



**NOTICE:** The Iowa Leading Indicators Index (ILII) underwent an annual update between the release of the June and July 2016 reports, decreasing the level of the ILII for most months.

A revised historical series for the ILII and its components are also available on the Department's website. Please select the link entitled *Historical ILII Series*.

To read more about the changes to the ILII, please refer to the following report *Iowa Leading Indicators Index: Tenth Annual Assessment and Update* available on the Department's website September 6, 2016.

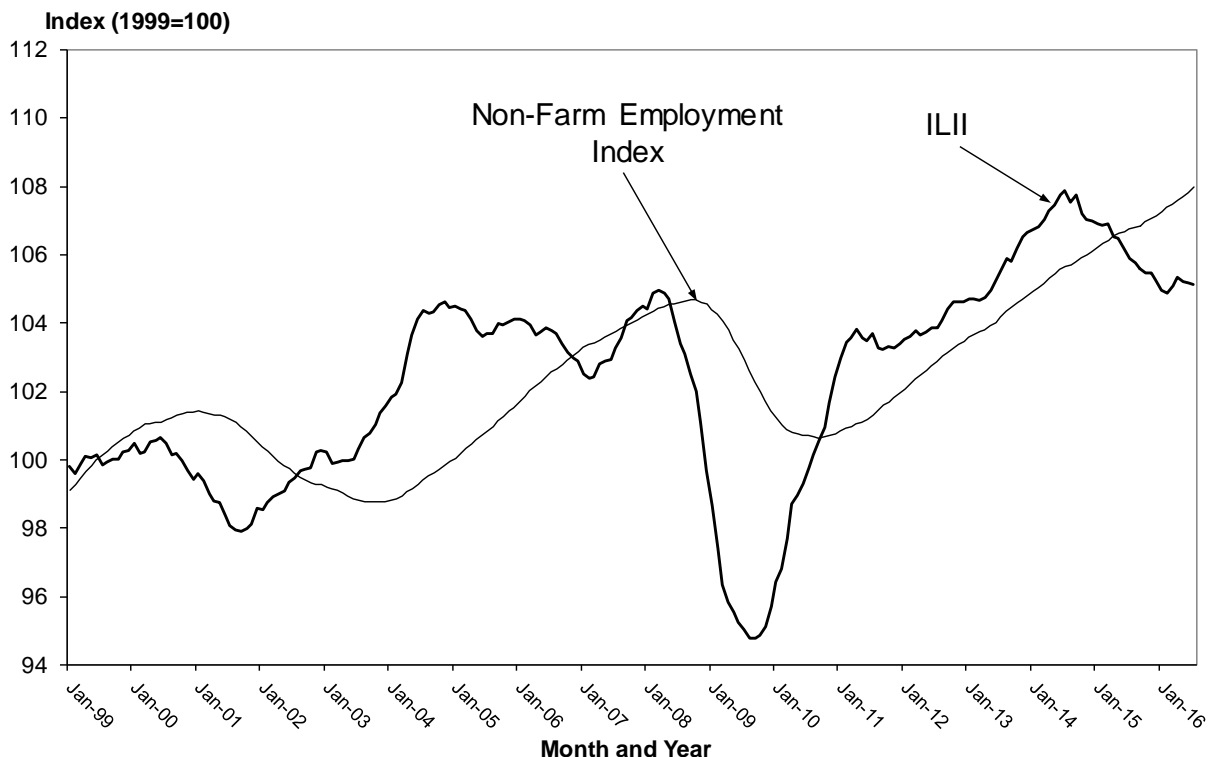


The Iowa Leading Indicators Index (ILII) fell to 105.1 (100=1999) in July 2016 from a revised 105.2 in June. The Iowa non-farm employment coincident index recorded a 0.14 percent rise in July, which extends the streak of employment gains to 70 consecutive months.

During the six-month span through July, the ILII increased 0.2 percent (an annualized rate of 0.3 percent). The six-month diffusion index increased to 50.0 with four of the eight components (agricultural futures profits index, diesel fuel consumption, Iowa stock market index, and residential building permits) experiencing an increase of greater than 0.05 percent over the last half a year. The Iowa stock market index was the newest component showing a six-month gain, but was partially offset by a weakening in average weekly unemployment claims (inverted) that joined the list of components with a decrease of greater than 0.05 percent over the last half a year.

