2014

Nebraska Monthly Economic Indicators: December 19, 2014

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Summary: *The Leading Economic Indicator – Nebraska (LEI-N) fell by 1.33% during November 2014. The sharp decline in the LEI-N, which predicts economic growth in the state six months in the future, suggests that economic growth will slow during the second quarter of 2015. Four of six components of the leading economic indicator weakened during November. For the fourth consecutive month, there was a significant increase in the value of the U.S. Dollar. Such an increase reduces the competiveness of export businesses. There also was an increase in initial unemployment claims during the month. Further, airline passenger counts and building permits for single-family homes declined. Weakness among these key economic figures stands in contrast to the outlook among Nebraska businesses. In particular, respondents to the Survey of Nebraska Business predicted an increase in sales and employment over the next six months.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in November 2014, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N fell by 1.33% in November.

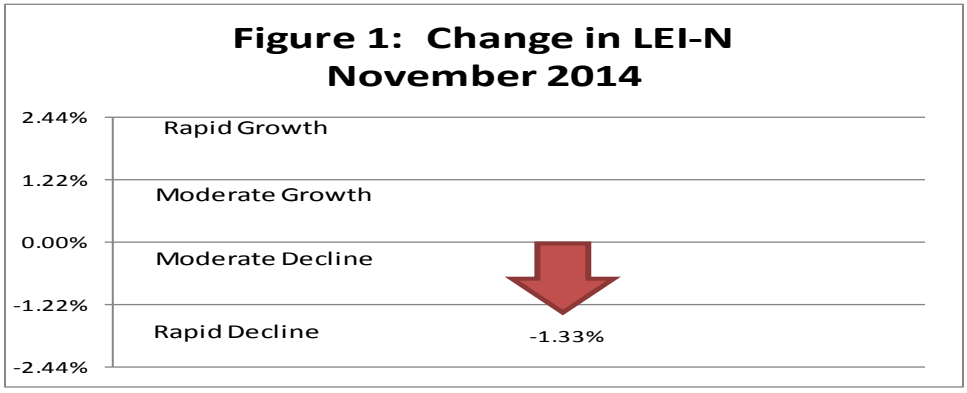


Figure 2 shows the change in the LEI-N over the last 6 months. After a period of steady expansion, the leading indicator declined during two of the three last months. The drop was especially steep during the current month. This emerging pattern of uneven growth is consistent with slowing economic growth during the second quarter of 2015. Naturally, it will be important to monitor the leading indicator to see if the recent pattern persists during subsequent months.

