

Nebraska Monthly Economic Indicators: February 21, 2014

Prepared by the UNL College of Business Administration, Department of Economics

Authors: Dr. Eric Thompson, Dr. William Walstad
Graduate Research Assistants: Shannon McClure,
Mihdi Vahedi

Leading Economic Indicator.....	1
Coincident Economic Indicator.....	3
Weights and Component Shares.....	5
Performance of the LEI-N and CEI-N.....	6

Summary: *The Leading Economic Indicator – Nebraska (LEI-N) decreased by 0.95% during January 2014. The decrease in the LEI-N, which predicts economic growth in the state six months in the future, follows a strong increase in December 2013. Taken together, LEI-N results for the last two months suggest continued improvement in the Nebraska economy, specifically moderate growth in mid-2014. Five of six components of the leading economic indicator declined during January. There was a decline in building permits and airline passengers. Initial unemployment claims increased slightly in January, a negative sign for the labor market. There was a modest decline in business expectations. Respondents to the Survey of Nebraska Business predicted an decrease in sales at their business over the next six month. Manufacturing hours, however, did increase in January.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in January 2014, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N decreased by 0.95% in January.

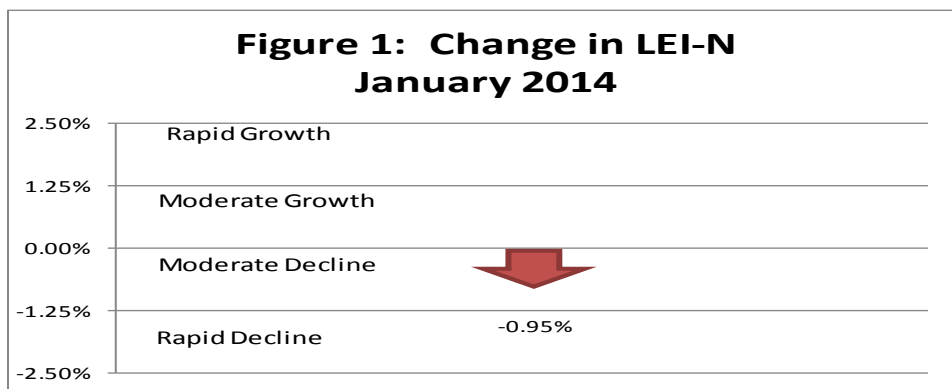


Figure 2 shows the growth in the LEI-N over the last 6 months. Overall, the LEI-N rose over the last 6 months. LEI-N. Growth was uneven, however, from month to month. After rising in the first three months, the LEI-N was inconsistent. The LEI-N rose sharply in December 2013 after manufacturing hours were revised up sharply during that month. The LEI-N fell in both November 2013 and January 2014. Taken together, there was a modest increase in the LEI-N over the last three months.

