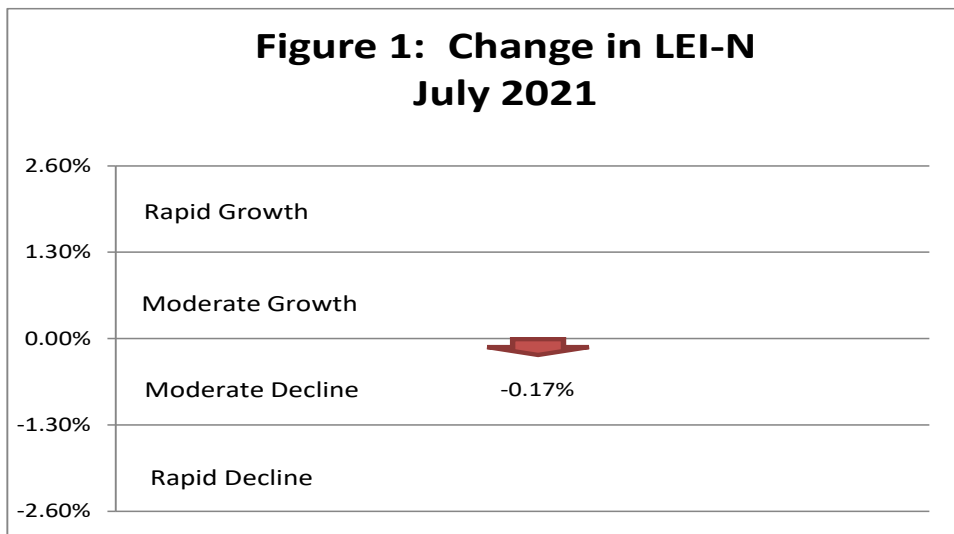


Figure 2 shows the change in the leading indicator over the last six months. The leading indicator fell in July after 5 months of often rapid increase. This pattern suggests that economic growth will be strong in Nebraska for the rest of 2021, but should slow in early 2022.

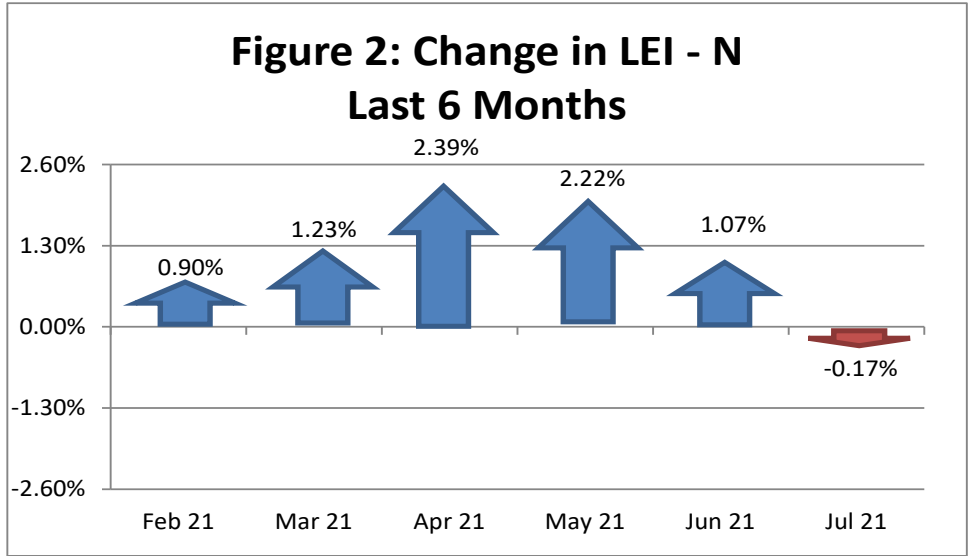
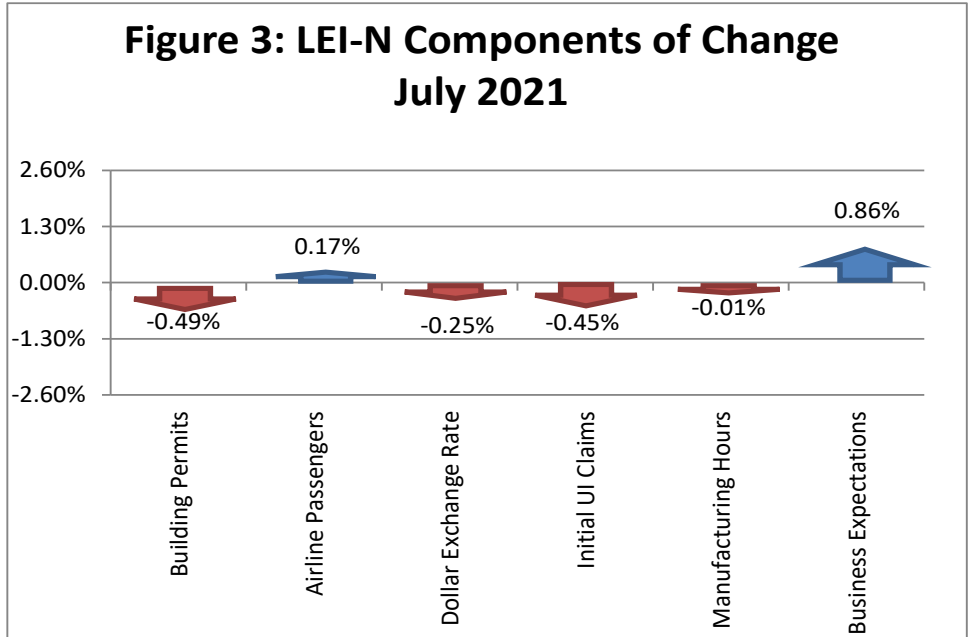


