

Nebraska Monthly Economic Indicators: May 22, 2024

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

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Summary: *The Leading Economic Indicator-Nebraska rose by 0.42% in April 2024. The increase in the leading indicator, which is designed to predict economic growth six months into the future, implies that the Nebraska economy will grow through the 4th quarter of 2024. There was an increase in manufacturing hours worked in April, as the state and national manufacturing industry continued to strengthen. There was also a drop in initial claims for unemployment insurance, indicating that the labor market remains strong. Lastly, business expectations remained strong in April. Respondents to the April 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 April 2024 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.42%.

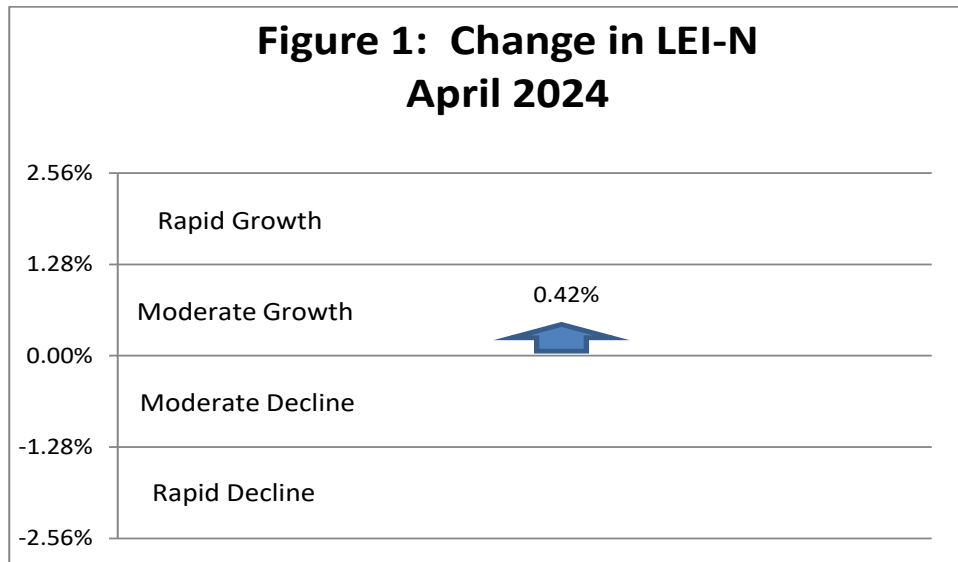


Figure 2 shows the change in the leading indicator over the last six months. While monthly results vary, in aggregate the leading indicator has climbed over the last six months, and especially over the last 3 months.

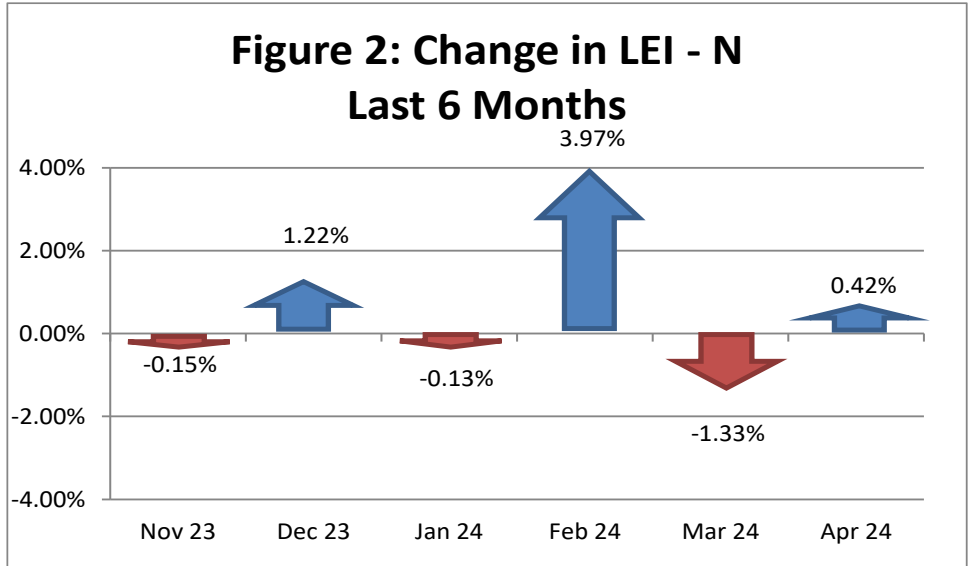
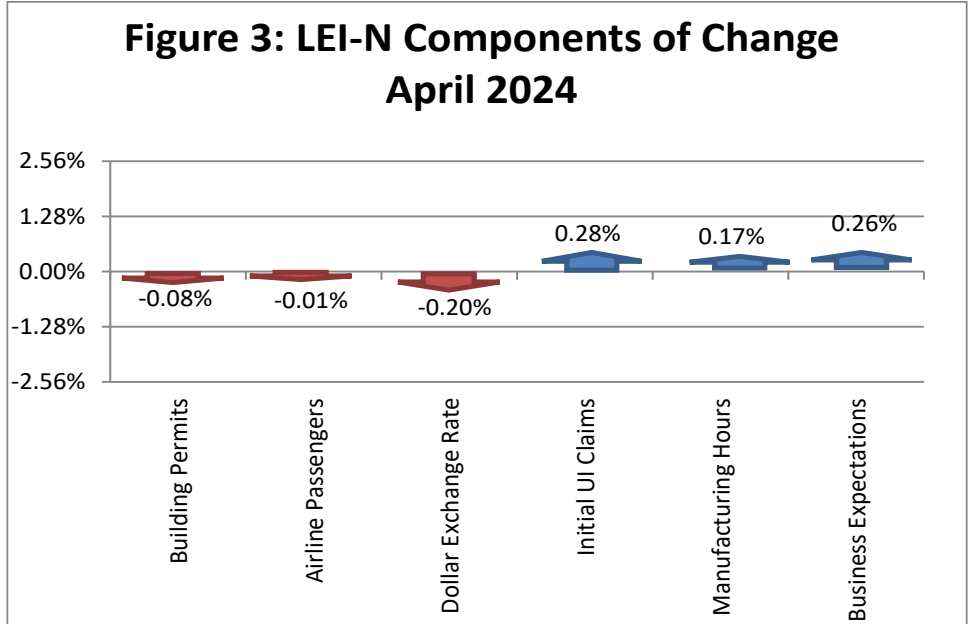


