

Nebraska Monthly Economic Indicators: March 27, 2024

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Summary: *The Leading Economic Indicator-Nebraska rose by a very rapid 3.48% in February 2024. The increase in the leading indicator, which is designed to predict economic growth six months into the future, implies that there will be strong growth in the Nebraska economy during the summer of 2024. Three components of the leading indicator improved significantly during February. There was a sharp increase in manufacturing hours worked, given the continued strong demand for food products. Business expectations also were strong. Respondents to the February Survey of Nebraska Business reported plans to increase sales and employment over the next six months. The Nebraska home-building industry also showed signs of strength as building permits for single-family homes increased significantly.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during February 2024 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 3.48%.

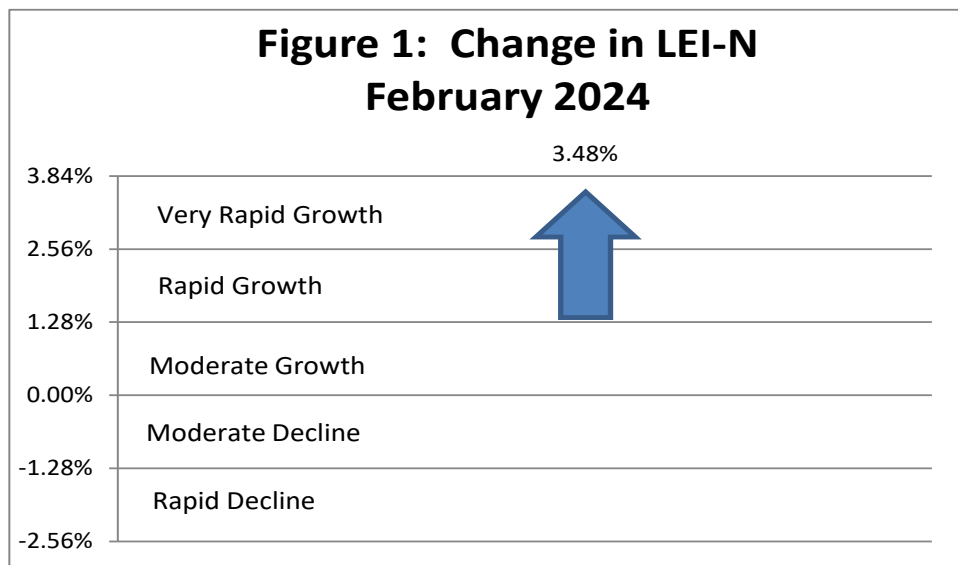


Figure 2 shows the change in the leading indicator over the last six months. The indicator rose in four of the last six months. January was revised down to a slight decline before the rapid increase in February.

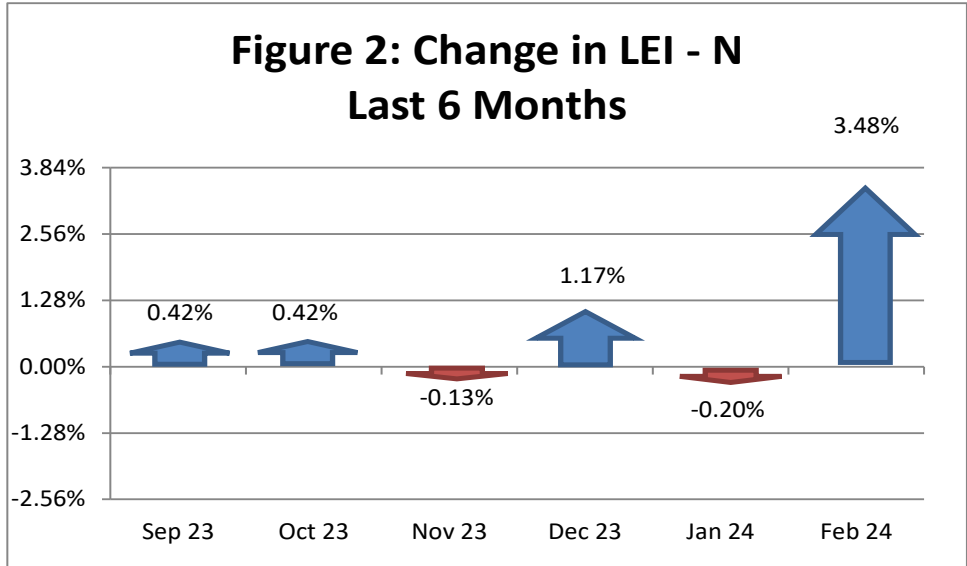
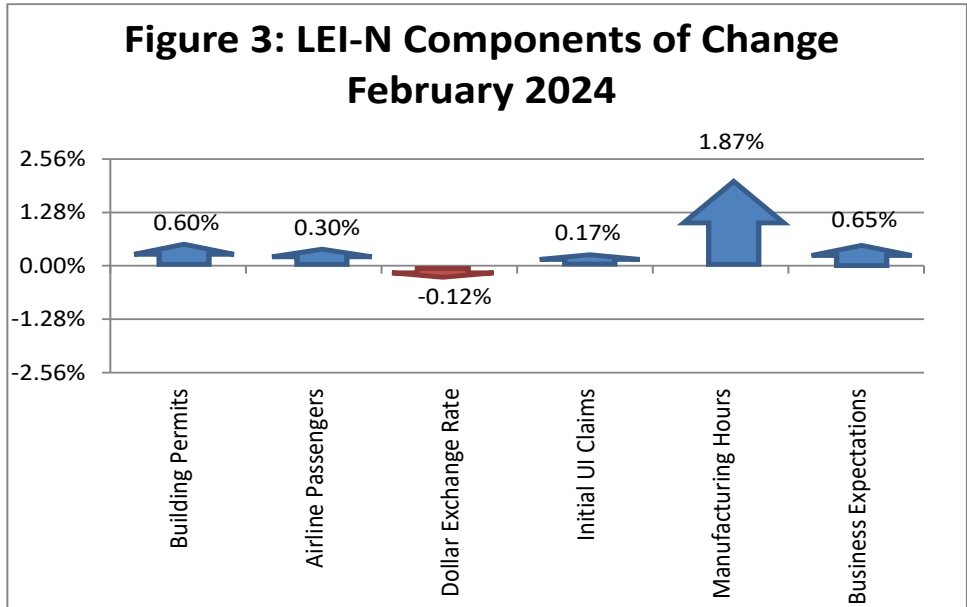


