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Nebraska Monthly Economic Indicators: March 20, 2015

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Nebraska Monthly Economic Indicators: March 20, 2015

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

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Leading Economic Indicator.....	1
Coincident Economic Indicator.....	3
Weights and Component Shares.....	5
Performance of the LEI-N and CEI-N.....	6

Summary: *The Leading Economic Indicator – Nebraska (LEI-N) was flat in February 2015, rising by just 0.01% during the month. The LEI-N predicts economic growth in the state six months in the future. The flat LEI-N, when combined with solid monthly increases in December 2014 and January 2015, suggest that economic growth in Nebraska will be solid in mid-2015. Three of six components of the leading economic indicator rose during February. Respondents to the Survey of Nebraska Business were optimistic. Respondents predicted a strong increase in employment over the next six months and an increase in sales. There also was a slight increase in building permits and a slight decline in initial claims for unemployment insurance during February, which suggests strength in the labor market. Among declining components, the most important factor was the exchange rate of the U.S. dollar. For the seventh consecutive month, there was a sharp increase in the value of the dollar, which is a significant negative for businesses which export. There also was a decline in airline passenger counts and manufacturing hours during February.*

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in February 2015, compared to the previous month. The LEI-N predicts economic growth six months into the future. The LEI-N was essentially flat in February, rising by just 0.01%.

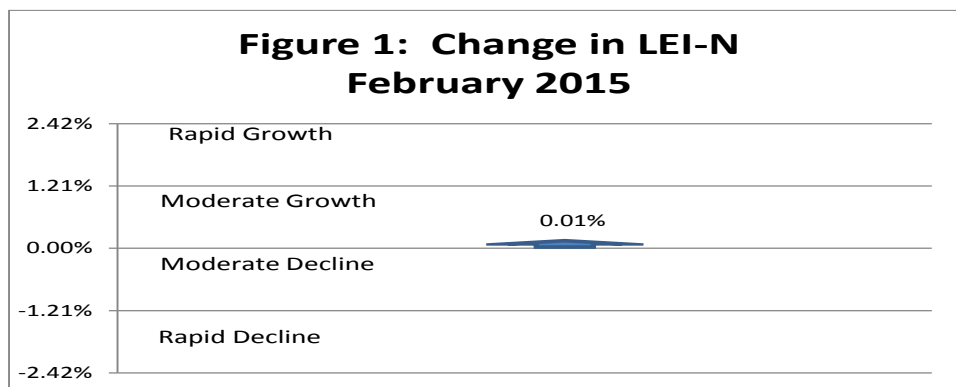


Figure 2 shows the change in the LEI-N over the last 6 months. The LEI-N declined sharply in both September and November, 2014 but began to improve again in December. The LEI-N rose rapidly in December and solidly in January, before rising by just 0.01% in February. Taken together, these results suggest that economic growth will be solid in mid-2015.

