

2015

Nebraska Monthly Economic Indicators: June 19, 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: June 19, 2015" (2015). *Leading Economic Indicator Reports*. 59.

<http://digitalcommons.unl.edu/bbrleir/59>

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: June 19, 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 0.16% in May 2015, marking its fifth increase in the last six months. Consistent increases in the LEI-N, which predicts economic growth in the state six months in the future, indicates that economic growth will be strong in Nebraska in the second half of 2015. Business expectations are one reason for the positive outlook. Respondents to the monthly Survey of Nebraska Business were very optimistic about employment growth over the next six months. A decline in the value of the U.S. dollar also contributed to the positive outlook. Other components of the indicator fell. There was decline in the building permits for single family homes, manufacturing hours and passenger enplanements during May. There also was an uptick in initial claims for unemployment insurance.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in May 2015, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.16% during May.

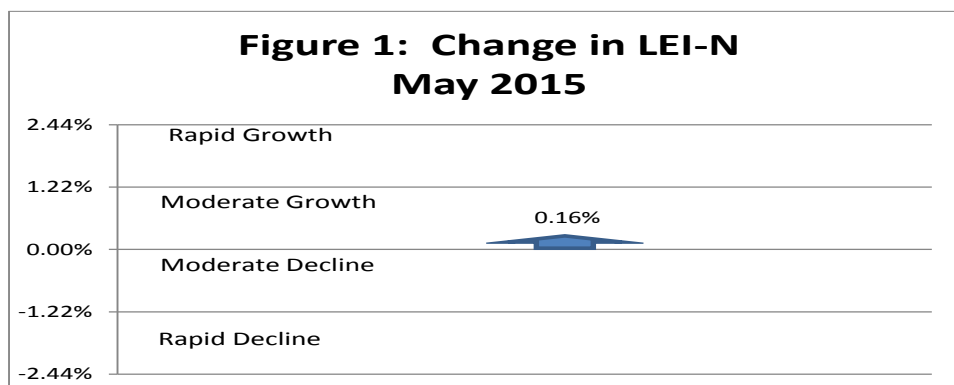


Figure 2 shows the change in the LEI-N over the last 6 months. The LEI-N has risen five of the last six months. The modest drop in March is more than outweighed by the increases in the other months. The consistent increase in the LEI-N suggests that there will be strong growth in the Nebraska economy over the next six months.

