

Nebraska Monthly Economic Indicators: January 16, 2015

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Summary: The Leading Economic Indicator – Nebraska (LEI-N) rose by 0.87% during December 2014. The increase in the LEI-N, which predicts economic growth in the state six months in the future, suggests that economic growth will accelerate in mid-2015. Five of six components of the leading economic indicator rose during December. Respondents to the Survey of Nebraska Business were particularly optimistic. Respondents predicted a strong increase in sales and employment over the next six months. There also was modest growth in airline passenger counts and building permits, and a slight increase in manufacturing hours. Finally, there was a decline in initial claims for unemployment insurance, which suggests strength in the labor market. The only negative component of the LEI-N was the exchange rate. There was a significant increase in the value of the U.S. Dollar, which reduces the competitiveness of Nebraska export businesses.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in December 2014, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.87% in December.

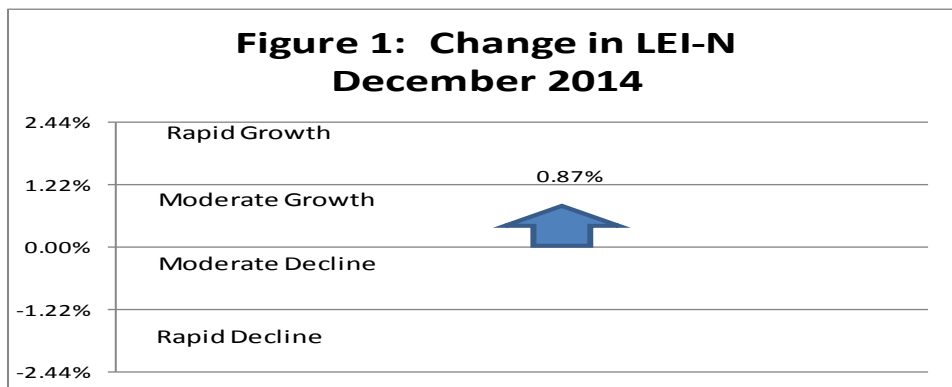


Figure 2 shows the change in the LEI-N over the last 6 months. The LEI-N has been choppy, rising one month and declining the next. There was very little net increase in the LEI-N over the last 6 months. This suggests weak economic growth in early 2015. The LEI-N value for December, however, suggests that economic growth will begin to accelerate again in June 2015.

