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Nebraska Monthly Economic Indicators: July 18, 2014

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Summary: *The Leading Economic Indicator – Nebraska (LEI-N) rose by 1.01% during June 2014. The rise in the LEI-N, which predicts economic growth in the state six months in the future, is the fifth consecutive monthly increase. Cumulatively, these increases provide reliable evidence of solid growth in the Nebraska economy in the second half of 2014. Positive business expectations are a key reason for the improvement in the LEI-N. Specifically, June respondents to the Survey of Nebraska Business predict a strong increase in both sales and employment at their business over the next six month. There also was a decline in initial unemployment claims and an improvement in building permits during June. Along with these improving components, there also was a modest decline in three LEI-N components. In particular, there was modest decline in airline passenger counts and manufacturing hours during June. Further, for the first time in several months, there was an increase in the value of the U.S. Dollar, which is negative for Nebraska exporters.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in June 2014, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 1.01% in June.

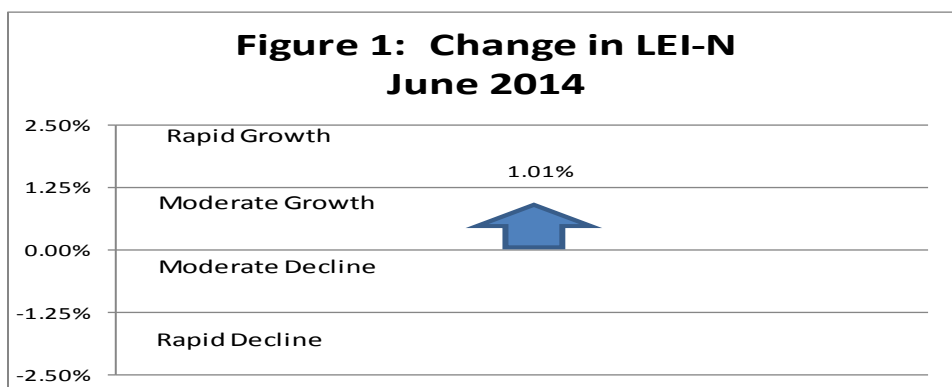


Figure 2 shows the change in the LEI-N over the last 6 months. The leading indicator has risen in each of the last five months, after volatility at the beginning of the year. The five consecutive months of increase suggest that there will be solid growth in the Nebraska economy in the second half of 2014.

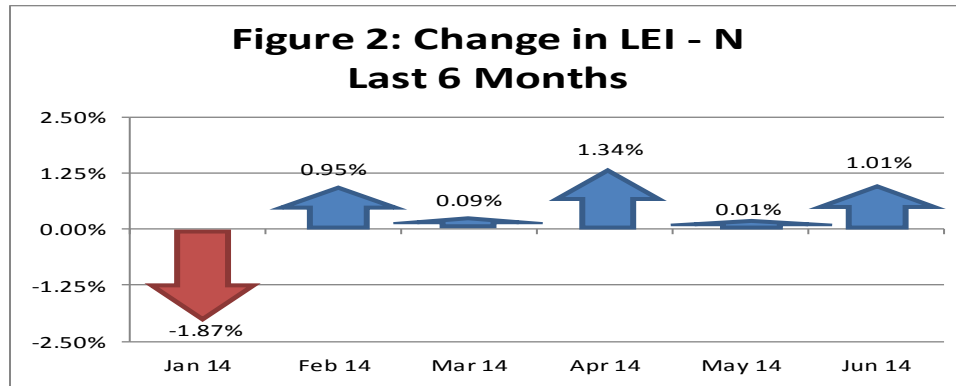
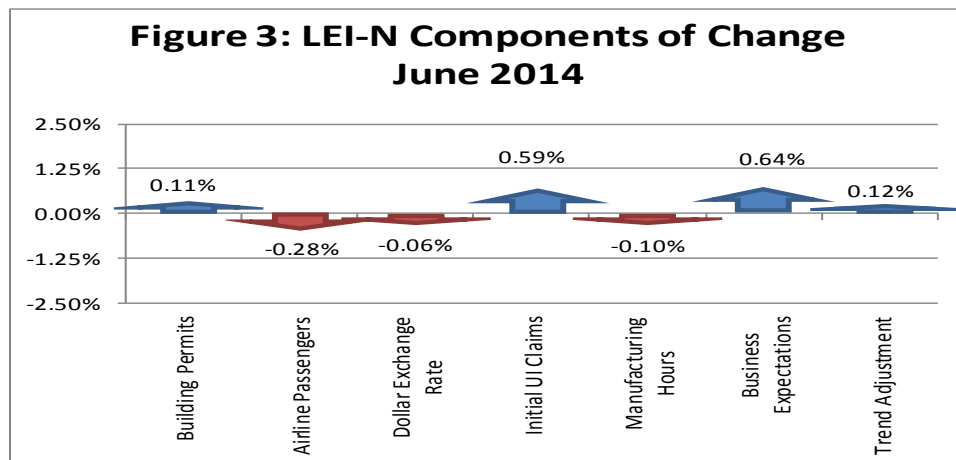
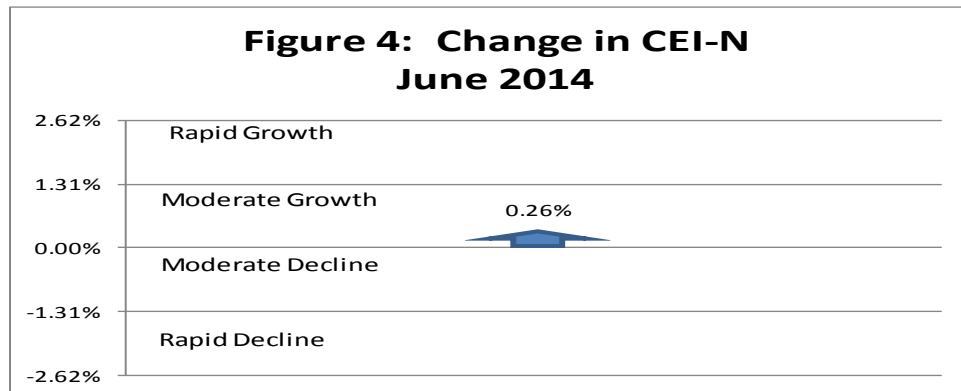


