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Nebraska Monthly Economic Indicators: November 21, 2014

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Summary: The Leading Economic Indicator – Nebraska (LEI-N) fell by 0.10% during October 2014. The slight decline in the LEI-N, which predicts economic growth in the state six months in the future, is the second consecutive decline and suggests that Nebraska economic growth will moderate. In particular, state economic growth is expected to slow in the first four months of 2015. Two components contributed to the decline in the leading economic indicator in October. First, there was a significant increase in the value of the U.S. Dollar. Such an increase reduces the competitiveness of exporters in Nebraska and throughout the United States. Second, there was a decline in building permits for single-family homes during the month. Airline passenger counts and initial claims for unemployment insurance were essentially flat during October. Among other components, there was a modest improvement in manufacturing hours during the month and business expectations were strong. In particular, respondents to the Survey of Nebraska Business predicted an increase in sales and employment over the next six month.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in October 2014, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N fell by 0.10% in October.

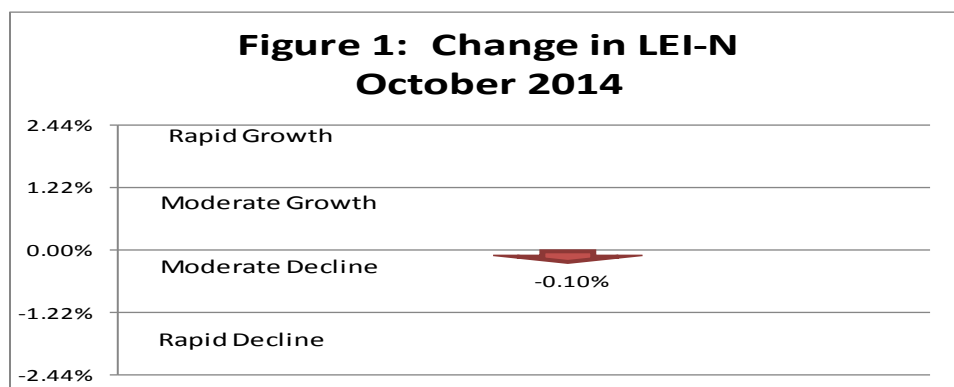


Figure 2 shows the change in the LEI-N over the last 6 months. While the leading indicator rose solidly in May, June and August, it has declined for last two months, portending slower growth for the Nebraska economy during the first four months of 2015. The Nebraska economy will continue to grow but at a slower pace.

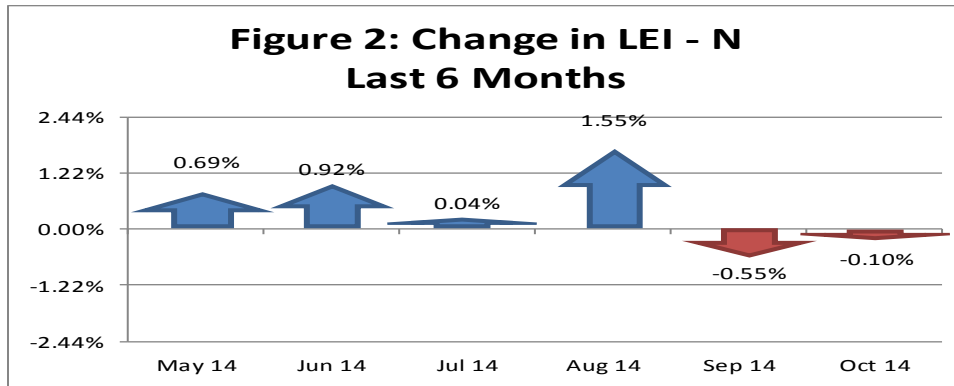
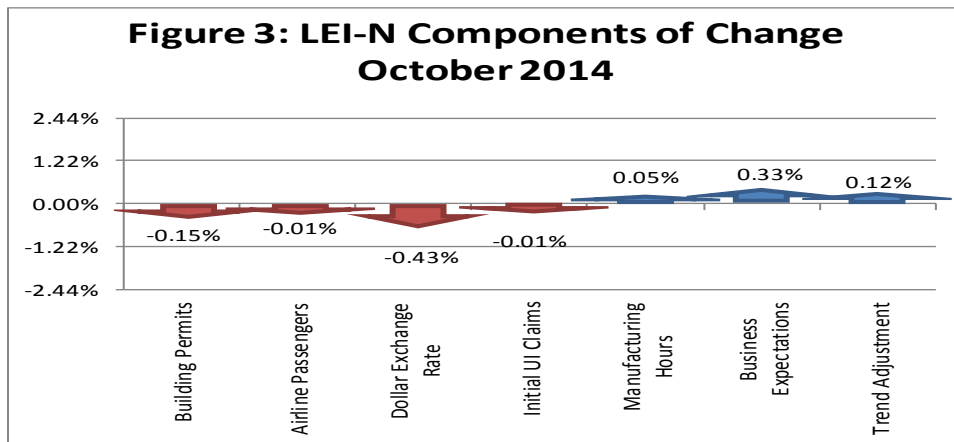
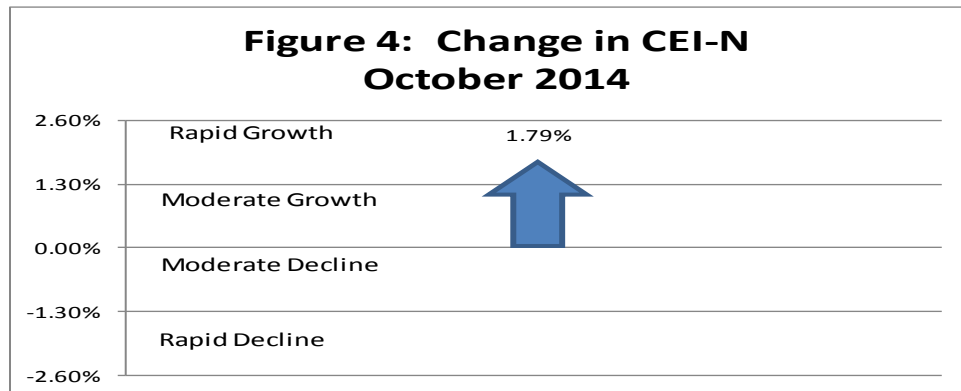


