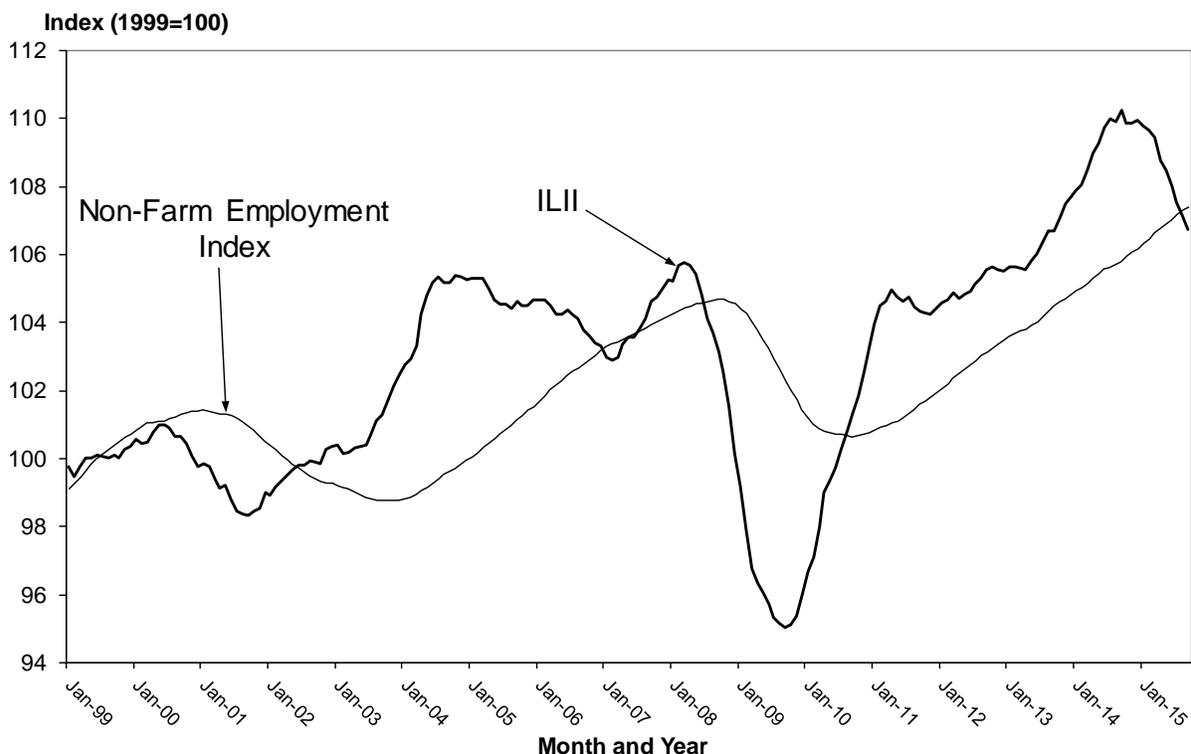


The Iowa Leading Indicators Index (ILII) fell to 106.7 (100=1999) in September 2015 from 107.2 in August. The Iowa non-farm employment coincident index recorded a 0.08 percent rise in September, which extends the streak of employment gains to 60 consecutive months.

During the six-month span through September, the ILII decreased 2.5 percent (an annualized rate of -5.0 percent). The six-month diffusion index decreased to 12.5 with seven of the eight components experiencing a decrease of greater than 0.05 percent over the last half a year. The national yield spread is the only component to show any positive growth in the past 6 months.

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

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-September 2015**



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

Monthly Values	2015					
	Apr	May	June	July	Aug	Sept
ILII	108.8	108.5	108.0	107.6	107.2	106.7
Percentage Change <sup>a</sup>	-0.6%	-0.3%	-0.4%	-0.4%	-0.4%	-0.4%
Diffusion Index <sup>b</sup>	25.0	25.0	37.5	18.8	25.0	37.5
<b>Six-Month Values</b>	Oct to Apr	Nov to May	Dec to June	Jan to July	Feb to Aug	Mar to Sept
ILII						
Percentage Change	-1.0%	-1.3%	-1.8%	-2.0%	-2.3%	-2.5%
Annualized Percentage Change	-2.0%	-2.6%	-3.5%	-4.0%	-4.5%	-5.0%
Diffusion Index	50.0	37.5	31.3	25.0	31.3	12.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced October 27, 2015.