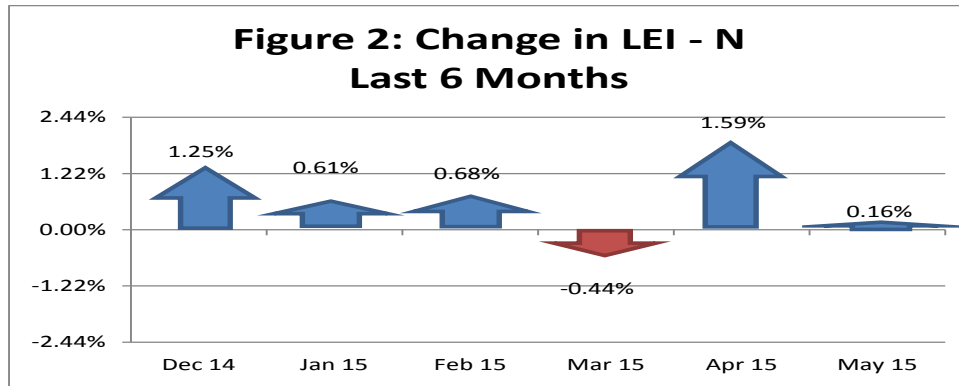
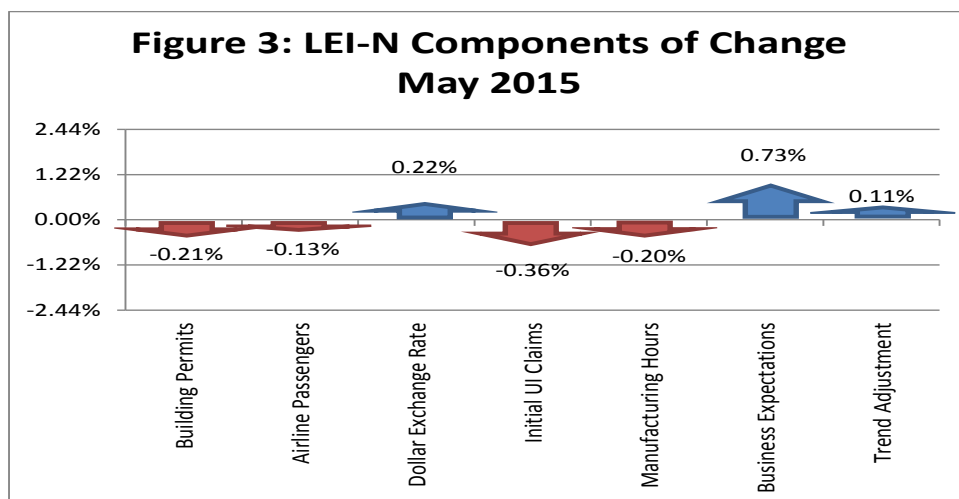
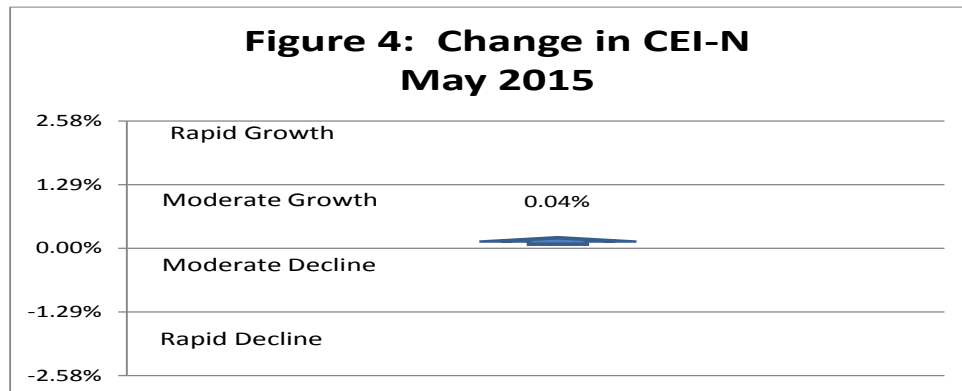


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during May 2015. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). Business expectations and a falling U.S. dollar both made a positive contribution to the LEI-N. Business expectations, as measured by the May *Survey of Nebraska Business*, were strong, particularly expectations for hiring over the next 6 months. A decline in the value of the U.S. dollar in May also was a positive for Nebraska’s export business. The value of the dollar has declined for two straight months, after rising in each of the previous 8 months of increase. A stable rather than rising U.S. dollar will help Nebraska exporters remain competitive. Among declining components, there was a drop in both single-family home building permits and passenger enplanements on a seasonally adjusted basis. There also was a decline in manufacturing hours, while there was a slight uptick in initial claims for unemployment insurance. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

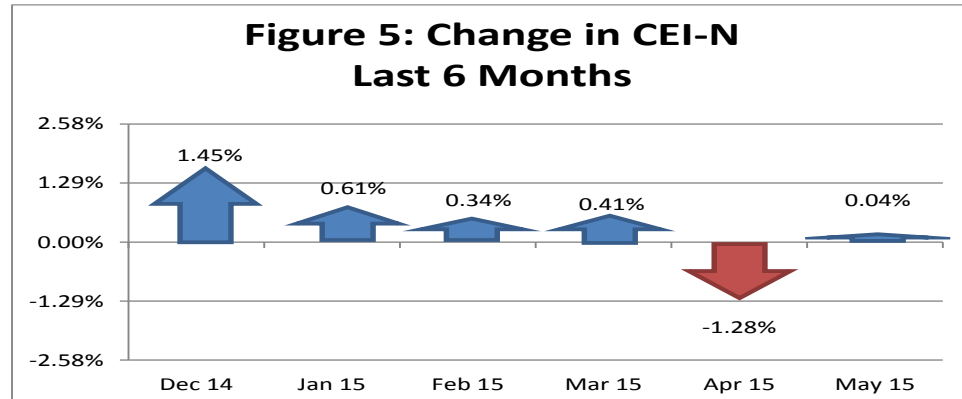


Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. The CEI-N rose by 0.04% during May, as seen in Figure 4.