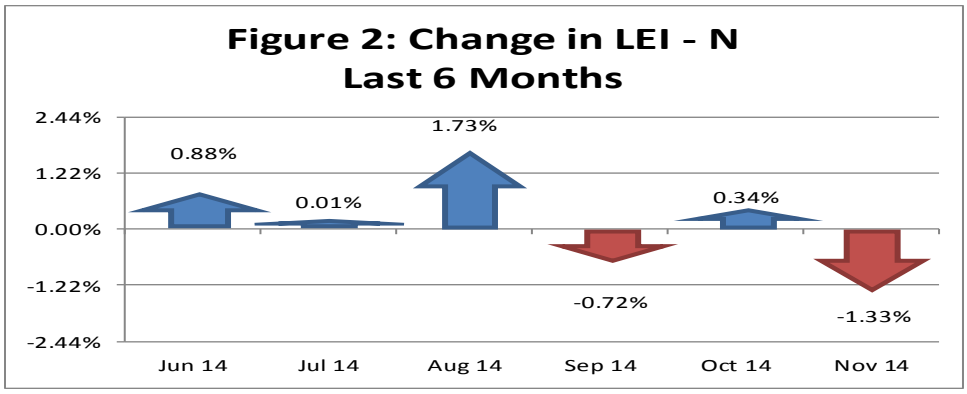
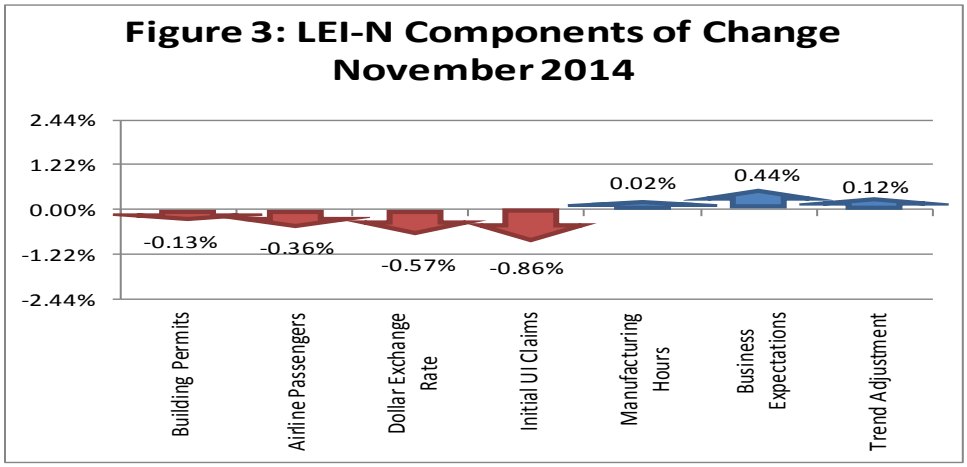
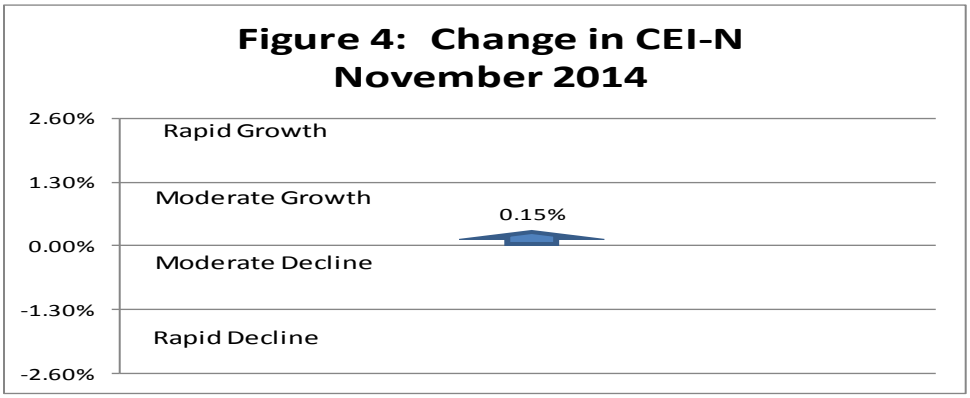


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during November 2014. The change in the overall LEI–N is the weighted average of changes in each component (see page 5). During November, four of six components of the LEI-N declined. There was deterioration in conditions for Nebraska exporting businesses, due to a sharp increase in the value of the U.S. dollar. This is the fourth consecutive month with a significant increase in the value of the U.S. dollar. There also was a dip in airline passenger counts and building permits for single-family homes during November. Further, there was a sharp increase in initial claims for unemployment insurance during the month. Among improving indicators, manufacturing hours were up slightly in November. At the same time, business expectations were a bring spot for the economy. November respondents to the *Survey of Nebraska Business* were positive about the prospects for sales and employment growth over the next six months. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

