

2015

Nebraska Monthly Economic Indicators: February 20, 2015

Eric Thompson

University of Nebraska-Lincoln, ethompson2@unl.edu

William Walstad

University of Nebraska-Lincoln, wwalstad1@unl.edu

Follow this and additional works at: <http://digitalcommons.unl.edu/bbrleir>



Part of the [Business Commons](#)

Thompson, Eric and Walstad, William, "Nebraska Monthly Economic Indicators: February 20, 2015" (2015). *Leading Economic Indicator Reports*. 51.

<http://digitalcommons.unl.edu/bbrleir/51>

This Article is brought to you for free and open access by the Bureau of Business Research at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Leading Economic Indicator Reports by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Nebraska Monthly Economic Indicators: February 20, 2015

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

Authors: Dr. Eric Thompson, Dr. William Walstad

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) rose by 0.40% during January 2015. 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. Three of six components of the leading economic indicator rose during January. Respondents to the Survey of Nebraska Business were optimistic. Respondents predicted a strong increase in sales and employment over the next six months. There also was a decline in initial claims for unemployment insurance, which suggests strength in the labor market. Building permits also edged up on a seasonally adjusted basis. Among declining components, there was a slight decline in airline passenger counts and manufacturing hours during January. The exchange rate was the largest negative factor. For the sixth consecutive month, there was a significant increase in the value of the U.S. Dollar. The rising value of the dollar continues to put pressure on Nebraska export businesses.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in January 2015, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.40% in January.

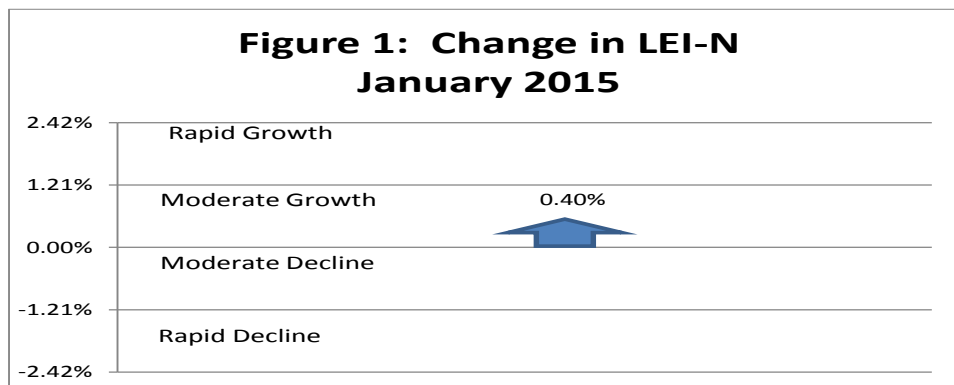


Figure 2 shows the change in the LEI-N over the last 6 months. From August through November, the LEI-N was choppy, rising one month and declining the next, with very little net increase. This suggests weak economic growth in early 2015. However, the LEI-N has increased solidly over the last two months. This suggests that economic growth will accelerate again in mid-2015.