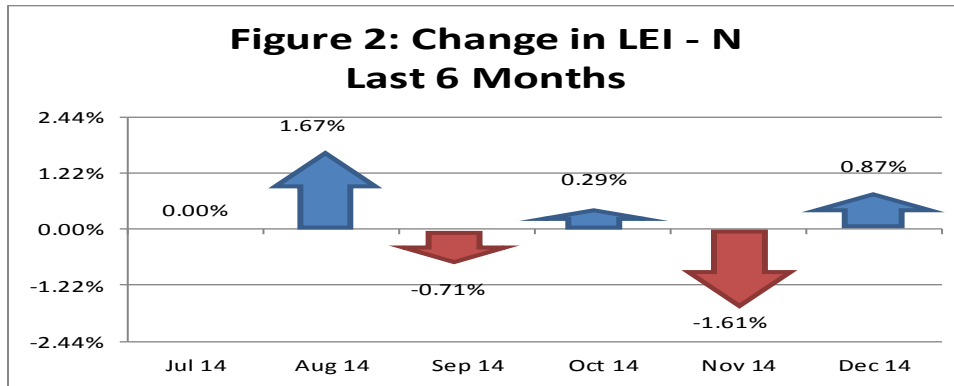
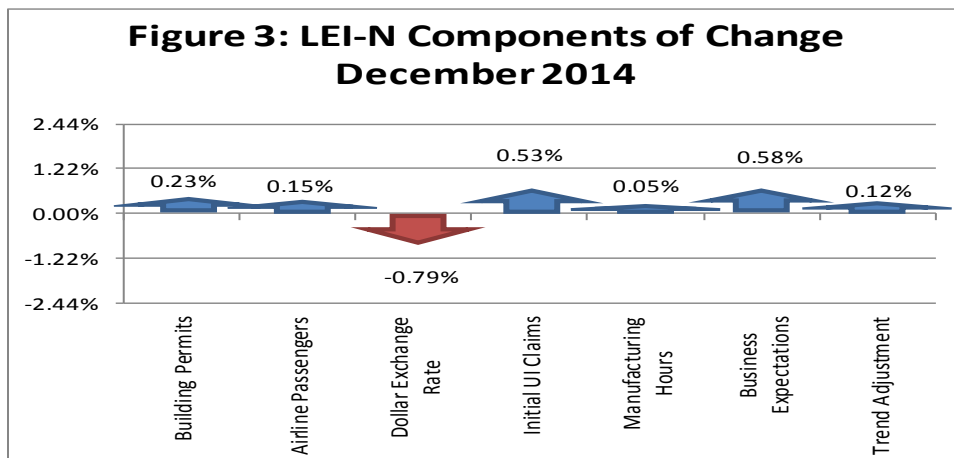
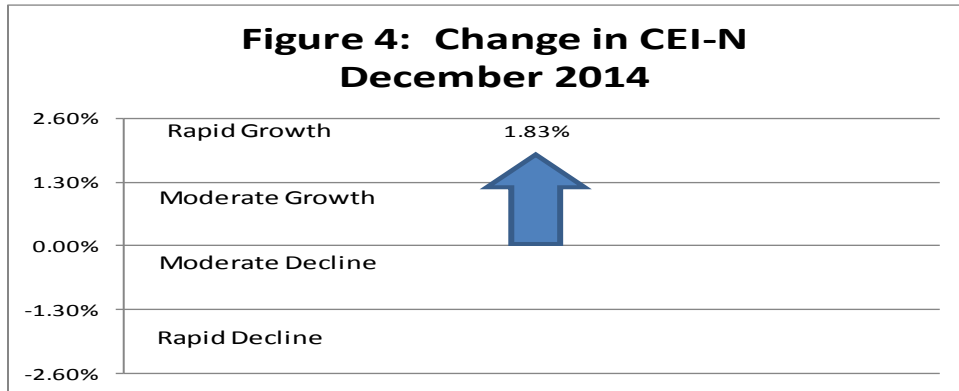


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during December 2014. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). Five of six components of the LEI-N rose during December. Business expectations were optimistic. December respondents to the *Survey of Nebraska Business* anticipated strong growth in sales and employment at their businesses over the next six months. There was also a solid improvement in labor market conditions in Nebraska, as indicated by a sharp decline in initial claims for unemployment insurance. There was modest growth in airline passenger counts and building permits for single-family homes during December as well as a slight increase in manufacturing hours. There was one declining component of the LEI-N. In particular, there was a sharp increase in the value of the U.S. dollar, which creates a challenging environment for Nebraska’s export businesses. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

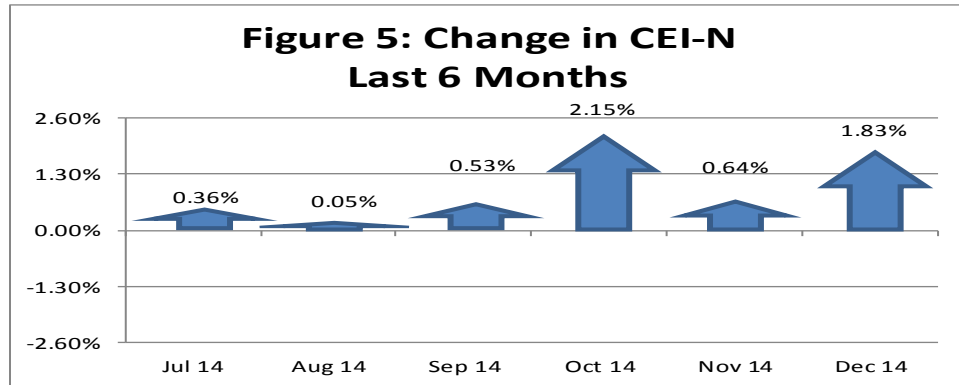


Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. As seen in Figure 4, the CEI-N rose by 1.83% during December.



