

# IOWA Department of REVENUE

## Iowa Leading Indicators Index February 2012 Report

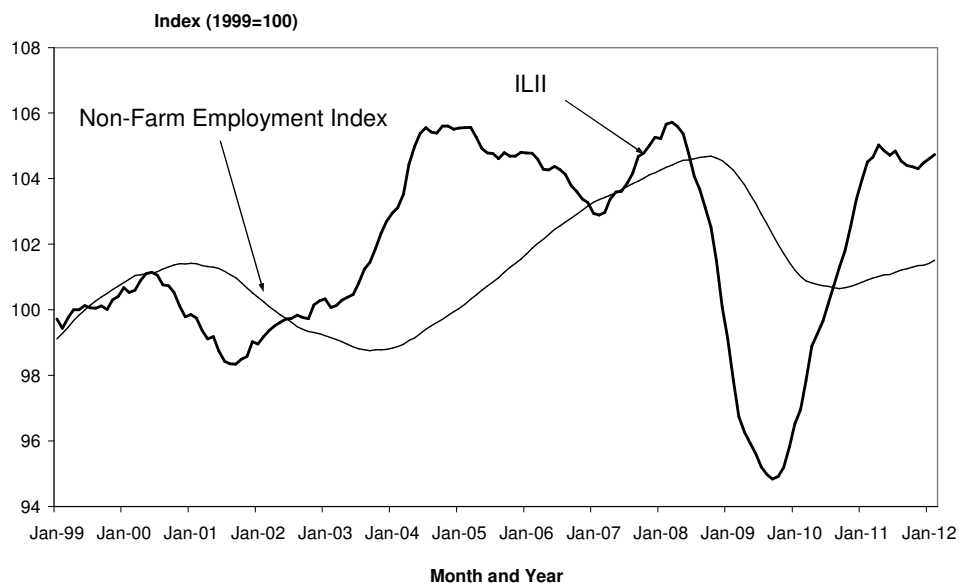
Tax Research and Program Analysis Section  
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The Iowa Leading Indicators Index (ILII) rose to 104.7 (100=1999) in February 2012 from 104.6 in January. The Iowa non-farm employment coincident index recorded a 0.10 percent rise in February, which is the strongest gain since November 2007 and extends the streak of employment gains to seventeen consecutive months.

The ILII's value increased 0.1 percent in February, after a 0.1 percent increase in January and a 0.2 percent increase in December. During the six-month span through February, the ILII increased 0.2 percent (an annualized rate of 0.4 percent) and returned to positive territory after five months of negative change. The six-month diffusion index was 50.0 with four of the eight components (average weekly manufacturing hours, the national yield spread, the new orders index, and diesel fuel consumption) experiencing a decline of more than 0.05 percent over the last half a year.

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

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-February 2012**



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

Monthly Values	2011				2012	
	September	October	November	December	January	February
ILII	104.4	104.4	104.3	104.5	104.6	104.7
Percentage Change <sup>a</sup>	-0.1%	0.0%	-0.1%	0.2%	0.1%	0.1%
Diffusion Index <sup>b</sup>	37.5	50.0	62.5	68.8	56.3	50.0
Six-Month Values	Mar to September	Apr to October	May to November	June to December	July to January	August to February
ILII						
Percentage Change	-0.2%	-0.6%	-0.5%	-0.2%	-0.2%	0.2%
Annualized Percentage Change	-0.5%	-1.3%	-1.0%	-0.5%	-0.4%	0.4%
Diffusion Index	50.0	50.0	50.0	50.0	50.0	50.0

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 30, 2012.

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>	2011				2012	
	September	October	November	December	January	February
AFPI <sup>b</sup>						
Corn Profits (cents per bushel)	333.2	338.0	341.9	340.9	338.0	334.2
Soybean Profits (cents per bushel)	585.4	582.4	568.8	548.1	525.2	516.8
Hog Profits (cents per pound)	21.3	22.1	23.2	24.1	24.5	24.7
Cattle Profits (cents per pound)	0.6	-0.3	-1.0	-1.5	-2.1	-2.2
Iowa Stock Market Index (10=1984-86)	60.81	62.29	62.84	64.25	69.98	72.02
Yield Spread (10-year less 3-month)	1.97	2.13	2.00	1.97	1.94	1.88
Building Permits	643	642	629	629	637	650
Average Weekly Unemployment Claims <sup>d</sup>	3,911	3,857	3,820	3,727	3,673	3,640
Average Weekly Manufacturing Hours	40.5	40.3	40.3	40.3	40.4	40.5
New Orders Index (percent)	65.9	65.1	65.3	65.5	65.4	65.0
Diesel Fuel Consumption (mil gallons)	55.26	55.10	55.14	55.18	54.93	54.88

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 30, 2012.

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, 2011).

c. Arrows indicate the direction of the series' contribution to the ILII for the latest month.

d. Changes in unemployment claims are inverted when added to the ILII, thus a negative change in the series contributes positively to the index.

# ILII Components

- **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 February, this component contributed 0.07 to the ILII with the 12-month moving average increasing to 650. February 2012 permits were 6.0 percent higher than the number of permits issued in February 2011, but still 47.8 percent below the historical average for February (1998-2008).
- **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 February 2012, this component contributed 0.06 to the ILII value with the 12-month moving average increasing to 40.5. February 2012 hours were 40.7 compared to 39.7 hours in February 2011.
- **Iowa stock market index:** Capitalization-weighted index of 33 Iowa-based or Iowa-concentrated publicly-traded companies. During February 2012, 29 of the 33 companies gained value, including 11 of the 12 financial-sector companies. The stock market index increased to 72.02, contributing 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 0.03 to the ILII value. The 12-month moving average of claims fell to 3,640 with unemployment claims for the month 11.2 percent below February 2011 claims. Initial claims for February 2012 were 15.0 percent above average February claims (1987-2008).
- **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 1.3 percent between February 2011 and 2012, causing the 12-month moving average to fall 0.1 percent to 54.88 million gallons, and contributing -0.02 to the ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During February, the yield spread fell to 1.88 percent as the long-term rate held steady and the short-term rate rose 6 basis points. For the month, the yield spread contributed -0.02 to the ILII.
- **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 February, the monthly value of the index fell to 76 from 77.1 in January, and it was also below the value of 81.9 from a year ago. The 12-month moving average of the new orders index fell to 65.0, contributing -0.03 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 February, this component contributed -0.03 to the ILII value as the 12-month moving average of expected profits for corn, soybeans, and cattle declined. Compared to last year, corn prices are down 8.1 percent, soybean prices are down 5.7 percent, and expected profitability decreased for both in February. Although cattle prices are up 16.6 percent over last year, that increase was not enough to offset higher production costs. With hog prices up 0.2 percent over last year, expected profitability rose slightly. Iowa State has not yet released any 2012 livestock breakeven costs, therefore December 2011 numbers are still being used.

**Table 3. ILII Components and Standardization Factors for FY 2012**

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.054
Iowa Stock Market Index	0.017
Yield Spread	0.326
Building Permits	0.037
Average Weekly Unemployment Claims	0.034
Average Weekly Manufacturing Hours	0.284
New Orders Index	0.062
Diesel Fuel Consumption	0.186

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 30, 2011  
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 2011 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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