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during April. The change in the LEI–N is the weighted average of changes in each component (see page 5). Three leading indicator components improved during April. There was an increase in manufacturing hours worked during the month. There also was a decline in initial claims for unemployment insurance, a further sign of strength for Nebraska’s labor market. Finally, business expectations were strong in April. Respondents to the *April Survey of Nebraska Business* reported plans to increase both sales and employment 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 fell by 1.24% in April 2024, as seen in Figure 4.

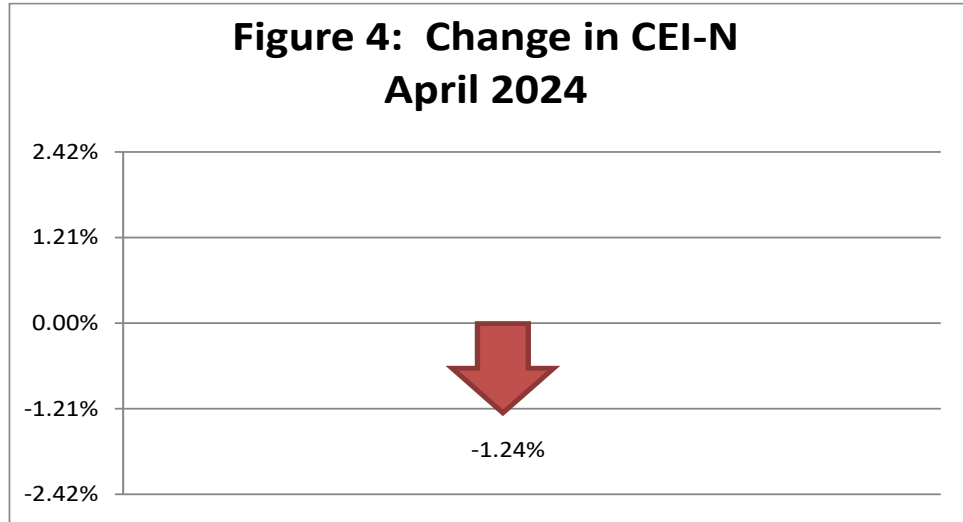
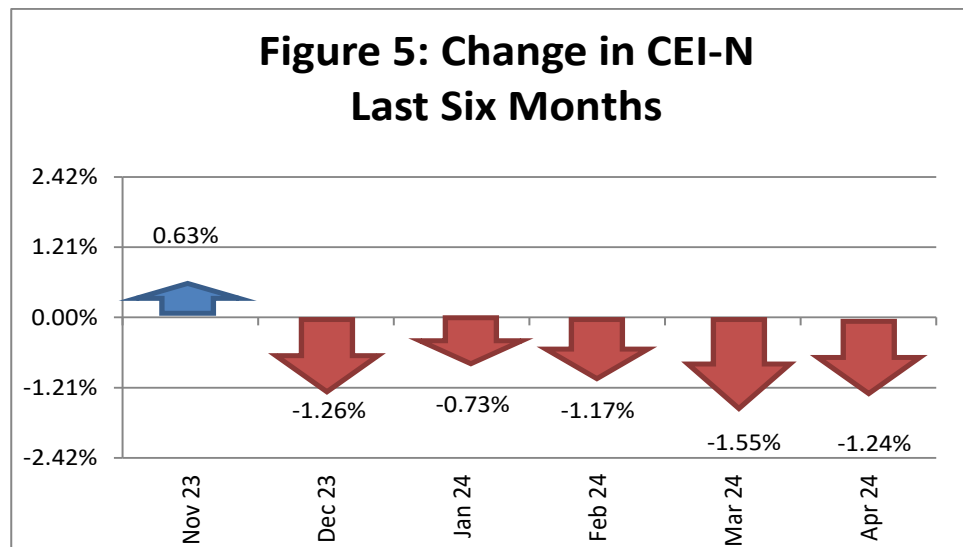


