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Nebraska Monthly Economic Indicators: November 15, 2013

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Summary: *The Leading Economic Indicator – Nebraska (LEI-N) declined by 0.08% during October 2013. The decrease in the LEI-N, which predicts economic growth in the state six months in the future, follows two months of steady expansion. Taking these three months together, the Nebraska economy is expected to expand at a moderate rate in the initial months of 2014. During October, two components of the indicator expanded and four declined. Single-family building permits rose on a seasonally adjusted basis. Exchange rate trends also were positive. The value of the U.S. dollar declined during October, which is positive development for the state’s exporting businesses. Among declining components, business expectations fell. In particular, respondents to the Survey of Nebraska Business predicted a decline in sales at their business over the next six month. This drop in confidence could reflect a recent, sharp decline in crop prices as well as uncertainty created by the federal government shutdown in October. Many respondents to the survey completed their questionnaire during the shutdown. Initial unemployment claims also rose in Nebraska during October, and there was a small decline in both manufacturing hours and airline passenger counts.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in October 2013, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N decreased by 0.08% in October.

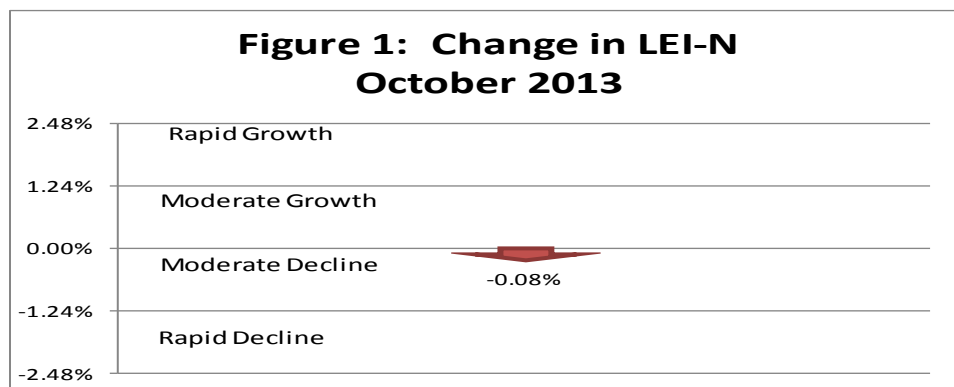


Figure 2 shows the growth in the LEI-N over the last 6 months. While the indicator changed very little on net from May through July, the indicator improved over the last three months. The indicator rose solidly in August and September and was down only slightly in October. These results suggest a tepid Nebraska economy for the rest of this year but moderate growth in the initial months of 2014.