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during July. The change in the LEI-N is the weighted average of changes in each component (see page 5). Four of the six LEI-N components worsened during July. There was a decline in building permits for single-family homes and a small drop in manufacturing hours worked. Initial claims for unemployment insurance also rose during July, along with the value of the U.S. dollar. A rising dollar is challenging for agricultural producers, manufacturers, and other Nebraska businesses that compete in international markets. Business expectations were one positive factor during July. Respondents to the July *Survey of Nebraska Business* reporting plans to increase employment and sales over the next six months. There also was an increase in airline passenger enplanements during July.



## 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 0.43% during July 2021, as seen in Figure 4.

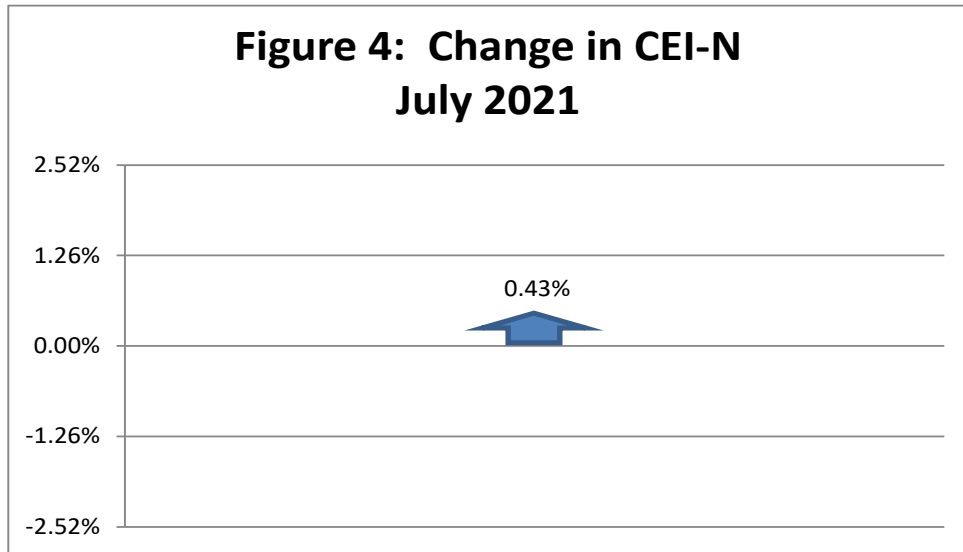
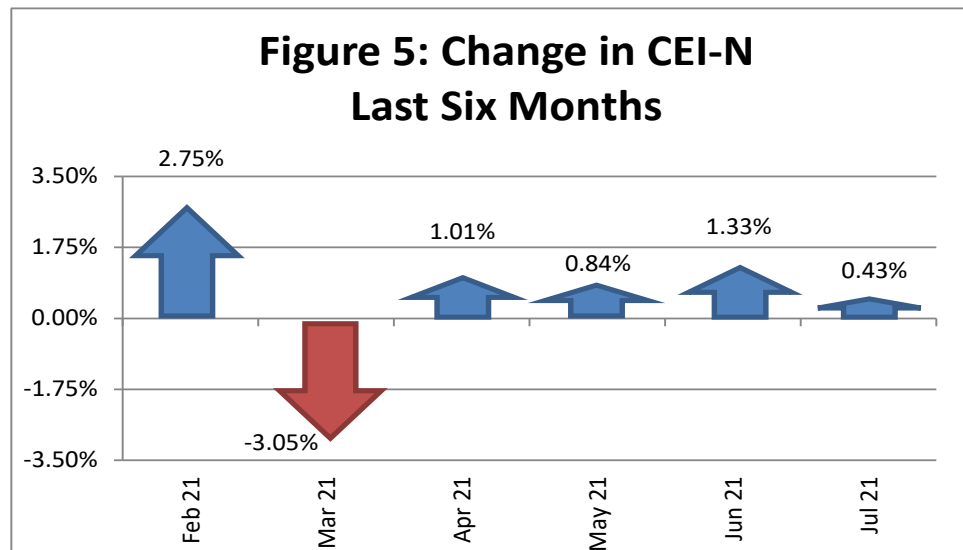


