

Nebraska Monthly Economic Indicators: May 26, 2021

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Summary: The LEI-N rose by 1.96% during April 2021. The leading indicator rose due to strong business expectations, increased manufacturing activity, and growing airline passenger counts. Respondents to the April Survey of Nebraska Business reported plans to increase sales and employment over the next six months. The value of the U.S. dollar also fell during April, improving prospects for Nebraska businesses that compete in international markets. The composite LEI-N has risen during each of the last seven months, suggesting that the Nebraska economy will expand at a robust pace through the second half of 2021.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during April 2021 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 1.96% during April.

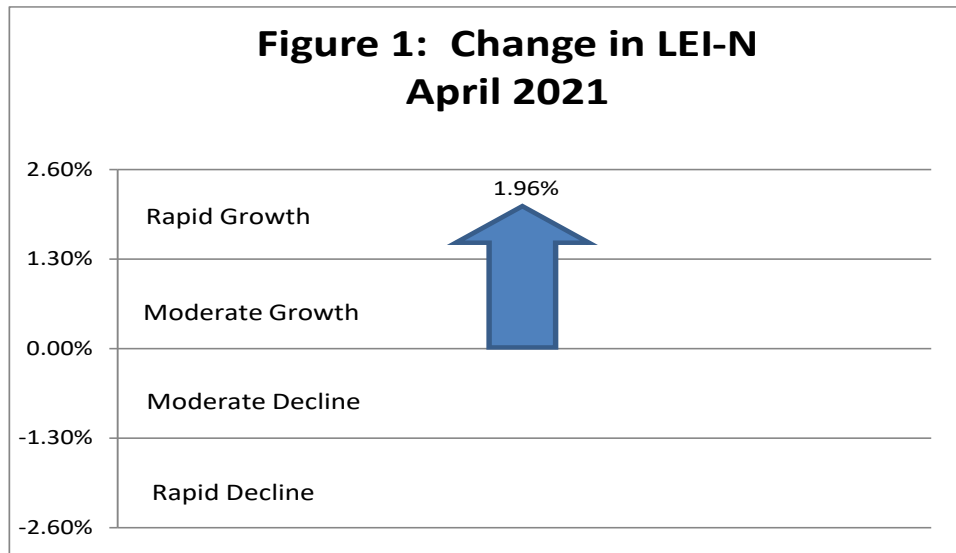


Figure 2 shows the change in the leading indicator over the last six months. The leading indicator has risen consistently and has accelerated in the last two months. This pattern is consistent with robust economic growth in Nebraska in the second half of 2021.

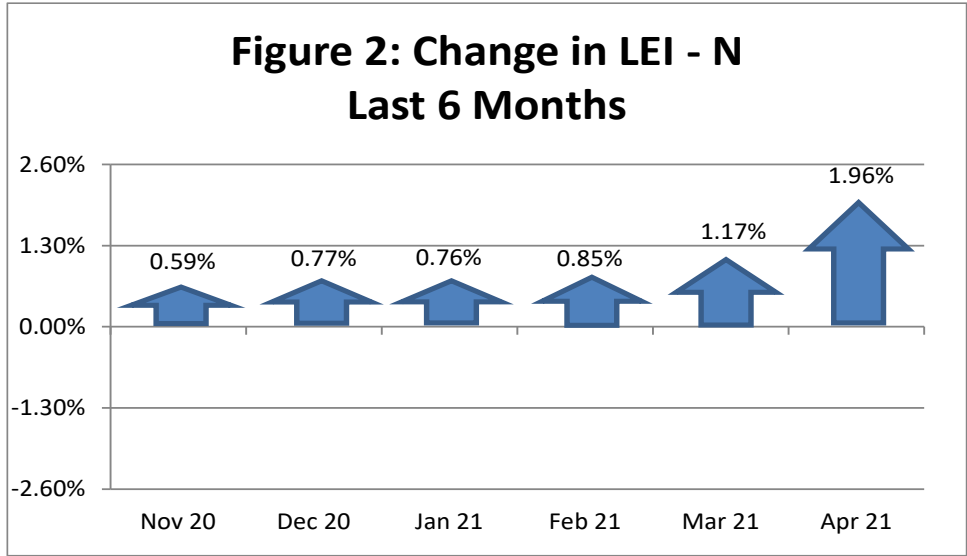
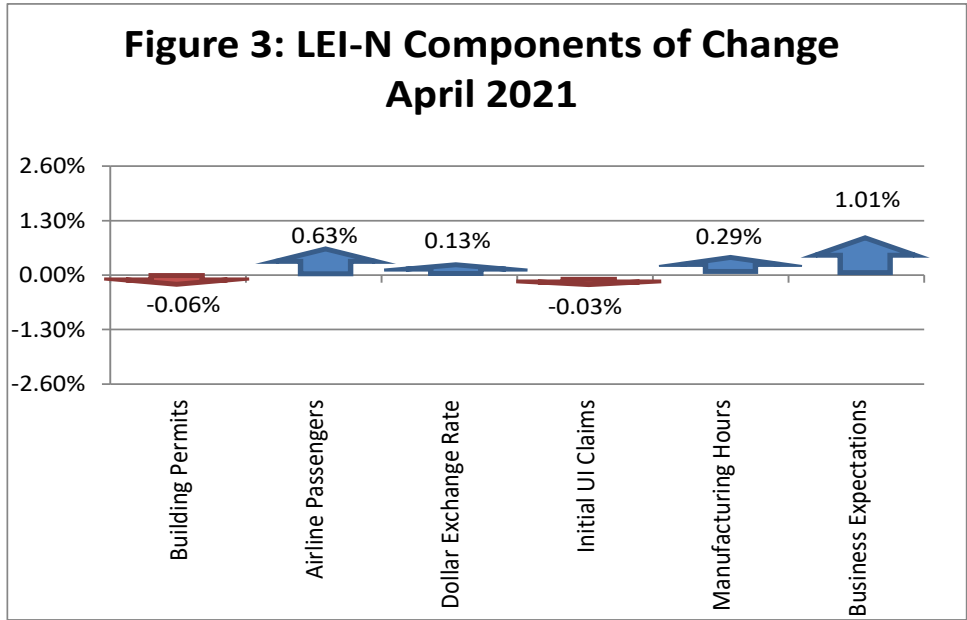