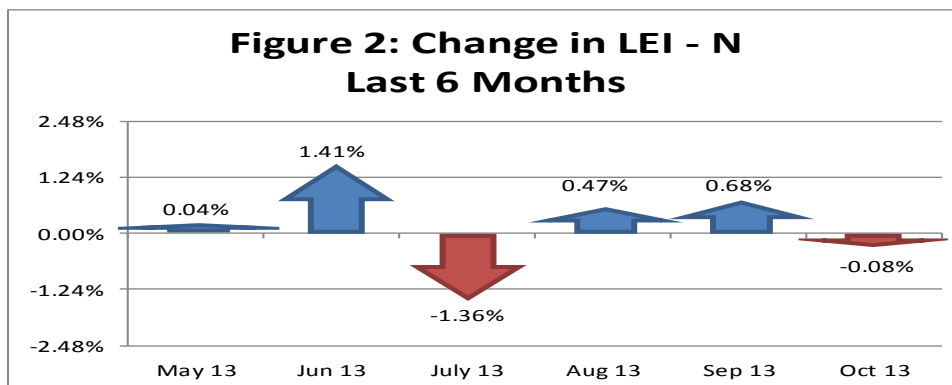
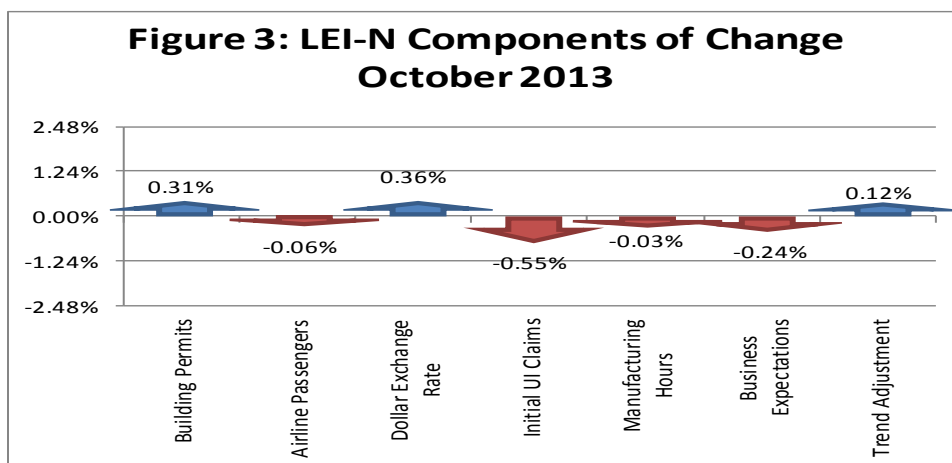
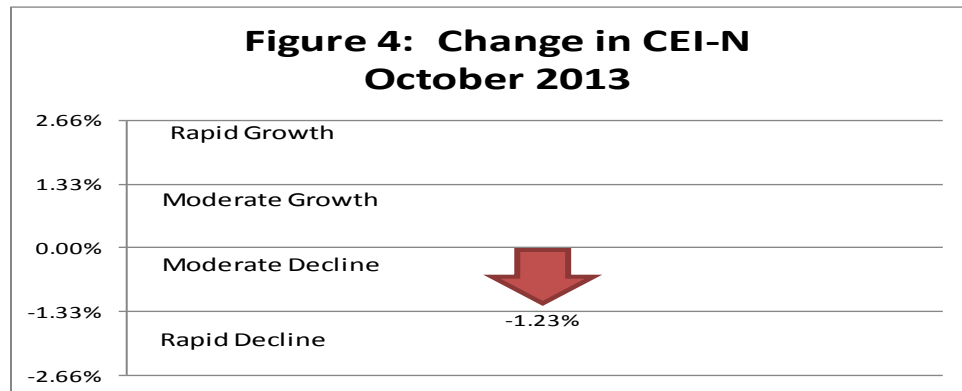


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during October 2013. The change in the overall LEI – N is the weighted average of changes in each component (see page 5). During October, two components of the indicator grew and four declined. Building permits grew on a seasonally-adjusted basis. There also was improvement in the exchange rate component, as the value of the dollar fell. This benefits exporting business. Among declining components, business expectations fell in October as respondents to the *Survey of Nebraska Business* projected a decrease in sales at their business over the next six months. This drop in expectations could reflect recent sharp declines in crop prices. Another possibility is that many respondents completed their questionnaires during the federal government shutdown that occurred in the first 16 days of October. Uncertainty during the shutdown may have dampened expectations for sales. Initial unemployment claims also increased in October compared to very low levels reached in September. Finally, there was a modest decline in manufacturing hours and airline passenger counts in October. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

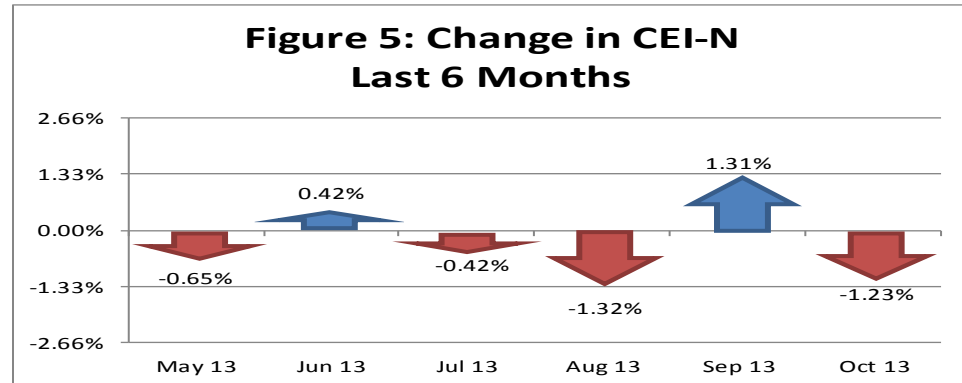


Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. The CEI-N declined by 1.23% between September and October of 2013, as seen in Figure 4.



