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Nebraska Monthly Economic Indicators: December 21, 2012

Eric Thompson
University of Nebraska-Lincoln, ethompson2@unl.edu

William Walstad
University of Nebraska-Lincoln, wwalstad1@unl.edu

Adam George
University of Nebraska-Lincoln

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Prepared by the UNL College of Business Administration, Department of Economics

Authors: Dr. Eric Thompson, Dr. William Walstad
Graduate Research Assistant: Adam George

Summary: *The Leading Economic Indicator – Nebraska (LEI-N) dropped modestly, declining by 0.18%, during November 2012. The decline in the LEI-N, which predicts economic growth in the state six months in the future, followed four months of increase. The modest decline in the LEI-N is not sufficient to reverse the growth trend seen in the previous four months. The Nebraska economy is expected to expand moderately in December 2012 and the first half of 2013. Looking at individual components of the LEI-N, only one component, the number of single-family building permits, increased in November. This permit growth has been a bright spot for the Nebraska economy during much of 2012. The contributions from the other five components were negative. Manufacturing hours and airline passengers showed a modest decline. Initial claims for unemployment benefits rose. The value of the U.S. dollar rose during November, which may reduce export activity over the next six months. Finally, respondents to the Survey of Nebraska Business reported negative expectations for business sales over the next six months.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in November 2012, compared to the previous month. The LEI-N, which predicts economic growth six months into the future, declined by 0.18% in November.

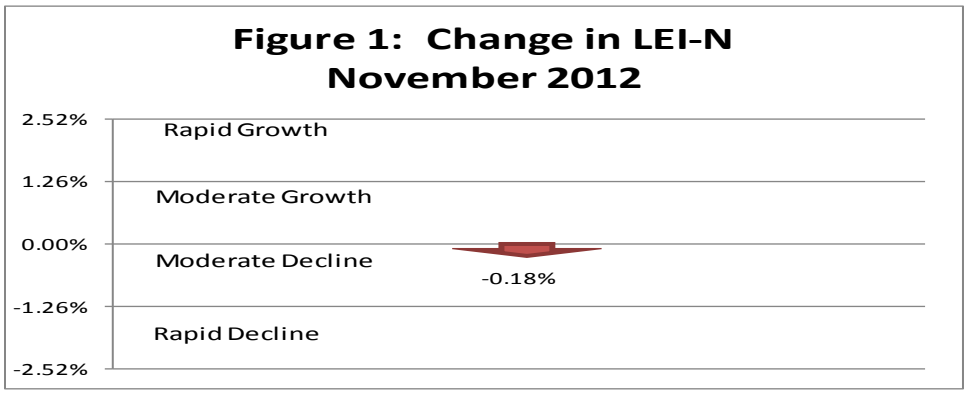


Figure 2 shows the growth in the LEI-N over the last 6 months. The figure shows that the leading indicator grew from July through October, after declining in June. This pattern suggests that the Nebraska economy will have solid growth in December 2012 and the first half of 2013.

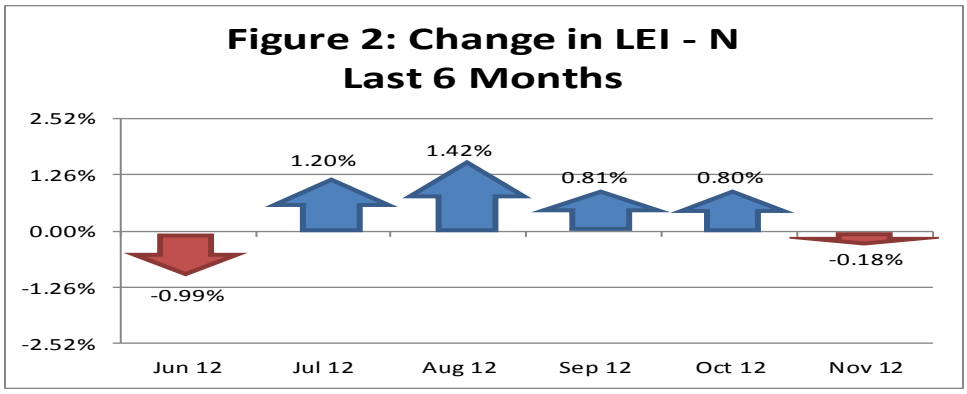
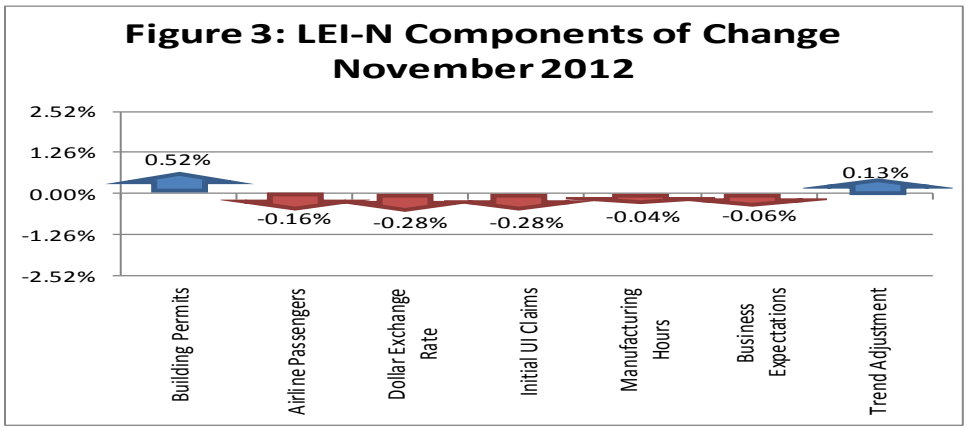


