

Nebraska Monthly Economic Indicators: June 30, 2021

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

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Summary: The LEI-N rose by 2.33% during May 2021, the third month in a row of rapid growth and the eighth consecutive monthly increase. Rapid improvement in the leading indicator implies that economic growth will be strong in Nebraska during the second half of 2021. All six components of the leading indicator rose during May. Business expectations, manufacturing hours-worked, and airline passenger counts were the strongest components. Respondents to the May Survey of Nebraska Business reported plans to increase sales and employment over the next six months. Manufacturing hours-worked grew rapidly while airline passenger enplanements also rose sharply as the industry moved closer to pre-pandemic levels of activity.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during May 2021 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 2.33% during May.

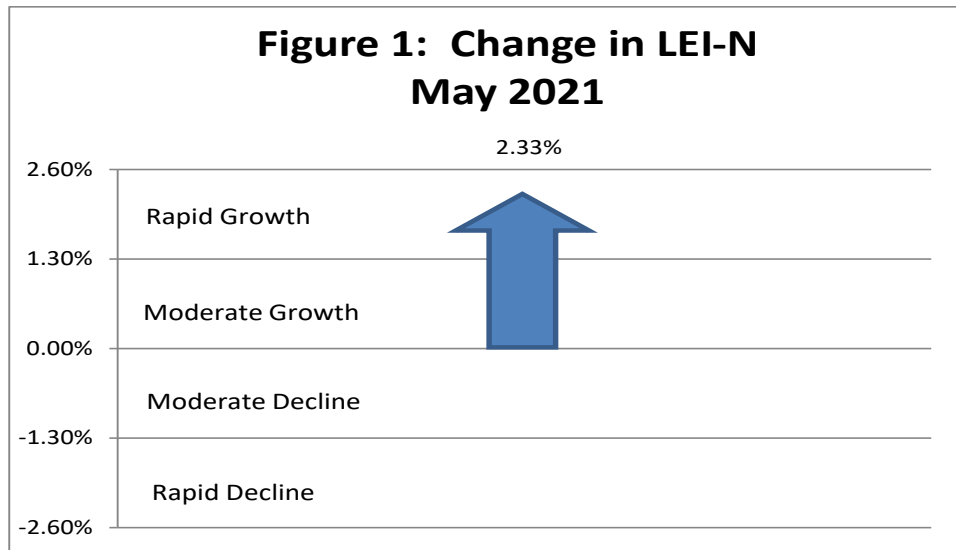


Figure 2 shows the change in the leading indicator over the last six months. The leading indicator has risen consistently and has accelerated over the last three months. This pattern is consistent with robust economic growth in Nebraska in the second half of 2021.

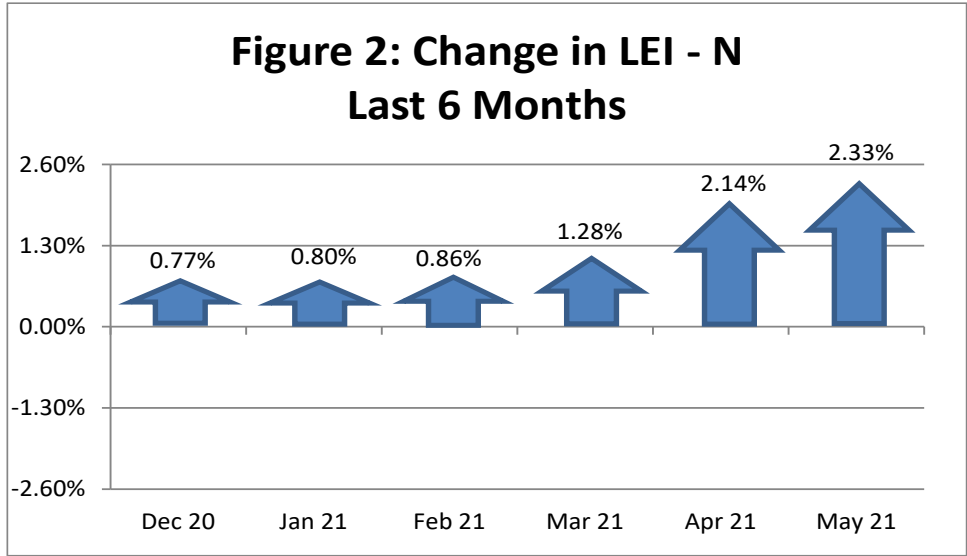
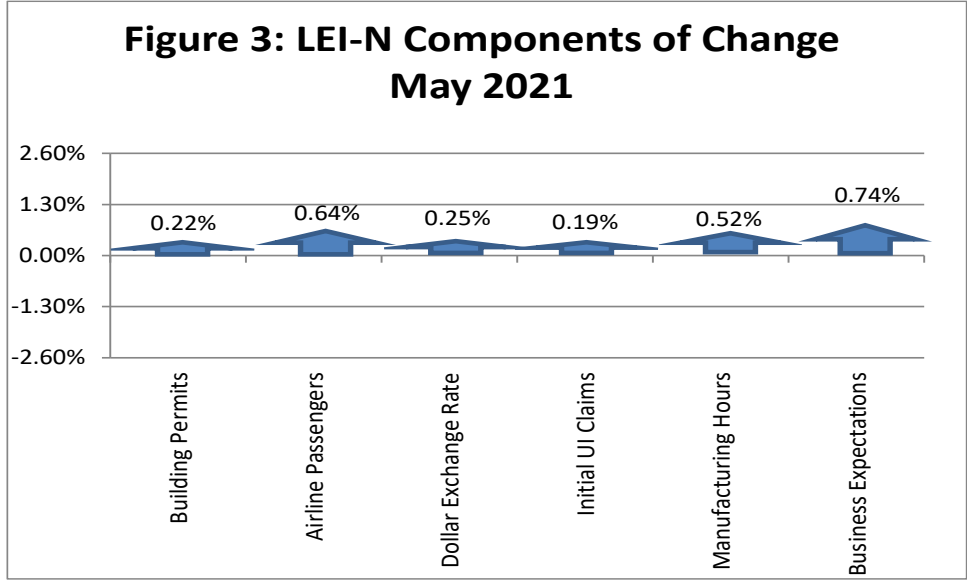


