

Nebraska Monthly Economic Indicators: April 20, 2022

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

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Summary: The LEI-N rose by 0.89% during March 2022. The increase in the leading indicator, which is designed to predict economic activity six months in the future, signals continued economic growth in Nebraska through the 3rd quarter of 2022. The indicator improved for two primary reasons. First, initial claims for unemployment insurance fell during March suggesting continued strength in the Nebraska labor market. Second, respondents to the March Survey of Nebraska Business reported plans to increase sales and employment. By contrast, building permits for single-family homes fell during the month. There also was an increase in the value of the U.S. dollar, which creates a more challenging environment for businesses that compete in international markets.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) during March 2022 compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.89% during March.

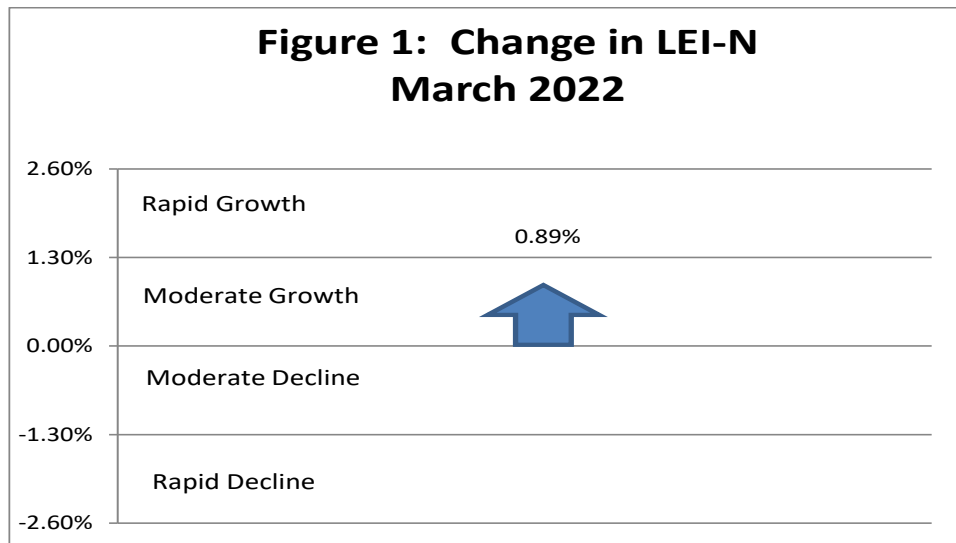


Figure 2 shows the change in the leading indicator over the last six months. The indicator has risen five of the last six months, including a rapid rise in February. This pattern suggests that the Nebraska economy will continue to grow through the 3rd Quarter of 2022.

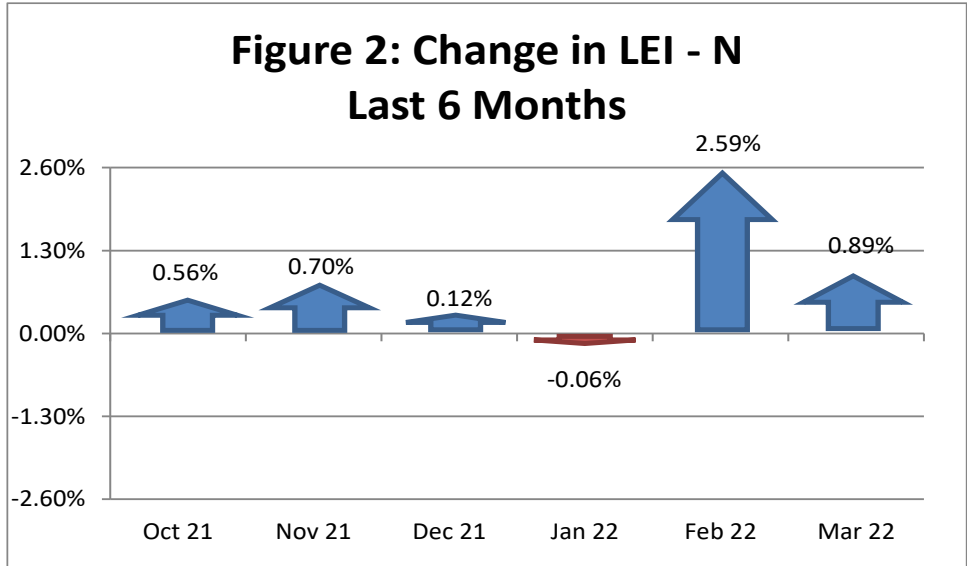
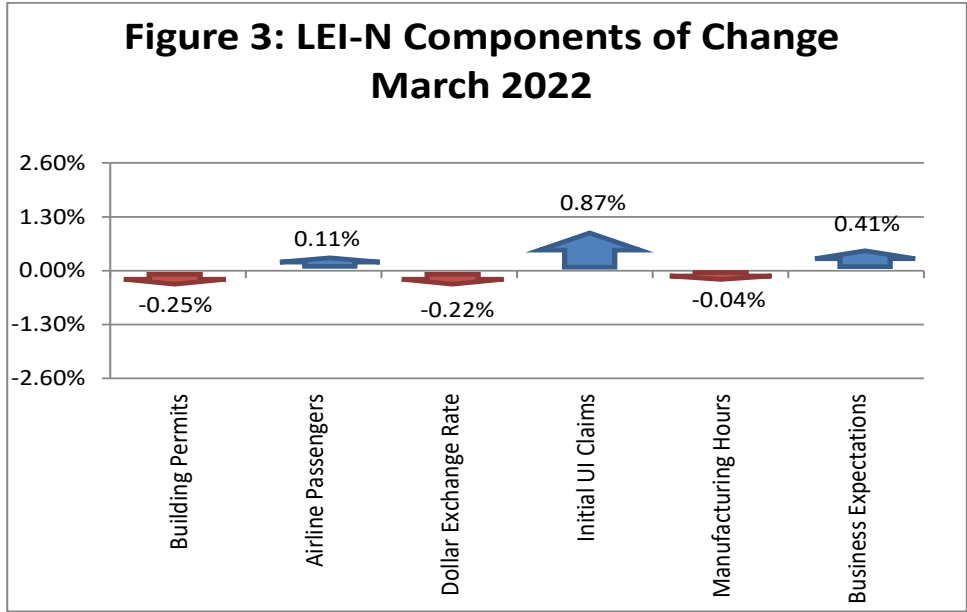


