



The Iowa Leading Indicators Index (ILII) fell to 105.6 (100=1999) in May 2016 from 105.8 in April, after increasing the last two months. The Iowa non-farm employment coincident index recorded a 0.10 percent rise in May, which extends the streak of employment gains to 68 months.

During the six-month span through May, the ILII decreased 0.4 percent (an annualized rate of -0.9 percent). The six-month diffusion index was 12.5 with seven of the eight components experiencing a decrease of greater than 0.05 percent over the last half a year. Residential building permits was the only component to show positive growth over the past six months. The dip in the six-month diffusion index in May reflects diesel fuel consumption dropping from less than 0.05 percent increase to a decrease of greater than 0.05 percent

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

Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-May 2016

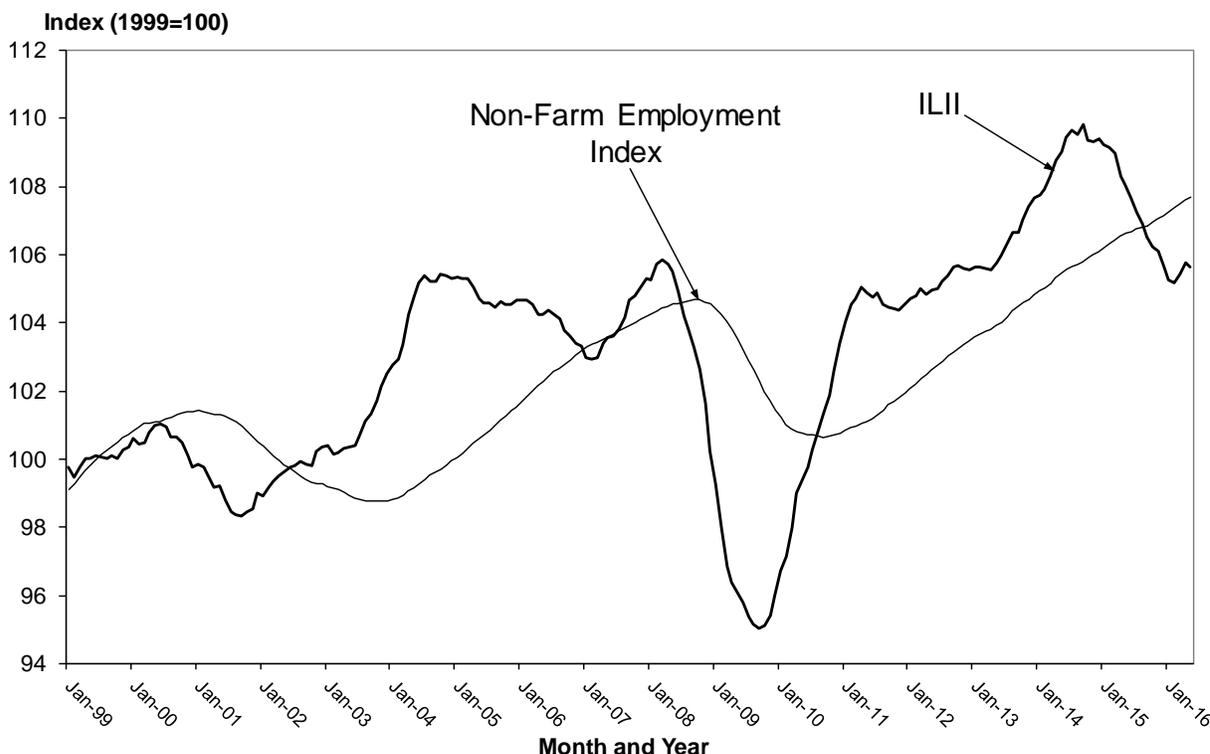


Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2015	2016				
	Dec	Jan	Feb	Mar	Apr	May
ILII	105.7	105.3	105.2	105.5	105.8	105.6
Percentage Change ^a	-0.4%	-0.4%	-0.1%	0.2%	0.3%	-0.1%
Diffusion Index ^b	18.8	25.0	50.0	68.8	43.8	31.3
Six-Month Values	Jun to Dec	Jul to Jan	Aug to Feb	Sept to Mar	Oct to Apr	Nov to May
ILII						
Percentage Change	-1.9%	-1.8%	-1.6%	-1.0%	-0.5%	-0.4%
Annualized Percentage Change	-3.7%	-3.7%	-3.2%	-2.1%	-0.9%	-0.9%
Diffusion Index	12.5	25.0	18.8	25.0	18.8	12.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced June 29, 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 ^a		2015	2016				
		Dec	Jan	Feb	Mar	Apr	May
AFPI ^b	↑ ^c						
Corn Profits (cents per bushel)		28.8	27.9	27.4	27.0	28.3	32.5
Soybean Profits (cents per bushel)		52.4	41.0	30.7	23.2	22.8	31.5
Hog Profits (cents per pound)		13.6	13.9	15.2	16.7	17.9	18.6
Cattle Profits (cents per pound)		-18.2	-21.2	-23.0	-23.9	-24.9	-24.8
Iowa Stock Market Index (10=1984-86)	↑	90.19	80.56	80.28	84.20	83.87	84.16
Yield Spread (10-year less 3-month)	↓	2.01	1.83	1.47	1.59	1.58	1.53
Residential Building Permits	↓	841	878	878	905	950	929
Average Weekly Unemployment Claims ^d	↓	3,092	3,084	3,075	3,098	3,103	3,113
Average Weekly Manufacturing Hours	↓	42.11	42.04	42.04	42.03	41.99	41.93
New Orders Index (percent)	↓	49.1	48.4	48.6	48.1	47.7	47.6
Diesel Fuel Consumption (mil gallons)	↓	57.89	57.61	57.72	57.88	58.40	58.33

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced June 29, 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 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

