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Nebraska Monthly Economic Indicators: August 15, 2014

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Summary: The Leading Economic Indicator – Nebraska (LEI-N) fell by .75% during July 2014. The decline in the LEI-N, which predicts economic growth in the state six months in the future, is the first in six months. The decline suggests that economic growth may slow in Nebraska in early 2015 after strong growth in the second half of 2014. Three components contributed to the decline in the leading economic indicator in July. There was a decline in manufacturing hours and in single-family building permits during the month. There also was an increase in initial claims for unemployment insurance during July. Among positive components, business expectations remained positive in Nebraska for the sixth consecutive month. In particular, July respondents to the Survey of Nebraska Business predicted an increase in both sales and employment at their business over the next six month. There also was a modest decline in the value of the U.S. dollar during July, which is a positive for Nebraska exporters.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in July 2014, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N declined by 0.75% in July.

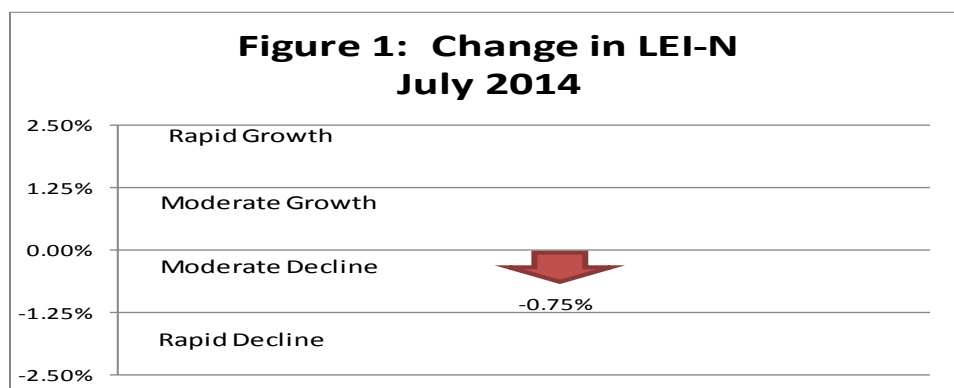


Figure 2 shows the change in the LEI-N over the last 6 months. The leading indicator rose for five months before declining in July. The five consecutive months of increase suggest that there will be strong growth in the Nebraska economy in the second half of 2014. The decline in July suggests that the rate of growth may slow as 2015 begins. It will be important to monitor value of the LEI-N over the next few months to see if it continues to suggest slowing economic growth in early 2015.