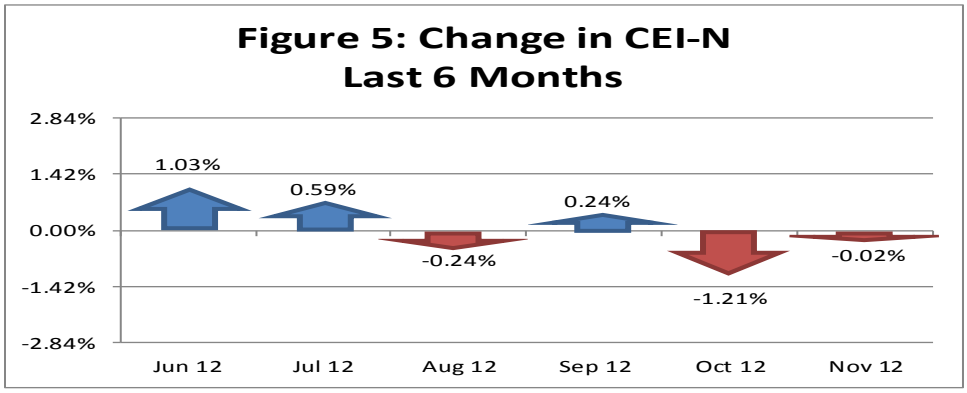
Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during November 2012. The change in the overall LEI – N is the weighted average of changes in each component (see page 5). Only one component contributed to the increase in the LEI-N. In particular, there was a strong increase in single-family building permits in Nebraska during November. All other components declined during the month. There was a decrease in seasonally adjusted airline passenger counts, which suggests a weakening of future business activity and consumer confidence. There was a slight decline in manufacturing hours and an increase in initial unemployment claims. There also was a modest decline in business expectations. In particular, respondents to the *Survey of Nebraska Businesses* reported that they expect a modest decline in sales in their business over the next six months though employment is expected to remain steady. There also was modest increase in the value of the U.S. dollar, which will be a negative for Nebraska's large export sector in the coming months. Finally, 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. In Figure 4, the CEI-N declined slightly, by 0.02%, between October and November of 2012.

As seen in Figure 5, the slight decline in the CEI-N during November is consistent with a slowdown in the Nebraska economy during the fall. After expanding overall during June and July, the CEI-N fluctuated slightly in August and September, and then dropped in October. The CEI-N for November is essentially unchanged. Note that a decline in the November CEI-N was predicted by the decline in the LEI-N in June 2012 (see Figure 2).



As seen in Figure 6, electricity sales and business conditions contributed to the decline in the CEI-N. Weather adjusted electricity sales declined in November relative to October. Further, respondents to the *Survey of Nebraska Business* reported a slight decline in sales and employment activity in recent months. Offsetting the declines were a slight rise in private wages and a solid increase in agricultural commodity prices over the last 6 months. 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.*

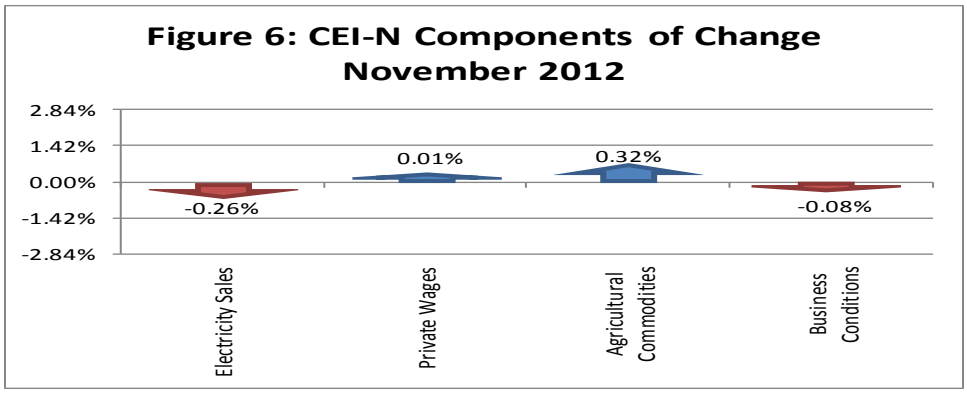
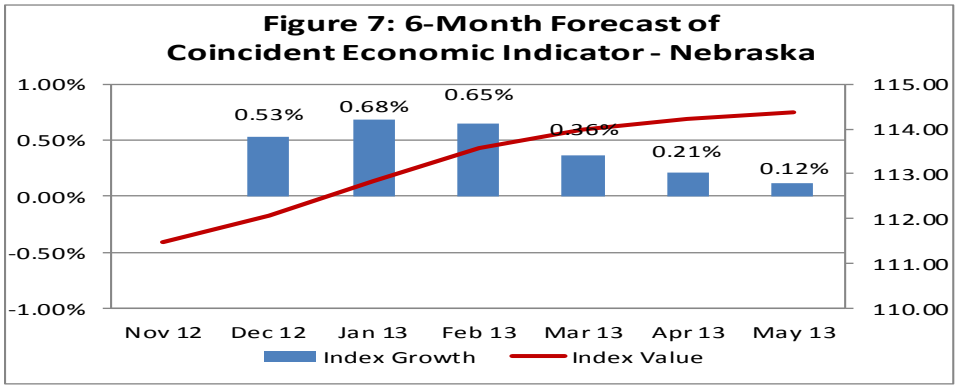


