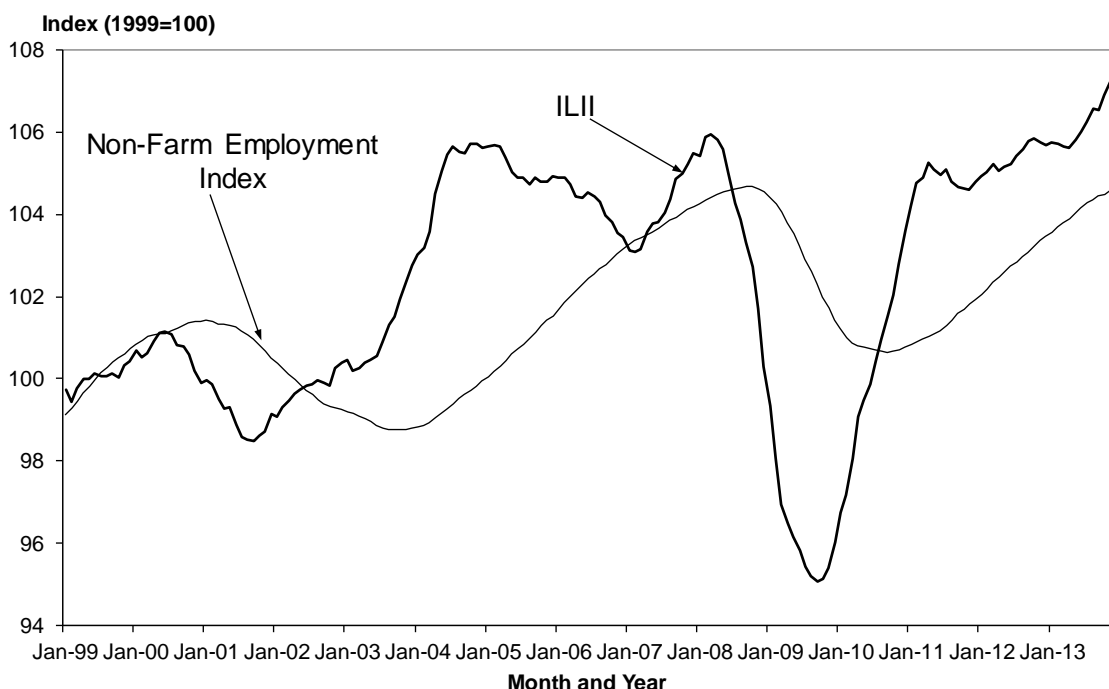


The Iowa Leading Indicators Index (ILII) increased to 107.5 (100=1999) in December 2013. The Iowa non-farm employment coincident index recorded a 0.07 percent rise in December, which extends the streak of employment gains to 39 consecutive months.

The ILII's value increased in December for a third consecutive month, rising 0.2 percent from November. During the six-month span through December, the ILII increased 1.4 percent (an annualized rate of 2.7 percent). The six-month diffusion index was 87.5 with only one of the eight components (agricultural futures profits index) experiencing an increase of less than 0.05 percent over the last half a year.

In December, five of eight Iowa Leading Indicators Index components contributed positively. The positive contributors were diesel fuel consumption, the national yield spread, the new orders index, the Iowa stock market index, and average weekly manufacturing hours. The average weekly unemployment claims (inverted), residential building permits, and agricultural futures profits index were the three components that contributed to the index negatively.

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-December 2013**



**Table 1. Iowa Leading Indicators Index: Six Month Overview**

Monthly Values	2013					
	July	August	September	October	November	December
ILII	106.2	106.6	106.5	106.9	107.3	107.5
Percentage Change <sup>a</sup>	0.2%	0.3%	0.0%	0.4%	0.3%	0.2%
Diffusion Index <sup>b</sup>	68.8	87.5	50.0	75.0	87.5	62.5
Six-Month Values	Jan to July	Feb to August	Mar to September	Apr to October	May to November	June to December
ILII						
Percentage Change	0.5%	0.8%	0.8%	1.2%	1.4%	1.4%
Annualized Percentage Change	0.9%	1.6%	1.6%	2.5%	2.8%	2.7%
Diffusion Index	87.5	87.5	87.5	87.5	87.5	87.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced January 31, 2014.

a. Percentage changes in the ILII do not always equal changes in the level of the ILII due to rounding.

b. A diffusion index measures the proportion of components that are rising based on the actual changes (not the standardized contributions to the ILII). Components experiencing increases greater than 0.05 percent are assigned a value of 1.0, components that experience changes less than an absolute value of 0.05 percent are assigned a value of 0.5, and components experiencing decreases greater than 0.05 percent are assigned a value of 0.0.

**Table 2. Iowa Leading Indicators Index Components: Six Month Overview**

Component Series Monthly Values <sup>a</sup>		2013					
		July	August	September	October	November	December
AFPI <sup>b</sup>	↓ <sup>c</sup>						
Corn Profits (cents per bushel)		214.8	190.8	171.0	149.3	127.1	108.5
Soybean Profits (cents per bushel)		394.3	357.7	326.9	302.5	287.3	277.9
Hog Profits (cents per pound)		14.7	15.9	17.9	19.6	21.0	21.9
Cattle Profits (cents per pound)		-17.0	-17.1	-16.4	-14.8	-13.0	-10.8
Iowa Stock Market Index (10=1984-86)	↑	89.93	90.19	90.01	90.51	93.01	95.53
Yield Spread (10-year less 3-month)	↑	2.54	2.70	2.79	2.57	2.65	2.83
Residential Building Permits	↓	855	862	850	899	906	898
Average Weekly Unemployment Claims <sup>d</sup>	↓	3,296	3,281	3,278	3,240	3,213	3,250
Average Weekly Manufacturing Hours	↑	40.79	40.91	41.03	41.20	41.31	41.37
New Orders Index (percent)	↑	66.7	67.7	68.3	68.4	68.7	69.6
Diesel Fuel Consumption (mil gallons)	↑	55.71	56.32	56.06	56.44	56.92	57.19

