Nebraska Monthly Economic Indicators: March 1, 2024

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

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Summary: The Leading Economic Indicator-Nebraska rose by 0.58% in January 2024. The increase in the leading indicator, which is designed to predict economic growth six months into the future, suggests that the Nebraska economy will grow through mid-2024. Two components of the leading indicator improved during January. To begin with, respondents to the January Survey of Nebraska Business reported plans to increase sales and employment over the next six months. Further, the Nebraska labor market improved. Initial claims for unemployment insurance fell during January, suggesting that employers see sufficient demand to support their current workforce.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during January 2024 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.58%.
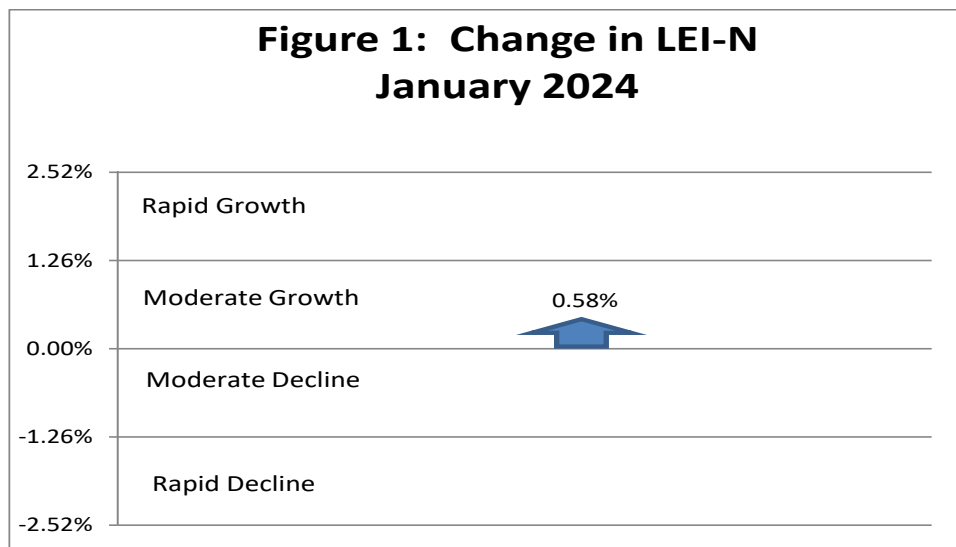

Figure 2 shows the change in the leading indicator over the last six months. The indicator rose in four of the last six months. Increases were larger than declines, which is consistent with future economic growth.

**Figure 2: Change in LEI - N
Last 6 Months**

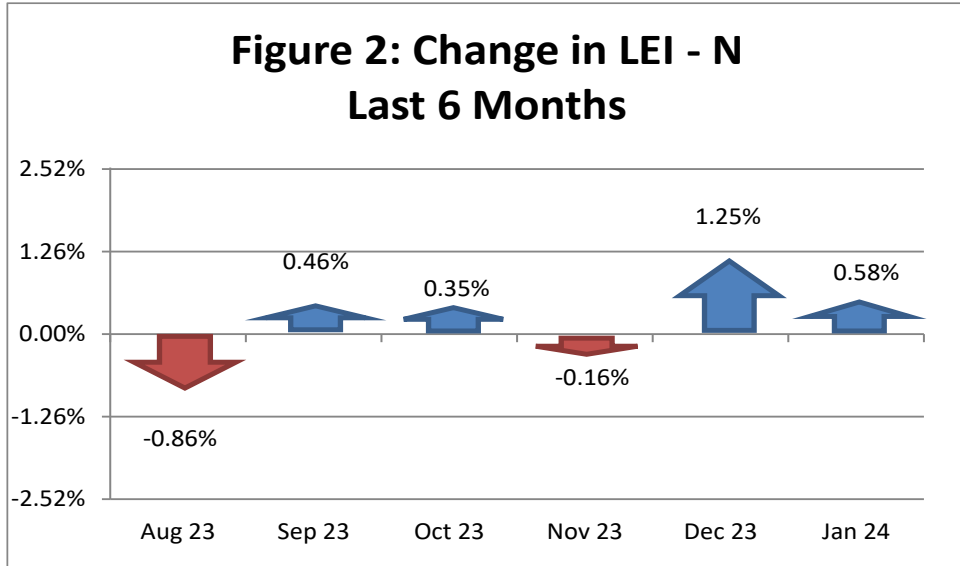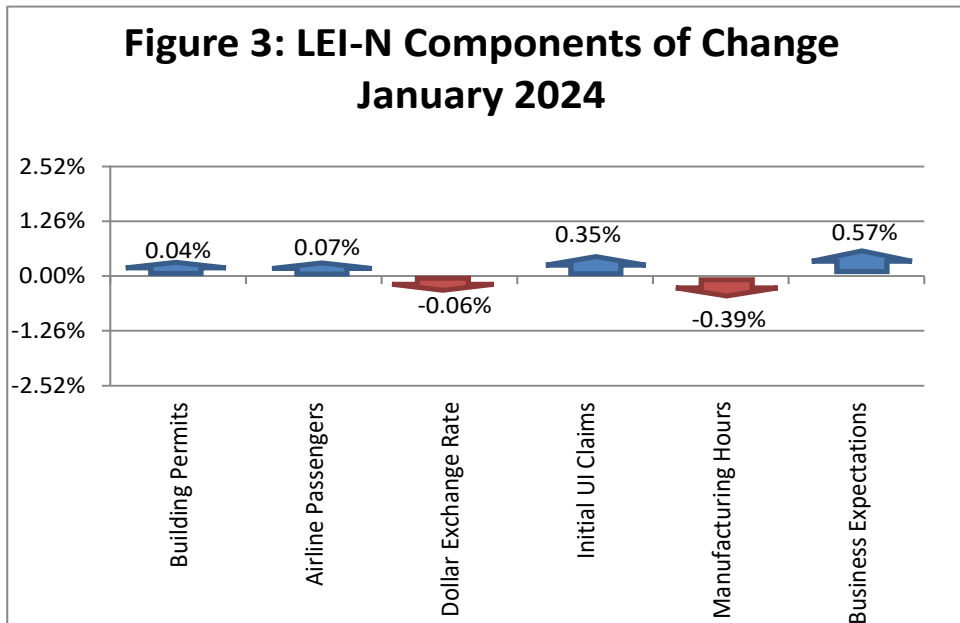|					
2.52%					
				1.25%	
1.26%	0.46%	0.35%			0.58%
0.00%					
			-0.16%		
-1.26%					
-0.86%					
-2.52%					
Aug 23	Sep 23	Oct 23	Nov 23	Dec 23	Jan 24

Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during January. The change in the LEI–N is the weighted average of changes in each component (see page 5). Two leading indicator components improved most significantly. Respondents to the January *Survey of Nebraska Business* reported plans to increase both sales and employment over the next six months. There was also evidence of strength in the Nebraska labor market. Initial claims for unemployment insurance fell during the month, suggesting that employers see sufficient demand to support their current workforce.

**Figure 3: LEI-N Components of Change
January 2024**

2.52%					
1.26%					
0.04%	0.07%		0.35%		0.57%
0.00%		-0.06%		-0.39%	
-1.26%					
-2.52%					
Building Permits	Airline Passengers	Dollar Exchange Rate	Initial UI Claims	Manufacturing Hours	Business Expectations

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 2.29% in January 2024, as seen in Figure 4.
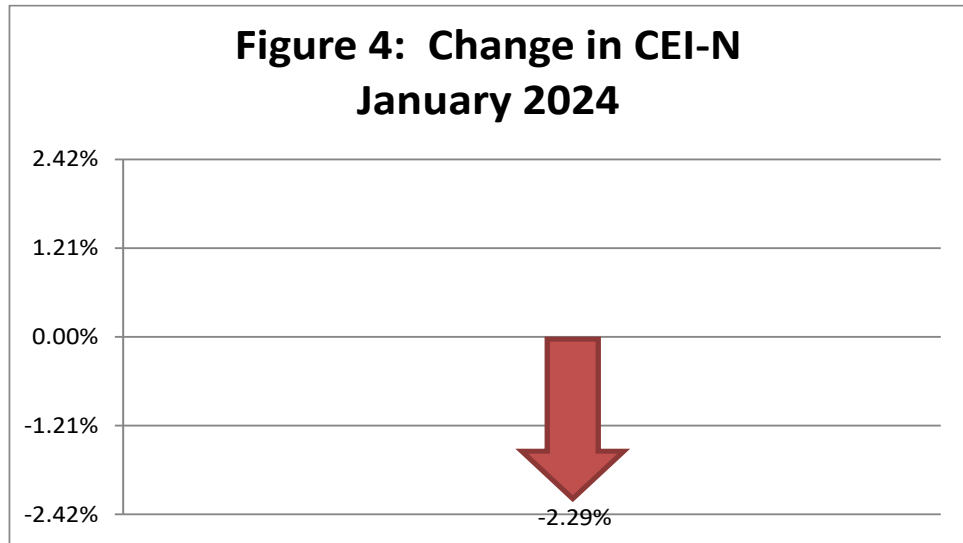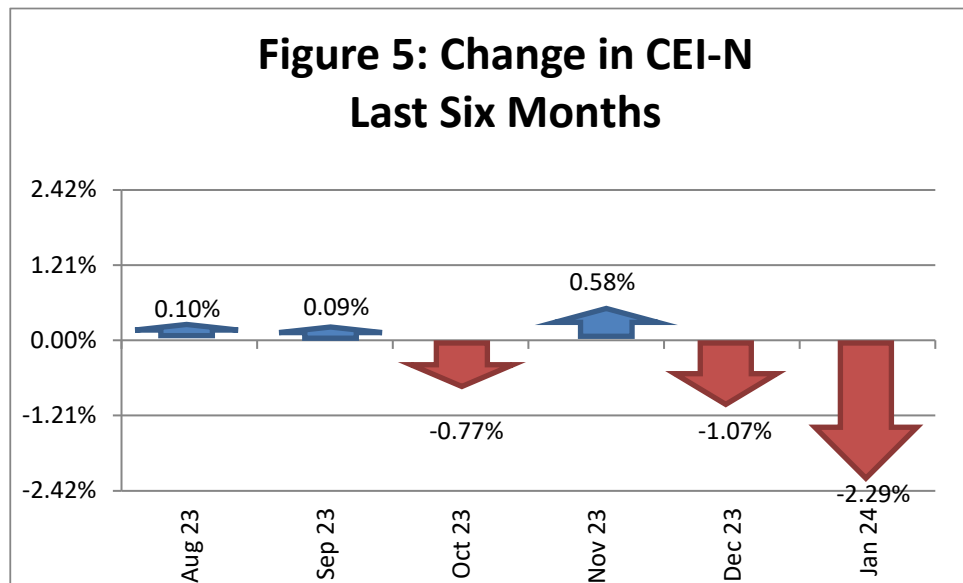