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during June 2014. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). During June, three of the six components of the LEI-N rose and two rose rapidly. Business expectations were very positive in June as respondents to the *Survey of Nebraska Business* predicted a strong increase in both sales and employment over the next six months. In the nearly three years that the monthly survey has been taken, June was the second stronger month on record for business expectations. There also was a solid decline in initial unemployment claims, a positive sign for the labor market and a modest increase in single-family building permits. At the same time, there was a modest decline in three other components, including airline passenger counts and manufacturing hours. The slight increase in the value of the U.S. dollar is a negative for Nebraska exporters. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

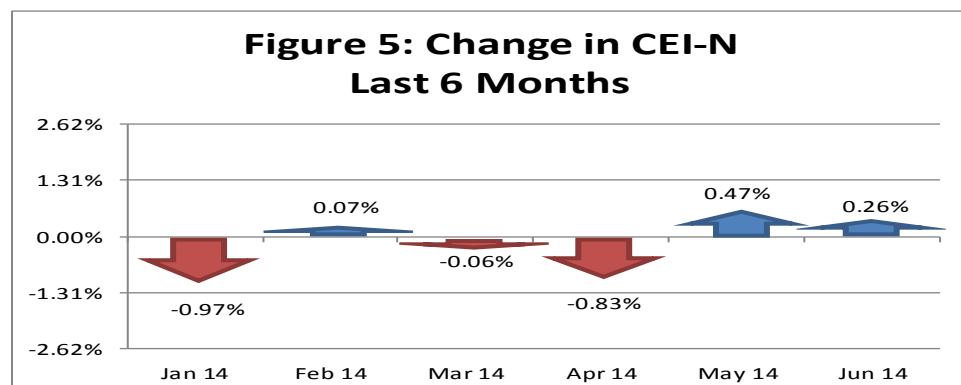


Coincident Economic Indicator – Nebraska

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 0.26% last month.



The increase in the CEI-N during June is the second consecutive monthly increase and is another sign of stabilization in the Nebraska economy. Increases in May and June negate a decline in April of similar magnitude. As seen in Figure 5, the CEI-N dropped during the first quarter of the year but was stable in aggregate in the second quarter months of April through June. Note that the CEI-N is expected to expand over the next 6 months (see Figure 7).



As seen in Figure 6, three components of the CEI-N rose during June while one fell. There was growth in real private wages, commodity prices and business conditions. Real weekly private wages rose during the month, with solid growth in employment and weekly hours. Agricultural commodity prices also rose due to solid increases in beef prices although corn prices fell during June. Respondents to the *Survey of Nebraska Business* reported an increase in sales and employment in recent months. The electricity sales component was the only CEI-N component to decline during June, after accounting for temperature and other seasonal adjustments. However, limited irrigation activity during June may have played a role in weak electricity sales. 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*.