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during October 2014. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). During October, two of the six components of the LEI-N declined while two others were flat. There was deterioration in conditions for Nebraska exporting businesses, due to a sharp increase in the value of the U.S. dollar. There also was a dip in building permits for single-family homes during October. Airline passenger counts and an increase in initial claims for unemployment insurance were essentially flat for the month. Manufacturing hours were up slightly in October, but business expectations were the key bring spot. October respondents to the *Survey of Nebraska Business* were clearly 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.

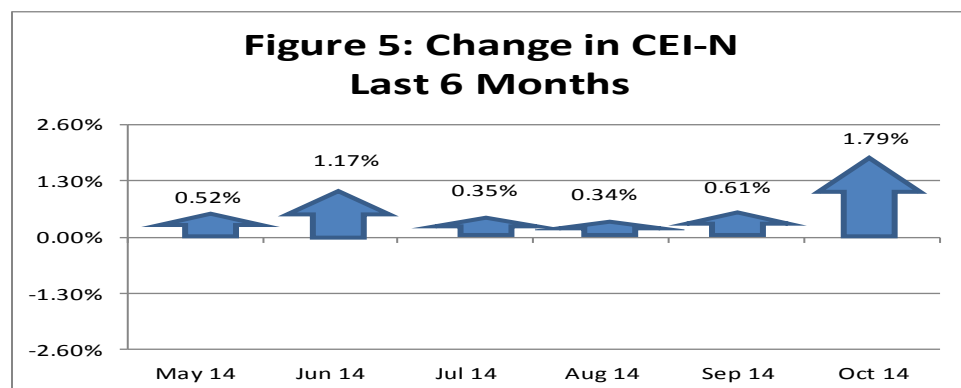


Coincident Economic Indicator – Nebraska

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 a robust 1.79% last month.



The CEI-N has grown for six consecutive months, as seen in Figure 5. This period of solid economic growth is expected to continue in Nebraska through the rest of the year before growth moderates in 2015.



As seen in Figure 6, all four components of the CEI-N rose during October. Electricity sales, private wages and business expectations were up solidly during the month. Real private wages rose as increases in jobs, weekly hours, and hourly wages exceeded inflation. Respondents to the *Survey of Nebraska Business* reported solid increases in both sales and employment in recent months. Agricultural commodity prices rose only modestly during October as improvements in beef prices outweighed falling corn prices. 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*.

