

# Nebraska Monthly Economic Indicators: April 19, 2013

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

**Authors:** Dr. Eric Thompson, Dr. William Walstad  
**Graduate Research Assistant:** Adam George

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**Summary:** *The Leading Economic Indicator – Nebraska (LEI-N) declined by 0.39% during March 2013. The decrease in the LEI-N, which predicts economic growth in the state six months in the future, suggests weak economic growth in Nebraska during the summer of 2013. Looking at individual components of the LEI-N, five of the six components of the LEI-N declined during March. Single-family building permits dropped, as did airline passengers counts. There was an increase in initial claims for unemployment insurance, and an increase in the value of the U.S. dollar during March. The increase in the value of the dollar would tend to limit export activity in the coming months. Manufacturing hours also declined in March, as the manufacturing economy weakened throughout the Great Plains. Among these widespread declines, however, there was strong growth in business expectations during March. Respondents to the Survey of Nebraska Business reported expectations for a solid increase in business sales and employment over the next six month. This improvement in business expectations helped limit the drop in the Leading Economic Indicator – Nebraska.*

## Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in March 2013, compared to the previous month. The LEI-N, which predicts economic growth six months into the future, fell by 0.39% in March.

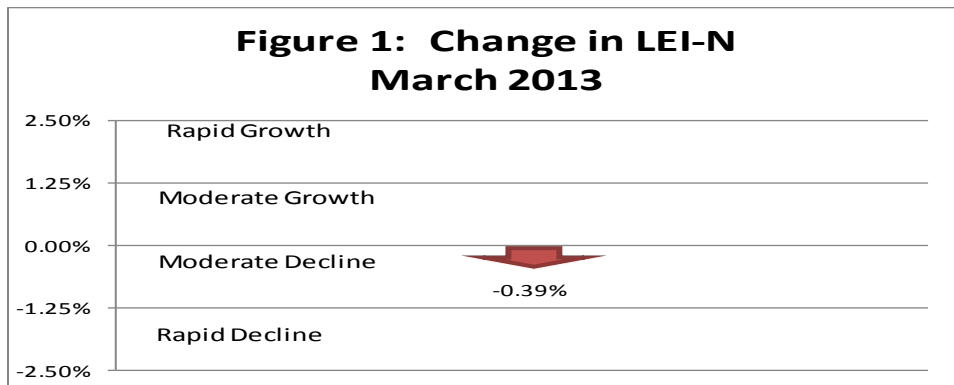


Figure 2 shows the growth in the LEI-N over the last 6 months. The figure shows that growth in the LEI-N has been uneven in recent months. The indicator alternated between growth and decline. Strong increases and declines were observed during October and November 2012, but the monthly changes were smaller from December 2012 through March 2013. The weak and uneven rate of growth in the LEI-N suggests weak economic growth in Nebraska during the second and third quarters of 2013.