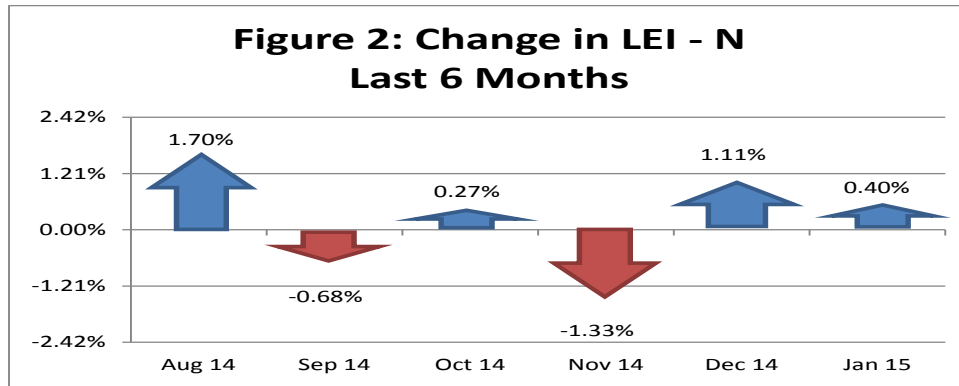
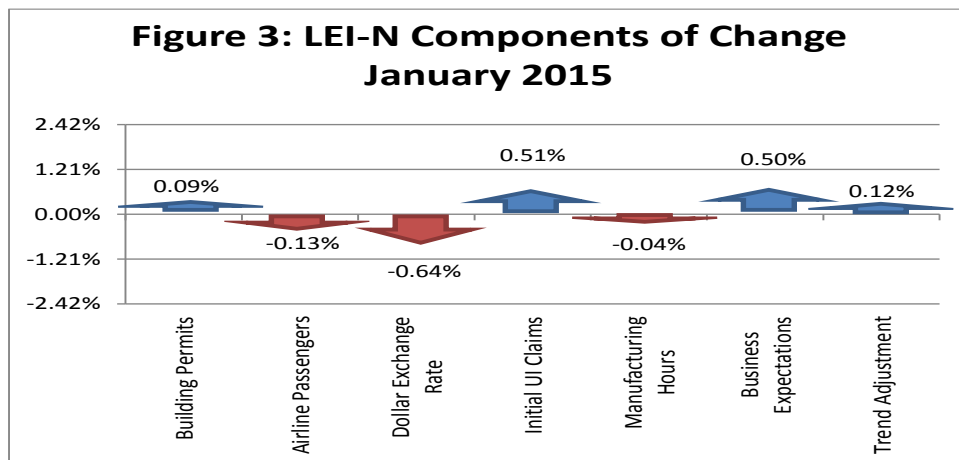
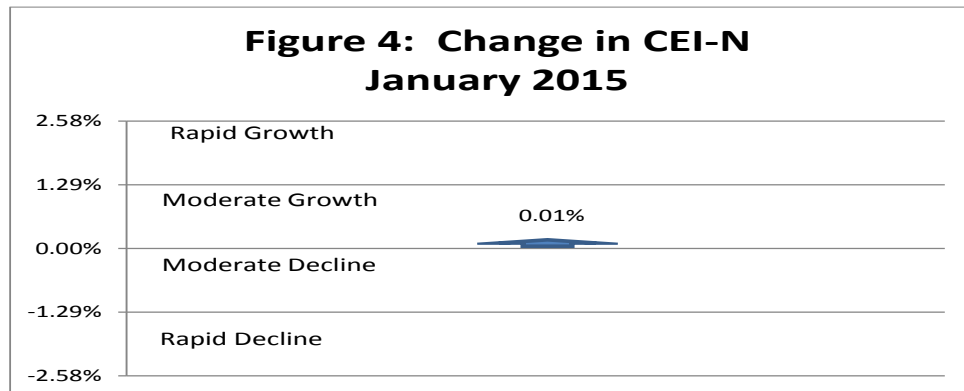


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during January 2015. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). Three of six components of the LEI-N rose during January. Business expectations were optimistic. January 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 an improvement in labor market conditions in Nebraska, as indicated by a decline in initial claims for unemployment insurance. Finally, there was modest growth in building permits for single-family homes during January. Among declining components, there was a sharp increase in the value of the U.S. dollar during January. This is the sixth consecutive monthly increase. A rising dollar creates a challenging environment for Nebraska's export businesses. There also was a modest decline in airline passenger counts and manufacturing hours during January. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