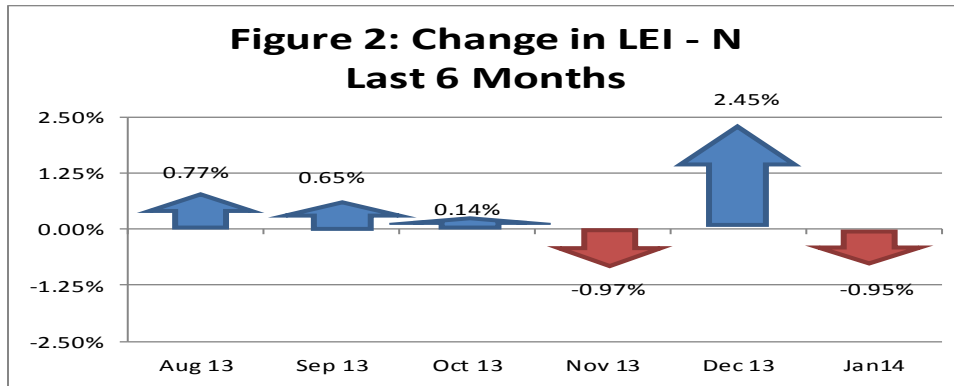
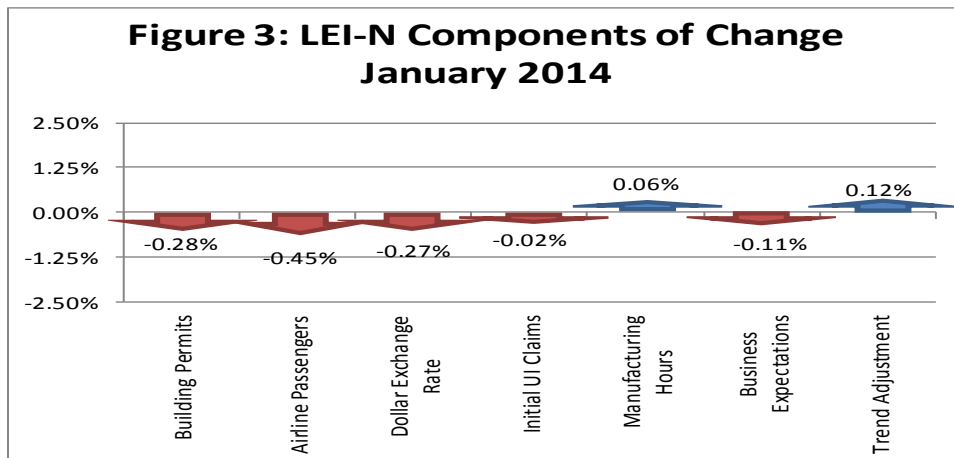
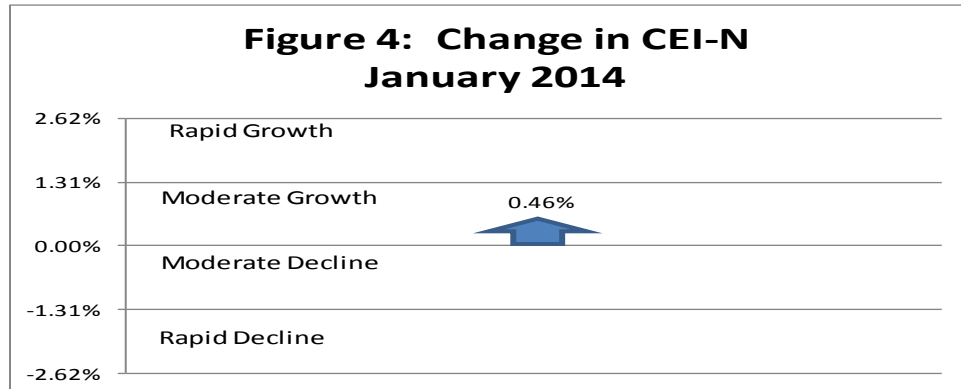


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during January 2014. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). During January, five components of the indicator declined and one grew. Manufacturing hours was the growing component. Airline passenger counts and single-family building permits, however, declined on a seasonally-adjusted basis. The value of the U.S. dollar increased during January, which is negative for export activity. Initial unemployment claims also rose slightly during the month on a seasonally-adjusted basis, which is a small negative for the labor market. Finally, business expectations were down modestly in January. Respondents to the *Survey of Nebraska Business* predicted a decline in sales over the next six months, although the outlook for employment was steady. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

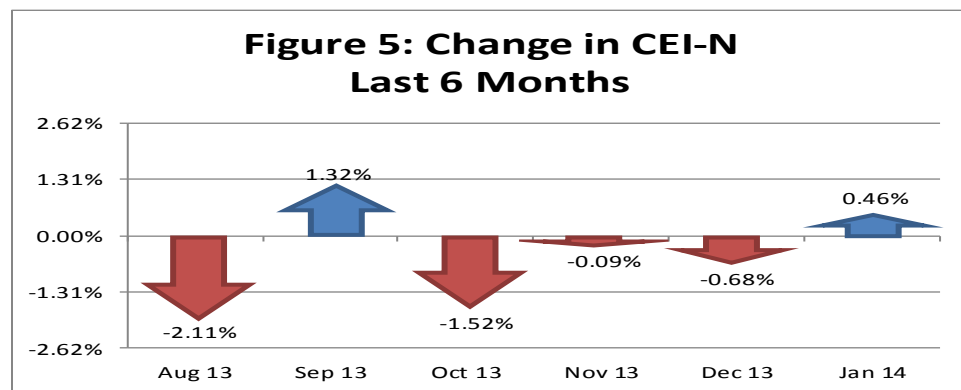


Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. The CEI-N rose by 0.46% between December of 2013 and January of 2014, as seen in Figure 4.



