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Nebraska Monthly Economic Indicators: December 18, 2015

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Summary: *The Leading Economic Indicator – Nebraska (LEI-N) rose by 0.38% in November 2015. The increase in the LEI-N, which predicts economic growth in the state six months in the future, suggests solid economic growth in Nebraska during the 2nd quarter of 2016. There was a split among components of the LEI-N during November. There was an increase in building permits for single-family homes and airline passenger counts. There also were positive business expectations, with respondents to the Survey of Nebraska Business predicting growth in both sales and employment at their businesses over the next 6 months. However, initial claims for unemployment insurance were up during November. There also was evidence of challenges ahead for Nebraska’s export-oriented sectors. The value of the U.S. dollar resumed its increase in November, which will pressure export-oriented businesses in agriculture and manufacturing. There also was a decline in manufacturing hours during November.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in November 2015, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N rose by 0.38% during November.

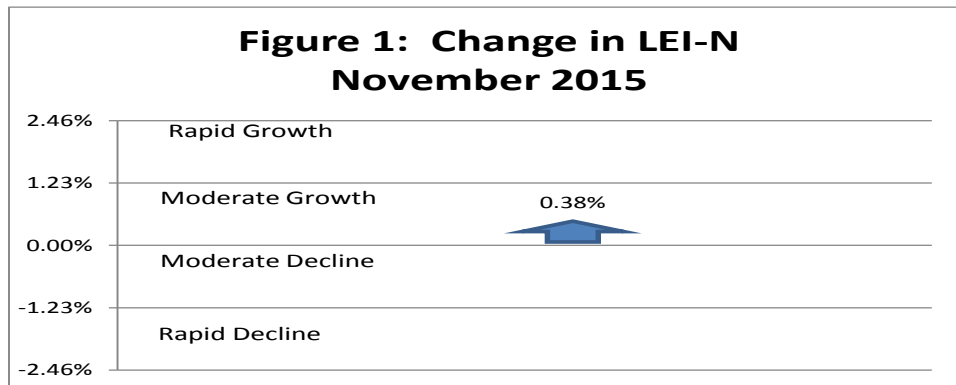


Figure 2 shows the change in the LEI-N over the last 6 months. The figure shows that the LEI-N has risen five out of the last six months. The LEI-N was mixed during the July through September period, with the decline in September reversing gains in the previous two months. This suggests weaker economic growth in Nebraska during the 1st quarter of 2016. However, the LEI-N rose during both October and November, suggesting stronger growth during the 2nd quarter of 2016.