The CEI-N has grown for the past eight months, including rapid growth in October and December. Growth over the last six months is pictured in Figure 5. This is the longest sustained period of growth since the CEI-N was first released in January 2012. This period of solid economic growth is expected to weaken in early 2015.



As seen in Figure 6, all four components of the CEI-N rose during December. Business expectations and electricity sales rose rapidly during the month. Respondents to the *Survey of Nebraska Business* reported a strong increase in both sales and employment. Electricity sales rose on a seasonally-adjusted basis even after accounting for weather. Among other components, the value of agricultural commodities rose modestly during the month and real private wages increased slightly. A detailed discussion of the components of the CEI-N and LEI-N can be found at www.cba.unl.edu in *Technical Report: Coincident and Leading Economic Indicators- Nebraska*.

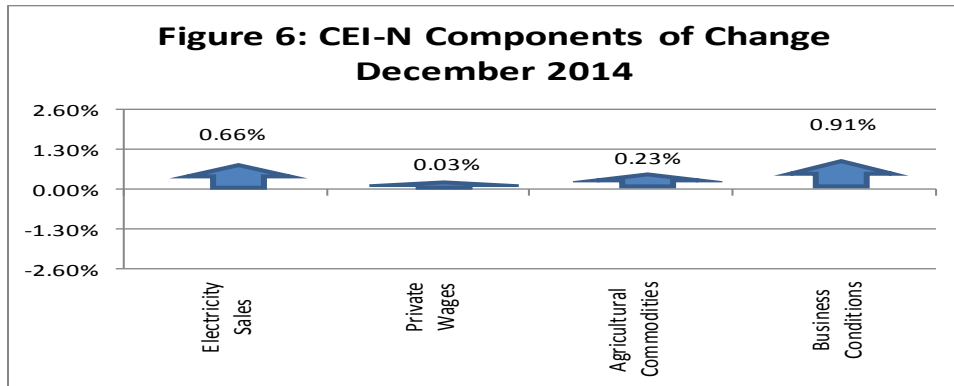
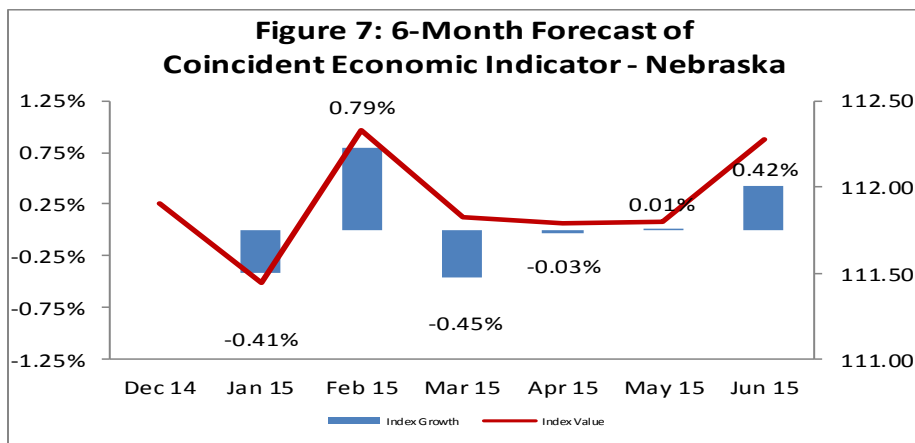


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast suggests weak economic growth during the first quarter of 2015. Expected declines in January and March together are larger than the anticipated increase in February. The forecast also calls for a flat economy in April and May before growth accelerates in June 2015. These expectations are consistent with recent values for the LEI-N (see Figure 2).



