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Nebraska Monthly Economic Indicators: September 20, 2013

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Summary: The Leading Economic Indicator – Nebraska (LEI-N) rose by 0.54% during August 2013. The increase in the LEI-N, which predicts economic growth in the state six months in the future, signals that the Nebraska economy will grow over the remainder of the year and in early 2014. Growth, however, will be modest rather than robust. Components of the leading indicator showed mixed signs of growth during August. Two of the six components weakened during the month. Single-family building permits declined during August while initial unemployment claims rose. However, airline passenger counts rose during August on a seasonally-adjusted basis. Manufacturing hours rose and the value of the U.S. dollar declined for the first time in recent months, a positive signal for Nebraska exporters. Business expectations also rose during August. Respondents to the Survey of Nebraska Business predicted a slight increase in employment at their business over the next six month.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in August 2013, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N increased by 0.54% in August.

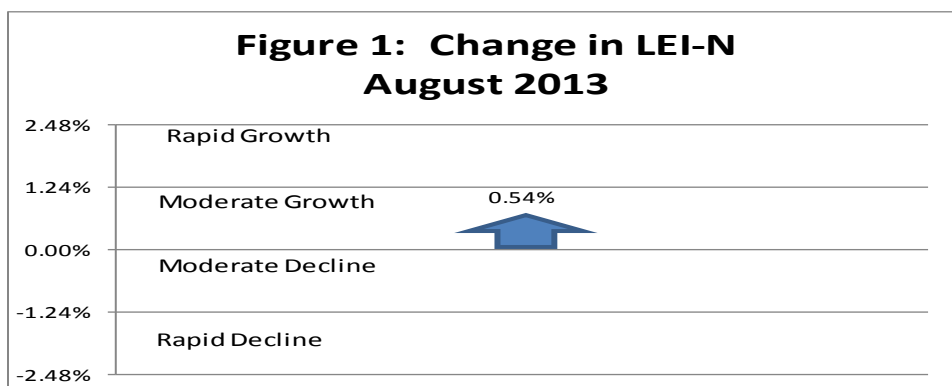


Figure 2 shows the growth in the LEI-N over the last 6 months. The indicator rose in March and April. But, growth has been choppy in the last four months. There was a sharp improvement in the LEI-N in June and a sharp decline in July, of roughly equal magnitude. Taken together with the modest

improvement in August these recent results suggest only modest economic growth in the Nebraska economy through the remainder of the year and early 2014.

