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Nebraska Monthly Economic Indicators: March 16, 2012

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Nebraska Monthly Economic Indicators: March 16, 2012

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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) rose for the third consecutive month in February 2012, posting a moderate 0.93% increase. The increase in the LEI-N, which predicts economic growth in the state six months in the future, suggests that the Nebraska economy will grow at a moderate pace in mid-2012. A declining U.S. dollar made the largest contribution to growth in the LEI-N. Positive business expectations also contributed to the increase. Manufacturing hours, building permits, and the number of airline passengers were essentially unchanged. Rising initial unemployment claims detracted from growth in the leading indicator. Looking at earlier months, the LEI-N declined in September, October, and November 2011, indicating a weak economy in Nebraska in March and April of 2012.

Leading Economic Indicator – Nebraska

Figure 1 shows the change in the Leading Economic Indicator – Nebraska (LEI-N) in February 2012, compared to the previous month of January 2012. The LEI-N, which predicts economic growth six months in the future, grew by 0.93% in February 2012. This moderate increase suggests solid economic growth in Nebraska six months from now.

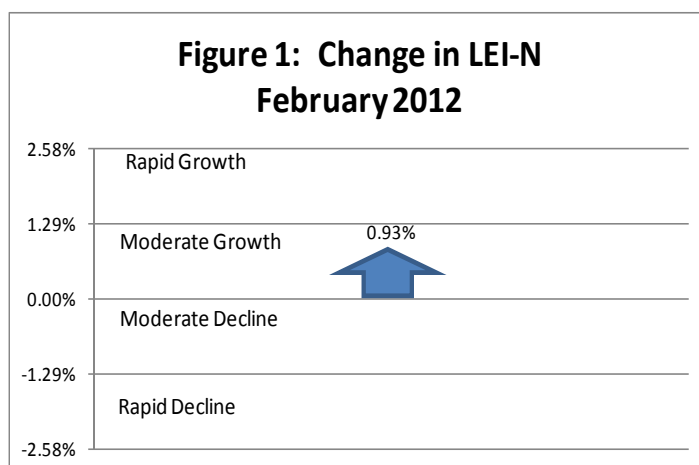
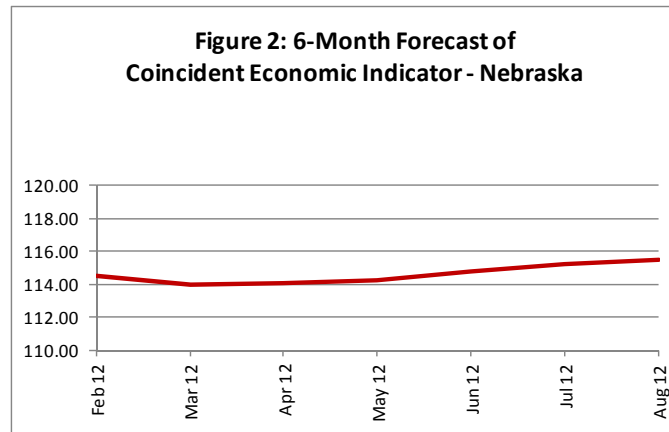


Figure 2 shows the forecast for the Coincident economic Indicator – Nebraska (CEI-N) over the next six months. The CEI-N is a measure of the size of the Nebraska economy, and is explained in more detail on page 4. The LEI-N forecasts the CEI-N six months in the future. Therefore, the forecast for CEI-N in Figure 2 is based on values for LEI-N from the last four months of 2011 and the first two months of 2012.



As seen in Figure 3, LEI-N declined during September, October, and November 2011 before rebounding in December, January and February. This pattern is reflected in the forecast for CEI-N. A small decline in CEI-N is expected in March 2012, with CEI-N flat in April 2012. Growth will return to the CEI-N beginning in May 2012. As noted earlier, these increases suggest moderate growth in the Nebraska economy during mid-2012. Note that all data in all Figures is seasonally adjusted.