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during May. The change in the LEI-N is the weighted average of changes in each component (see page 5). All six LEI-N components improved during May. Business expectations, manufacturing activity, and airline activity were especially strong. Manufacturing hours worked grew rapidly and airline passenger counts rose sharply as the airline industry continued to recover. Meanwhile, respondents to the *May Survey of Nebraska Business* reporting plans to increase employment and sales over the next six months. Building permits for single-family homes also rose on a seasonally adjusted basis during May. In addition, there was a decline in initial claims for unemployment insurance, which is a positive sign for the labor market. Finally, there was a decline in the value of the U.S. dollar in May, which improves prospects for agricultural producers, manufacturers, and other 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 1.67% during May 2021, as seen in Figure 4.

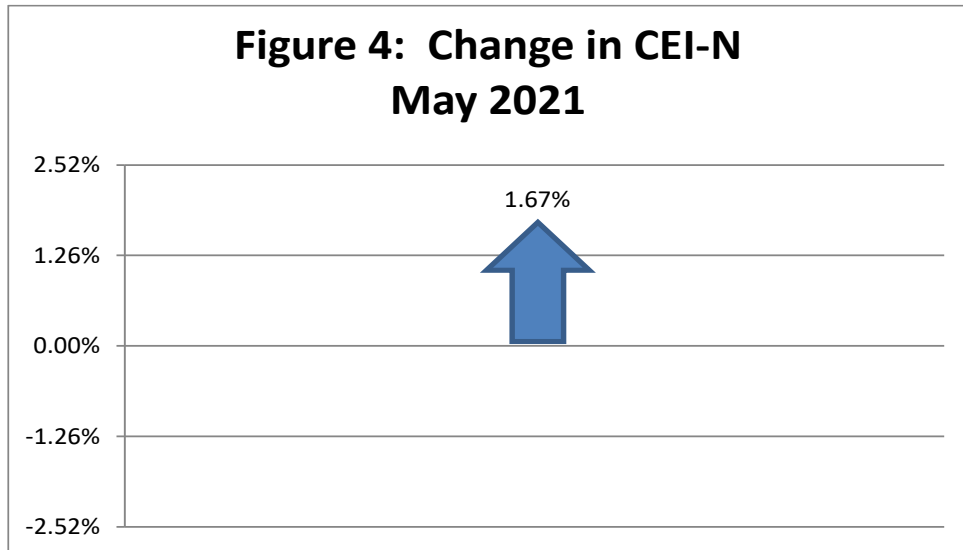
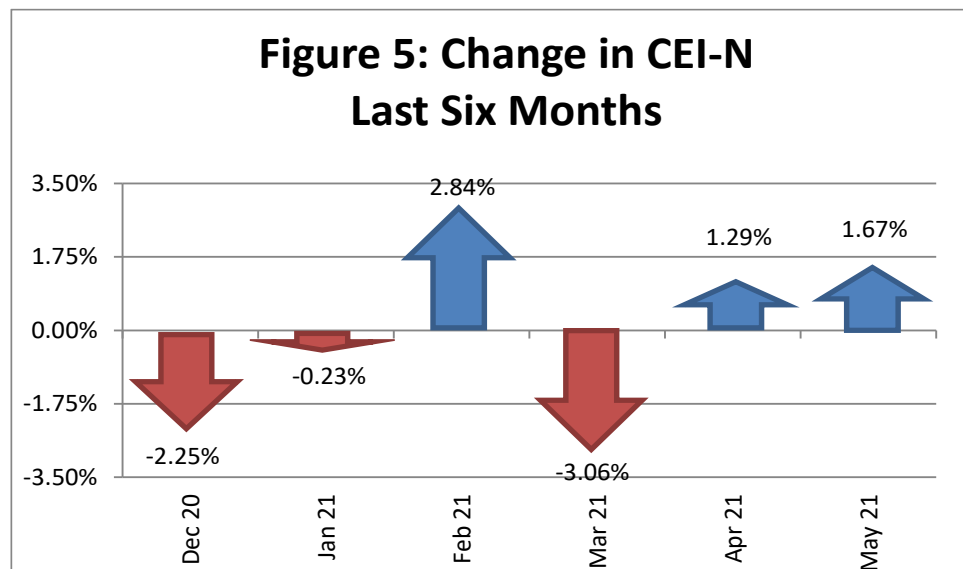