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during February. The change in the LEI–N is the weighted average of changes in each component (see page 5). Five leading indicator components improved during February, including three that improved significantly. There was a sharp increase in manufacturing hours worked during the month, reflecting a general improvement in the national manufacturing industry and strong demand for food products. Business expectations also were strong. Respondents to the February *Survey of Nebraska Business* reported plans to increase both sales and employment over the next six months. Finally, there was evidence of strength in Nebraska’s home-building industry. Building permits for single-family homes rose significantly, even after adjusting for seasonal factors.



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 1.91% in February 2024, as seen in Figure 4.

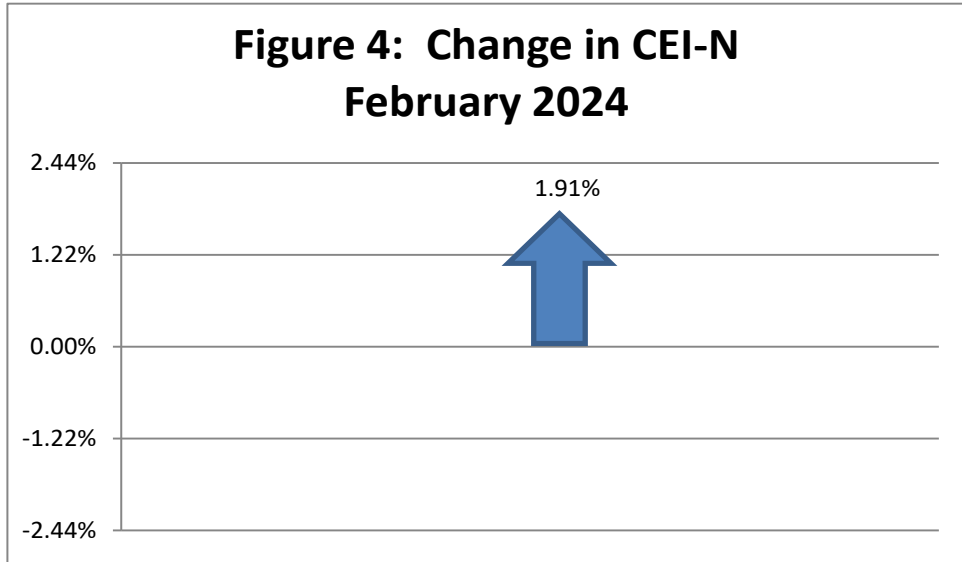
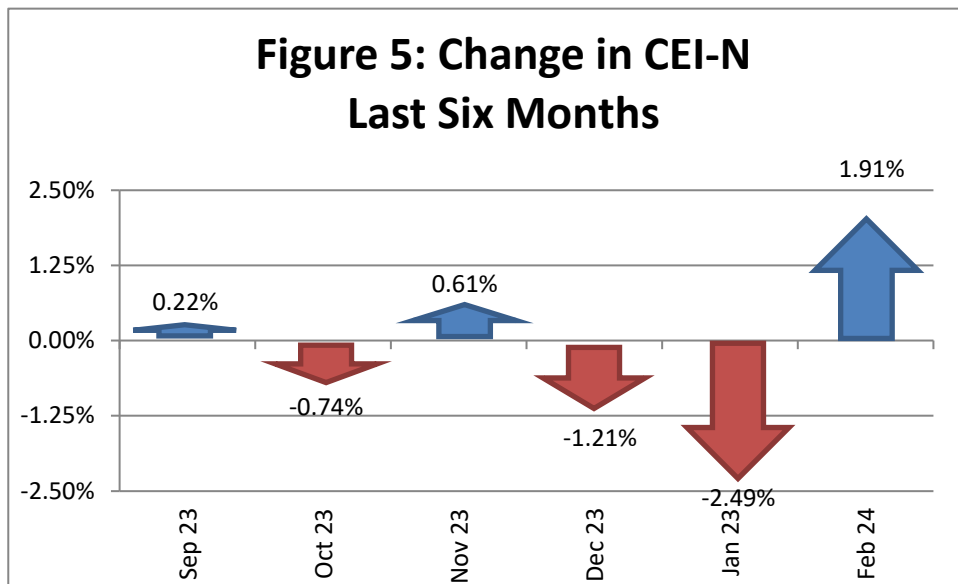