The modest increase in the CEI-N during January is another sign of stabilization in the Nebraska economy. As seen in Figure 5, the CEI-N dropped during the August to October 2013 period, largely in reaction to a sharp drop in the price of agricultural crop prices. The CEI-N, however, has stabilized in recent months. The indicator was little changed in November of 2013, dropped in December of 2013, and rebounded by a similar amount in January 2014. As seen later in Figure 7, the CEI-N is expected to expand overall during the next 6 months.



As seen in Figure 6, two of the four components of the CEI-N increased during January. Real weekly private wages grew during the month, suggesting growth in employment opportunities, hours-worked per week and real wages. Electricity sales also rose sharply in January, after accounting for weather and seasonal trends. Among declining components, respondents to the *Survey of Nebraska Business* reported a modest decline in sales activity in recent months. There also was continued decline in the agricultural commodity price component. A detailed discussion of the components of the CEI-N, as well as the LEI-N, can be found at www.cba.unl.edu in *Technical Report: Coincident and Leading Economic Indicators- Nebraska*.

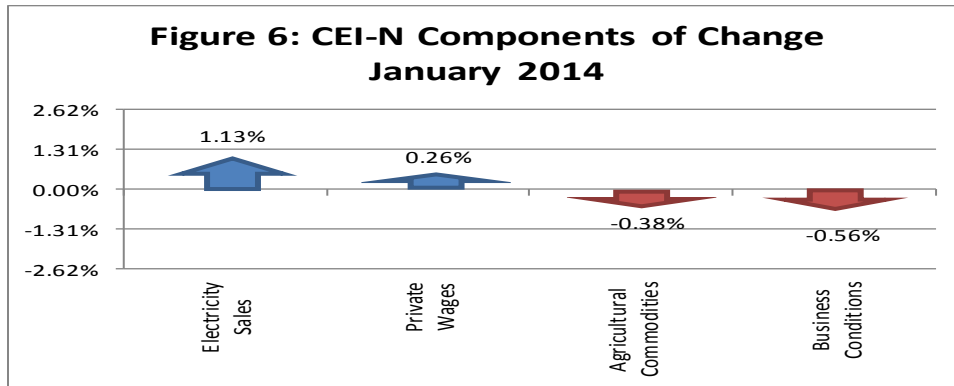
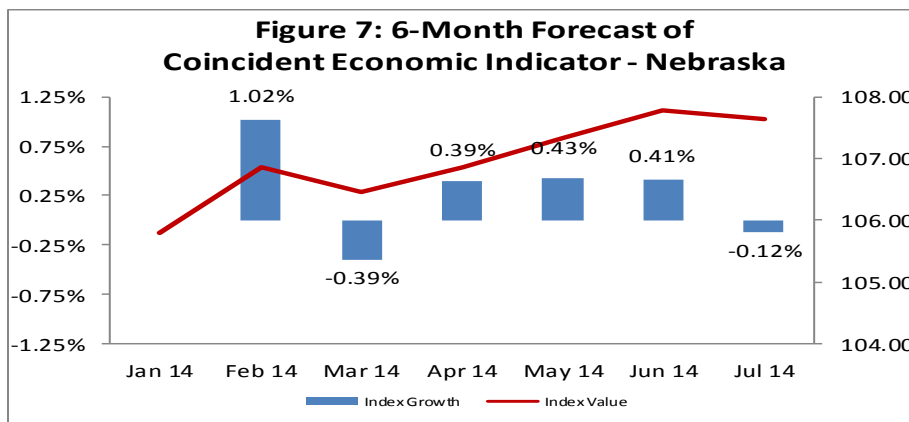


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast suggests moderate growth in the CEI-N in the first half of 2014, consistent with the overall increase in the LEI-N over the last six months (see Figure 2). There will be a modest decline in the CEI-N in July 2014, but growth is still expected to be solid in the second half of 2014. To confirm that expectation, it will be important to see if the LEI-N expands in the coming months.



Weights and Component Shares

Table 1 shows the weights that were 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 smaller standard deviations, 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 that regularly has large movements.