The decrease in the CEI-N during October confirms that the Nebraska economy is in a soft patch. Looking at the last two months, as seen in Table 5, the decline in October reverses an improvement in September. However, taking a longer view the CEI-N has declined four of the last six months. It will be critical to see if the CEI-N declines as the year ends or whether it stabilizes in November and December.



As seen in Figure 6, three of the four components of the CEI-N declined during October. Respondents to the *Survey of Nebraska Business* reported a decline in sales activity in recent months. There also a decline in agricultural commodity prices in October, due to a sharp decline in crop prices. Finally, there was a small decline in electricity sales during October after adjusting for weather and seasonal trends. Real weakly private wages, however, improved in Nebraska during October, following a national trend. This reflects the combined change in average real hourly wages, weekly hours and employment in the private sector between September and October. A detailed discussion of the components of the CEI-N, as well as the LEI-N, can be found at www.cba.unl.edu in *Technical Report: Coincident and Leading Economic Indicators- Nebraska*.

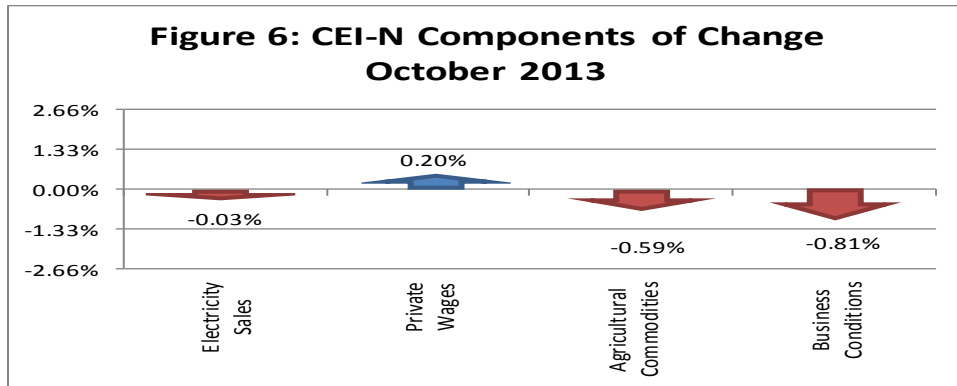
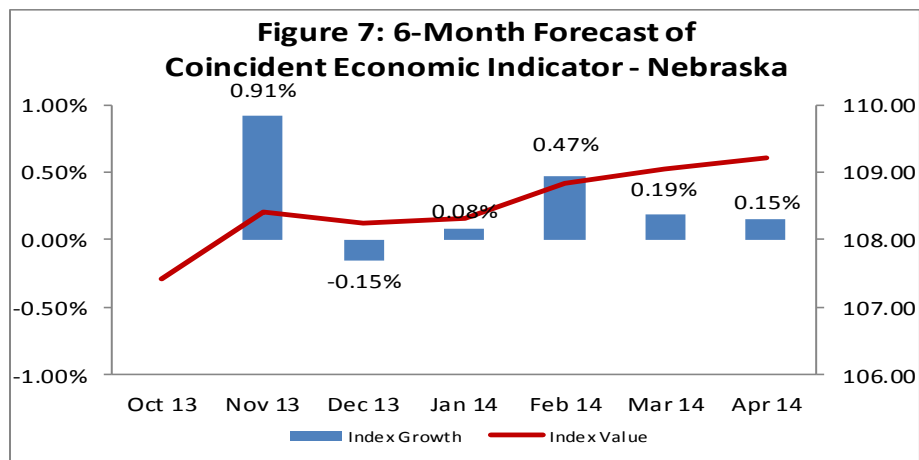


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast suggests that the CEI-N will bounce back in November, partially recovering from its October decline. However, the index will be essentially flat in December 2013 and January 2014. Growth will be more consistent from February to April 2014, reflecting recent improvements in LEI-N (see Figure 2), especially during August and September of 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.