Figure 5 shows the change in the CEI-N over the last 6 months. Growth has been mixed in Nebraska, with sharp increases in some months and sharp declines in others. Notably, agricultural commodity prices have been falling during this period. Agriculture remains an influential sector in the Nebraska economy.



Two components of the CEI-N rose during February 2024, as is seen in Figure 6. There was an increase in real private wages, due to a growth in employment and hours worked per week. Electricity sales also rose, on a seasonally adjusted basis. However, agricultural commodity prices weakened during February and business conditions were slightly negative. Specifically, respondents to the February *Survey of Nebraska Business* reported a decline in sales in 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*.

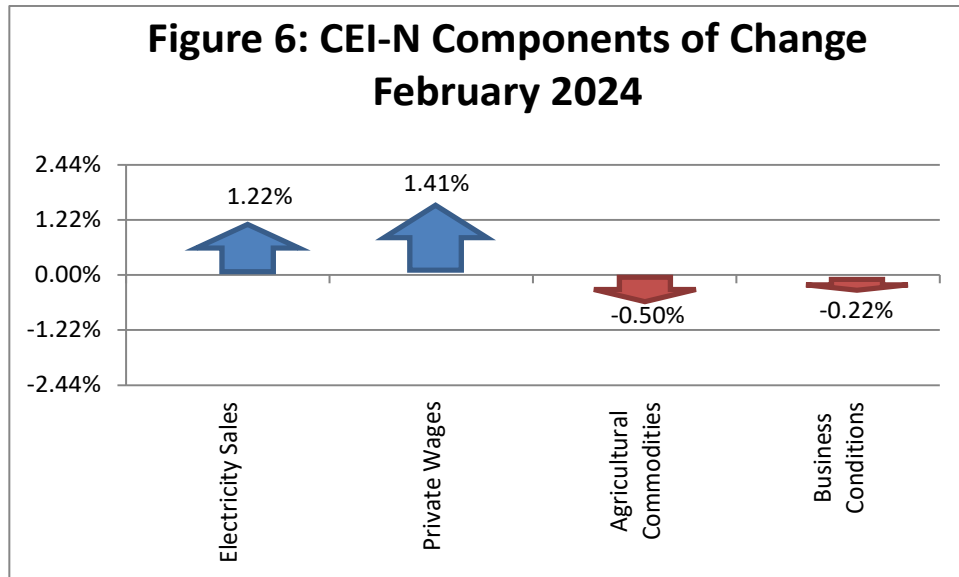
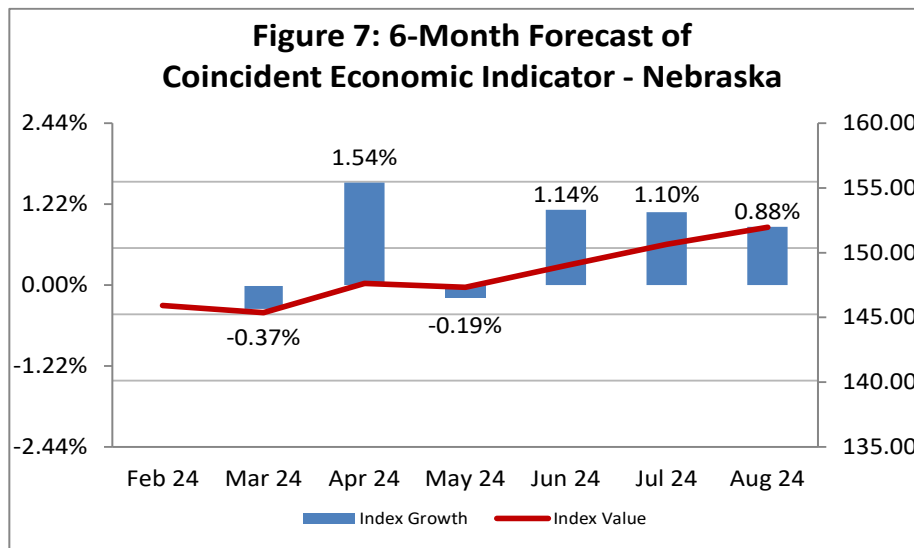