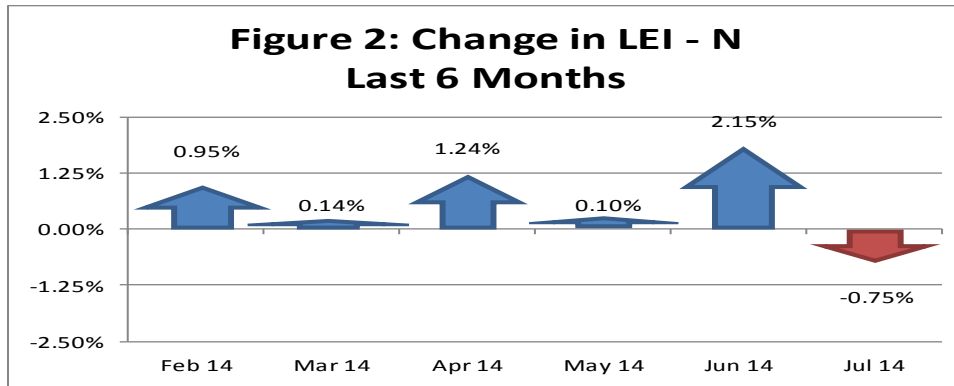
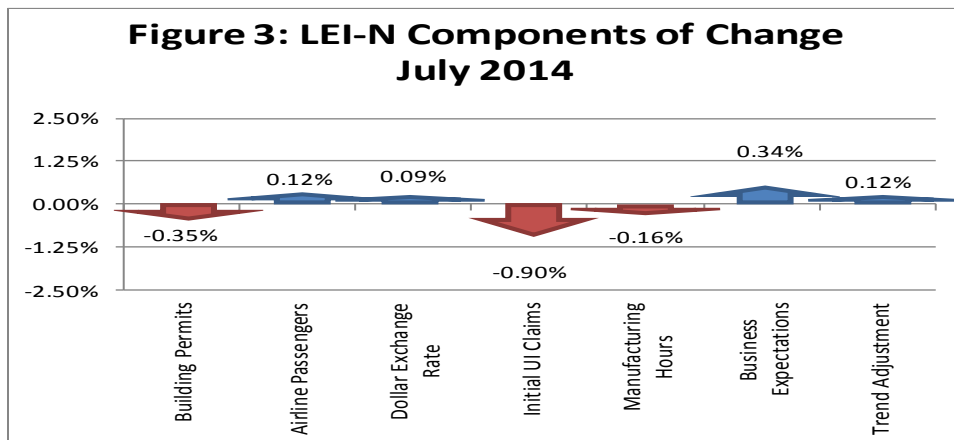
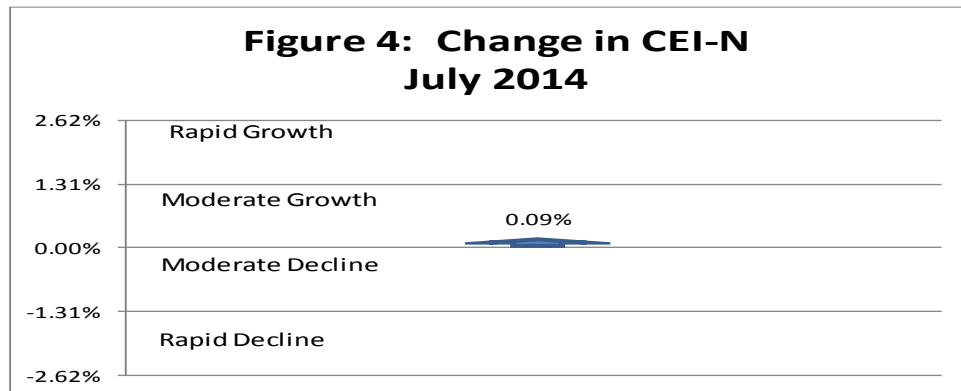


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during July 2014. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). During July, three of the six components of the LEI-N fell. There was a decline in single-family building permits in Nebraska during July. There also was a modest decline in manufacturing hours in July following strong growth in May and June. There also was an increase in initial claims for unemployment insurance during July, suggesting that challenges remain for the Nebraska labor market. Among positive components, business expectations were positive in July as respondents to the *Survey of Nebraska Business* predicted an increase in both sales and employment over the next six months. Business expectations, however, moderated relative to strong growth expectations found in June. The airline passenger count component also was positive in July. The small decline in the U.S. dollar during July also is a positive for Nebraska exporters. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

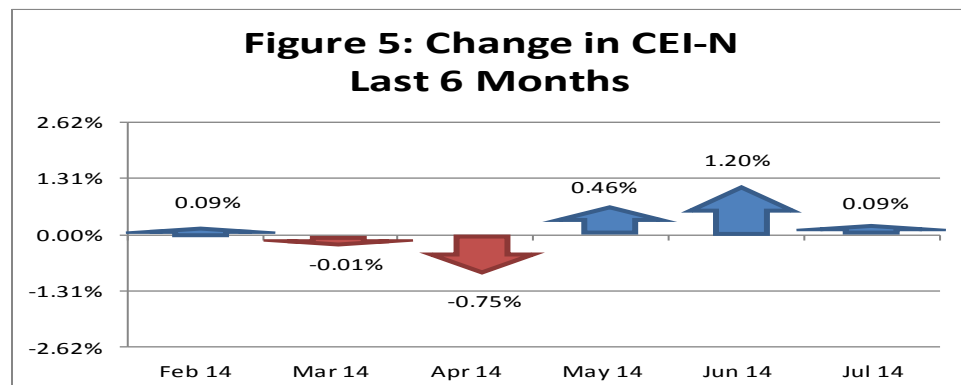


Coincident Economic Indicator – Nebraska

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 0.09% last month.