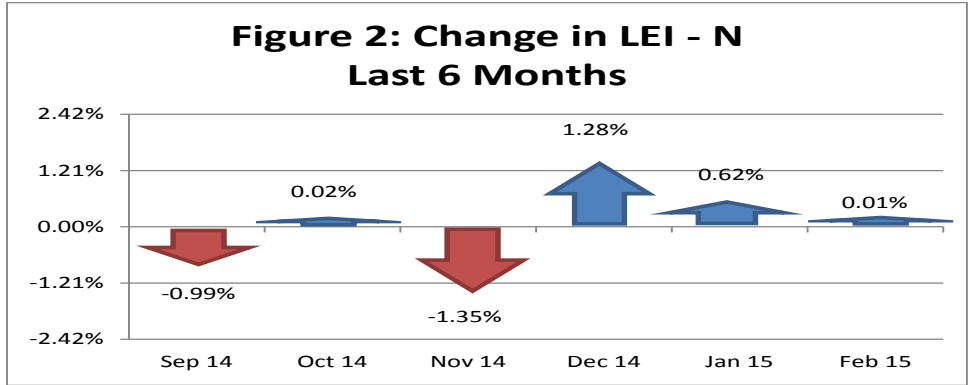
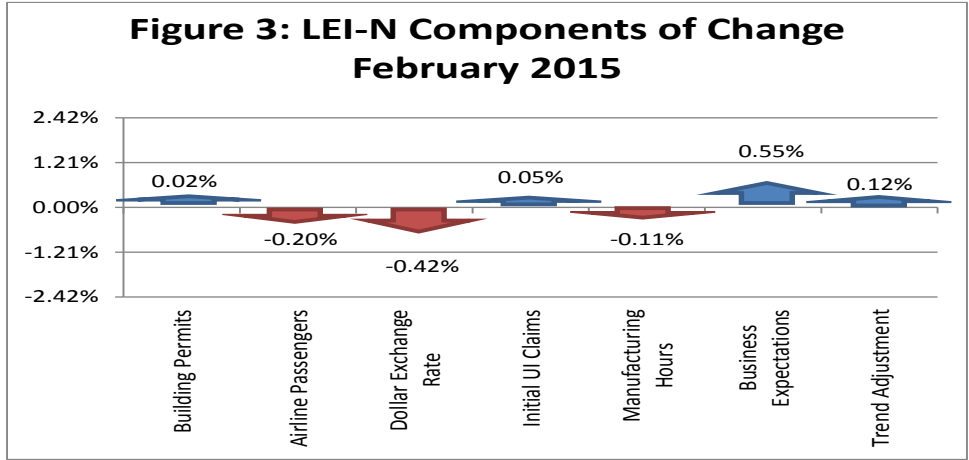
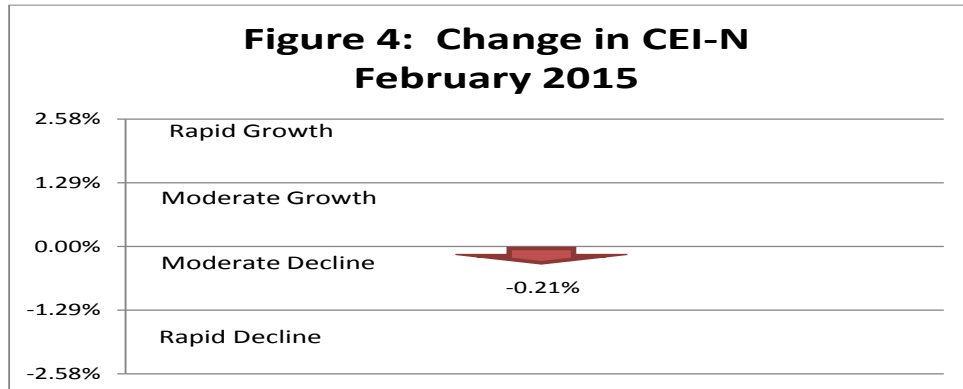


Figure 3 shows the components of change in the Leading Economic Indicator – Nebraska during February 2015. The change in the overall LEI-N is the weighted average of changes in each component (see page 5). Two key components are the value of the U.S. Dollar and business expectations. As in many recent months, business expectations were strong in February. Respondents to the February Survey of Nebraska Business reported strong expectations for job growth over the next six months, and expectations for solid sales growth. At the same time, the value of the U.S. dollar has been a negative for the Nebraska economy. Sharp monthly increases in the value of the dollar over the last seven months have created a growing challenge for Nebraska’s export businesses. Among other components, airline passenger counts and manufacturing hours both declined in February. There also were slight increases in seasonally-adjusted building permits for single family homes during the month. Finally, a modest drop in initial claims for unemployment insurance suggests improvement in the Nebraska labor market. Note that the trend adjustment component pictured in Figure 3 is discussed on page 5.