Figure 5 shows the change in the CEI-N over the last 6 months. The CEI-N has declined steadily over the last five months. Downward revisions to electricity sales data for February even led the CEI-N to turn negative during that month. In addition, weakening agricultural commodity prices have put downward pressure on CEI-N over the last six months. Results suggest that the Nebraska economy declined during the first quarter of 2024.



Three components of the CEI-N fell significantly during April 2024, as is seen in Figure 6. There was a drop in agricultural commodity prices during the month. Business conditions also were negative. Specifically, respondents to the April *Survey of Nebraska Business* reported a decline in sales and employment. Finally, electricity sales were down for the month after adjusting for seasonal factors. 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*.

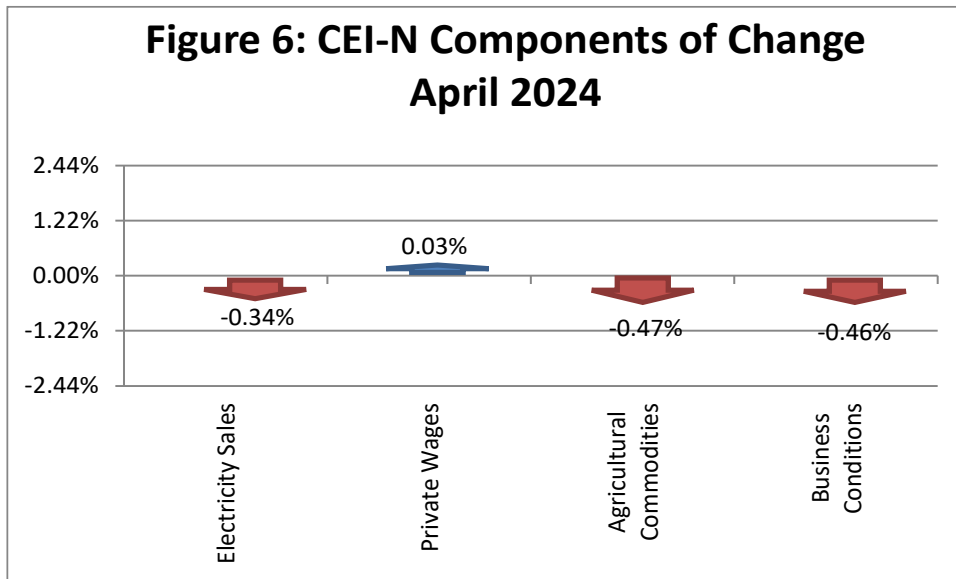
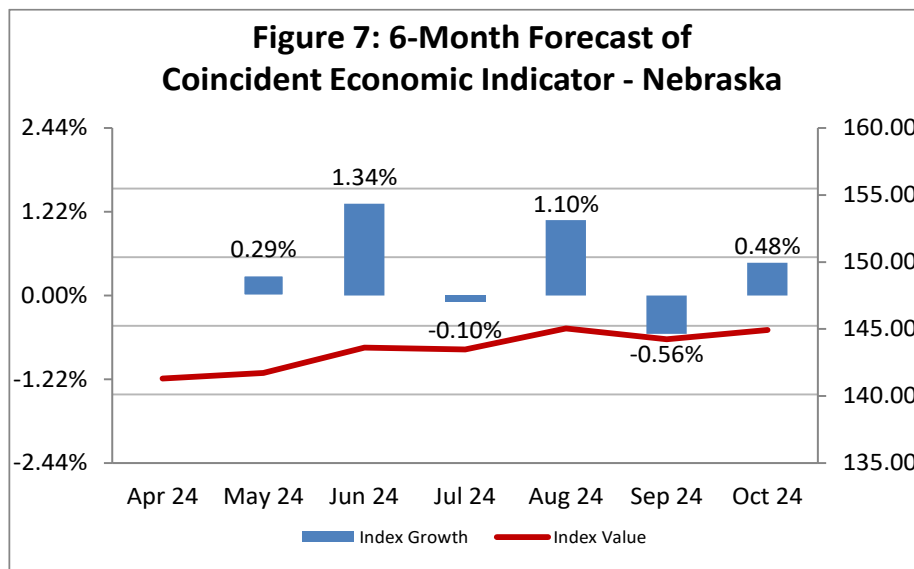


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for strong economic growth in Nebraska in mid-2024 and for the state economy to grow in October. This expectation is consistent with changes in the LEI-N reported in Figure 2.