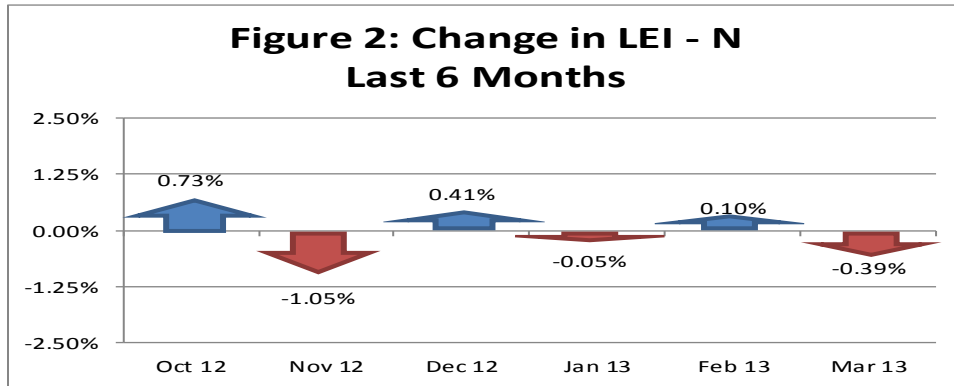
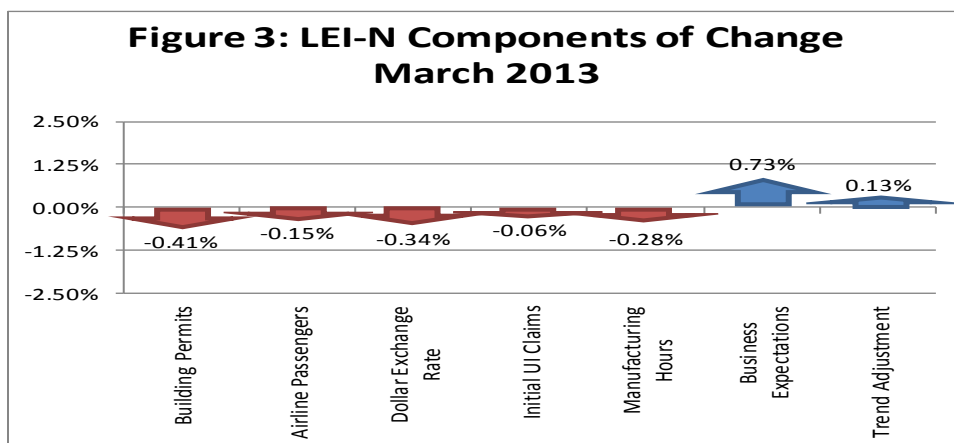
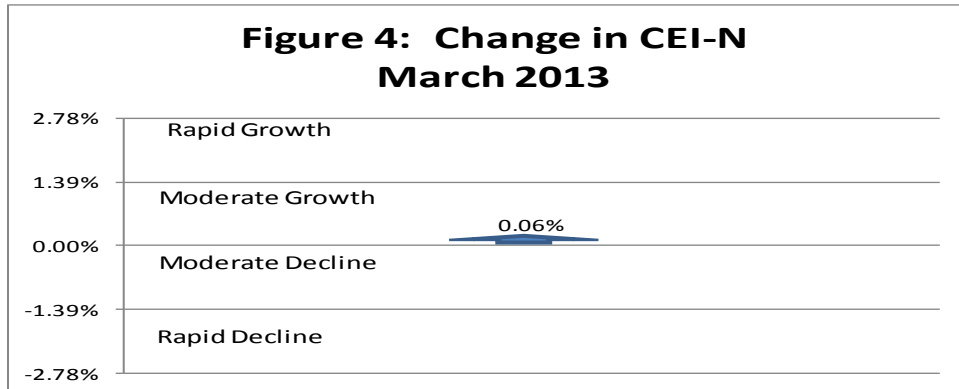


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during March 2013. The change in the overall LEI – N is the weighted average of changes in each component (see page 5). Five of the six components of the leading indicator declined in March. Both single-family building permits and airline passenger counts declined during March. Manufacturing hours also declined in March, consistent with weakness in manufacturing activity in throughout the northern Great Plains during the month. There also was a modest increase in unemployment insurance claims during March and a significant increase in the value of the U.S. dollar. Over time, the increase in the value of the U.S. dollar will limit future export activity. Partially offsetting these declines was a strong increase in business expectations. Respondents to the *Survey of Nebraska Business* reported that they expect solid improvements in sales and employment in their business over the next six months. Finally, note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

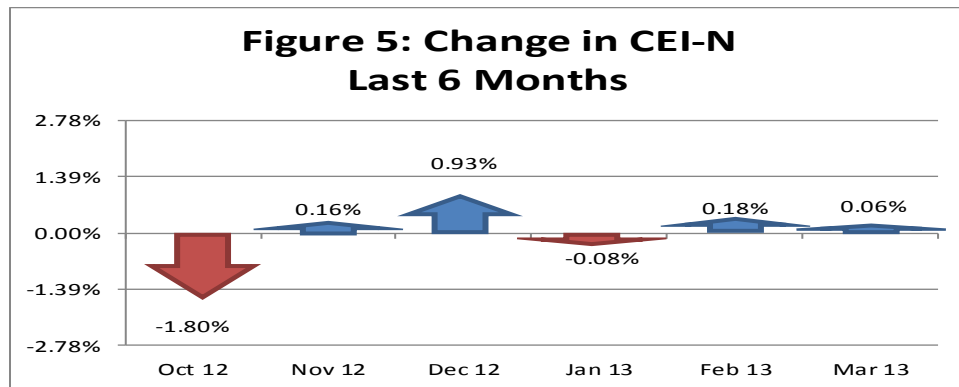


## Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. The CEI-N rose by just 0.06% between February and March of 2013, as seen in Figure 4.