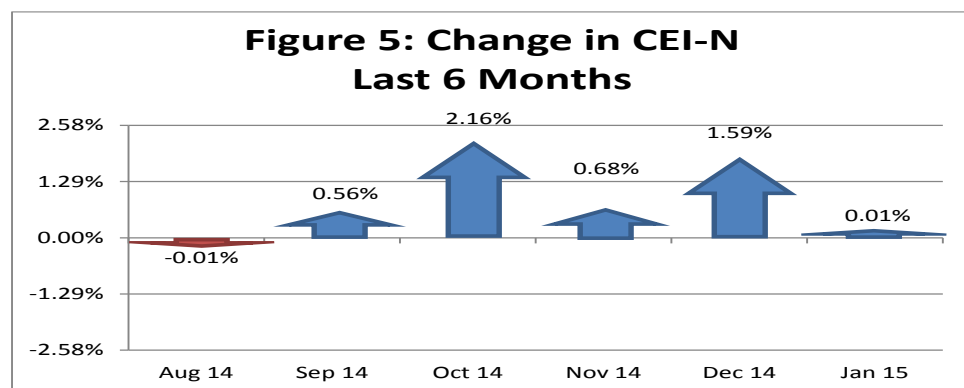


Coincident Economic Indicator – Nebraska

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 was effectively unchanged in January, rising by 0.01%.



As pictured in Figure 5, the CEI-N grew rapidly at the end of 2014, from September through December. Growth slowed abruptly in January, however. The Nebraska economy appears to be shifting from a period of rapid growth in late 2014 towards a period of weak growth in early 2015.



As seen in Figure 6, two of four components of the CEI-N rose during January. Among rising components, there was an increase in real private wages, reflecting improvement in employment, hours worked per week and real hourly wages. The improvement in Nebraska is consistent with improvement nationwide. There also was a slight improvement in the value of agricultural commodities in Nebraska. Among declining components, there was a slight drop in electricity sales during January, after adjusting for weather and other seasonal factors. Business conditions also were somewhat negative during the month. Respondents to the *Survey of Nebraska Business* reported a modest decline in sales and employment. 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*.

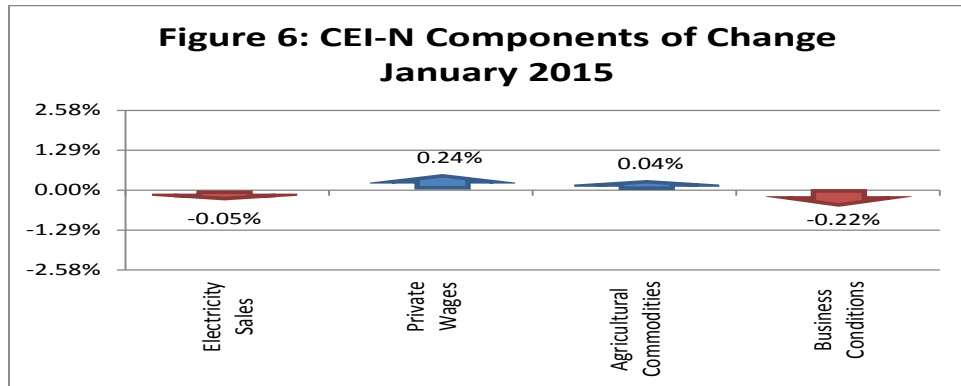
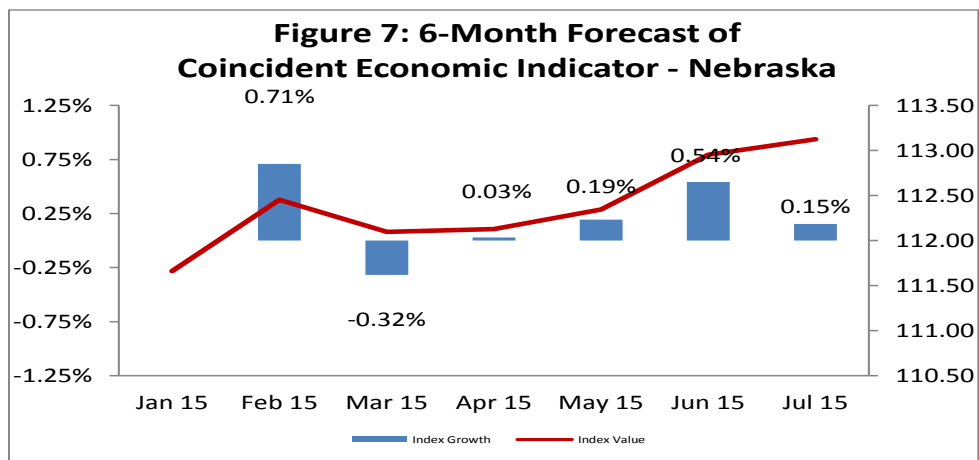


Figure 7 shows the forecast for the CEI-N over the next six months. After a February increase, the forecast calls for a flat economy in Nebraska during the March through May period. These expectations are consistent with values for the LEI-N (see Figure 2) during the September to November 2014 period. Growth in the CEI-N will accelerate in June and July 2015, reflecting the increase in the LEI-N during the last two 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.

