



NOTICE: The Iowa Leading Indicators Index (ILII) underwent an annual update between the release of the June and July 2017 reports, slightly revising 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: Eleventh Annual Assessment and Update* available on the Department's website September 8, 2017.



The Iowa Leading Indicators Index (ILII) increased to 107.2 (100=1999) in July 2017 from a revised 107.1 in June. The Iowa non-farm employment coincident index recorded a 0.09 percent rise in July, which extends the streak of employment gains further into the sixth consecutive year.

During the six-month span through July, the ILII increased 0.5 percent (an annualized rate of 1.0 percent). The six-month diffusion index remained unchanged at 68.8 with five of the eight indicators (agricultural futures profits index (AFPI), average weekly unemployment claims (inverted), Iowa stock market index, new orders index, and residential building permits) continuing to experience an increase of greater than 0.05 percent over the last half a year and average manufacturing hours experiencing a six-month change above -0.05.

In July, five of the eight Iowa Leading Indicators Index components contributed positively. The positive contributors were the new orders index, residential building permits, the Iowa stock market index, the average weekly unemployment claims (inverted), and the national yield spread. Diesel fuel consumption, the agriculture futures profit index, and average manufacturing hours 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-July 2017

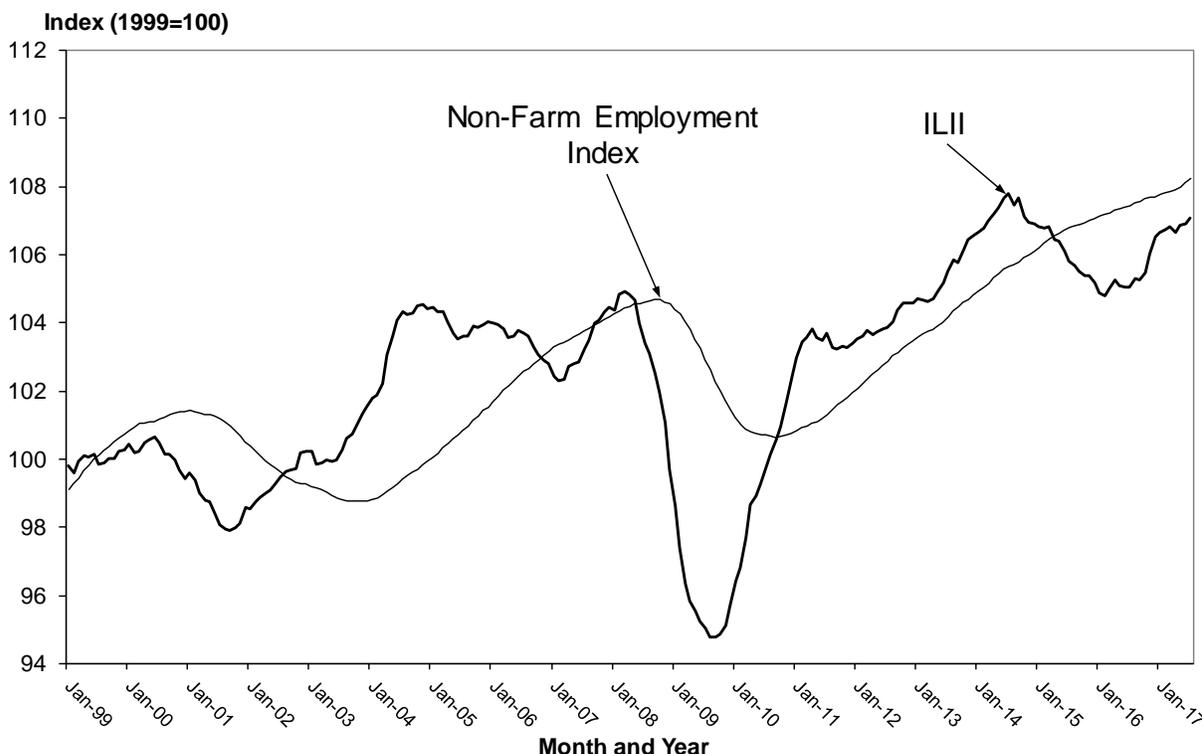


Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2017					
	Feb	Mar	Apr	May	Jun	Jul
ILII	106.8	106.8	106.6	106.9	107.1	107.2
Percentage Change ^a	0.1%	0.1%	-0.2%	0.2%	0.1%	0.1%
Diffusion Index ^b	56.3	75.0	37.5	75.0	75.0	62.5
Six-Month Values	Aug to Feb	Sept to Mar	Oct to Apr	Nov to May	Dec to Jun	Jan to Jul
ILII						
Percentage Change	1.4%	1.5%	1.1%	0.8%	0.5%	0.5%
Annualized Percentage Change	2.7%	2.9%	2.2%	1.6%	1.0%	1.0%
Diffusion Index	87.5	75.0	75.0	62.5	68.8	68.8

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 30, 2017.