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during March. The change in the LEI-N is the weighted average of changes in each component (see page 5). The March rise in the LEI-N was primarily due to two components. The first was business expectations. Respondents to the March *Survey of Nebraska Business* reported plans to increase employment and sales over the next six months. There also was another decline in initial claims for unemployment insurance, suggesting continued strength in Nebraska’s labor market. However, there was a decline in building permits for single-family homes on a seasonally adjusted basis. The value of the U.S. dollar also rose. A higher dollar creates a more challenging environment for 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 fell by 0.27% during March 2022, as seen in Figure 4.

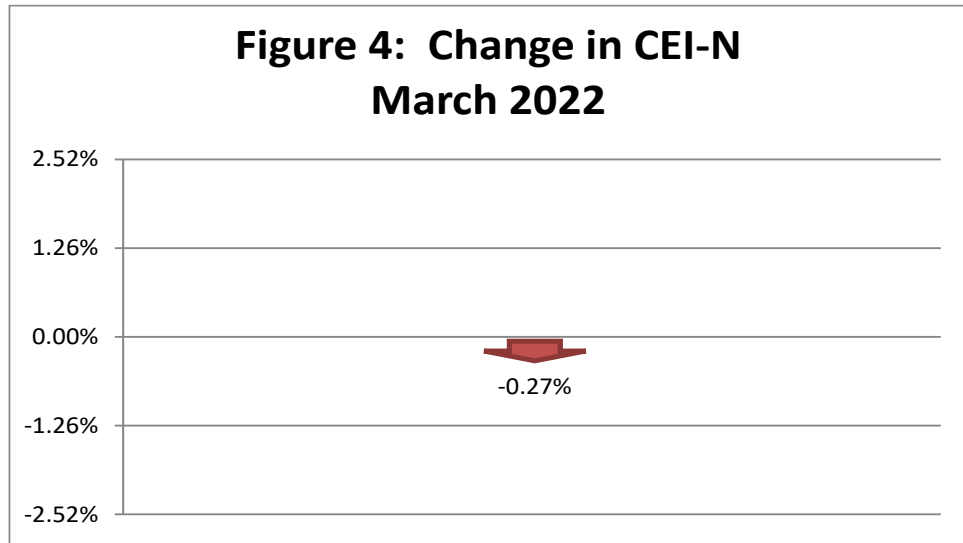
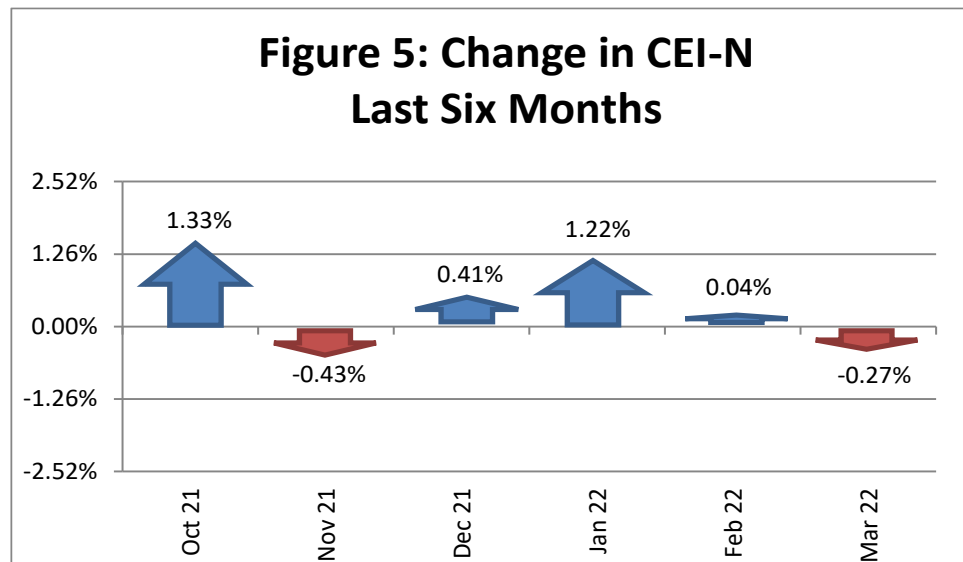