The CEI-N has grown in four of the last 5 months, as seen in Figure 5. The rate of growth has been modest, however, during the period. The CEI-N increased in both February and March but the rate of growth was low in both months. .



As seen in Figure 6, rising private wages contributed to an improvement in the CEI-N during March, due to rising employment and real hourly wages. Electricity sales also expanded during the month after adjusting for weather as well as seasonal factors. There was a dip in agricultural prices during the month, particularly in livestock prices, that discouraged growth in the CEI-N. There also was a decline in business activity during March. Respondents to the *Survey of Nebraska Business* reported a decline in sales and employment activity in recent months. A detailed discussion of the components of the CEI-N, as well as the LEI-N, can be found at [www.cba.unl.edu](http://www.cba.unl.edu) in *Technical Report: Coincident and Leading Economic Indicators- Nebraska*.

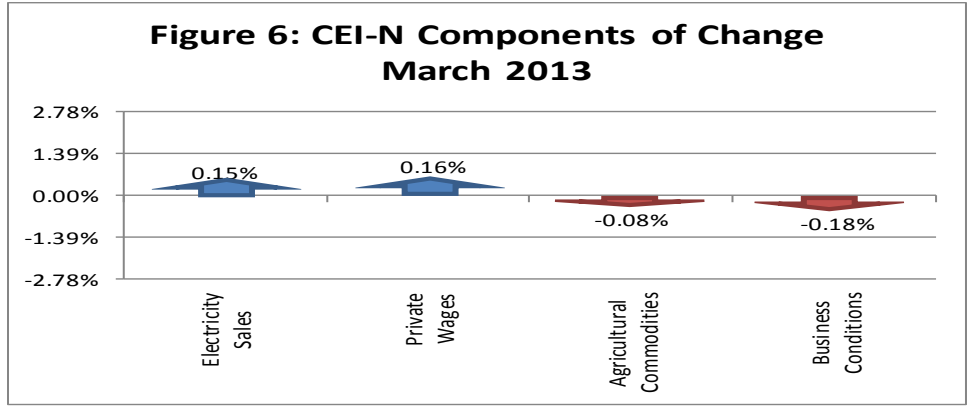
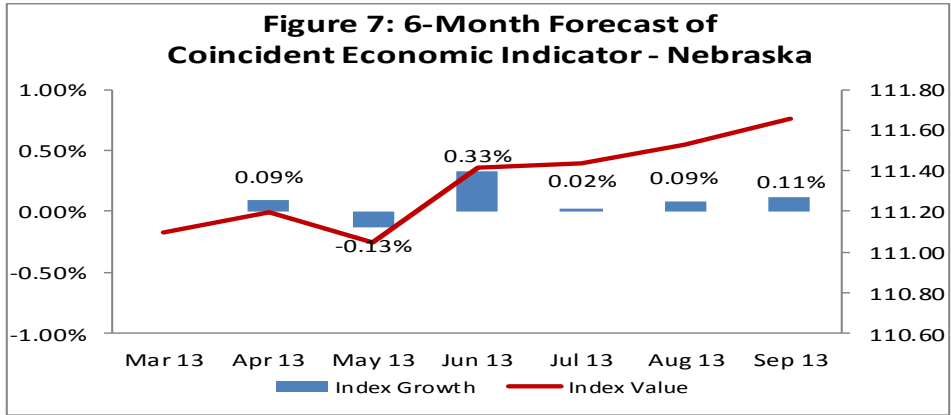


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast shows continued weak growth in the CEI-N during 2013. Uneven economic growth is projected during the second quarter, consistent with the uneven growth observed in the LEI-N in Figure 2. Weak growth is anticipated in the third quarter of 2013, again consistent with the weak improvement in the LEI-N over the last three months. These projections call for slow but steady growth in the Nebraska economy during mid-2013.