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced January 31, 2014.

a. For all component series except for the yield spread and the Iowa stock market index, the values represent 12-month backward moving averages.

b. The agricultural futures profits index is computed as the sum of the standardized symmetric percent changes in the four series, each weighted by the commodity's annual share of Iowa cash farm income (updated August 27, 2013).

c. Arrows indicate the direction of the series' contribution to the ILII for the latest month.

d. Changes in average weekly initial unemployment insurance claims are inverted when added to the ILII, thus a negative change in the series contributes positively to the index.

## ILII Components

- **Diesel fuel consumption:** Number of taxable gallons of diesel fuel sold in Iowa. Changes are calculated based on a 12-month moving average. Diesel fuel consumption increased 5.4 percent between December 2012 and 2013, causing the 12-month moving average to rise to 57.19 million gallons from 56.92 in November, and contributing 0.09 to the ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During December, the yield spread widened to 2.83 percent as the long-term rate rose 18 basis points while the short-term rate did not change. For the month, the yield spread contributed 0.06 to the ILII.
- **New orders index:** Diffusion index measuring the share of purchasing managers in Iowa reporting increases in orders received for manufacturing output. Changes are calculated based on a 12-month moving average. The monthly value of the index increased to 66.1 in December from 57.1 in November, it was also up from 54.9 a year ago. The 12-month moving average of the new orders index rose to 69.6, contributing 0.06 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 33 Iowa-based or Iowa-concentrated publicly-traded companies. During December 2013, 23 of the 33 companies gained value, including 9 of the 11 financial-sector companies. The stock market index rose to 95.53, contributing 0.05 to the ILII value.
- **Average weekly manufacturing hours:** Weekly average of hours worked in the manufacturing sector in Iowa. Changes are calculated based on a 12-month moving average. For December 2013, this component contributed 0.04 to the ILII value with its increase to 41.37 from 41.31. December 2013 hours were 41.9, above the 41.2 hours in December 2012, and 0.2 hours above the historical average of 41.7 (1996-2008).
- **Agricultural futures profits index:** Composite measure of corn, soybean, hog, and cattle expected profits, measured as the futures price less estimated breakeven costs, weighted by the respective share of Iowa annual cash receipts. Changes are calculated based on a 12-month moving average. During December, this component contributed -0.03 to the ILII value. Expected profits fell sharply for corn and soybeans modestly decreased reflecting the recent price declines; corn prices are down 38.1 percent, and soybean prices are down 5.3 percent compared to last year. Expected profits increased moderately for cattle as prices rose 3.4 percent over last year. Although hog prices decreased 0.8 percent, expected profits rose as feed costs declined compared to last year.
- **Residential building permits:** Number of total permits issued in Iowa for the construction of residential housing units. Changes are calculated based on a 12-month moving average. For December, this component contributed -0.03 to the ILII with the 12-month moving average decreasing to 898. December 2013 permits were 21.6 percent below December 2012, and 52.5 percent below the historical average for December (1998-2008).
- **Average weekly unemployment claims:** Weekly average of initial claims for unemployment insurance in Iowa. Changes are calculated based on a 12-month moving average and are inverted when added to the ILII. This component contributed -0.04 to the ILII value. The 12-month moving average of claims increased to 3,250 with unemployment claims for the month 6.7 percent above December 2012 claims, and 8.3 percent above average historical claims for December (1987-2008).

### Table 3. ILII Components and Standardization Factors for FY 2014

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.047
Iowa Stock Market Index	0.018
Yield Spread	0.328
Residential Building Permits	0.035
Average Weekly Unemployment Claims	0.033
Average Weekly Manufacturing Hours	0.286
New Orders Index	0.063
Diesel Fuel Consumption	0.189

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced October 30, 2013  
The standardization factors are the inverse of the standard deviation of the month-to-month changes in each component over the January 1999 to June 2013 period. These factors equalize the volatility of the contribution from each component and are normalized to one. The month-to-month changes are based on 12-month backward moving averages for all components except the yield spread and the Iowa stock market index. The yield spread and new orders index changes are simple arithmetic changes; month-to-month changes for the rest of the components are computed as symmetric percentage changes. The factors are updated annually during August.

### Comments

The Iowa Leading Indicators Index (ILII) is designed to forecast the future direction of economic activity in the state of Iowa. The techniques used to build the ILII follow those used by The Conference Board to construct the national Leading Economics Index (LEI) prior to the 2001 revisions. A one-month movement in such an index does not produce a clear signal, rather it is necessary to consider the direction of the index over several consecutive months. A contraction signal in the ILII is considered reliable when two conditions are met: 1. The index declines by at least two percent over a six month period (using an annualized rate); and, 2. A majority of the individual components decline over those six months (the six-month diffusion index less than 50.0).

The Iowa non-farm employment coincident index measures the change in non-seasonally adjusted, total non-farm employment in the state of Iowa. Changes are based on a 12-month moving average of employment and are computed as symmetric percentage changes. The index is a representation of overall economic activity in Iowa.

The employment index and the ILII are constructed to have a value of 100 in the year 1999.

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