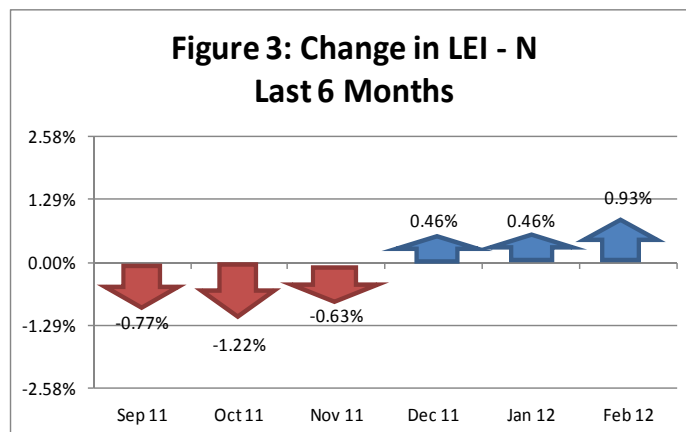
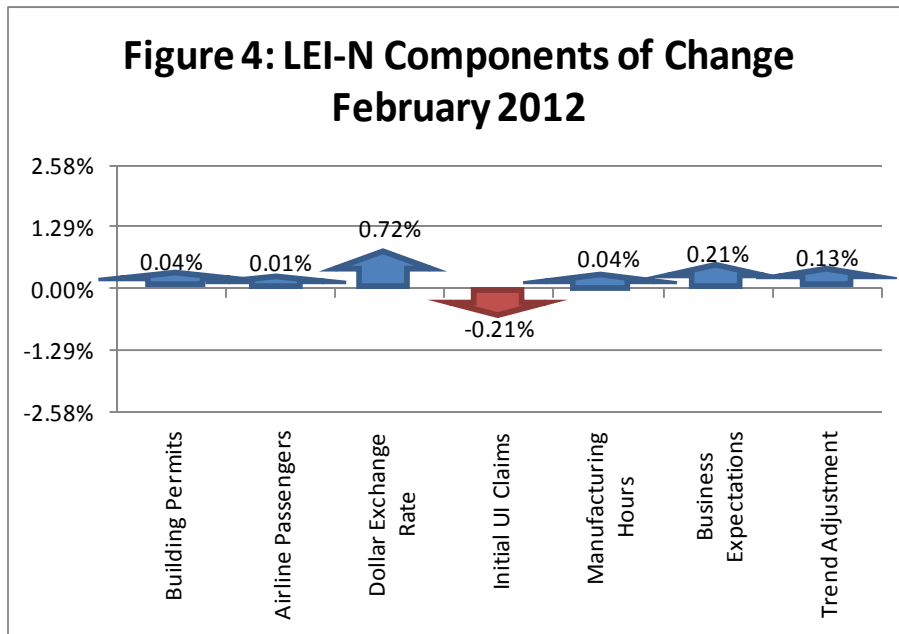


Figure 4 shows the components of change in the Leading Economic Indicator – Nebraska during February 2012. The change in the overall LEI – N is the weighted average of changes in each component (see page 5). Most components of the LEI-N rose, or at least remained flat, during February 2012. The trade-weighted value of the U.S. Dollar declined sharply during February 2012, encouraging exports and making the largest contribution to growth in the LEI-N. Respondents to the monthly *Survey of Nebraska Business* also reported an expectation of rising sales and employment in their business over the next six months. These positive business expectations also contributed to growth in the LEI-N. Among other components, building permits, manufacturing hours, and the number of airline passengers changed little during February, with little effect on the LEI-N. However, initial claims for unemployment insurance rose during February, on a seasonally adjusted basis, detracting from growth in the LEI-N. The trend adjustment component 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. CEI-N barely increased during February 2012, growing by 0.14%, as seen in Figure 5. This suggests little improvement in the Nebraska economy during February 2012, and is consistently with the decline in the Leading Economic Indicator – Nebraska that was observed in late 2011 (see Figure 3).

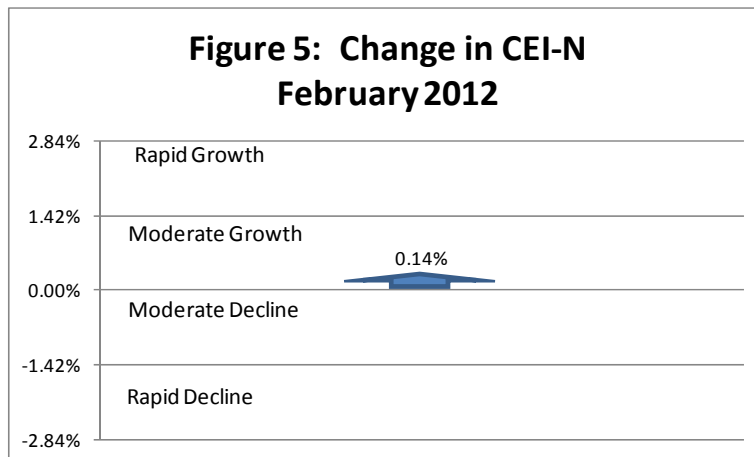


Figure 6 shows growth in the CEI-N over the past 6 months. Expansion of the CEI-N in December 2011 and January 2012 reversed the drop during November. After several months of growth it is now clear that the decline in CEI-N represented a short-term event rather than the beginning of a sustained decline in the Nebraska economy. However, growth in the Nebraska economy in early 2012 also appears to be weak.