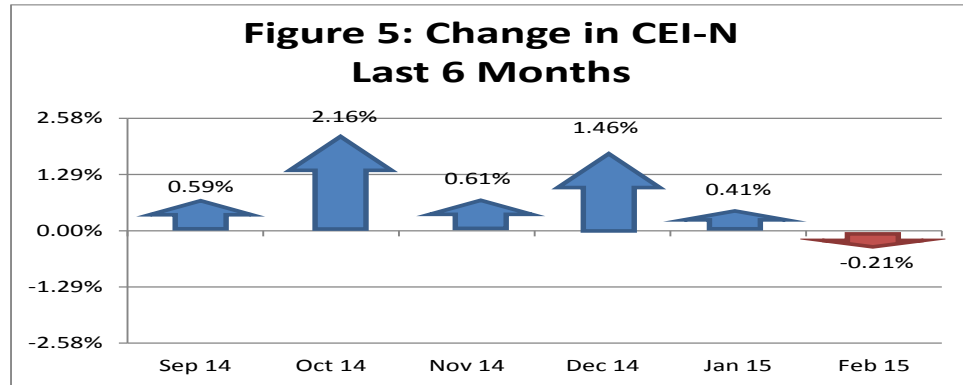


Coincident Economic Indicator – Nebraska

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 declined in February, falling by 0.21%.



The CEI-N has weakened during 2015, as seen in Figure 5. The CEI-N grew rapidly at the end of 2014, particularly during October and December. However, growth moderated in January and the CEI-N declined in February. These trends indicate that the Nebraska economy is shifting towards weaker growth in the first half of 2015.



As seen in Figure 6, three of four components of the CEI-N rose during February. Among rising components, there was a modest increase in real private wages. Real private wages is a composite of employment, hours worked per week and real hourly wages. There also was a slight improvement in the value of agricultural commodities in Nebraska, as corn prices rebounded modestly. Business expectations also were up slightly during February. Respondents to the February *Survey of Nebraska Business* reported a modest increase in sales. The only declining component was electricity sales, which declined after adjusting for weather and other seasonal factors. 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*.

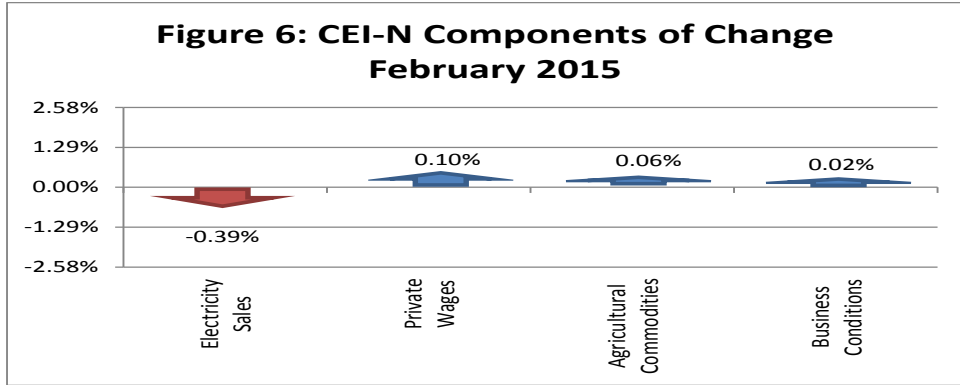
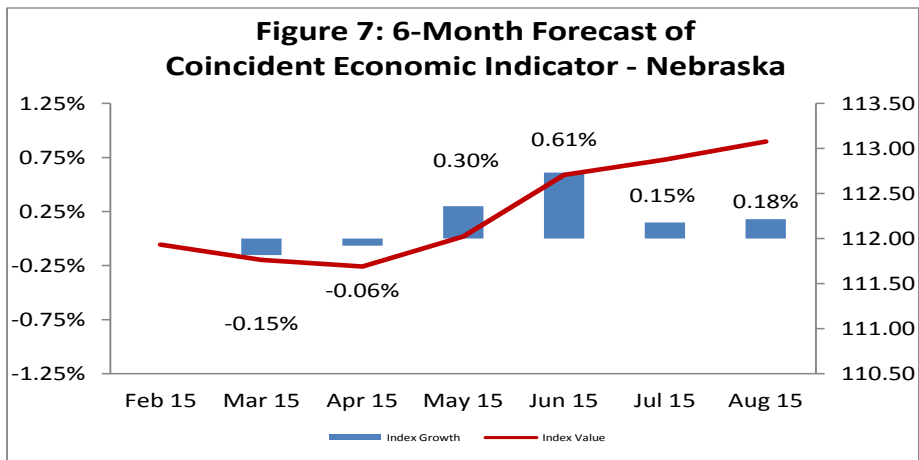


Figure 7 shows the forecast for the CEI-N over the next six months. The forecast calls for another modest decline in the CEI-N during the next two months. Growth will improve, however, beginning in mid-2015. Overall, the forecast calls for weak economic growth in Nebraska in early 2015 and faster growth during the second half of the year. These expectations are consistent with recent values for the LEI-N (see Figure 2) since the LEI-N declined in the second half of 2014 but improved in recent months.