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>		2015					
		Apr	May	June	July	Aug	Sept
AFPI <sup>b</sup>	↓ <sup>c</sup>						
Corn Profits (cents per bushel)		32.7	25.1	19.9	23.0	24.1	27.8
Soybean Profits (cents per bushel)		199.7	168.3	143.4	133.2	120.3	110.5
Hog Profits (cents per pound)		30.3	28.0	25.1	21.7	20.0	18.1
Cattle Profits (cents per pound)		10.2	8.3	6.0	2.5	-0.4	-3.8
Iowa Stock Market Index (10=1984-86)	↓	98.28	95.56	95.80	95.84	91.87	85.47
Yield Spread (10-year less 3-month)	↑	1.92	2.18	2.34	2.29	2.10	2.15
Residential Building Permits	↓	849	876	881	868	862	842
Average Weekly Unemployment Claims <sup>d</sup>	↑	3,014	3,029	3,043	3,048	3,047	3,044
Average Weekly Manufacturing Hours	↓	42.04	42.02	41.98	41.99	42.02	41.96
New Orders Index (percent)	↓	57.6	55.6	53.6	51.9	51.6	51.6
Diesel Fuel Consumption (mil gallons)	↑	59.47	59.31	59.02	58.98	58.81	58.93

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced October 27, 2015.

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 25, 2015).

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 2.4 percent between September 2014 and 2015, causing the 12-month moving average to grow to 58.93 million gallons from 58.81 in August, and contributing 0.04 to the ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During September, the yield spread expanded to 2.15 percent as the long-term rate held steady at 2.17 while the short-term rate decreased five basis points. For the month, the yield spread contributed 0.02 to the ILII.
- **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 0.00 to the ILII value. The 12-month moving average of claims decreased to 3,044 with unemployment claims for the month 1.3 percent below September 2014 claims, and 3.6 percent below average historical claims for September (1987-2014).
- **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 decreased to 48.2 in September from 55.1 in August, down slightly from 48.3 one year ago. The 12-month moving average of the new orders index remained at 51.6, contributing -0.00 to the ILII.
- **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 September 2015, this component contributed -0.04 to the ILII value with its decrease to 41.96 from 42.02. September 2015 hours were 41.4, below the 42.1 hours in September 2014, and 0.2 hours below the historical monthly average of 41.6 (1996-2014).
- **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 September, this component contributed -0.08 to the ILII with the 12-month moving average decreasing from 862 in August to 842. September 2015 permits were 16.4 percent below September 2014, yet 14.0 percent above the historical average for September (1998-2014).
- **Iowa stock market index:** Capitalization-weighted index of 35 Iowa-based or Iowa-concentrated publicly-traded companies. During September 2015, only 8 of the 35 companies gained value, including 2 of the 12 financial-sector companies. With four-fifths of the stocks recording losses the index fell to 85.47 in September from 91.87 in August and contributed -0.14 to the ILII value.
- **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 in the prior calendar year. Changes are calculated based on a 12-month moving average. During September this component contributed -0.18 to the index with expected profit decreases for three of the four commodities. Compared to last year, new crop corn prices are up 12.0 percent, while soybean prices are 9.8 percent lower. September prices for hogs are down 33.6 percent and cattle prices are 12.6 percent below September 2014.

### Table 3. ILII Components and Standardization Factors for FY 2016

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.037
Iowa Stock Market Index	0.019
Yield Spread	0.335
Residential Building Permits	0.034
Average Weekly Unemployment Claims	0.035
Average Weekly Manufacturing Hours	0.290
New Orders Index	0.064
Diesel Fuel Consumption	0.187

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 27, 2015  
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 2015 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.

**Contact:** Questions can be addressed to Victoria Daniels of the Iowa Department of Revenue at (515) 281-8450 or Victoria.Daniels@iowa.gov.