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.

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	13.8593	0.0722	0.0328	Electricity Sales	4.8203	0.2075	0.1512
Airline Passengers	3.4792	0.2874	0.1308	Private Wages	1.6824	0.5944	0.4333
Exchange Rate	1.2059	0.8292	0.3775	Agricultural Commodities	3.2182	0.3107	0.2265
Initial UI Claims	10.4200	0.0960	0.0437	Survey Business Conditions	3.8574	0.2592	0.1890
Manufacturing Hours	1.4535	0.6880	0.3132				
Survey Business Expectations	4.4668	0.2239	0.1019				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between November and December 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.

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	61.39	53.73	7.66	0.03	0.25	0.23%
Airline Passengers	90.85	89.57	1.28	0.13	0.17	0.15%
U.S. Dollar Exchange Rate (Inverse)	94.68	97.00	-2.32	0.38	-0.88	-0.79%
Initial Unemployment Insurance Claims (Inverse)	93.40	80.09	13.31	0.04	0.58	0.53%
Manufacturing Hours	97.07	96.87	0.19	0.31	0.06	0.05%
Survey Business Expectations ¹	56.31		6.31	0.10	0.64	0.58%
Trend Adjustment					0.13	0.12%
Total (weighted average)	111.71	110.75			0.96	0.87%

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	121.47	116.70	4.77	0.15	0.72	0.66%
Private Wage	99.01	98.94	0.07	0.43	0.03	0.03%
Agricultural Commodities	154.84	153.71	1.13	0.23	0.26	0.23%
Survey Business Conditions ¹	55.31		5.31	0.19	1.00	0.91%
Total (weighted average)	111.90	109.89			2.01	1.83%

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 0.96.

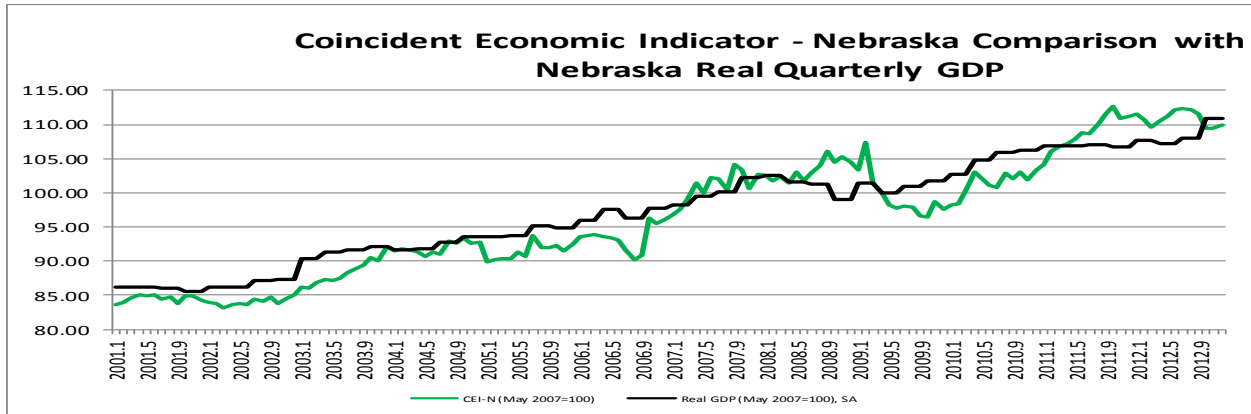


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months earlier) with the actual movement in CEI-N. In Figure 9, predicted values using the LEI-N closely track trends and movement in the CEI-N. The correlation coefficient between CEI-N and six-month forward values of LEI-N is 0.91.