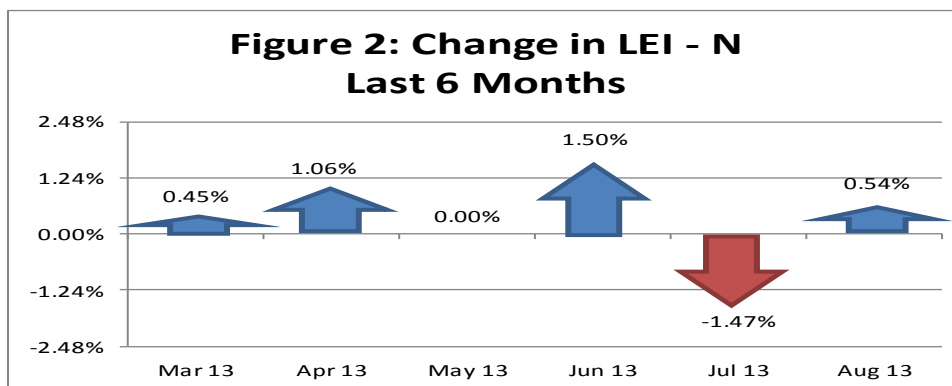
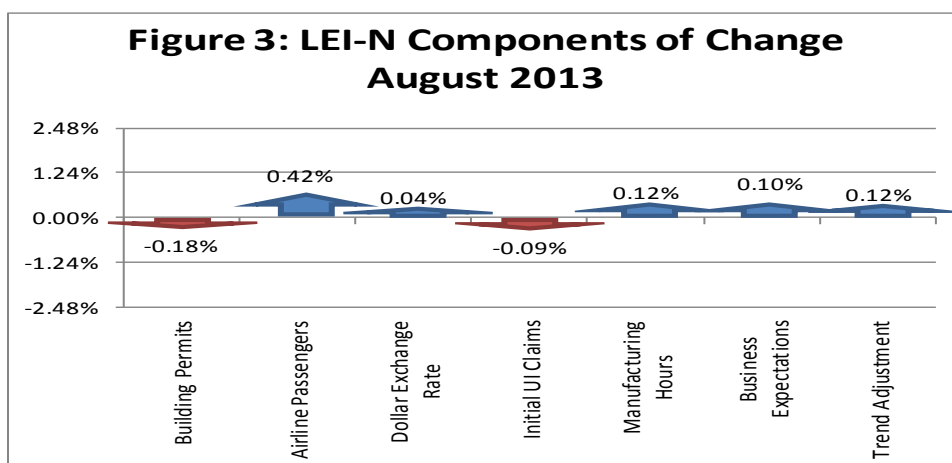
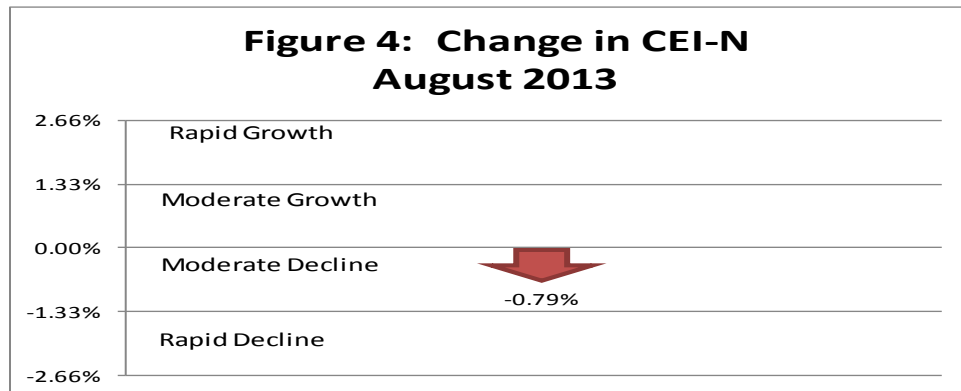


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during August 2013. The change in the overall LEI – N is the weighted average of changes in each component (see page 5). There were mixed signals regarding economic growth among the components of the leading indicator. Building permits declined while initial unemployment rates rose. These changes signaled a cooling of recent improvements in the housing market and some weakness in the labor market. At the same time, manufacturing hours improved, providing evidence of improvement in that key sector. Further, the value of the U.S. dollar fell during August, reversing recent trends. This provides relief for Nebraska’s export-oriented businesses. Airline passenger counts also rose in Nebraska on a seasonally-adjusted basis, a positive signal for both consumer and business confidence. Along the same lines, respondents to the *Survey of Nebraska Business* projected a slight increase in employment in their business over the next six months. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