There also was an upward revision for CEI-N growth during June, due to an upward revision in both manufacturing hours and weather-adjusted electricity sales during the month. As a result, there is a pattern of improving growth in Nebraska beginning with the second quarter of 2014. This pattern is evident in Figure 5 below, which shows growth in the CEI-N over the last 6 months. After weakness during the first quarter of the year, the CEI-N grew solidly in both May and June of 2014 and net growth during the April to June quarter was solidly positive. Growth is expected to improve further in the third and fourth quarters of 2014 (see Figure 7).



As seen in Figure 6, two components of the CEI-N rose during July while two fell. Agricultural commodity prices rose during July due to solid increases in beef prices during the month, although corn prices fell. Respondents to the *Survey of Nebraska Business* also reported an increase in employment in recent months, leading to positive overall business expectations. However, electricity sales declined slightly during July, after adjusting for weather and seasonal factors. There also was a decline in private wages due to lower real hourly wages. 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*.

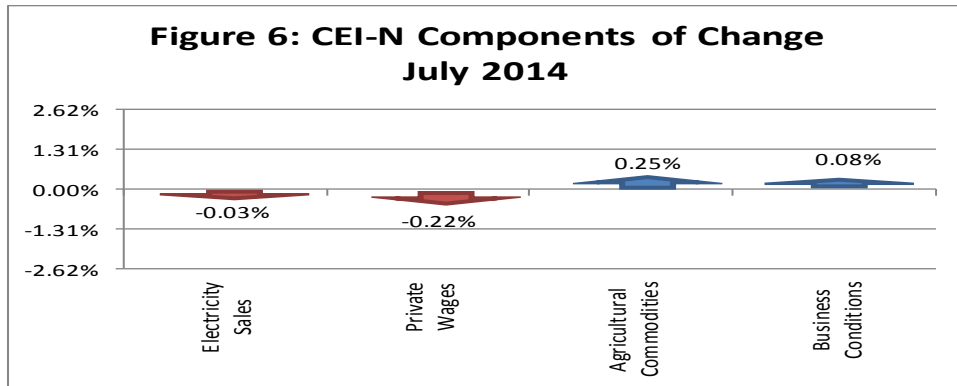
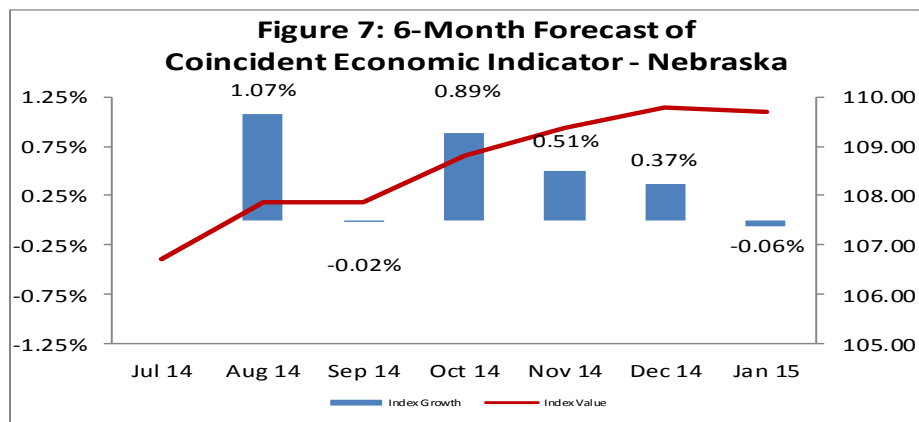