Figure 5 shows the change in the CEI-N over the last 6 months. The Nebraska economy grew from October 2021 through January 2022 but has stagnated over the last two months.



Two components of the CEI-N rose during March. There was an increase in agricultural commodity prices during the month. Business conditions also were positive according to respondents to the monthly *Survey of Nebraska Business*. There also were two falling components. Electricity sales fell after accounting for seasonality and weather conditions. There also was a decline in real private wages, as the rate of inflation exceeded hourly wage growth. 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*.

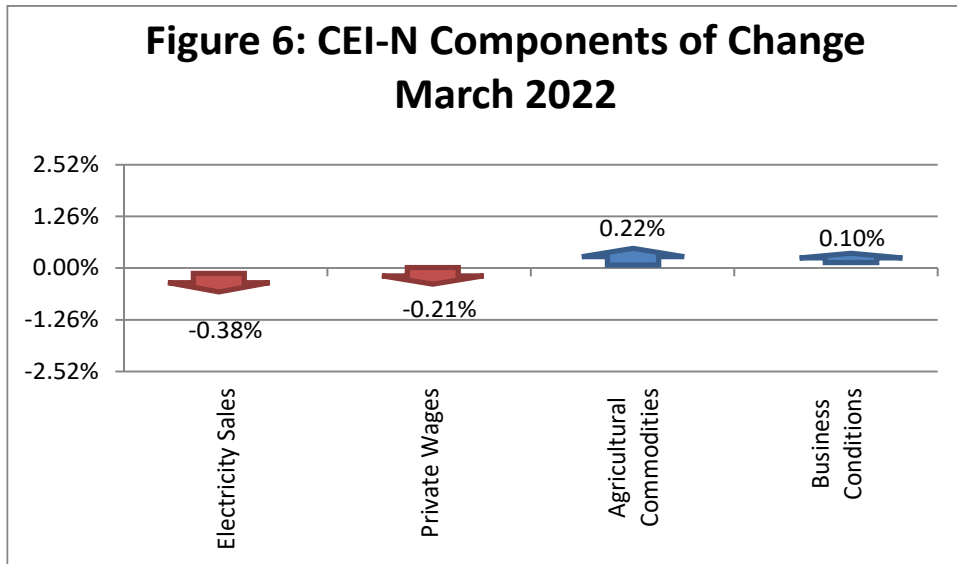
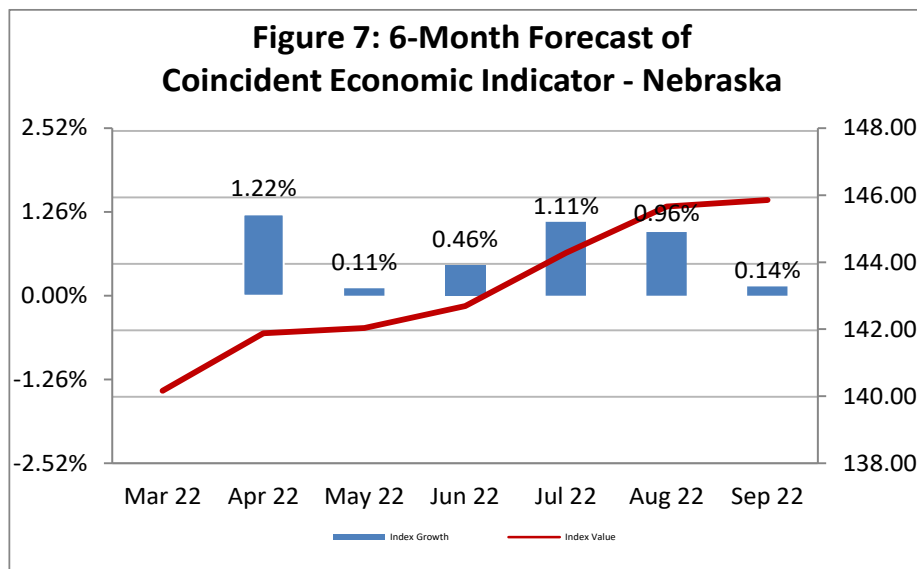


Figure 7 shows a forecast for the CEI-N over the next six months. The forecast calls for solid growth through September 2022. This expectation is consistent with the recent changes in the LEI-N reported in Figure 2.