The small increase in the CEI-N followed a decline in April, as seen in Figure 5. Overall, results show modest growth in the Nebraska economy in the first half of 2015, with steady increases in January through March largely reversed by the drop in April. The Nebraska economy had grown more rapidly at the end of 2014, as seen by the sharp increase in the CEI-N in December 2014.



As seen in Figure 6, two of the four components of the CEI-N rose during May while two others declined. Among rising components, there was an increase in private wages in May, which reflects positive trends in employment, hours worked and hourly wages. Further, respondents to the *May Survey of Nebraska Business* reported an increase in employment at their businesses, a sign of positive business conditions. Among falling components, there was a decline in electricity sales after adjusting for weather and other seasonal factors. There also was a decline in agricultural commodity prices in Nebraska, as both beef and corn prices were falling. Falling commodity prices are likely to be an issue for the Nebraska economy throughout the year. 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*.

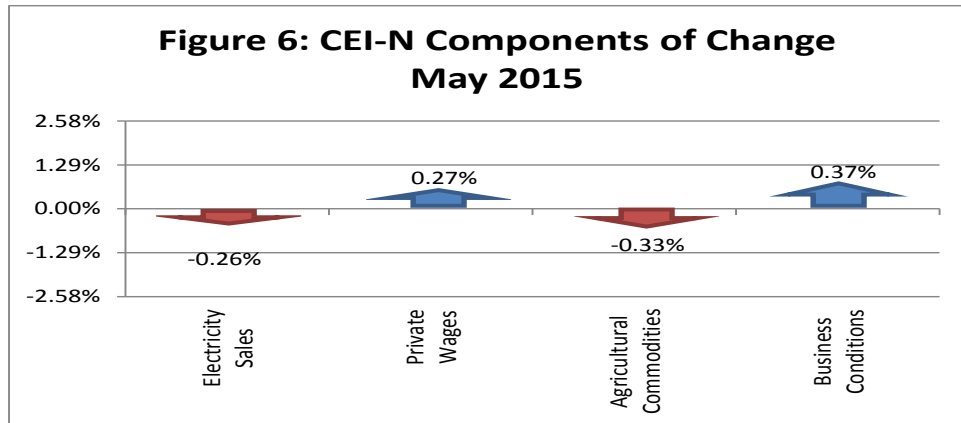
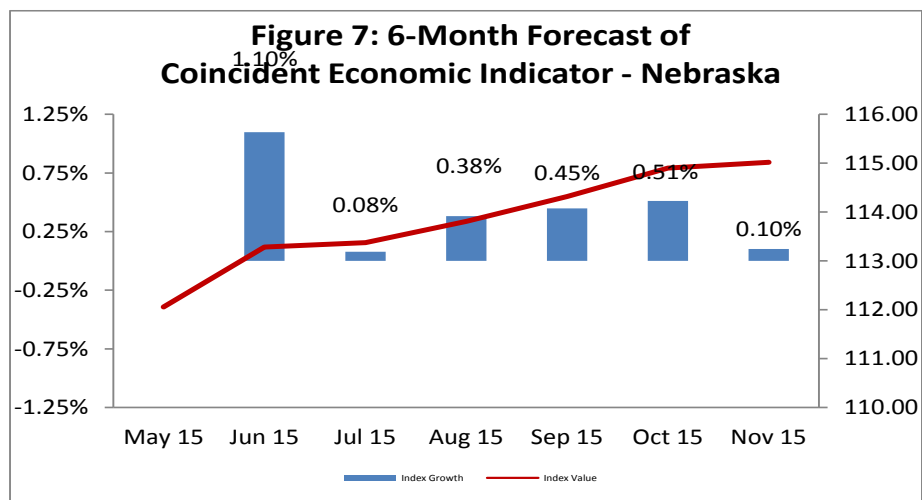


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast calls for strong, consistent economic growth over the next six months. Results are in line with consistent improvements in the LEI-N in five of the last six months (see Figure 2) and suggest a stronger Nebraska economy during the second half of 2015.