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast suggests solid growth in the Nebraska economy during the third quarter, due to strong growth in August. Even stronger growth is expected during the fourth quarter, with the Nebraska economy growing in October, November and December. A slight decline in the CEI-N is anticipated for January 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	13.8447	0.0722	0.0331	Electricity Sales	4.8426	0.2065	0.1496
Airline Passengers	3.5333	0.2830	0.1296	Private Wages	1.6856	0.5933	0.4297
Exchange Rate	1.1909	0.8397	0.3846	Agricultural Commodities	3.1190	0.3206	0.2322
Initial UI Claims	10.5183	0.0951	0.0435	Survey Business Conditions	3.8437	0.2602	0.1885
Manufacturing Hours	1.4889	0.6717	0.3077				
Survey Business Expectations	4.5151	0.2215	0.1014				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between June and July 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	45.50	57.26	-11.77	0.03	-0.39	-0.35%
Airline Passengers	91.47	90.47	1.00	0.13	0.13	0.12%
U.S. Dollar Exchange Rate (Inverse)	102.19	101.94	0.25	0.38	0.10	0.09%
Initial Unemployment Insurance Claims (Inverse)	79.27	102.35	-23.08	0.04	-1.01	-0.90%
Manufacturing Hours	97.16	97.75	-0.59	0.31	-0.18	-0.16%
Survey Business Expectations ¹	53.78		3.78	0.10	0.38	0.34%
Trend Adjustment					0.13	0.12%
Total (weighted average)	111.03	111.86			-0.84	-0.75%

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	114.46	114.65	-0.19	0.15	-0.03	-0.03%
Private Wage	97.50	98.03	-0.54	0.43	-0.23	-0.22%
Agricultural Commodities	149.09	147.95	1.14	0.23	0.26	0.25%
Survey Business Conditions ¹	50.46		0.46	0.19	0.09	0.08%
Total (weighted average)	106.73	106.64			0.09	0.09%

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.

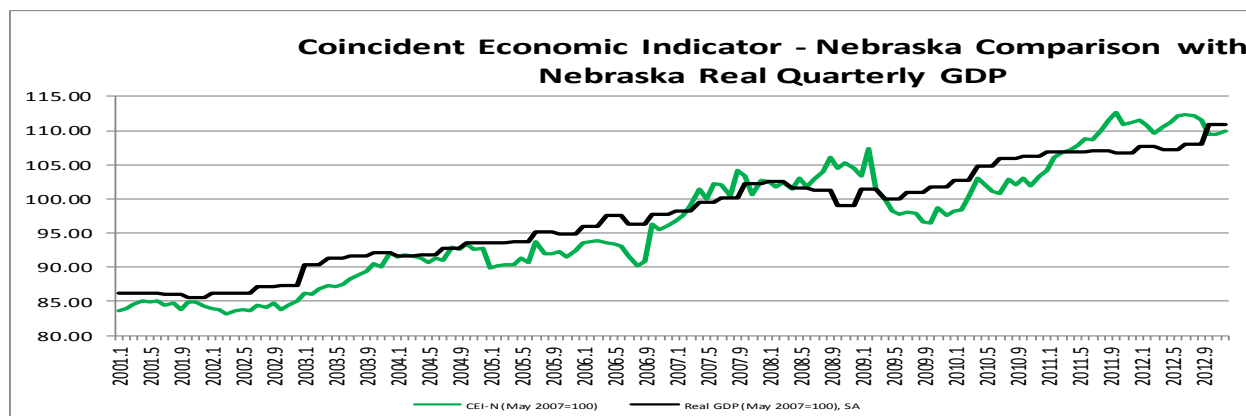


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