Figure 4: Change in CEI-N January 2024

Figure 5 shows the change in the CEI-N over the last 6 months. The Nebraska economy shrank in December 2023 and January 2024.

Figure 5: Change in CEI-N Last Six Months

All four components of the CEI-N fell during January 2024, as is seen in Figure 6. Business conditions were negative as respondents to the January *Survey of Nebraska Business* reported a decline in sales and employment in recent months. There also was a decline in real private wages, due to a drop in hours worked per week. In addition, agricultural commodity prices weakened during January. Finally, electricity sales fell on a seasonally adjusted basis. 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.*
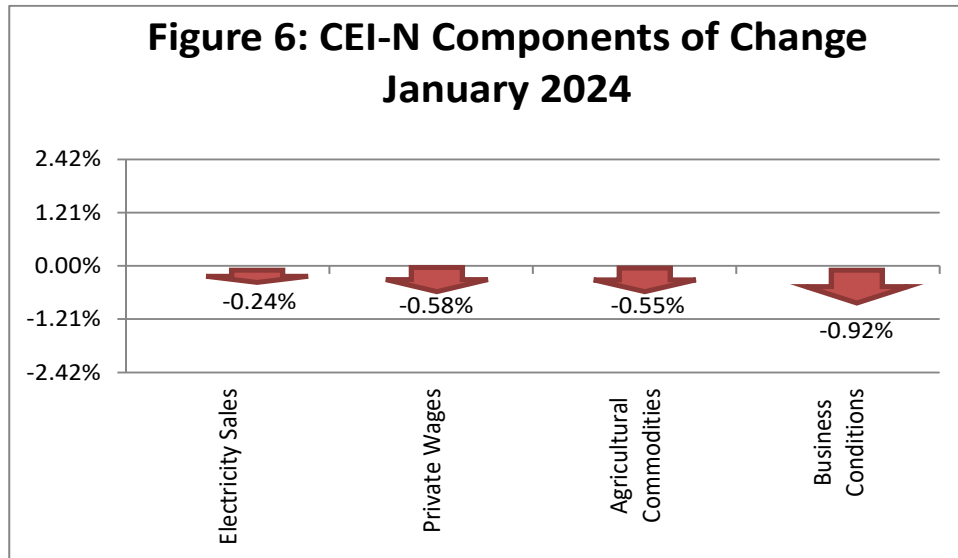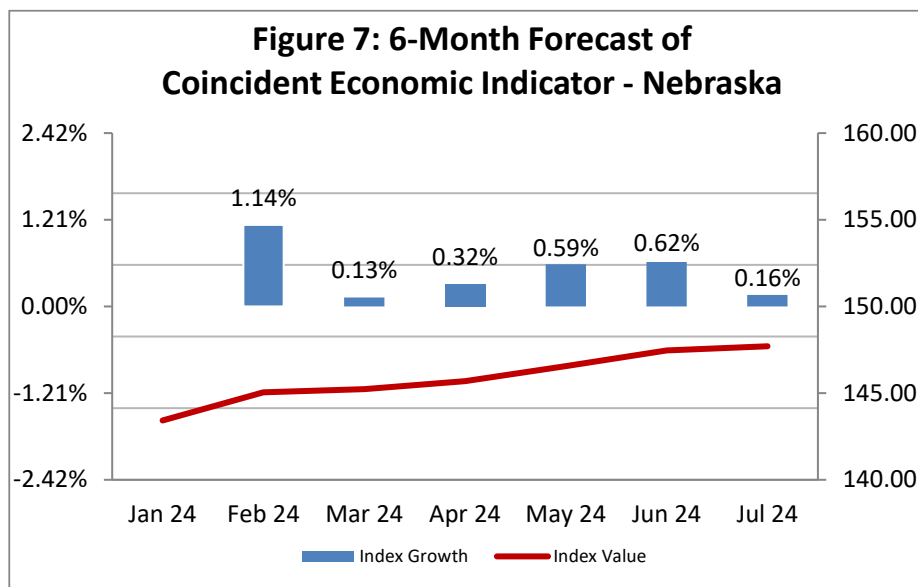

Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for moderate economic growth in Nebraska through mid-2024. This expectation is consistent with the changes in the LEI-N reported in Figure 2.

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	13.6895	0.0730	0.0370		Electricity Sales	4.5442	0.2201	0.1686
Airline Passengers	6.1212	0.1634	0.0828		Private Wages	1.8346	0.5451	0.4177
Exchange Rate	1.1362	0.8801	0.4459		Agricultural Commodities	3.5561	0.2812	0.2155
Initial UI Claims	19.5991	0.0510	0.0259		Survey Business Conditions	3.8659	0.2587	0.1982
Manufacturing Hours	1.7680	0.5656	0.2866					
Survey Business Expectations	4.1588	0.2405	0.1218					

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between December of 2023 and January 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	69.53	67.49	2.04	0.04	0.08	0.04%
Airline Passengers	113.97	112.27	1.70	0.08	0.14	0.07%
U.S. Dollar Exchange Rate (Inverse)	78.00	78.25	-0.24	0.45	-0.11	-0.06%
Initial Unemployment Insurance Claims (Inverse)	168.39	142.85	25.54	0.03	0.66	0.35%
Manufacturing Hours	95.60	98.19	-2.59	0.29	-0.74	-0.39%
Survey Business Expectations[1]	58.89		8.89	0.12	1.08	0.57%
Total (weighted average)	192.03	190.92			1.11	0.58%

[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	178.16	180.24	-2.08	0.17	-0.35	-0.24%
Private Wage	113.38	115.42	-2.04	0.42	-0.85	-0.58%
Agricultural Commodities	180.21	183.96	-3.75	0.22	-0.81	-0.55%
Survey Business Conditions[1]	43.16		-6.84	0.20	-1.36	-0.92%
Total (weighted average)	143.42	146.78			-3.37	-2.29%

[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 8: Coincident Economic Indicator - Nebraska Comparison with Nebraska Real Quarterly GDP
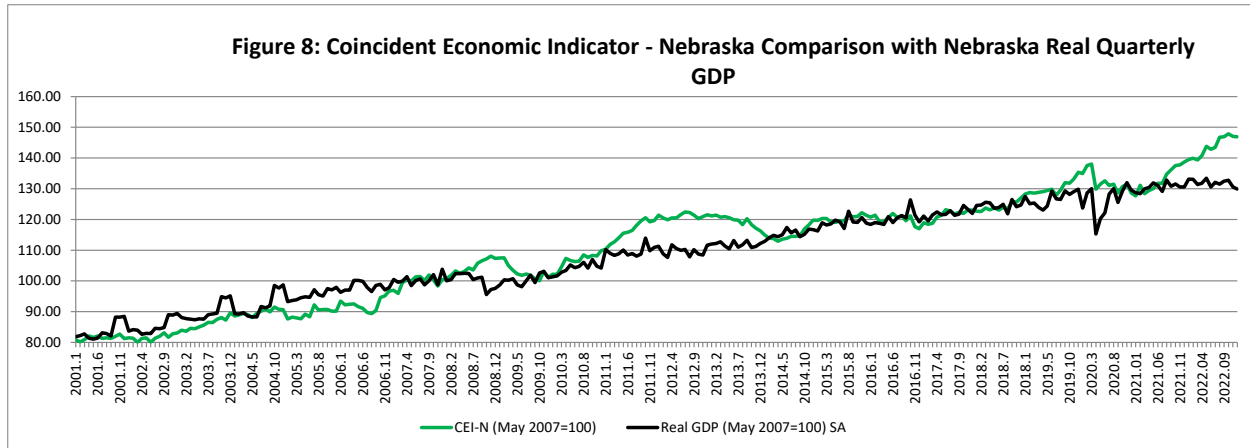
Figure 9 again shows the values for the CEI-N. It also graphs six-month forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 compares the predicted movement in CEI-N (predicted by LEI-N values six months 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.

Figure 9: 6-Month Forward Value of Leading Economic Indicator - Nebraska Comparison with Coincident Economic Indicator - Nebraska