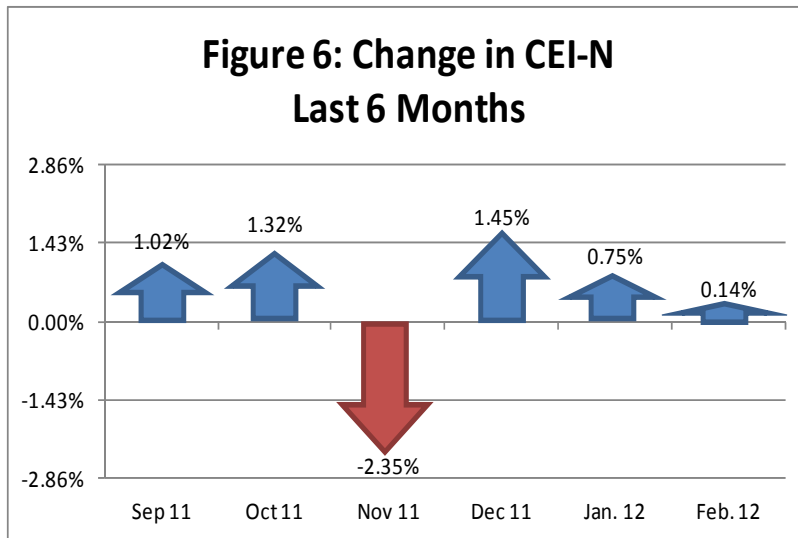
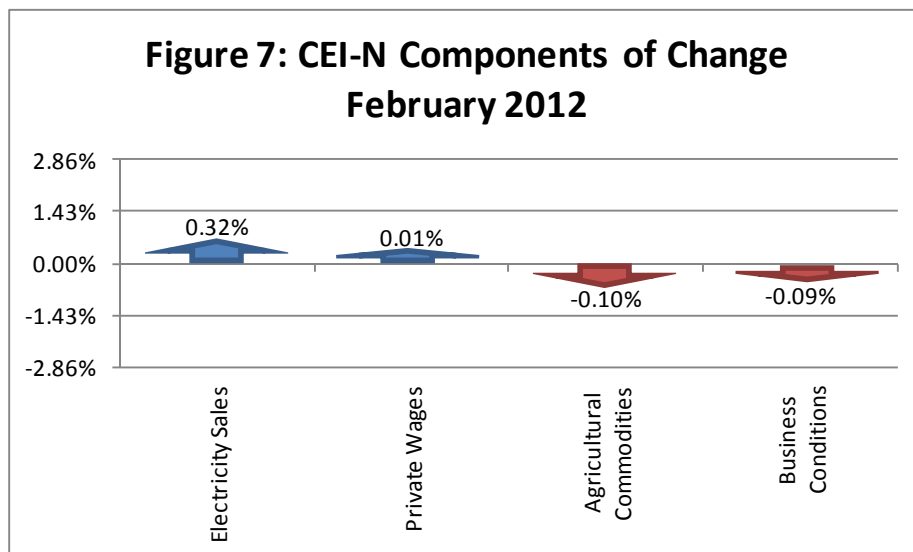


Figure 7 shows growth in the four components of the CEI-N during February 2012. Growth in electricity sales in Nebraska, after adjusting for weather and other seasonal factors, contributed to growth in the CEI-N. Private wages (a measure of average weekly wage and salary earnings during a month), however, changed little in February, making little contribution to growth. Agricultural commodity prices declined, reducing growth in the CEI-N during February 2012. Further, businesses responding to the monthly *Survey of Nebraska Business* reported a small decline in business activity, also detracting from growth in the CEI-N. A detailed discussion of the components of the CEI-N and the LEI-N can be found at www.cba.unl.edu in *Technical Report: Coincident and Leading Economic Indicators- Nebraska*.