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	14.0094	0.0714	0.0326	Electricity Sales	4.9323	0.2027	0.1405
Airline Passengers	3.5682	0.2803	0.1281	Private Wages	1.7635	0.5671	0.3931
Exchange Rate	1.2169	0.8217	0.3757	Agricultural Commodities	3.1897	0.3135	0.2173
Initial UI Claims	10.1887	0.0981	0.0449	Survey Business Conditions	2.7827	0.3594	0.2491
Manufacturing Hours	1.4776	0.6768	0.3094				
Survey Business Expectations	4.1839	0.2390	0.1093				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between September and October 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 0.12% per month. The U.S. Leading Economic Indicator also has a trend adjacent factor.

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	77.34	67.18	10.16	0.03	0.33	0.31%
Airline Passengers	89.38	89.90	-0.52	0.13	-0.07	-0.06%
U.S. Dollar Exchange Rate (Inverse)	103.61	102.57	1.04	0.38	0.39	0.36%
Initial Unemployment Insurance Claims (Inverse)	83.69	96.77	-13.08	0.04	-0.59	-0.55%
Manufacturing Hours	92.22	92.32	-0.10	0.31	-0.03	-0.03%
Survey Business Expectations ¹	47.68		-2.32	0.11	-0.25	-0.24%
Trend Adjustment					0.13	0.12%
Total (weighted average)	107.19	107.27			-0.08	-0.08%

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	118.82	119.08	-0.26	0.14	-0.04	-0.03%
Private Wage	96.77	96.21	0.56	0.39	0.22	0.20%
Agricultural Commodities	150.69	153.63	-2.94	0.22	-0.64	-0.59%
Survey Business Conditions ¹	46.45		-3.55	0.25	-0.89	-0.81%
Total (weighted average)	107.36	108.80			-1.34	-1.23%

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 0.95.

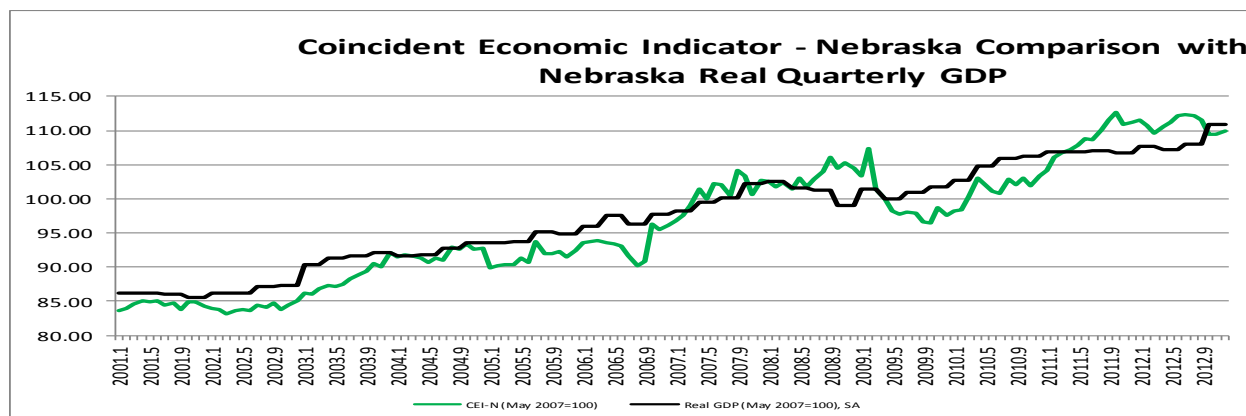


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months 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 0.92.