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast reflects changes in the value of LEI-N between June and November of 2012 (see Figure 2). Recall that the LEI-N declined during June but then rose solidly from July through October before a modest decline in November. This pattern suggests the Nebraska economy should show growth in December 2012 and in the first half of 2013. These expectations are depicted in Figure 7. The CEI-N is expected to manage solid increases during the December 2012 through February 2012 period, and then growth will moderate from March through May 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	14.3746	0.0696	0.0340	Electricity Sales	4.8325	0.2069	0.1764
Airline Passengers	3.6617	0.2731	0.1333	Private Wages	1.8329	0.5456	0.4649
Exchange Rate	1.2480	0.8013	0.3912	Agricultural Commodities	3.3326	0.3001	0.2557
Initial UI Claims	9.9761	0.1002	0.0489	Survey Business Conditions	8.2757	0.1208	0.1030
Manufacturing Hours	1.4472	0.6910	0.3373				
Survey Business Expectations	8.8351	0.1132	0.0553				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between October and November. 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 0.13% per month. There is also a trend adjustment factor for the U.S. Leading Economic Indicator.

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	73.85	58.02	15.84	0.03	0.54	0.52%
Airline Passengers	90.51	91.78	-1.26	0.13	-0.17	-0.16%
U.S. Dollar Exchange Rate (Inverse)	104.90	105.64	-0.75	0.39	-0.29	-0.28%
Initial Unemployment Insurance Claims (Inverse)	63.98	69.89	-5.90	0.05	-0.29	-0.28%
Manufacturing Hours	92.24	92.36	-0.12	0.34	-0.04	-0.04%
Survey Business Expectations[1]	48.90		-1.10	0.06	-0.06	-0.06%
Trend Adjustment					0.13	0.13%
Total (weighted average)	104.02	104.20			-0.18	-0.17%

[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	101.03	102.65	-1.63	0.18	-0.29	-0.26%
Private Wage	93.65	93.63	0.02	0.46	0.01	0.01%
Agricultural Commodities	154.53	153.16	1.37	0.26	0.35	0.32%
Survey Business Conditions[1]	49.08		-0.92	0.10	-0.09	-0.08%
Total (weighted average)	111.49	111.51			-0.02	-0.02%

[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 2011. The comparison ends in 2011 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 0.94.

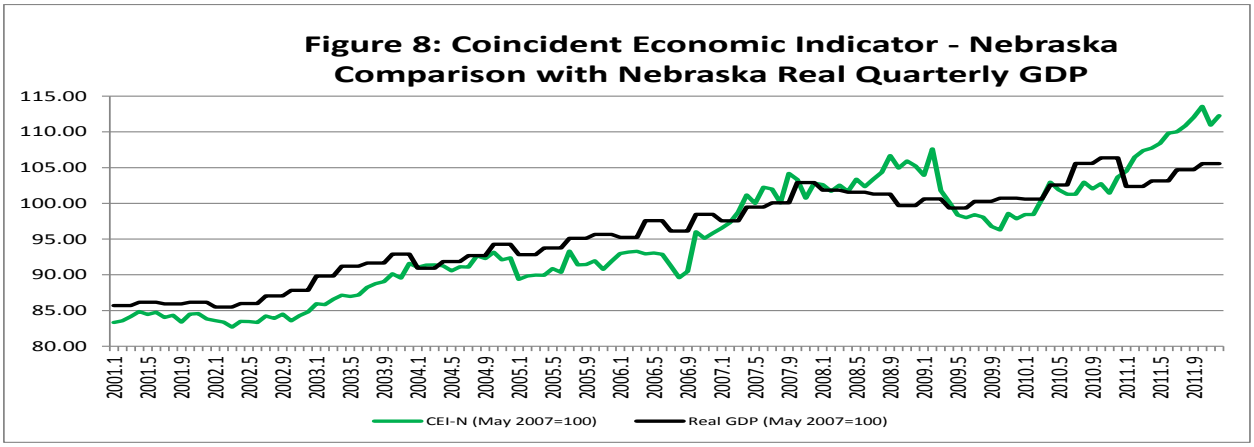


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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