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 weight that is utilized is 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 be 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	14.5414	0.0688	0.0341	Electricity Sales	4.9349	0.2026	0.1717
Airline Passengers	3.7646	0.2656	0.1317	Private Wages	1.8411	0.5432	0.4601
Exchange Rate	1.2583	0.7947	0.3941	Agricultural Commodities	3.1858	0.3139	0.2659
Initial UI Claims	9.9011	0.1010	0.0501	Survey Business Conditions	8.2757	0.1208	0.1024
Manufacturing Hours	1.4851	0.6734	0.3339				
Survey Business Expectations	8.8351	0.1132	0.0561				

Tables 2 and 3 show the precise calculation of the change in the CEI-N and LEI-N. We first calculate the change in each component between the current and previous month. Weights (from Table 1) are then multiplied by the change to calculate the contribution of each component. Contributions are totaled and put in percentage terms relative to the aggregate value of LEI-N or CEI-N in previous month. 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	56.97	55.72	1.25	0.03	0.04	0.04%
Airline Passengers	93.62	93.56	0.06	0.13	0.01	0.01%
U.S. Dollar Exchange Rate (Inverse)	106.55	104.71	1.84	0.39	0.72	0.72%
Initial Unemployment Insurance Claims (Inverse)	66.28	70.55	-4.27	0.05	-0.21	-0.21%
Manufacturing Hours	88.30	88.17	0.12	0.33	0.04	0.04%
Survey Business Expectations ¹	53.74		3.74	0.06	0.21	0.21%
Trend Adjustment					0.13	0.13%
Total (weighted average)	102.12	101.18			0.94	0.93%

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	109.76	107.60	2.16	0.17	0.37	0.32%
Monthly Wage	97.13	97.12	0.02	0.46	0.01	0.01%
Agricultural Commodities	147.66	148.10	-0.44	0.27	-0.12	-0.10%
Survey Business Conditions ¹	49.01		-0.99	0.10	-0.10	-0.09%
Total (weighted average)	114.53	114.37			0.16	0.14%

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 values of the CEI-N and the real gross state product (real GDP) in Nebraska for the 2001-2010 period. The comparison ends in 2010 since this is the last year for which data on real gross state product is available, at this time. 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.

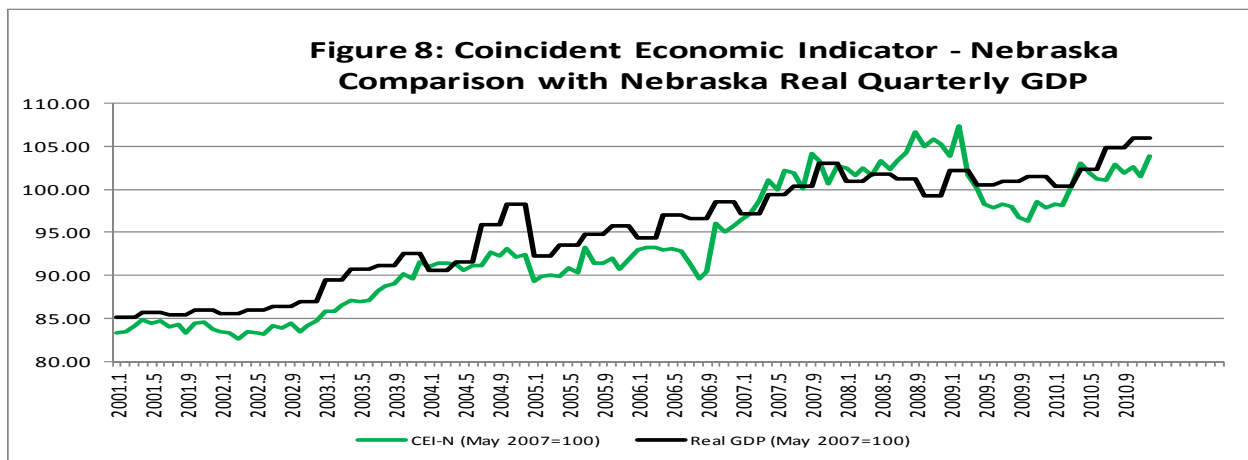


Figure 9 again shows the values for the CEI-N. It also graphs 6-months forward values for the LEI-N. Recall that the LEI-N is intended to forecast the Nebraska economy six months in the future. This implies that Figure 9 is comparing the predicted movement in CEI-N (predicted by LEI-N values six months 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 correlations coefficient between CEI-N and six- month forward values of LEI-N is 0.90.