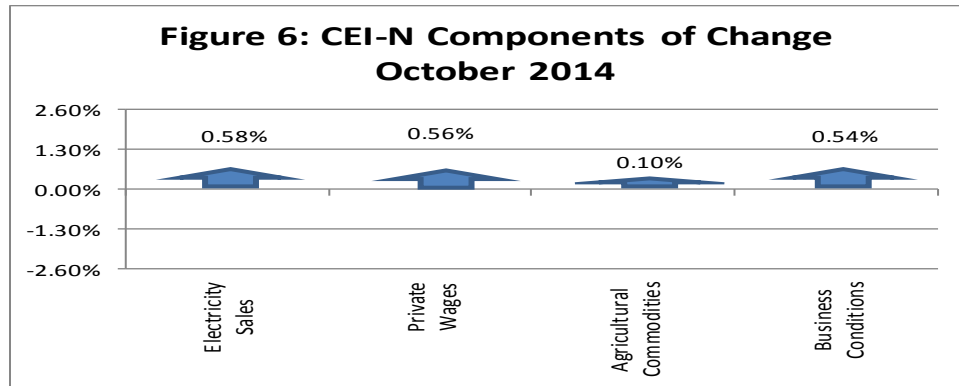
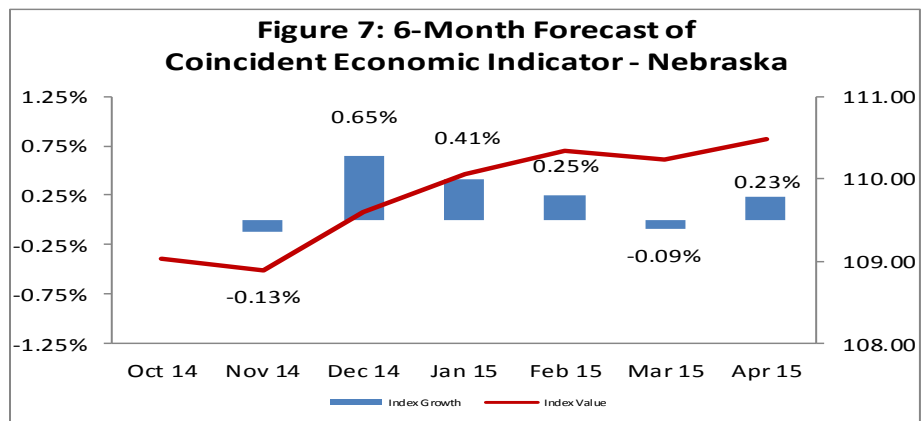


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast suggests solid economic growth during December of 2014. The forecast also calls for growth to slow during the first four months of 2015. These expectations are consistent with recent values for the LEI-N (see Figure 2).



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	13.9417	0.0717	0.0326	Electricity Sales	4.8077	0.2080	0.1513
Airline Passengers	3.4895	0.2866	0.1303	Private Wages	1.6739	0.5974	0.4344
Exchange Rate	1.1928	0.8384	0.3812	Agricultural Commodities	3.2364	0.3090	0.2247
Initial UI Claims	10.3456	0.0967	0.0439	Survey Business Conditions	3.8358	0.2607	0.1896
Manufacturing Hours	1.4635	0.6833	0.3107				
Survey Business Expectations	4.4885	0.2228	0.1013				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between September and October 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	69.27	-5.00	0.03	-0.16	-0.15%
Airline Passengers	89.73	89.84	-0.11	0.13	-0.01	-0.01%
U.S. Dollar Exchange Rate (Inverse)	98.67	99.94	-1.27	0.38	-0.48	-0.43%
Initial Unemployment Insurance Claims (Inverse)	103.51	103.82	-0.31	0.04	-0.01	-0.01%
Manufacturing Hours	97.01	96.83	0.19	0.31	0.06	0.05%
Survey Business Expectations ¹	53.64		3.64	0.10	0.37	0.33%
Trend Adjustment					0.13	0.12%
Total (weighted average)	112.19	112.30			-0.12	-0.10%

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	123.18	119.04	4.14	0.15	0.63	0.58%
Private Wage	97.34	95.95	1.39	0.43	0.60	0.56%
Agricultural Commodities	151.67	151.18	0.48	0.22	0.11	0.10%
Survey Business Conditions ¹	53.07		3.07	0.19	0.58	0.54%
Total (weighted average)	109.02	107.10			1.92	1.79%

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.

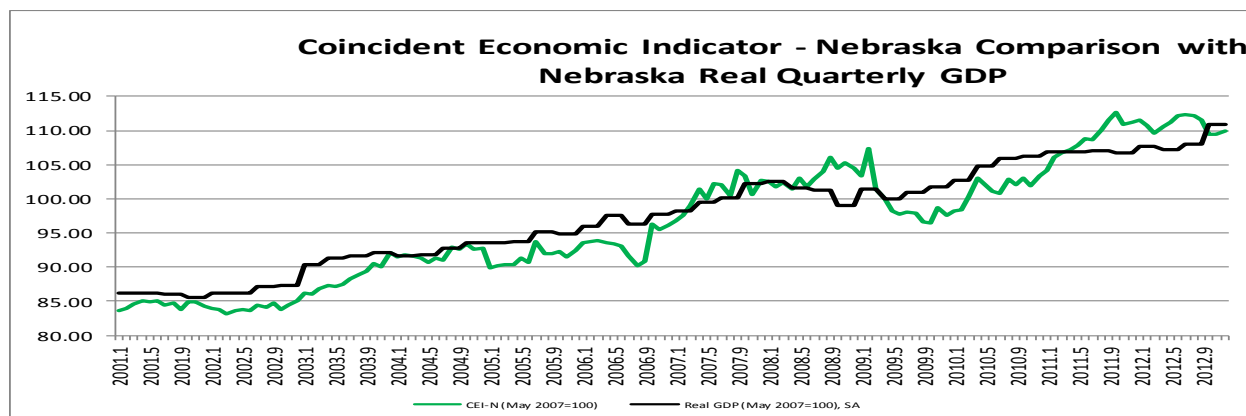


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