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	13.8416	0.0722	0.0329	Electricity Sales	4.8097	0.2079	0.1512
Airline Passengers	3.4793	0.2874	0.1308	Private Wages	1.6759	0.5967	0.4340
Exchange Rate	1.2111	0.8257	0.3757	Agricultural Commodities	3.2213	0.3104	0.2258
Initial UI Claims	10.4376	0.0958	0.0436	Survey Business Conditions	3.8467	0.2600	0.1891
Manufacturing Hours	1.4444	0.6923	0.3150				
Survey Business Expectations	4.4567	0.2244	0.1021				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between December of 2014 and January of 2015. 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	65.06	62.12	2.94	0.03	0.10	0.09%
Airline Passengers	93.50	94.60	-1.10	0.13	-0.14	-0.13%
U.S. Dollar Exchange Rate (Inverse)	92.77	94.68	-1.90	0.38	-0.71	-0.64%
Initial Unemployment Insurance Claims (Inverse)	105.94	92.84	13.10	0.04	0.57	0.51%
Manufacturing Hours	97.31	97.46	-0.16	0.31	-0.05	-0.04%
Survey Business Expectations ¹	55.51		5.51	0.10	0.56	0.50%
Trend Adjustment					0.13	0.12%
Total (weighted average)	112.79	112.33			0.45	0.40%

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	121.21	121.59	-0.38	0.15	-0.06	-0.05%
Private Wage	99.24	98.62	0.62	0.43	0.27	0.24%
Agricultural Commodities	154.84	154.66	0.18	0.23	0.04	0.04%
Survey Business Conditions ¹	48.72		-1.28	0.19	-0.24	-0.22%
Total (weighted average)	111.66	111.65			0.01	0.01%

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.

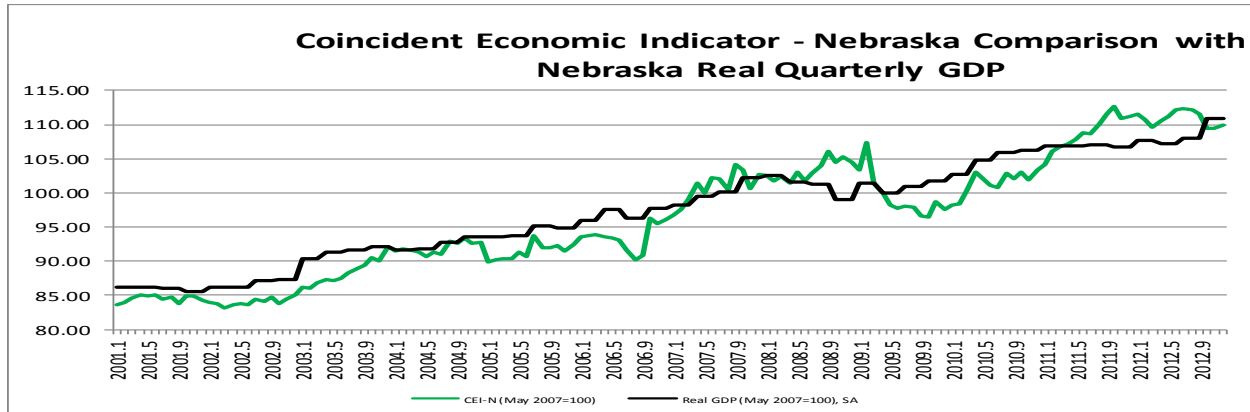


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