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	13.9482	0.0717	0.0326	Electricity Sales	5.0058	0.1998	0.1363
Airline Passengers	3.5733	0.2799	0.1274	Private Wages	1.7196	0.5815	0.3967
Exchange Rate	1.2105	0.8261	0.3762	Agricultural Commodities	3.1624	0.3162	0.2157
Initial UI Claims	10.0681	0.0993	0.0452	Survey Business Conditions	2.7158	0.3682	0.2512
Manufacturing Hours	1.4891	0.6715	0.3058				
Survey Business Expectations	4.0371	0.2477	0.1128				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between December of 2013 and January of 2014. Weights (from Table 1) are multiplied by the change to calculate the contribution of each component. Contributions are converted to percentage terms and summed. Note that in Table 2 a trend adjustment factor is utilized in calculating LEI-N. This is done because LEI-N historically under-predicts CEI-N by 0.12% per month. The U.S. Leading Economic Indicator also has a trend adjustment.

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	68.00	77.35	-9.35	0.03	-0.31	-0.28%
Airline Passengers	92.34	96.20	-3.85	0.13	-0.49	-0.45%
U.S. Dollar Exchange Rate (Inverse)	101.68	102.47	-0.79	0.38	-0.30	-0.27%
Initial Unemployment Insurance Claims (Inverse)	74.79	75.15	-0.37	0.05	-0.02	-0.02%
Manufacturing Hours	98.17	97.97	0.20	0.31	0.06	0.06%
Survey Business Expectations ¹	48.91		-1.09	0.11	-0.12	-0.11%
Trend Adjustment					0.13	0.12%
Total (weighted average)	108.33	109.37			-1.04	-0.95%

¹ Survey results are a diffusion Index, which is always compared to 50

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	132.52	123.78	8.74	0.14	1.19	1.13%
Private Wage	96.33	95.64	0.69	0.40	0.27	0.26%
Agricultural Commodities	143.53	145.39	-1.86	0.22	-0.40	-0.38%
Survey Business Conditions ¹	47.67		-2.33	0.25	-0.58	-0.56%
Total (weighted average)	105.79	105.31			0.48	0.46%

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 2012. The comparison ends in 2012 since this is the last year for which data on real gross state product is available. Annual real gross state product data is provided by the Bureau of Economic Analysis, U.S. Department of Commerce, and quarterly values were estimated using quarterly earnings data. CEI-N closely tracks Nebraska real GDP for the period. The correlation coefficient between the two pictured series is 0.95.

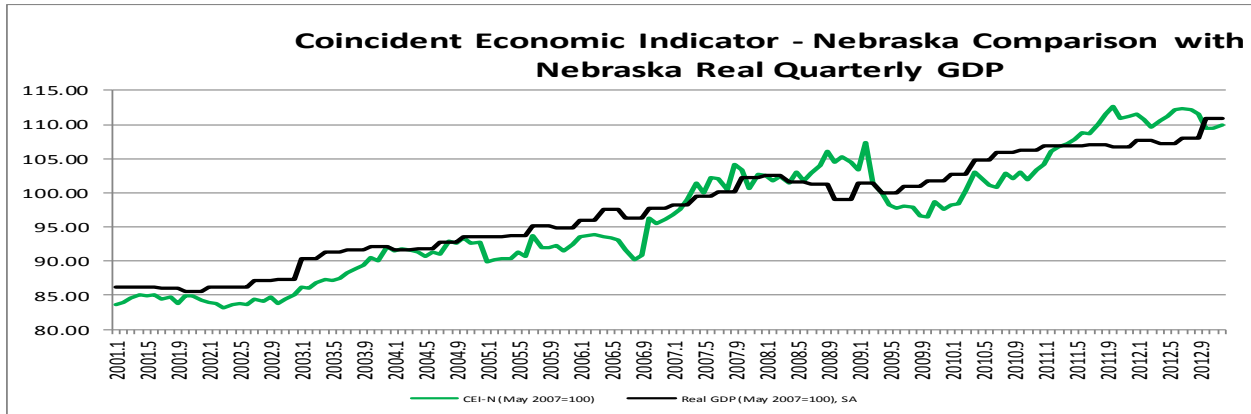


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months earlier) with the actual movement in CEI-N. In Figure 9, predicted values using the LEI-N closely track trends and movement in the CEI-N. The correlation coefficient between CEI-N and six-month forward values of LEI-N is 0.92.