In July, three of the eight Iowa Leading Indicators Index components contributed positively. The positive contributors were diesel fuel consumption, the agricultural futures profits index, and the Iowa stock market index. The national yield spread, the new orders index, residential building permits, average weekly manufacturing hours, and average weekly unemployment claims (inverted) 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-July 2016**



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

Monthly Values	2016					
	Feb	Mar	Apr	May	Jun	Jul
ILII	104.9	105.1	105.3	105.2	105.2	105.1
Percentage Change <sup>a</sup>	-0.1%	0.2%	0.2%	-0.1%	0.0%	0.0%
Diffusion Index <sup>b</sup>	50.0	68.8	31.3	31.3	50.0	37.5
Six-Month Values	Aug to Feb	Sept to Mar	Oct to Apr	Nov to May	Dec to Jun	Jan to Jul
ILII						
Percentage Change	-0.9%	-0.5%	-0.1%	-0.2%	-0.1%	0.2%
Annualized Percentage Change	-1.7%	-1.0%	-0.3%	-0.5%	-0.2%	0.3%
Diffusion Index	31.3	37.5	18.8	25.0	43.8	50.0

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 31, 2016.

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>	2016					
	Feb	Mar	Apr	May	Jun	Jul
AFP <sup>b</sup>						
Corn Profits (cents per bushel)						
Soybean Profits (cents per bushel)						
Hog Profits (cents per pound)						
Cattle Profits (cents per pound)						
Iowa Stock Market Index (10=1984-86)						
Yield Spread (10-year less 3-month)						
Residential Building Permits						
Average Weekly Unemployment Claims <sup>d</sup>						
Average Weekly Manufacturing Hours						
New Orders Index (percent)						
Diesel Fuel Consumption (mil gallons)						

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 31, 2016.

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 30, 2016).

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 6.8 percent between July 2015 and 2016, causing the 12-month moving average to grow to 58.82 million gallons from 58.49 in June, and contributing 0.10 to the ILII value.
- **Agricultural futures profits index:** Composite measure of corn and soybean expected profits, measured as the 12-month moving average of the futures price less estimated breakeven costs, and cattle and hog expected profits, measured as the average of the crush margin for the next 12 months as calculated by ISU, weighted by the respective share of Iowa annual cash receipts averaged over the prior ten calendar years. During July this component contributed 0.03 to the index with expected profit increases for three of the four commodities. Compared to last year, new crop corn prices are down 16.2 percent, while soybean prices are 4.5 percent higher. July crush margins for hogs are up 6.2 percent and cattle crush margins are 7.4 percent above June.
- **Iowa stock market index:** Capitalization-weighted index of 35 Iowa-based or Iowa-concentrated publicly-traded companies. During July 2016, 25 of the 35 companies gained value, including 9 of the 12 financial-sector companies. With over two-thirds of the stocks experiencing gains, the index increased to 84.17 in July from 83.82 in June and contributed 0.01 to the ILII value.
- **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 increased to 3,093 with unemployment claims for the month 0.8 percent above July 2015 claims, yet 17.2 percent below average historical claims for July (1987-2015).
- **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 July 2016, this component contributed -0.02 to the ILII value with its decrease to 41.86 from 41.88. July 2016 hours were 41.7, below the 42.0 hours in July 2015, yet 0.6 hours above the historical monthly average of 41.1 (1996-2015).
- **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 July, this component contributed -0.03 to the ILII with the 12-month moving average decreasing from 935 in June to 926. July 2016 permits were 12.4 percent below July 2015, and 33.5 percent below the historical average for July (1998-2015).
- **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 41.1 in July from 46.1 in June and is down significantly from 49.5 one year ago. The 12-month moving average of the new orders index dropped to 46.2, contributing -0.04 to the ILII.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During July, the yield spread contracted to 1.20 percent as the long-term rate decreased fourteen basis points while the short-term rate increased three basis points. For the month, the yield spread contributed -0.06 to the ILII.

**Table 3. ILII Components and Standardization Factors for FY 2017**

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.034
Iowa Stock Market Index	0.019
Yield Spread	0.338
Residential Building Permits	0.033
Average Weekly Unemployment Claims	0.035
Average Weekly Manufacturing Hours	0.294
New Orders Index	0.064
Diesel Fuel Consumption	0.183

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 30, 2016  
 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 2016 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 agricultural futures profits index, the Iowa stock market index, and yield spread. 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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