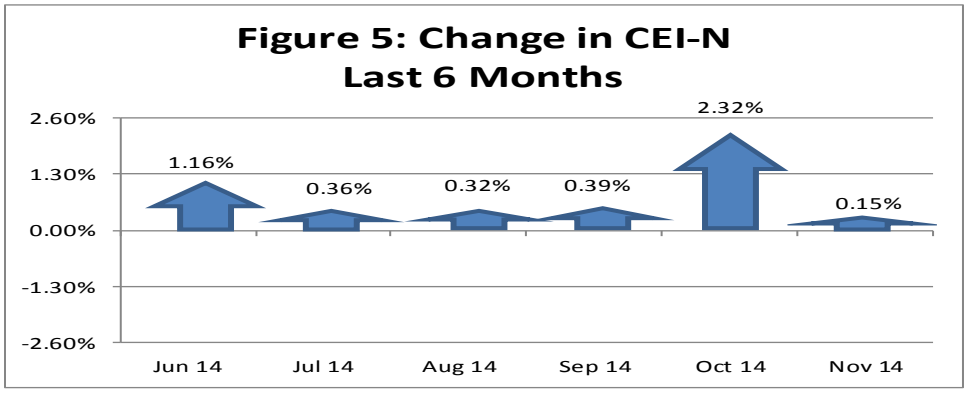


Coincident Economic Indicator – Nebraska

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 0.15% last month.



The CEI-N has grown for the past seven months, including rapid growth in June and October. This is the longest sustained period of growth since the CEI-N was first released in January 2012. Growth over the last six months is pictured in Figure 5. This period of solid economic growth is expected to continue for the next few months.



As seen in Figure 6, three of the four components of the CEI-N rose during November. Agricultural prices and business expectations were up solidly during the month. Respondents to the *Survey of Nebraska Business* reported strong increases in both sales and employment. Real private wages rose modestly. Among declining components, electricity sales fell in November after adjusting for weather and other seasonal factors. 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.*

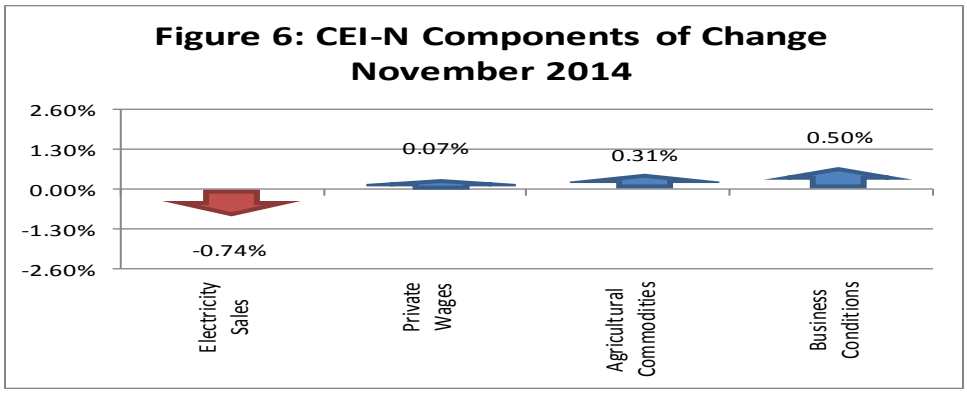
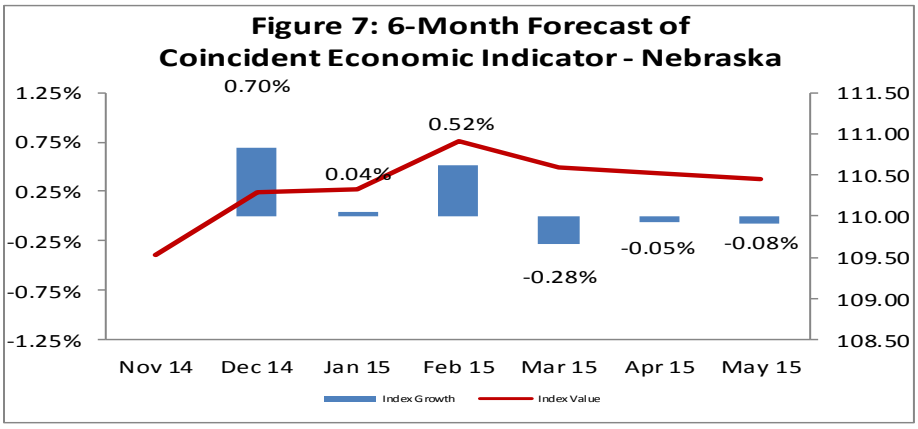