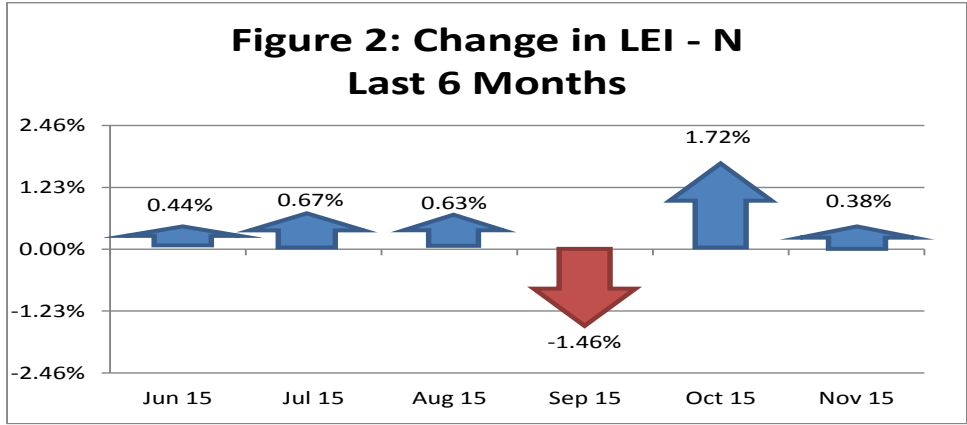
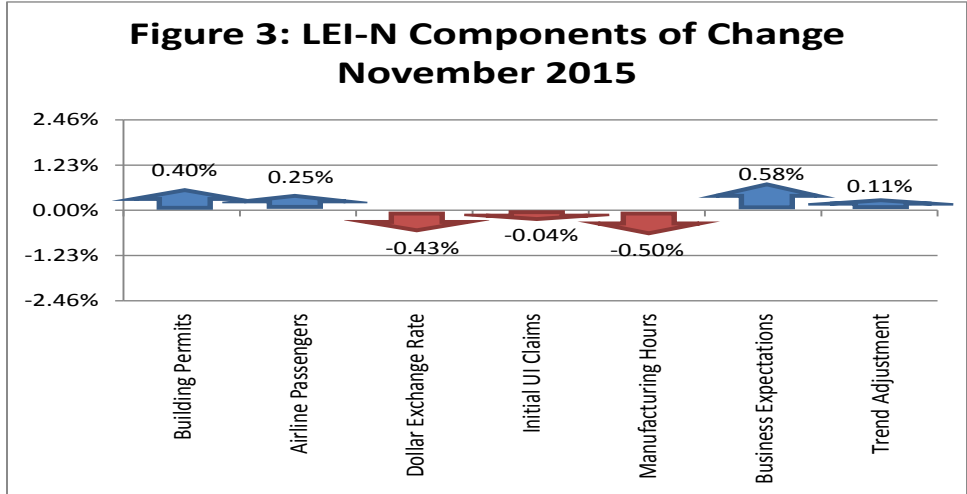
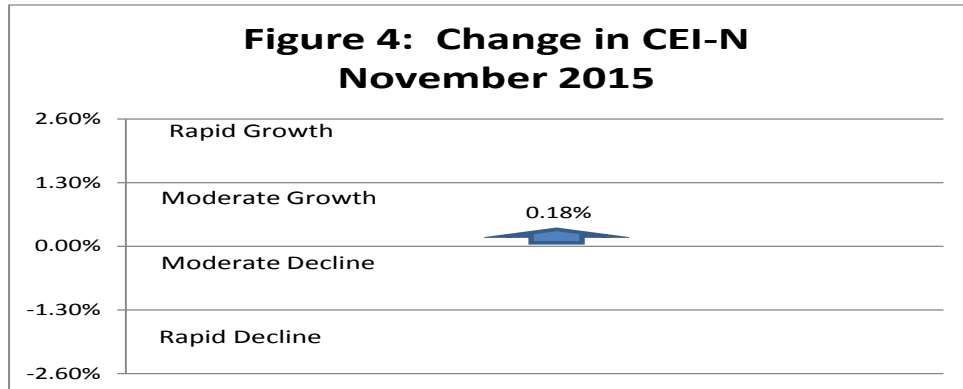


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during November 2015. The change in the overall LEI–N is the weighted average of changes in each component (see page 5). The components of the LEI-N were mixed during November. There was improvement in components related to the broader economy, and its large services sector. There was growth in both airline passenger counts and building permits for single-family homes, on a seasonally-adjusted basis. Respondents to the November *Survey of Nebraska Business* also had a positive outlook, expecting a strong increase in both sales and employment at their businesses over the next six months. However, initial claims for unemployment insurance were up during November. There also was weakness in components more closely related to Nebraska’s export-oriented sectors, such as manufacturing and agriculture. After a decline in October, the value of the U.S. dollar resumed its upward march during November. A higher value for the dollar will reduce the competitiveness of Nebraska exporters. There also was a decline in manufacturing hours during November. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

