

# IOWA Department of REVENUE

## Iowa Leading Indicators Index April 2013 Report

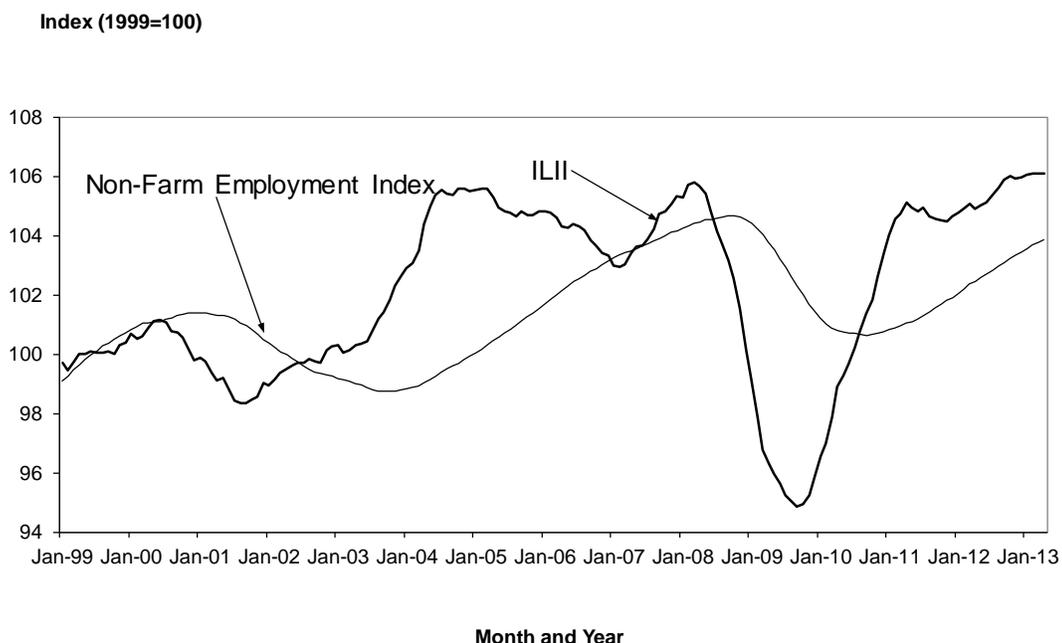
Tax Research and Program Analysis Section  
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The Iowa Leading Indicators Index (ILII) remained at 106.1 (100=1999) in April 2013. The Iowa non-farm employment coincident index recorded a 0.08 percent rise in March, which extends the streak of employment gains to thirty-one consecutive months.

The ILII's value held steady in April from its January, February, and March values after holding steady October through December at 106.0. During the six-month span through April, the ILII increased 0.1 percent (an annualized rate of 0.2 percent). The six-month diffusion index was 56.3 with four of the eight components (residential building permits, average weekly unemployment claims, diesel fuel consumption, and the Iowa stock market index) experiencing an increase of more than 0.05 percent over the last half a year.

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

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-April 2013**



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

Monthly Values	2012		2013			
	November	December	January	February	March	April
ILII	106.0	106.0	106.1	106.1	106.1	106.1
Percentage Change <sup>a</sup>	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Diffusion Index <sup>b</sup>	25.0	50.0	62.5	56.3	56.3	62.5

Six-Month Values	May to November	June to December	July to January	August to February	Sept to March	Oct to April
ILII						
Percentage Change	0.9%	0.8%	0.7%	0.5%	0.2%	0.1%
Annualized Percentage Change	1.8%	1.6%	1.3%	0.9%	0.4%	0.2%
Diffusion Index	56.3	75.0	75.0	62.5	62.5	56.3

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced May 29, 2013.

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>		2012		2013			
		November	December	January	February	March	April
AFPI <sup>b</sup>	↓ <sup>c</sup>						
Corn Profits (cents per bushel)		311.7	317.4	319.3	319.3	320.0	317.0
Soybean Profits (cents per bushel)		572.4	581.0	588.8	595.2	593.6	580.3
Hog Profits (cents per pound)		18.7	17.7	17.1	16.2	15.2	14.6
Cattle Profits (cents per pound)		-9.4	-10.9	-12.3	-13.1	-13.9	-14.9
Iowa Stock Market Index (10=1984-86)	↑	72.94	75.08	78.83	79.14	81.28	81.94
Yield Spread (10-year less 3-month)	↓	1.56	1.65	1.84	1.88	1.87	1.70
Residential Building Permits	↑	826	823	826	832	824	840
Average Weekly Unemployment Claims <sup>d</sup>	↑	3,357	3,350	3,335	3,315	3,311	3,292
Average Weekly Manufacturing Hours	↑	40.74	40.68	40.69	40.63	40.66	40.68
New Orders Index (percent)	↑	67.2	66.3	65.5	65.0	64.5	65.3
Diesel Fuel Consumption (mil gallons)	↓	54.89	55.04	55.05	55.29	55.37	55.34

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced May 29, 2013.

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 28, 2012).

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

- **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 April, this component contributed 0.07 to the ILII with the 12-month moving average increasing to 840. April 2013 permits were 23.3 percent above the number of permits issued in April 2012, but still 27.3 percent below the historical average for April (1998-2008).
- **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. In April, the monthly value of the index rose from 70.7 in March and 69.0 from a year ago to 77.9. The 12-month moving average of the new orders index rose to 65.3, contributing 0.05 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 0.02 to the ILII value. The 12-month moving average of claims fell to 3,292 with unemployment claims for the month 2.0 percent below April 2012 claims, but 11.2 percent above average historical claims for April (1987-2008).
- **Iowa stock market index:** Capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. During April 2013, 17 of the 34 companies gained value, including 7 of the 11 financial-sector companies. The stock market index rose to 81.94, contributing 0.01 to the ILII value.
- **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 April 2013, this component contributed 0.01 to the ILII value after increasing to 40.68 from 40.66 in March. April 2013 hours were 41.5 compared to 41.3 hours in April 2012 and an historical average of 41.1 (1996-2008).
- **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 0.5 percent between April 2012 and 2013, causing the 12-month moving average to fall to 55.34 million gallons from 55.37 in March, and contributing -0.01 to the ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During April, the yield spread decreased to 1.70 percent as the long-term rate fell 20 basis points and the short-term rate fell 3 basis points. For the month, the yield spread contributed -0.06 to the ILII.
- **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. During April, this component contributed -0.07 to the ILII value. Expected profits fell for both grain components and both livestock components. Compared to last year, corn prices are up 1.0 percent and soybean prices are down 5.1 percent. Cattle prices rose 6.1 percent and hog prices fell 0.5 percent over last year. Despite the increase in cattle prices, further declines were seen in expected profitability for both livestock commodities.

**Table 3. ILII Components and Standardization Factors for FY 2013**

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.049
Iowa Stock Market Index	0.018
Yield Spread	0.328
Building Permits	0.036
Average Weekly Unemployment Claims	0.033
Average Weekly Manufacturing Hours	0.284
New Orders Index	0.063
Diesel Fuel Consumption	0.188

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 28, 2012  
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 2012 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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