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during April. The change in the LEI-N is the weighted average of changes in each component (see page 5). Four of six LEI-N components improved during April. Passenger counts rose as the airline industry continued to recover and there was an increase in manufacturing hours worked. Businesses also were optimistic, with respondents to the *April Survey of Nebraska Business* reporting plans to increase employment and sales over the next six months. In addition, the value of the U.S. dollar fell during April. A weaker dollar 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 0.25% during April 2021, as seen in Figure 4.

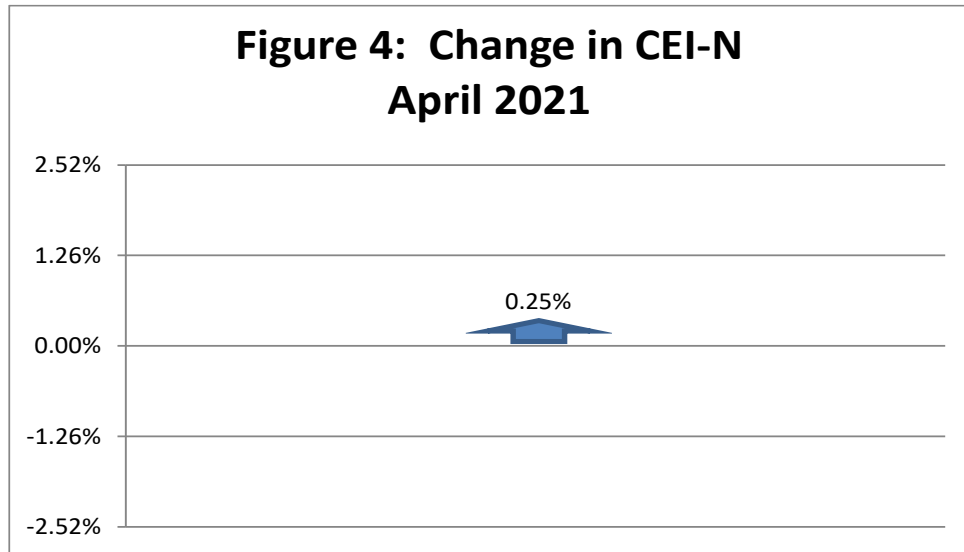
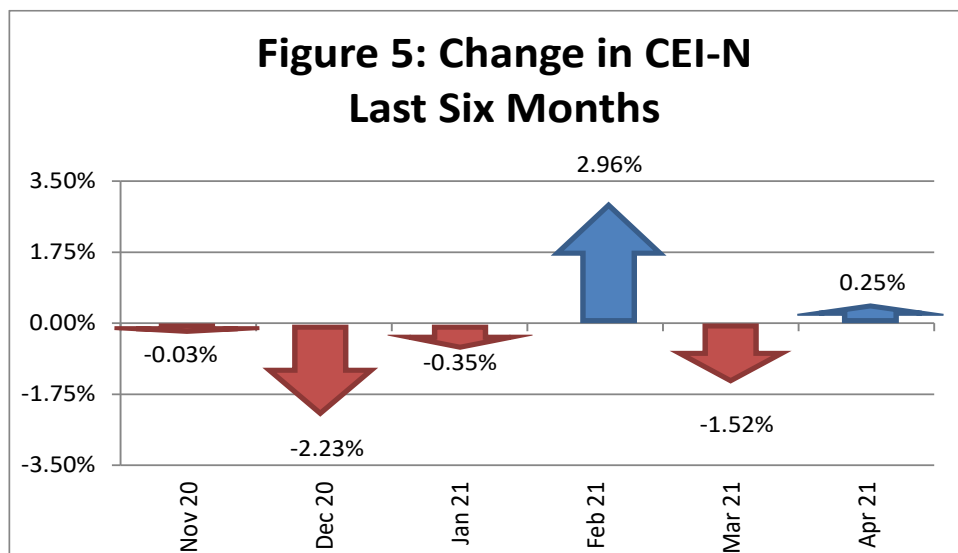