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	13.7135	0.0729	0.0334	Electricity Sales	4.7776	0.2093	0.1521
Airline Passengers	3.4549	0.2894	0.1325	Private Wages	1.6846	0.5936	0.4312
Exchange Rate	1.2104	0.8262	0.3783	Agricultural Commodities	3.1994	0.3126	0.2271
Initial UI Claims	10.3629	0.0965	0.0442	Survey Business Conditions	3.8308	0.2610	0.1896
Manufacturing Hours	1.4827	0.6745	0.3088				
Survey Business Expectations	4.4567	0.2244	0.1027				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between April and May 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	59.51	66.69	-7.17	0.03	-0.24	-0.21%
Airline Passengers	92.39	93.51	-1.12	0.13	-0.15	-0.13%
U.S. Dollar Exchange Rate (Inverse)	91.52	90.85	0.67	0.38	0.26	0.22%
Initial Unemployment Insurance Claims (Inverse)	102.88	112.29	-9.41	0.04	-0.42	-0.36%
Manufacturing Hours	95.66	96.42	-0.75	0.31	-0.23	-0.20%
Survey Business Expectations ¹	58.15		8.15	0.10	0.84	0.73%
Trend Adjustment					0.13	0.11%
Total (weighted average)	115.07	114.88			0.19	0.16%

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	115.65	117.56	-1.91	0.15	-0.29	-0.26%
Private Wage	101.78	101.09	0.69	0.43	0.30	0.27%
Agricultural Commodities	151.84	153.47	-1.63	0.23	-0.37	-0.33%
Survey Business Conditions ¹	52.17		2.17	0.19	0.41	0.37%
Total (weighted average)	112.06	112.01			0.05	0.04%

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.

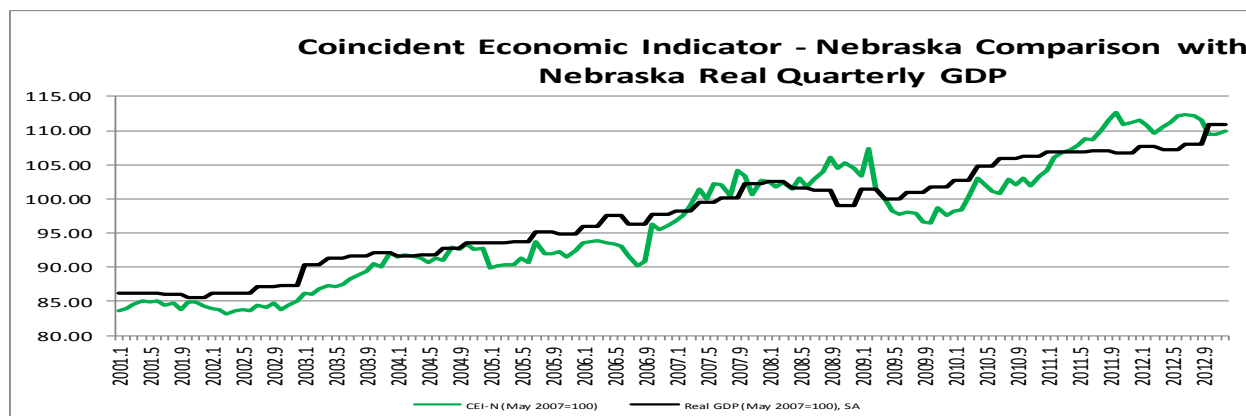


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