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	13.9840	0.0715	0.0379	Electricity Sales	4.6973	0.2129	0.1721
Airline Passengers	6.1023	0.1639	0.0869	Private Wages	2.0536	0.4870	0.3937
Exchange Rate	1.1317	0.8837	0.4685	Agricultural Commodities	3.5965	0.2780	0.2248
Initial UI Claims	19.3801	0.0516	0.0274	Survey Business Conditions	3.8624	0.2589	0.2093
Manufacturing Hours	2.1071	0.4746	0.2516				
Survey Business Expectations	4.1534	0.2408	0.1277				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between March and April of 2024. 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	66.21	70.50	-4.29	0.04	-0.16	-0.08%
Airline Passengers	119.04	119.34	-0.31	0.09	-0.03	-0.01%
U.S. Dollar Exchange Rate (Inverse)	76.89	77.73	-0.84	0.47	-0.39	-0.20%
Initial Unemployment Insurance Claims (Inverse)	192.33	171.88	20.44	0.03	0.56	0.28%
Manufacturing Hours	98.32	96.95	1.37	0.25	0.34	0.17%
Survey Business Expectations ¹	54.08		4.08	0.13	0.52	0.26%
Total (weighted average)	200.02	199.18			0.84	0.42%

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	172.73	175.55	-2.82	0.17	-0.49	-0.34%
Private Wage	117.39	117.28	0.11	0.39	0.04	0.03%
Agricultural Commodities	171.85	174.82	-2.97	0.22	-0.67	-0.47%
Survey Business Conditions ¹	46.84		-3.16	0.21	-0.66	-0.46%
Total (weighted average)	141.31	143.08			-1.77	-1.24%

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 fourth quarter of 2022, using data provided by the Bureau of Economic Analysis, U.S. Department of Commerce. CEI-N closely tracks Nebraska's real GDP for the full two-decade period, although it sometimes exceeds state GDP for a period, typically when agricultural commodity prices are higher. The correlation coefficient between the two-pictured series is 0.96.

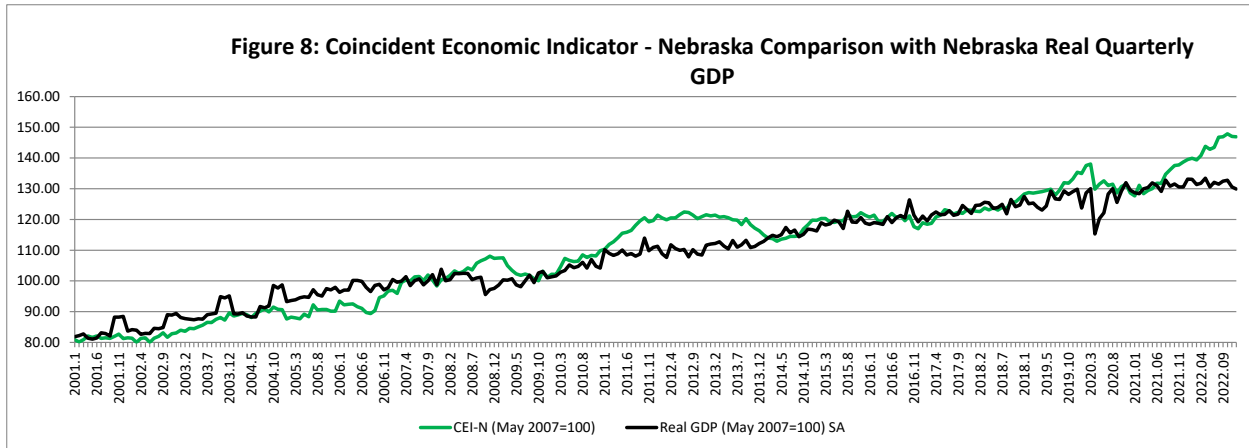


Figure 9 again shows the values for the CEI-N. It also graphs six-month forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 compares the predicted movement in CEI-N (predicted by LEI-N values six months 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 0.92. The two series, however, have deviated in recent months. The two series often deviate during periods when agricultural commodity prices are declining or rising rapidly.