Figure 5 shows the change in the CEI-N over the last 6 months. The CEI-N declined through January 2021 but increased in most recent months. Beyond the April increase, revised data suggest that the Nebraska economy expanded in February, even if some of those gains were lost in March. Results suggest that while growth was uneven the Nebraska economy expanded modestly during the first four months of 2021.



Business conditions were mixed in Nebraska during April. Agricultural commodity prices and electricity sales rose during the month. However, private wages fell as employment stagnated and real hourly wages declined. Businesses also reported recent weakness. Respondents to the April *Survey of Nebraska Business* reported a decline in 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*.

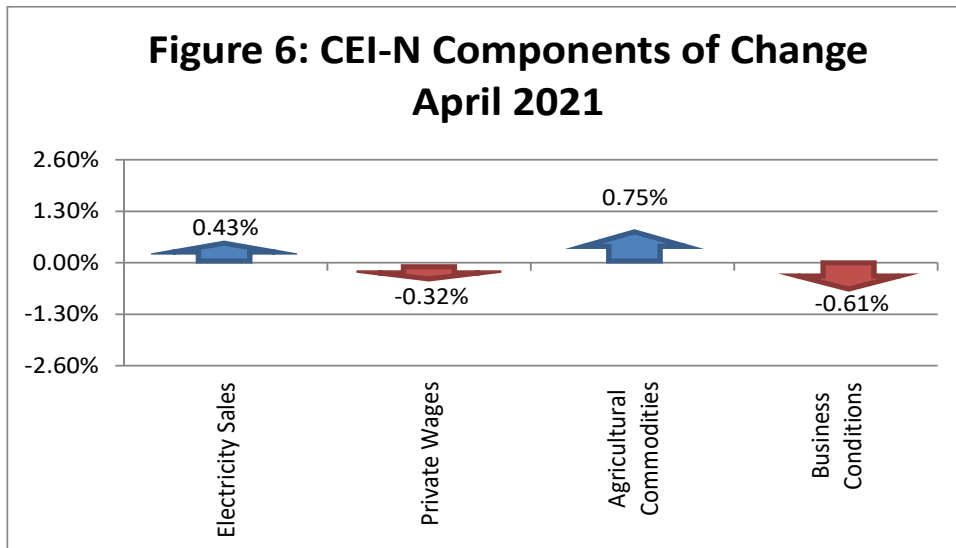
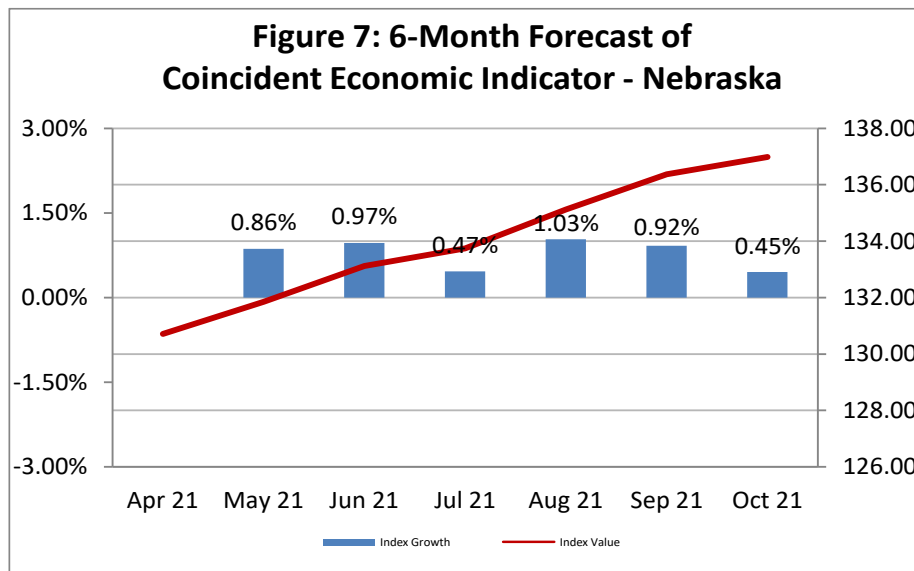