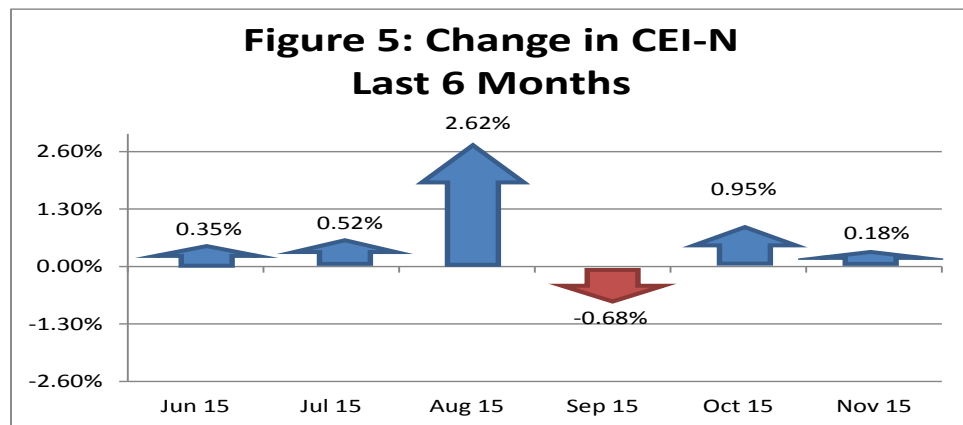


Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. The CEI-N rose by 0.18% during November, as seen in Figure 4.



The CEI-N has strengthened during the second half of the year, as seen in Figure 5. The CEI-N declined during only one month: September. This decline in September, however, followed a sharp increase during August and preceded a solid increase in October. The LEI-N value for October was revised higher after a strong upward revision in real private wages during the month. Taking all months together, there was significant growth in the LEI-N during the July to November 2015 period.



As seen in Figure 6, two of four components of the CEI-N rose during November. Business conditions, as measured in the *November Survey of Nebraska Business*, were strong. Responding businesses reported rapid growth in both sales and employment. Electricity sales also grew during November, after adjusting for weather and other seasonal factors. There was a decline in real private wages. Wages fell after a strong increase during October. Agricultural commodity prices continued their decline during November. In particular, beef prices have fallen sharply in recent months. 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*.

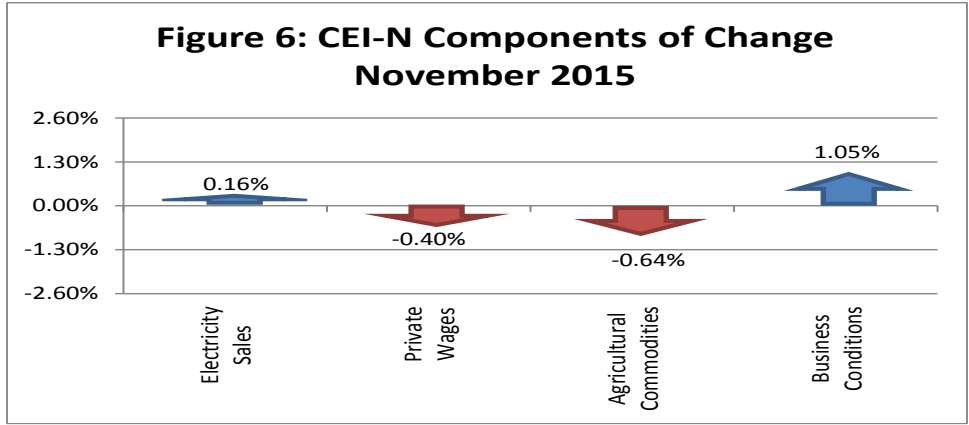
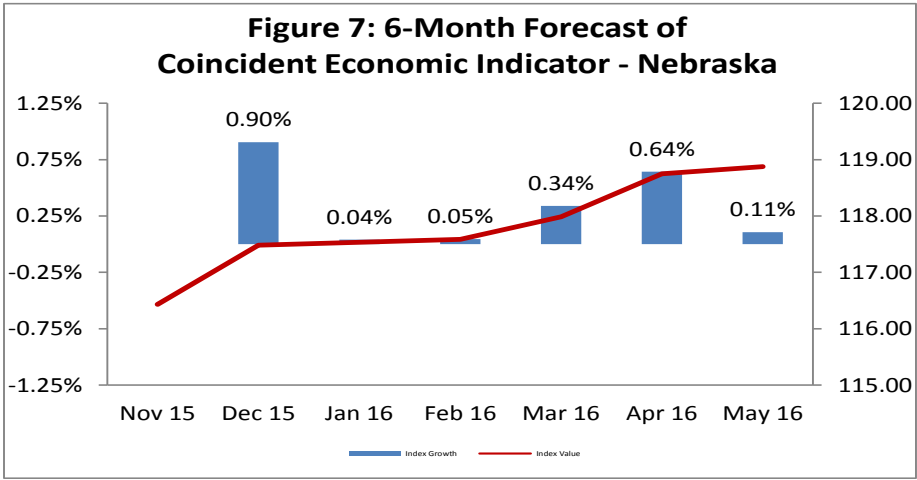