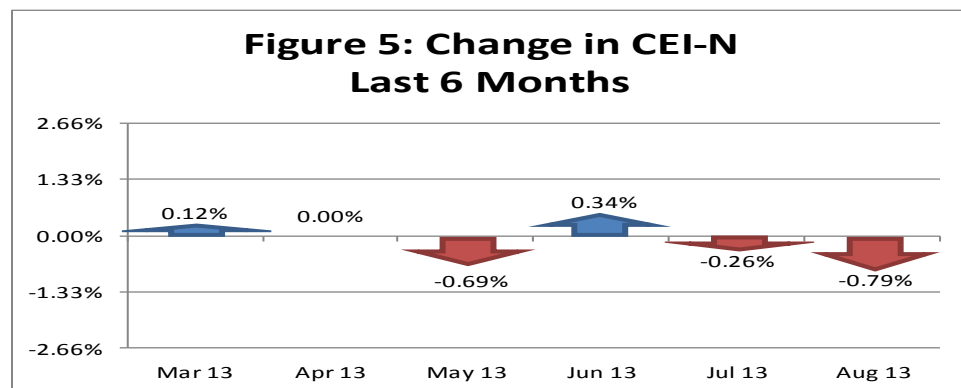


Coincident Economic Indicator – Nebraska

The Coincident Economic Indicator - Nebraska (CEI-N) is a measure of the current size of the Nebraska economy. The CEI-N declined by 0.79% between July and August of 2013, as seen in Figure 4.



The decrease in the CEI-N during August indicates that the Nebraska economy has remained stagnant in mid-2013. The index has declined 3 of the last 4 months. This result is consistent with the recent modest increase in Nebraska's unemployment rate. The result also represents a reversal of recently reported trends. The CEI-N data reported last month had shown signs of improvement. However, the CEI-N value for July was revised to slightly negative in the current report (from slightly positive in the previous report), primarily due to downward revisions in July real weekly private wage growth.



As seen in Figure 6, two of the four components of the CEI-N declined during August. Respondents to the *Survey of Nebraska Business* reported a decline in sales activity in recent months, continuing a recent trend. There also was a solid decrease in electricity sales during August after adjusting for weather and seasonal trends, reversing a sharp increase in July. Commodity prices were steady. One area of solid growth in August was real weakly private wages, which reflects changes in U.S. average real hourly wages, weekly hours and job growth in the private sector. 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*.

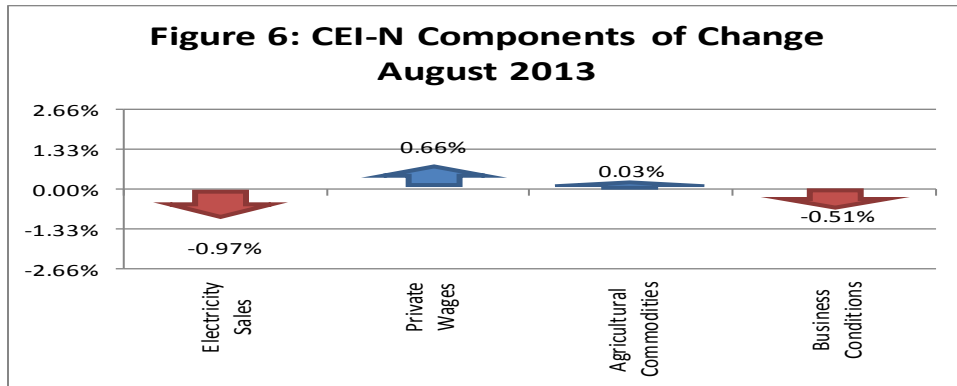
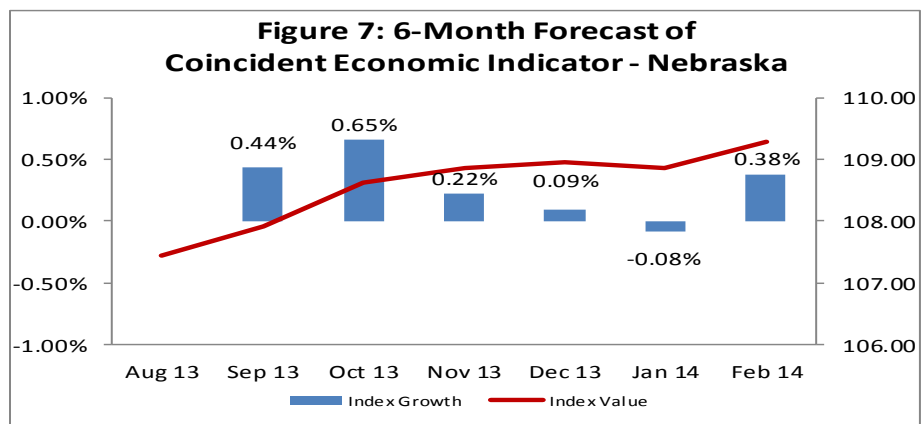


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast reflects improvement in the LEI-N during March and April as well as recent inconsistency, as seen in Figure 2. The forecast calls for moderate growth in the CEI-N through November, but that growth will be modest, and somewhat inconsistent, from December 2013 through February 2014.