## 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	14.2320	0.0703	0.0330	Electricity Sales	4.6557	0.2148	0.1612
Airline Passengers	3.6448	0.2744	0.1289	Private Wages	1.7283	0.5786	0.4342
Exchange Rate	1.2375	0.8081	0.3795	Agricultural Commodities	3.3079	0.3023	0.2268
Initial UI Claims	9.8907	0.1011	0.0475	Survey Business Conditions	4.2205	0.2369	0.1778
Manufacturing Hours	1.4560	0.6868	0.3226				
Survey Business Expectations	5.3024	0.1886	0.0886				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between February and March of 2013. 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 0.13% per month. The U.S. Leading Economic Indicator also has a trend adjacent factor.

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	64.33	77.36	-13.02	0.03	-0.43	-0.41%
Airline Passengers	87.59	88.82	-1.24	0.13	-0.16	-0.15%
U.S. Dollar Exchange Rate (Inverse)	103.84	104.77	-0.93	0.38	-0.35	-0.34%
Initial Unemployment Insurance Claims (Inverse)	71.76	72.97	-1.21	0.05	-0.06	-0.06%
Manufacturing Hours	89.09	89.99	-0.91	0.32	-0.29	-0.28%
Survey Business Expectations <sup>1</sup>	58.53		8.53	0.09	0.76	0.73%
Trend Adjustment					0.13	0.13%
<b>Total (weighted average)</b>	<b>103.69</b>	<b>104.10</b>			<b>-0.41</b>	<b>-0.39%</b>

<sup>1</sup> 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	105.30	104.24	1.06	0.16	0.17	0.15%
Private Wage	97.03	96.62	0.41	0.43	0.18	0.16%
Agricultural Commodities	156.40	156.79	-0.39	0.23	-0.09	-0.08%
Survey Business Conditions <sup>1</sup>	48.91		-1.09	0.18	-0.19	-0.18%
<b>Total (weighted average)</b>	<b>111.09</b>	<b>111.03</b>			<b>0.07</b>	<b>0.06%</b>

<sup>1</sup> 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 2011. The comparison ends in 2011 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 0.94.

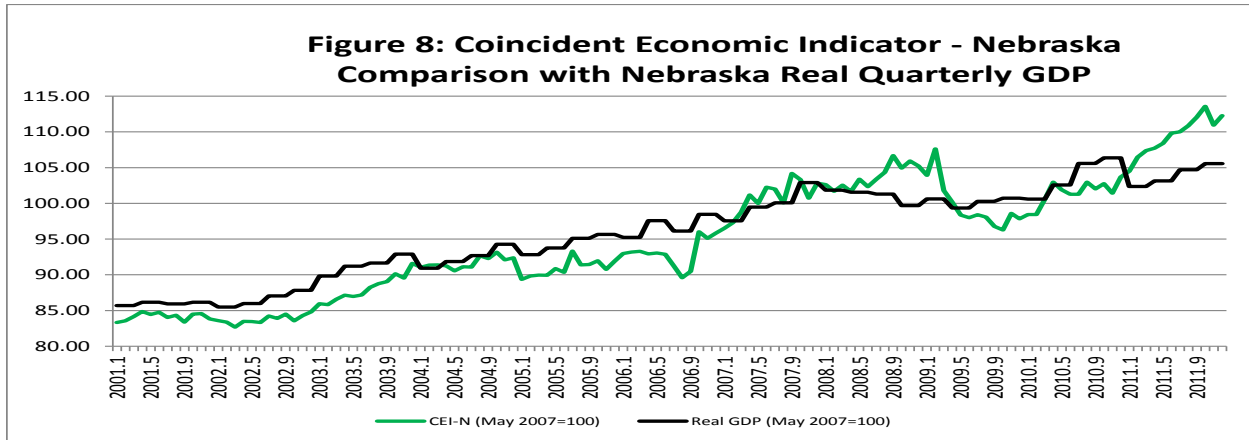


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