Figure 5 shows the change in the CEI-N over the last 6 months. The CEI-N was mixed in February and March but has risen steadily since April. Solid economic growth has returned to Nebraska.



Business conditions were solid in Nebraska during July. Two of four components of the CEI-N rose during the month. There was growth in real private wages and agricultural commodity prices. Private wages grew even after adjusting for higher inflation. Electricity sales were one declining component of the CEI-N. There also was a modest decline in reported business conditions. Respondents to the July *Survey of Nebraska Business* reported a drop in employment 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*.

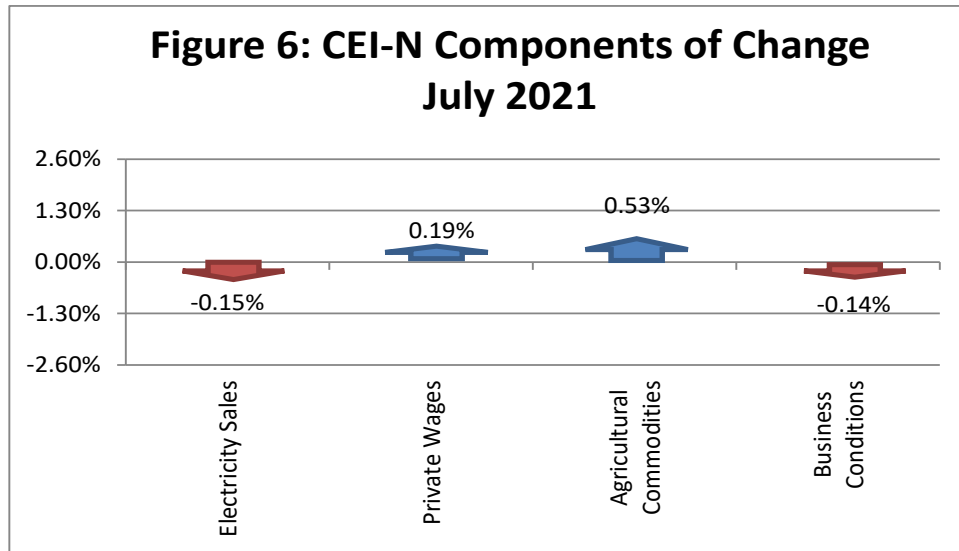
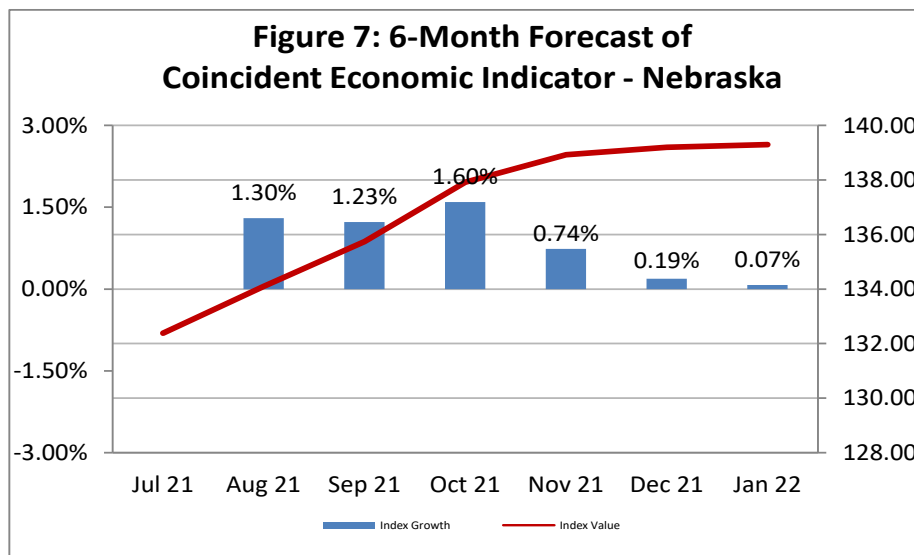


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for strong growth in the CEI-N through November 2021, and then a slowing of growth. This finding is consistent with the recent changes in the LEI-N reported in Figure 2.