Figure 5 shows the change in the CEI-N over the last 6 months. The CEI-N declined in aggregate during the first quarter of 2021 but grew rapidly in both April and May. Strong growth appears to be returning to the Nebraska economy.



Business conditions were strong in Nebraska during May. All four components of the CEI-N rose during the month. Private wages rose as employment and weekly hours worked expanded. Agricultural commodity prices also were strong and electricity sales rose during the month on a seasonally adjusted basis. Businesses also reported improving conditions. Respondents to the May *Survey of Nebraska Business* reported an increase in sales and employment during the last few 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*.

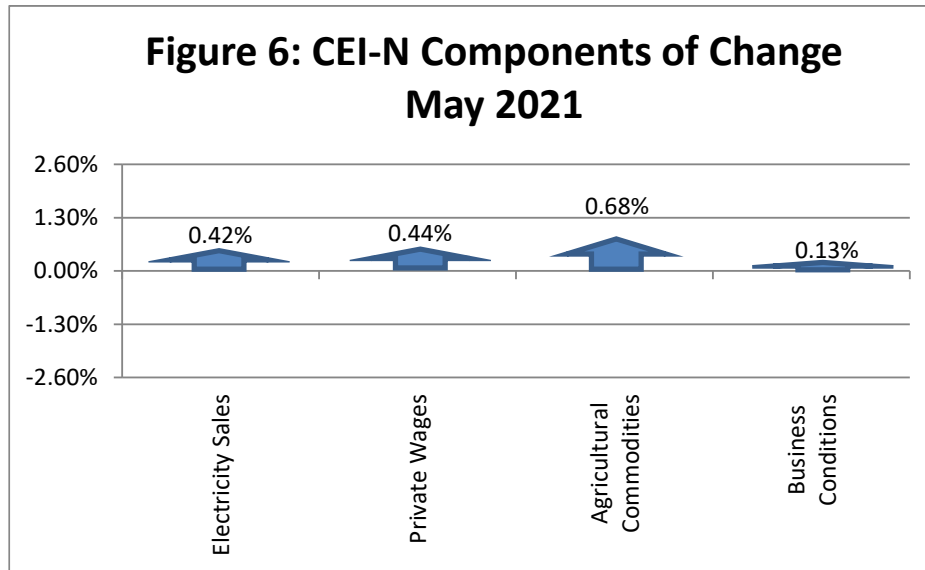
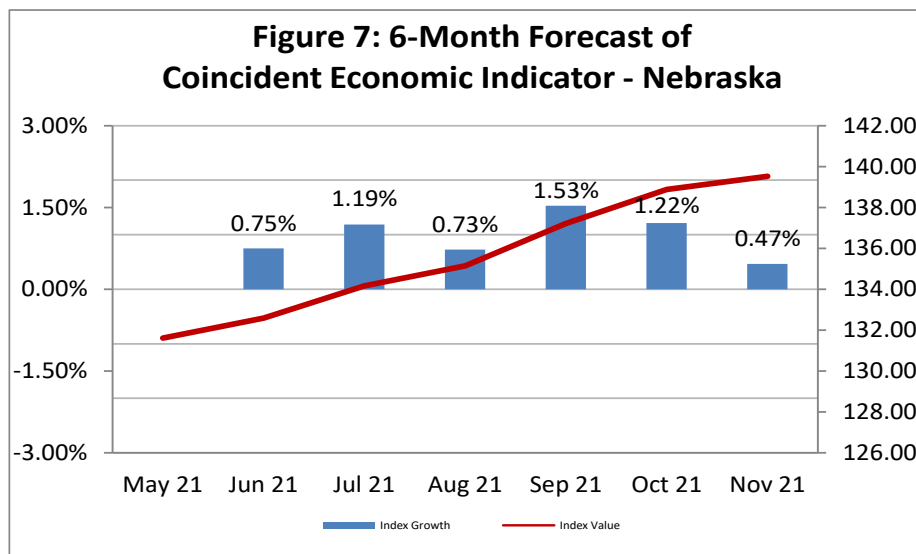