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 ^a		2017					
		Feb	Mar	Apr	May	Jun	Jul
AFPI ^b	↓ ^c						
Corn Profits (cents per bushel)		57.7	60.1	62.5	63.8	60.9	64.0
Soybean Profits (cents per bushel)		200.7	212.1	215.0	211.6	193.0	188.1
Hog Profits (cents per pound)		17.7	18.2	17.2	19.3	19.1	17.8
Cattle Profits (cents per pound)		7.4	8.1	7.3	7.3	6.7	6.7
Iowa Stock Market Index (10=1984-86)	↑	96.55	97.23	93.69	93.21	94.36	96.73
Yield Spread (10-year less 3-month)	↑	1.89	1.73	1.49	1.40	1.19	1.23
Residential Building Permits	↑	1,124	1,142	1,119	1,134	1,135	1,153
Average Weekly Unemployment Claims ^d	↑	2,801	2,779	2,765	2,724	2,703	2,675
Average Weekly Manufacturing Hours	↓	41.59	41.63	41.58	41.61	41.63	41.63
New Orders Index (percent)	↑	49.0	50.0	51.2	51.8	53.6	55.2
Diesel Fuel Consumption (mil gallons)	↓	59.01	58.63	58.68	58.88	59.13	58.90

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 30, 2017.

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, 2017).

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

- **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 60.0 from 41.1 seen one year ago. The index remained above 50.0 for the eighth month in a row, suggesting continued growth in manufacturing. The 12-month moving average of the new orders index increased to 55.2 in July from 53.6 in June, contributing 0.10 to the ILII.
- **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 0.05 to the ILII with the 12-month moving average increasing from 1,135 in June to 1,153. July 2017 permits were 30.3 percent above July 2016, yet 11.8 percent below the historical average for July (1998-2016).
- **Iowa stock market index:** Capitalization-weighted index of 35 Iowa-based or Iowa-concentrated publicly-traded companies. During July 2017, 23 of the 35 companies gained value, including 10 of the 12 financial-sector companies. With approximately two-thirds of the stocks experiencing gains, the index increased to 96.73 in July from 94.36 in June and contributed 0.05 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 0.04 to the ILII value. The 12-month moving average of claims decreased to 2,675 with unemployment claims for the month 13.1 percent below July 2016 claims and 28.0 percent below average historical claims for July (1987-2016).
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During July, the yield spread expanded to 1.23 percent as the long-term rate increased 13 basis points while the short-term rate increased 9 basis points. For the month, the yield spread contributed 0.01 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 July 2017, this component contributed -0.01 to the ILII with the 12-month moving average remaining unchanged at 41.63 in July from a revised 41.63 in June. July 2017 average hours were 41.5, below the 41.6 hours in July 2016, yet nearly a half hour above the historical monthly average (1996-2016).
- **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, weighted by the respective share of Iowa annual cash receipts averaged over the prior ten calendar years. During July, this component contributed -0.02 to the index with expected profit decreases experienced by three of the four commodities included in the index. July crush margins for hogs were down 6.8 percent from June and crush margins for cattle were down 0.4 percent. Compared to last year, new crop corn prices were 12.1 percent higher; however, soybean prices decreased 2.7 percent in July pushing down expected profits.
- **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 decreased 4.4 percent between July 2016 and 2017, which caused the 12-month moving average to decrease to 58.90 million gallons from a revised 59.13 in June and contributed -0.07 to the ILII value.

Table 3. ILII Components and Standardization Factors for FY 2018

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.034
Iowa Stock Market Index	0.019
Yield Spread	0.339
Residential Building Permits	0.032
Average Weekly Unemployment Claims	0.036
Average Weekly Manufacturing Hours	0.298
New Orders Index	0.064
Diesel Fuel Consumption	0.179

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 30, 2017
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 2017 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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