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for robust growth in the CEI-N through October 2021. This finding is consistent with the recent increase in the LEI-N reported in Figure 2.



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	13.6608	0.0732	0.0374	Electricity Sales	4.5748	0.2186	0.1777
Airline Passengers	6.2330	0.1604	0.0821	Private Wages	2.0944	0.4775	0.3882
Exchange Rate	1.1651	0.8583	0.4391	Agricultural Commodities	3.5298	0.2833	0.2303
Initial UI Claims	18.7845	0.0532	0.0272	Survey Business Conditions	3.9910	0.2506	0.2037
Manufacturing Hours	1.7465	0.5726	0.2929				
Survey Business Expectations	4.2197	0.2370	0.1212				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between March and April 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	83.38	85.99	-2.61	0.04	-0.10	-0.06%
Airline Passengers	74.43	62.06	12.37	0.08	1.02	0.63%
U.S. Dollar Exchange Rate (Inverse)	82.73	82.27	0.46	0.44	0.20	0.13%
Initial Unemployment Insurance Claims (Inverse)	90.75	92.64	-1.88	0.03	-0.05	-0.03%
Manufacturing Hours	97.02	95.42	1.60	0.29	0.47	0.29%
Survey Business Expectations ¹	63.37		13.37	0.12	1.62	1.01%
Total (weighted average)	164.41	161.25			3.16	1.96%

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	172.79	169.62	3.17	0.18	0.56	0.43%
Private Wage	113.13	114.22	-1.09	0.39	-0.42	-0.32%
Agricultural Commodities	122.46	118.19	4.26	0.23	0.98	0.75%
Survey Business Conditions ¹	46.10		-3.90	0.20	-0.79	-0.61%
Total (weighted average)	130.72	130.39			0.33	0.25%

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.

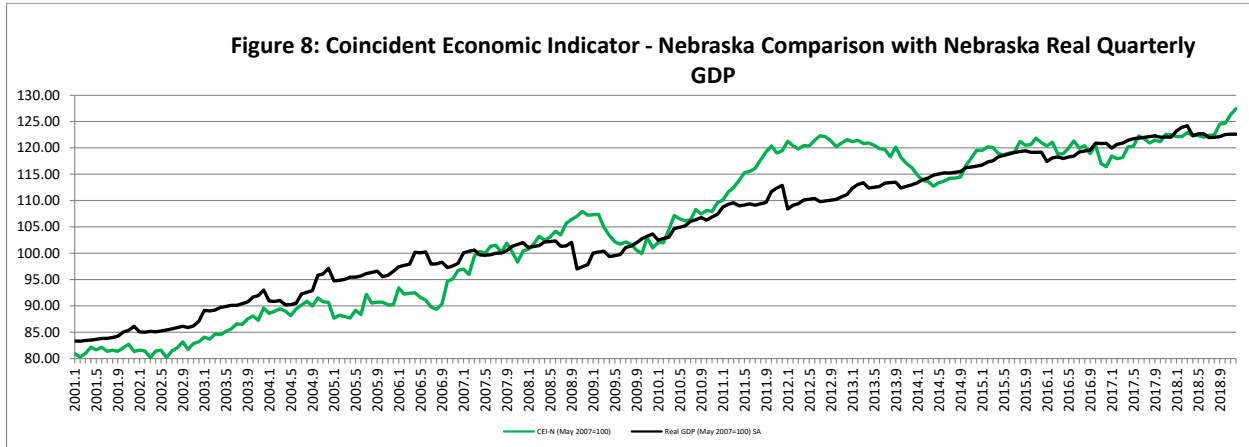


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months 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. However, while the long-run correlation coefficient between CEI-N and six-month forward values of LEI-N is 0.86, the strength of the correlation appears to have weakened over the last year.