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for robust growth in the CEI-N through November 2021. This finding is consistent with the recent increase in the LEI-N reported in Figure 2.



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	13.6417	0.0733	0.0375	Electricity Sales	4.8063	0.2081	0.1694
Airline Passengers	6.2486	0.1600	0.0820	Private Wages	2.0831	0.4801	0.3910
Exchange Rate	1.1645	0.8588	0.4398	Agricultural Commodities	3.4626	0.2888	0.2352
Initial UI Claims	18.7099	0.0534	0.0274	Survey Business Conditions	3.9846	0.2510	0.2044
Manufacturing Hours	1.7536	0.5703	0.2920				
Survey Business Expectations	4.2212	0.2369	0.1213				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between April and May 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	95.18	85.37	9.82	0.04	0.37	0.22%
Airline Passengers	87.67	74.71	12.96	0.08	1.06	0.64%
U.S. Dollar Exchange Rate (Inverse)	83.69	82.73	0.95	0.44	0.42	0.25%
Initial Unemployment Insurance Claims (Inverse)	100.79	89.22	11.56	0.03	0.32	0.19%
Manufacturing Hours	100.22	98.65	1.57	0.29	0.46	0.28%
Survey Business Expectations ¹	59.99		9.99	0.12	1.21	0.74%
Total (weighted average)	168.76	164.92			3.84	2.33%

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	171.95	168.72	3.23	0.17	0.55	0.42%
Private Wage	114.67	113.21	1.46	0.39	0.57	0.44%
Agricultural Commodities	125.63	121.87	3.76	0.24	0.88	0.68%
Survey Business Conditions ¹	50.80		0.80	0.20	0.16	0.13%
Total (weighted average)	131.61	129.44			2.16	1.67%

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 2018, 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 0.95.

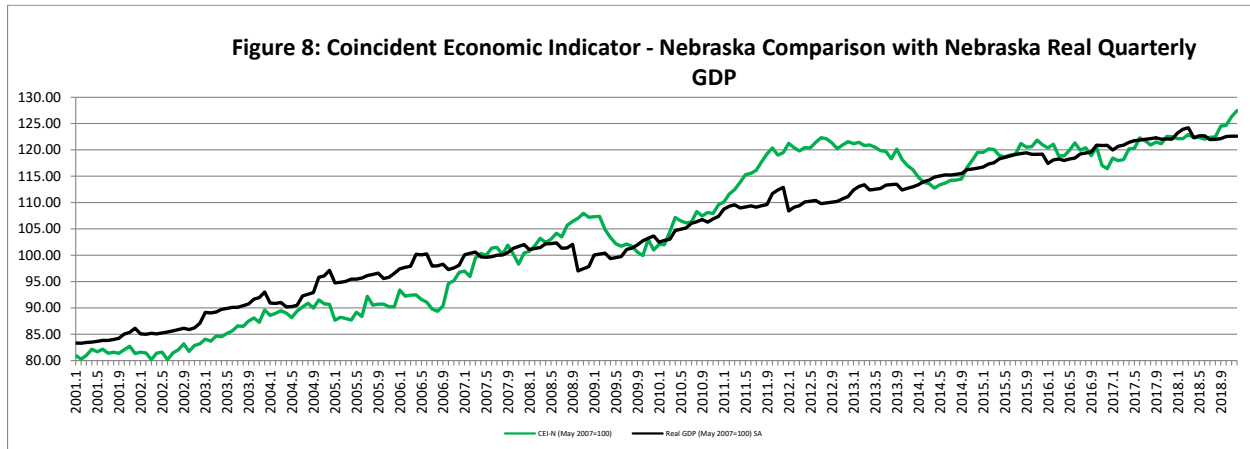


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