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast calls for solid economic growth in Nebraska during December. Growth will then slow during the 1st quarter of 2016 before improving in the 2nd quarter of the year. Results are in line with trends in the LEI-N during the last six months (see Figure 2).



Weights and Component Shares

Table 1 shows the weights 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	13.6493	0.0733	0.0342	Electricity Sales	4.7278	0.2115	0.1568
Airline Passengers	3.4178	0.2926	0.1365	Private Wages	1.7447	0.5732	0.4249
Exchange Rate	1.2100	0.8264	0.3856	Agricultural Commodities	3.2746	0.3054	0.2264
Initial UI Claims	10.2269	0.0978	0.0456	Survey Business Conditions	3.8627	0.2589	0.1919
Manufacturing Hours	1.5972	0.6261	0.2921				
Survey Business Expectations	4.4012	0.2272	0.1060				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between October and November of 2015. 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 0.11% 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	75.08	61.32	13.77	0.03	0.47	0.40%
Airline Passengers	96.89	94.74	2.16	0.14	0.29	0.25%
U.S. Dollar Exchange Rate (Inverse)	86.34	87.64	-1.30	0.39	-0.50	-0.43%
Initial Unemployment Insurance Claims (Inverse)	113.98	114.91	-0.93	0.05	-0.04	-0.04%
Manufacturing Hours	96.54	98.55	-2.02	0.29	-0.59	-0.50%
Survey Business Expectations ¹	56.50		6.50	0.11	0.69	0.58%
Trend Adjustment					0.13	0.11%
Total (weighted average)	118.63	118.18			0.45	0.38%

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	135.06	133.87	1.20	0.16	0.19	0.16%
Private Wage	104.96	106.05	-1.09	0.42	-0.46	-0.40%
Agricultural Commodities	137.46	140.73	-3.27	0.23	-0.74	-0.64%
Survey Business Conditions ¹	56.35		6.35	0.19	1.22	1.05%
Total (weighted average)	116.43	116.23			0.20	0.18%

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.

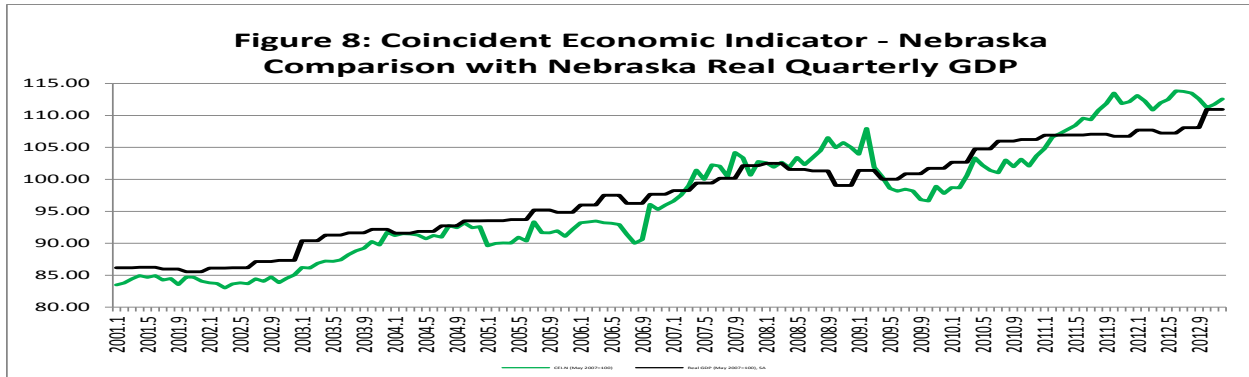


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