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	14.0844	0.0710	0.0325	Electricity Sales	4.9061	0.2038	0.1425
Airline Passengers	3.5863	0.2788	0.1276	Private Wages	1.7882	0.5592	0.3911
Exchange Rate	1.2224	0.8181	0.3744	Agricultural Commodities	3.2561	0.3071	0.2148
Initial UI Claims	10.0679	0.0993	0.0455	Survey Business Conditions	2.7788	0.3599	0.2516
Manufacturing Hours	1.4653	0.6824	0.3123				
Survey Business Expectations	4.2447	0.2356	0.1078				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between July and August 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	70.57	76.34	-5.77	0.03	-0.19	-0.18%
Airline Passengers	92.07	88.57	3.50	0.13	0.45	0.42%
U.S. Dollar Exchange Rate (Inverse)	102.42	102.30	0.11	0.37	0.04	0.04%
Initial Unemployment Insurance Claims (Inverse)	76.64	78.75	-2.11	0.05	-0.10	-0.09%
Manufacturing Hours	91.78	91.36	0.42	0.31	0.13	0.12%
Survey Business Expectations ¹	50.99		0.99	0.11	0.11	0.10%
Trend Adjustment					0.13	0.12%
Total (weighted average)	106.52	105.94			0.57	0.54%

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	109.50	116.85	-7.35	0.14	-1.05	-0.97%
Private Wage	96.33	94.50	1.84	0.39	0.72	0.66%
Agricultural Commodities	155.09	154.95	0.14	0.21	0.03	0.03%
Survey Business Conditions ¹	47.80		-2.20	0.25	-0.55	-0.51%
Total (weighted average)	107.45	108.30			-0.85	-0.79%

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 0.95.

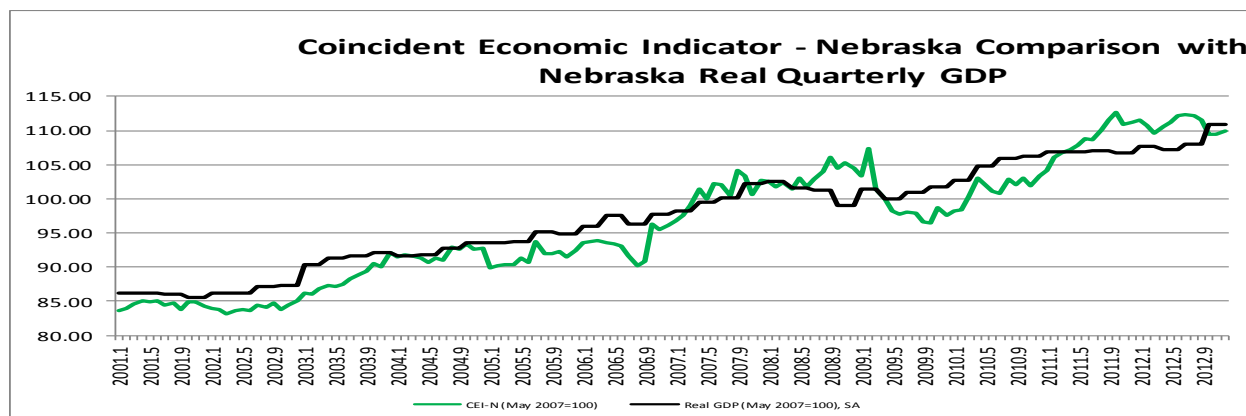


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