- **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. This component contributed 0.05 to the index with expected profit increases for all four commodities. Expected profits for hogs increased 35.5 percent year-over-year. Current crop year 2015 corn and soybean prices finally rose above crop year 2014 prices with corn prices up 8.2 percent, while soybean prices increased 11.3 percent over last May. Expected cattle profits increased for the first time in over a year, although only slightly, to a loss of 24.8 cents per pound in May from a loss of 24.9 cents per pound in April.
- **Iowa stock market index:** Capitalization-weighted index of 35 Iowa-based or Iowa-concentrated publicly-traded companies. During May 2016, 19 of the 35 companies gained value, including 7 of the 12 financial-sector companies. With over half of the stocks recording gains, the index grew to 84.16 in May from 83.87 in April and contributed 0.01 to the ILII value.
- **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 1.4 percent between May 2015 and 2016, causing the 12-month moving average to dip to 58.33 million gallons from 58.40 in April and contributing -0.02 to the ILII value.
- **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 50.0 in May from 51.1 in April and was down from 51.0 one year ago. The 12-month moving average of the new orders index decreased to 47.6, contributing -0.01 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 -0.01 to the ILII value. The 12-month moving average of weekly unemployment insurance claims increased to 3,113 in May from 3,103 in April. Average monthly claims were up 4.8 percent from last May and 14.2 percent above the monthly historical average (1987-2015).
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During May, the yield spread contracted to 1.53 percent as the long-term rate remained unchanged while the short-term rate increased 5 basis points. For the month, the yield spread contributed -0.02 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 May 2016, this component contributed -0.05 to the ILII value with its decrease to 41.93 from 41.99. May 2016 hours were 41.1, below the 41.9 hours in May 2015 and below the historical monthly average of 41.2 (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 May, this component contributed -0.07 to the ILII with the 12-month moving average falling to 929. May 2016 permits were 20.3 percent below May 2015 and 17.6 percent below the historical average for May (1998-2015).

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.

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