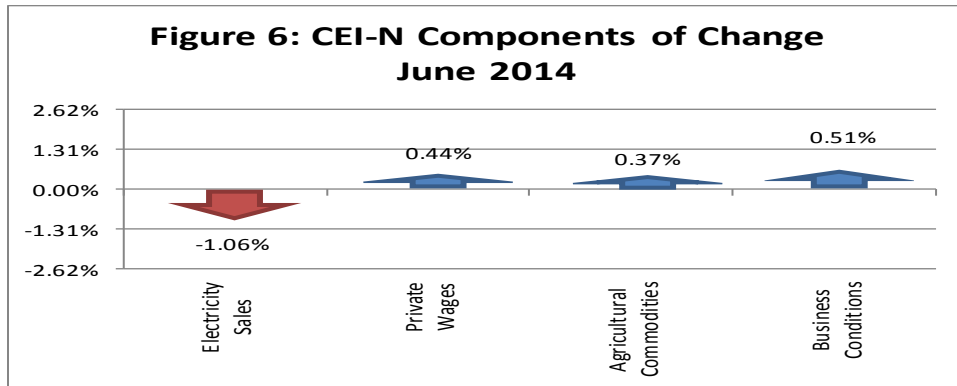
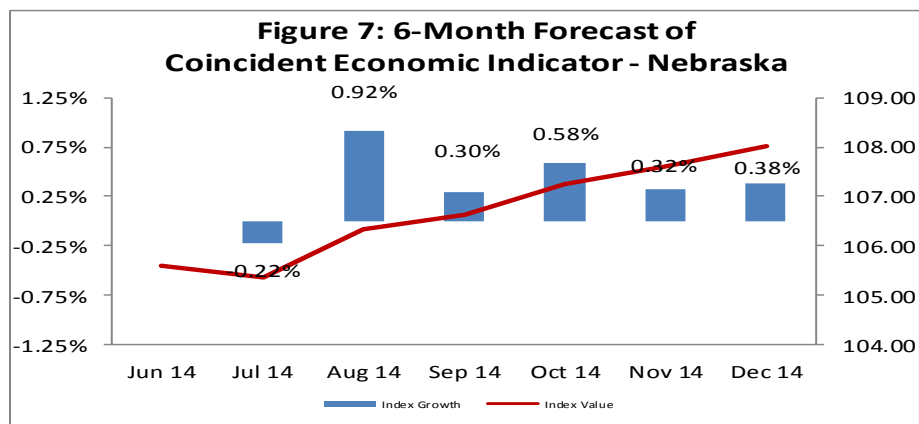


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast suggests solid growth in the Nebraska economy beginning in August. This expectation is consistent with recent values for the LEI-N (see Figure 2). After declining in January, the LEI-N has improved for five consecutive months include solid growth in February, April and June.



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	13.8539	0.0722	0.0330	Electricity Sales	4.9143	0.2035	0.1477
Airline Passengers	3.5333	0.2830	0.1294	Private Wages	1.6936	0.5905	0.4286
Exchange Rate	1.1943	0.8373	0.3829	Agricultural Commodities	3.0859	0.3241	0.2352
Initial UI Claims	10.3148	0.0969	0.0443	Survey Business Conditions	3.8493	0.2598	0.1886
Manufacturing Hours	1.4786	0.6763	0.3093				
Survey Business Expectations	4.5278	0.2209	0.1010				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between May and June 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	57.42	53.67	3.75	0.03	0.12	0.11%
Airline Passengers	90.47	92.84	-2.37	0.13	-0.31	-0.28%
U.S. Dollar Exchange Rate (Inverse)	101.91	102.09	-0.18	0.38	-0.07	-0.06%
Initial Unemployment Insurance Claims (Inverse)	98.65	84.15	14.50	0.04	0.64	0.59%
Manufacturing Hours	94.05	94.40	-0.35	0.31	-0.11	-0.10%
Survey Business Expectations ¹	56.88		6.88	0.10	0.70	0.64%
Trend Adjustment					0.13	0.12%
Total (weighted average)	110.53	109.42			1.11	1.01%

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	109.70	117.27	-7.57	0.15	-1.12	-1.06%
Private Wage	97.14	96.05	1.09	0.43	0.47	0.44%
Agricultural Commodities	147.61	145.96	1.65	0.24	0.39	0.37%
Survey Business Conditions ¹	52.84		2.84	0.19	0.54	0.51%
Total (weighted average)	105.59	105.32			0.27	0.26%

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.

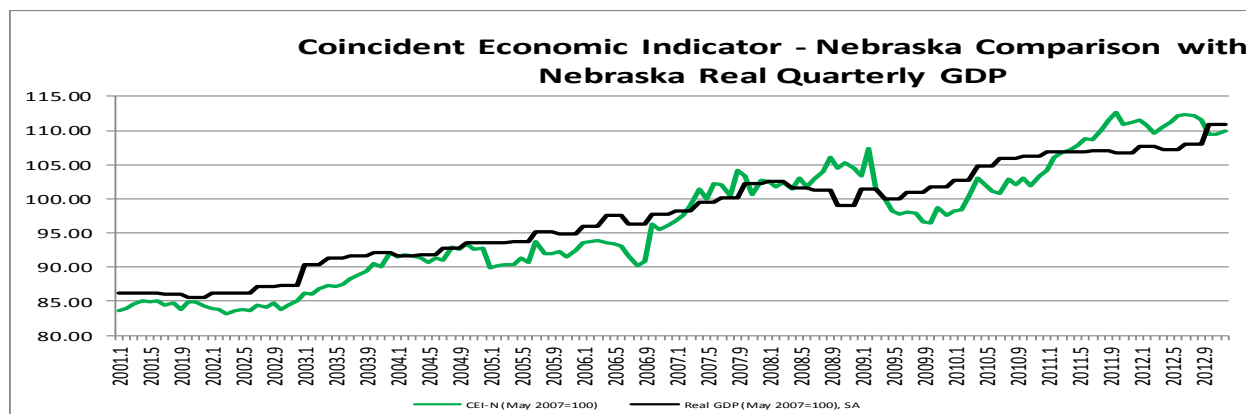


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