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for moderate economic growth in the next few months and strong growth in the summer of 2024. This expectation is consistent with the changes in the LEI-N reported in Figure 2.



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	13.7727	0.0726	0.0380	Electricity Sales	4.5332	0.2206	0.1687
Airline Passengers	6.1257	0.1632	0.0854	Private Wages	1.8286	0.5469	0.4181
Exchange Rate	1.1345	0.8814	0.4610	Agricultural Commodities	3.5550	0.2813	0.2151
Initial UI Claims	19.6270	0.0510	0.0266	Survey Business Conditions	3.8592	0.2591	0.1981
Manufacturing Hours	1.9869	0.5033	0.2632				
Survey Business Expectations	4.1595	0.2404	0.1257				

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between January and February 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	91.16	60.54	30.62	0.04	1.16	0.60%
Airline Passengers	121.43	114.56	6.87	0.09	0.59	0.30%
U.S. Dollar Exchange Rate (Inverse)	77.52	78.00	-0.49	0.46	-0.22	-0.12%
Initial Unemployment Insurance Claims (Inverse)	183.09	170.99	12.10	0.03	0.32	0.17%
Manufacturing Hours	102.52	88.82	13.70	0.26	3.61	1.87%
Survey Business Expectations ¹	59.89		9.89	0.13	1.24	0.65%
Total (weighted average)	199.38	192.68			6.70	3.48%

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	189.32	178.99	10.33	0.17	1.74	1.22%
Private Wage	117.23	112.40	4.83	0.42	2.02	1.41%
Agricultural Commodities	177.27	180.60	-3.33	0.22	-0.72	-0.50%
Survey Business Conditions ¹	48.42		-1.58	0.20	-0.31	-0.22%
Total (weighted average)	145.92	143.19			2.73	1.91%

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.

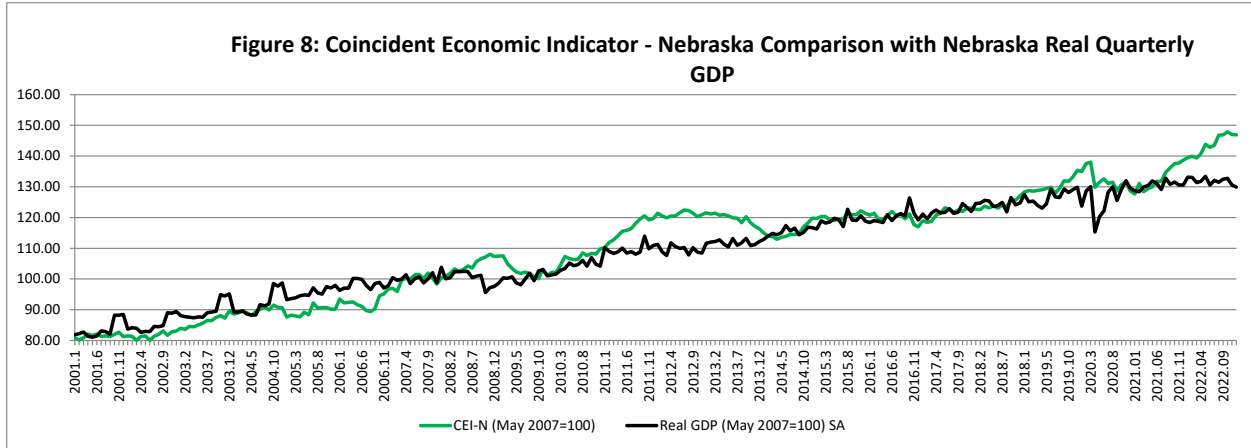


Figure 9 again shows the values for the CEI-N. It also graphs six-month forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 compares the predicted movement in CEI-N (predicted by LEI-N values six months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