## 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	13.7561	0.0727	0.0372	Electricity Sales	4.7857	0.2090	0.1714
Airline Passengers	6.2879	0.1590	0.0813	Private Wages	2.0852	0.4796	0.3935
Exchange Rate	1.1615	0.8609	0.4402	Agricultural Commodities	3.5909	0.2785	0.2285
Initial UI Claims	18.2895	0.0547	0.0280	Survey Business Conditions	3.9714	0.2518	0.2066
Manufacturing Hours	1.7450	0.5731	0.2930				
Survey Business Expectations	4.2488	0.2354	0.1203				

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

<b>Table 2: Component Contributions to the Change in Leading Economic Indicator</b>						
Leading Economic Indicator - Nebraska						
Component	Component Index Value (May 2007=100)					
	Current	Previous	Difference	Weight	Contribution	Percentage Contribution (Relative to Previous LEI-N)
SF Building Permits	58.23	80.68	-22.45	0.04	-0.83	-0.49%
Airline Passengers	105.37	101.74	3.63	0.08	0.30	0.17%
U.S. Dollar Exchange Rate (Inverse)	82.45	83.43	-0.98	0.44	-0.43	-0.25%
Initial Unemployment Insurance Claims (Inverse)	93.08	120.55	-27.48	0.03	-0.77	-0.45%
Manufacturing Hours	98.91	98.98	-0.07	0.29	-0.02	-0.01%
Survey Business Expectations <sup>1</sup>	62.19		12.19	0.12	1.47	0.86%
Total (weighted average)	169.92	170.21			-0.29	-0.17%

<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	Component Index Value (May 2007=100)					
	Current	Previous	Difference	Weight	Contribution	Percentage Contribution (Relative to Previous CEI-N)
Electricity Sales	167.02	168.15	-1.13	0.17	-0.19	-0.15%
Private Wage	112.86	112.23	0.62	0.39	0.25	0.19%
Agricultural Commodities	135.52	132.46	3.06	0.23	0.70	0.53%
Survey Business Conditions <sup>1</sup>	49.10		-0.90	0.21	-0.19	-0.14%
Total (weighted average)	132.38	131.81			0.57	0.43%

<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.

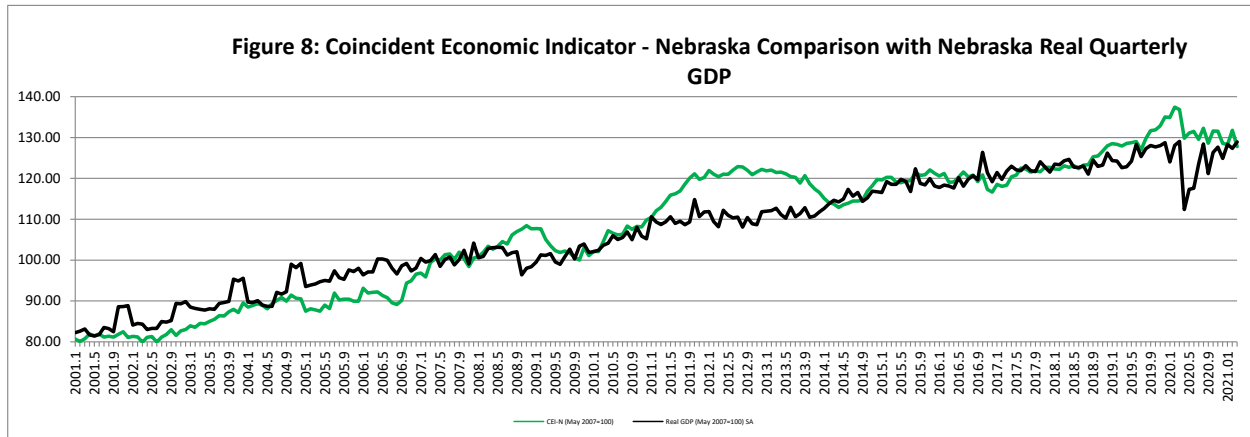


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months 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 0.86.