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 | 13.0789 | 0.0765 | 0.0388 | Electricity Sales | 4.6020 | 0.2173 | 0.1773 |
| Airline Passengers | 6.1849 | 0.1617 | 0.0820 | Private Wages | 2.1008 | 0.4760 | 0.3883 |
| Exchange Rate | 1.1464 | 0.8723 | 0.4426 | Agricultural Commodities | 3.5986 | 0.2779 | 0.2267 |
| Initial UI Claims | 19.4079 | 0.0515 | 0.0261 | Survey Business Conditions | 3.9260 | 0.2547 | 0.2078 |
| Manufacturing Hours | 1.7436 | 0.5735 | 0.2910 | | | | |
| Survey Business Expectations | 4.2524 | 0.2352 | 0.1193 | | | | |

Tables 2 and 3 show the calculation for the change in LEI-N and CEI-N between February and March of 2022. 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 | 78.71 | 89.80 | -11.09 | 0.04 | -0.43 | -0.25% |
| Airline Passengers | 90.64 | 88.24 | 2.40 | 0.08 | 0.20 | 0.11% |
| U.S. Dollar Exchange Rate (Inverse) | 80.51 | 81.36 | -0.85 | 0.44 | -0.38 | -0.22% |
| Initial Unemployment Insurance Claims (Inverse) | 266.43 | 208.15 | 58.28 | 0.03 | 1.52 | 0.87% |
| Manufacturing Hours | 87.27 | 87.50 | -0.23 | 0.29 | -0.07 | -0.04% |
| Survey Business Expectations ¹ | 55.97 | | 5.97 | 0.12 | 0.71 | 0.41% |
| Total (weighted average) | 176.33 | 174.77 | | | 1.56 | 0.89% |

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 | 164.98 | 167.98 | -3.00 | 0.18 | -0.53 | -0.38% |
| Private Wage | 115.68 | 116.44 | -0.75 | 0.39 | -0.29 | -0.21% |
| Agricultural Commodities | 151.56 | 150.22 | 1.35 | 0.23 | 0.31 | 0.22% |
| Survey Business Conditions ¹ | 50.70 | | 0.70 | 0.21 | 0.15 | 0.10% |
| Total (weighted average) | 140.17 | 140.54 | | | -0.37 | -0.27% |

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 first quarter of 2021, 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 0.96.

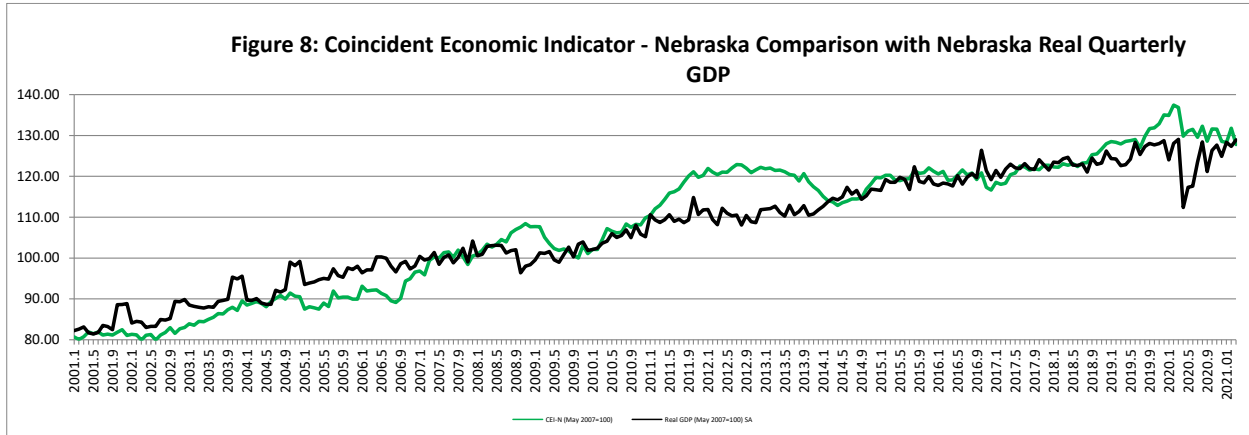


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months 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 0.88.