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast suggests solid economic growth during December of 2014. The forecast also calls for growth during January and February of 2015 but modest decline during the March through May period. These expectations are consistent with 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	13.8875	0.0720	0.0328	Electricity Sales	4.8114	0.2078	0.1516
Airline Passengers	3.4932	0.2863	0.1303	Private Wages	1.6851	0.5934	0.4328
Exchange Rate	1.1964	0.8359	0.3806	Agricultural Commodities	3.2345	0.3092	0.2255
Initial UI Claims	10.4554	0.0956	0.0435	Survey Business Conditions	3.8375	0.2606	0.1901
Manufacturing Hours	1.4637	0.6832	0.3111				
Survey Business Expectations	4.4762	0.2234	0.1017				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between October and November 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	64.27	68.87	-4.61	0.03	-0.15	-0.13%
Airline Passengers	89.41	92.48	-3.07	0.13	-0.40	-0.36%
U.S. Dollar Exchange Rate (Inverse)	97.00	98.67	-1.68	0.38	-0.64	-0.57%
Initial Unemployment Insurance Claims (Inverse)	80.71	102.93	-22.22	0.04	-0.97	-0.86%
Manufacturing Hours	97.22	97.13	0.09	0.31	0.03	0.02%
Survey Business Expectations[1]	54.92		4.92	0.10	0.50	0.44%
Trend Adjustment					0.13	0.12%
Total (weighted average)	111.22	112.72			-1.50	-1.33%

[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	116.68	122.00	-5.32	0.15	-0.81	-0.74%
Private Wage	98.29	98.12	0.17	0.43	0.07	0.07%
Agricultural Commodities	153.74	152.22	1.52	0.23	0.34	0.31%
Survey Business Conditions[1]	52.89		2.89	0.19	0.55	0.50%
Total (weighted average)	109.53	109.37			0.16	0.15%

[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.

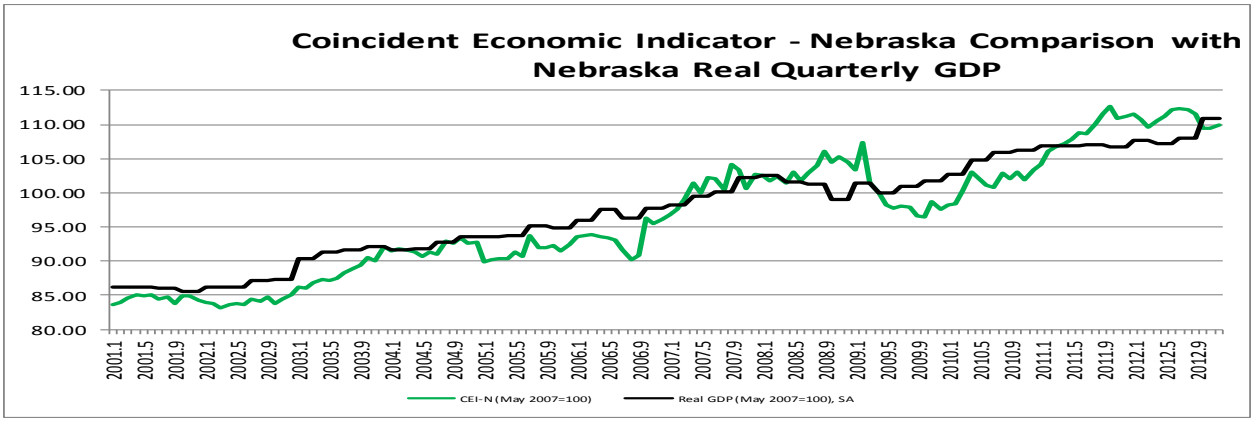


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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