Iowa Leading Indicators Index May 2014 Report

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The Iowa Leading Indicators Index (ILII) increased to 108.9 (100=1999) in May 2014 from a revised 108.7 in April. In June, Iowa State University released revised grain breakeven costs that verified lower costs to producers and thus raised the agricultural futures profits index and the level of the ILII for the last 15 months. The Iowa non-farm employment coincident index recorded a 0.15 percent rise in May, which extends the streak of employment gains to 44 consecutive months.

The ILII's value increased in May for an eighth consecutive month, rising 0.2 percent from April. During the six-month span through May, the ILII increased 1.4 percent (an annualized rate of 2.8 percent). The six-month diffusion index was 75.0 with only two of the eight components (new orders index and yield spread) experiencing an increase of less than 0.05 percent over the last half a year.

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

Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-May 2014

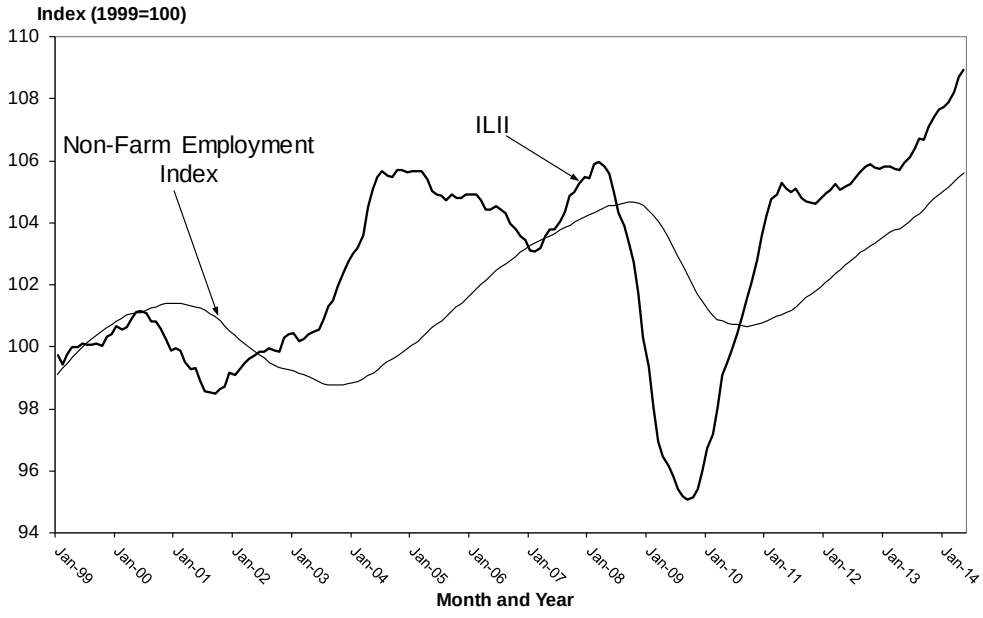

Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2013 December	2014 January	February	March	April	May
ILII	107.7	107.8	107.9	108.2	108.7	108.9
Percentage Change[a]	0.2%	0.1%	0.1%	0.3%	0.4%	0.2%
Diffusion Index[b]	62.5	62.5	37.5	75.0	75.0	68.8

Six-Month Values	June to Dec	July to Jan	Aug to Feb	Sept to Mar	Oct to Apr	Nov to May
ILII						
Percentage Change	1.4%	1.3%	1.1%	1.5%	1.5%	1.4%
Annualized Percentage Change	2.9%	2.6%	2.2%	2.9%	3.0%	2.8%
Diffusion Index	87.5	87.5	81.3	75.0	87.5	75.0

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced June 27, 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[a]		2013 December	2014 January	February	March	April	May
AFPI[b]	↑[c]						
Corn Profits (cents per bushel)		133.5	116.8	102.8	91.1	86.5	78.6
Soybean Profits (cents per bushel)		305.6	294.3	285.6	284.0	293.6	298.0
Hog Profits (cents per pound)		21.9	22.9	24.3	28.2	32.0	34.6
Cattle Profits (cents per pound)		-10.8	-8.3	-6.5	-4.6	-2.5	-0.6
Iowa Stock Market Index (10=1984-86)	↑	95.53	96.38	95.57	100.33	101.25	102.43
Yield Spread (10-year less 3-month)	↓	2.83	2.82	2.66	2.67	2.68	2.53
Residential Building Permits	↓	898	898	886	893	934	914
Average Weekly Unemployment Claims[d]	↑	3,250	3,236	3,204	3,214	3,196	3,161
Average Weekly Manufacturing Hours	↑	41.38	41.44	41.63	41.71	41.73	41.81
New Orders Index (percent)	↓	69.6	69.1	68.7	68.7	68.3	68.2
Diesel Fuel Consumption (mil gallons)	↑	57.19	57.36	57.67	57.86	58.17	58.59

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced June 27, 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 weekely 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 8.9 percent between May 2013 and 2014, causing the 12-month moving average to rise to 58.59 million gallons from 58.17 in April, and contributing 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. Changes are calculated based on a 12-month moving average. In June, Iowa State University released revised grain breakeven costs below previous estimates, thus raising the value of the agricultural futures profits index. During May this component contributed 0.09 to the index with gains for hogs, cattle, and soybeans. Compared to last year, corn prices are down 24.8 percent while prices for hogs jumped 25.3 percent, cattle rose 14.0 percent, and soybeans rose 3.0 percent.

- **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 2014, this component contributed 0.06 to the ILII value with its increase to 41.81 from 41.73. May 2014 hours were 42.2, above the 41.2 hours in May 2013, and 0.8 hour above the historical average of 41.4 (1996-2008).

- **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 decreased to 3,161 with unemployment claims 17.4 percent below May 2013 claims and 0.1 percent below average historical claims for May (1987-2008).

- **Iowa stock market index:** Capitalization-weighted index of 33 Iowa-based or Iowa-concentrated publicly-traded companies. During May 2014, 11 of the 33 companies gained value, including 3 of the 11 financial-sector companies. The stock market index increased to 102.4, 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 increased to 74.7 in May from 72.2 in April. However, it was down from 75.3 one year ago. The resulting small drop in the 12-month moving average of the new orders index contributed -0.00 to the ILII.

- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During May, the yield spread decreased to 2.53 percent as the long-term rate decreased 15 basis point while the short-term rate was unchanged. For the month, the yield spread contributed -0.05 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 May, this component contributed -0.08 to the ILII with the 12-month moving average decreasing from April to 914. May 2014 permits were 21.4 percent less than May 2013 and 37.6 percent below the historical average for May (1998-2008).

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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