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	13.8011	0.0725	0.0331	Electricity Sales	4.8236	0.2073	0.1513
Airline Passengers	3.4728	0.2880	0.1317	Private Wages	1.6903	0.5916	0.4317
Exchange Rate	1.2114	0.8255	0.3775	Agricultural Commodities	3.2164	0.3109	0.2269
Initial UI Claims	10.4151	0.0960	0.0439	Survey Business Conditions	3.8378	0.2606	0.1901
Manufacturing Hours	1.4710	0.6798	0.3109				
Survey Business Expectations	4.4483	0.2248	0.1028				

Tables 2 and 3 show the calculation for the change in CEI-N and LEI-N between January and February 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 0.12% 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	67.54	66.70	0.84	0.03	0.03	0.02%
Airline Passengers	91.48	93.16	-1.68	0.13	-0.22	-0.20%
U.S. Dollar Exchange Rate (Inverse)	91.52	92.77	-1.26	0.38	-0.48	-0.42%
Initial Unemployment Insurance Claims (Inverse)	107.35	106.18	1.17	0.04	0.05	0.05%
Manufacturing Hours	97.11	97.49	-0.38	0.31	-0.12	-0.11%
Survey Business Expectations ¹	56.04		6.04	0.10	0.62	0.55%
Trend Adjustment					0.13	0.12%
Total (weighted average)	112.91	112.89			0.02	0.01%

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	117.99	120.89	-2.90	0.15	-0.44	-0.39%
Private Wage	100.77	100.53	0.25	0.43	0.11	0.10%
Agricultural Commodities	154.84	154.53	0.31	0.23	0.07	0.06%
Survey Business Conditions ¹	50.13		0.13	0.19	0.03	0.02%
Total (weighted average)	111.93	112.17			-0.24	-0.21%

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.

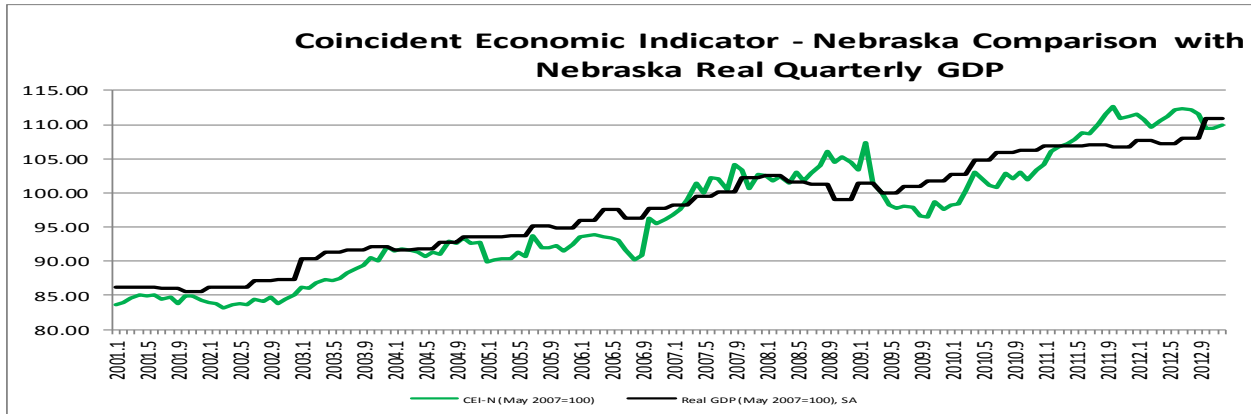


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months into the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months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

