

# IOWA Department of REVENUE

## Iowa Leading Indicators Index January 2011 Report

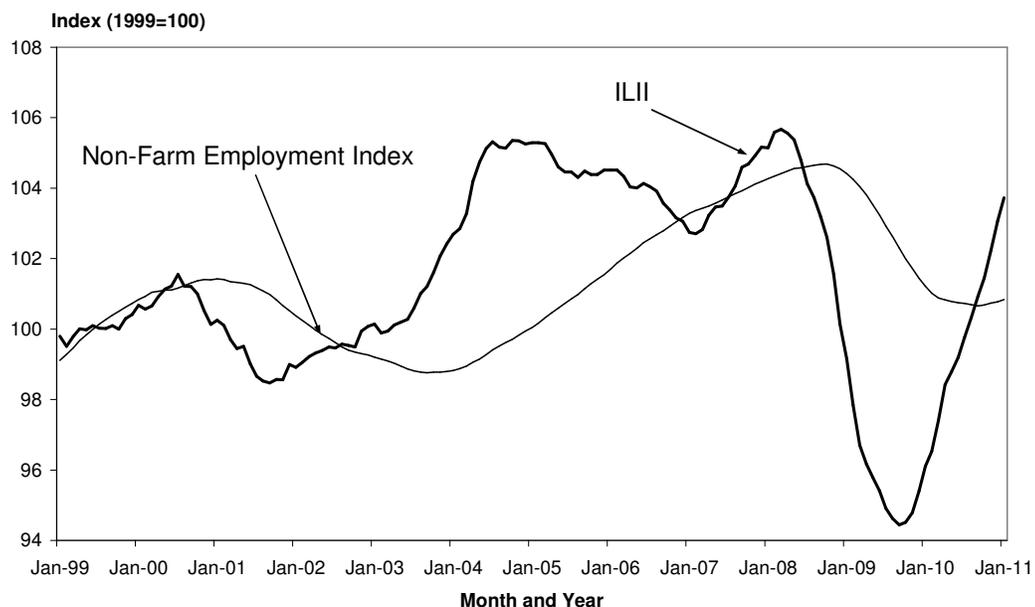
Tax Research and Program Analysis Section  
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The Iowa Leading Indicators Index (ILII) rose to 103.7 (100=1999) in January 2011 from a revised 103.1 in December. The Iowa non-farm employment coincident index experienced its seventh consecutive monthly increase with a 0.07 percent rise during January following a revised 0.03 percent rise in December. In March, the Bureau of Labor Statistics released revised employment numbers, lowering 2010 monthly values by an average of 0.33 percent.

The ILII's value increased 0.6 percent in January, the 16<sup>th</sup> consecutive monthly increase. During the six-month span through January, the ILII rose 4.0 percent (an annualized rate of 7.9 percent). The six-month diffusion index (value of 87.5) reflects an increase of 0.05 percent or greater over the last half year in seven of the eight components, with new residential building permits experiencing a drop exceeding 0.05 percent over that time.

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

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-January 2011**



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

Monthly Values	2010					2011
	August	September	October	November	December	January
ILII	100.3	100.9	101.5	102.2	103.1	103.7
Percentage Change <sup>a</sup>	0.6%	0.6%	0.5%	0.8%	0.8%	0.6%
Diffusion Index <sup>b</sup>	75.0	81.3	75.0	87.5	100.0	75.0
<b>Six-Month Values</b>	Feb to August	Mar to September	Apr to October	May to November	Jun to December	Jul to January
ILII						
Percentage Change	3.9%	3.6%	3.1%	3.5%	3.9%	4.0%
Annualized Percentage Change	7.9%	7.2%	6.2%	7.0%	7.8%	7.9%
Diffusion Index	87.5	75.0	62.5	75.0	87.5	87.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 10, 2011.

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>	2010					2011	
	August	September	October	November	December	January	
AFPI <sup>b</sup>	↑ <sup>c</sup>						
Corn Profits (cents per bushel)	30.2	47.1	64.8	81.5	100.2	123.8	
Soybean Profits (cents per bushel)	172.8	192.7	217.8	246.8	279.1	322.6	
Hog Profits (cents per pound)	19.7	21.8	23.0	23.3	23.1	23.1	
Cattle Profits (cents per pound)	2.4	3.1	3.7	4.2	5.1	5.7	
Iowa Stock Market Index (10=1984-86)	↑	62.52	63.64	65.21	68.51	73.67	77.92
Yield Spread (10-year less 3-month)	↑	2.54	2.50	2.41	2.62	3.15	3.24
Building Permits	↓	659	642	610	622	626	624
Average Weekly Unemployment Claims <sup>d</sup>	↑	5,530	5,322	5,031	4,915	4,743	4,567
Average Weekly Manufacturing Hours	↓	40.8	40.9	41.0	41.2	41.3	41.3
New Orders Index (percent)	↑	68.8	69.5	69.8	69.4	70.1	72.2
Diesel Fuel Consumption (mil gallons)	↑	52.58	53.17	53.68	54.27	54.44	54.57

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 10, 2011.

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 31, 2010).

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

- **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 annual Iowa cash farm income. Changes are calculated based on a 12-month moving average. During January, this component contributed 0.24 to the ILII value as the 12-month moving average of expected profits for corn, soybeans, and cattle improved, with increases in the futures prices of all four commodities in January compared to December. The estimated costs of production for the 2010 corn and soybeans crops were revised upward by the Iowa State University Extension, reducing expected profitability levels compared to prior reports. These revisions lowered the ILII value by 0.1 or 0.2 percent in each of the last six months.
- **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 January, the index rose to 78.2 from 62.6 in December, well above the 52.1 reading from a year ago. The 12-month moving average of the new orders index rose to 72.2, contributing 0.13 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. The 12-month moving average of claims fell to 4,567 with unemployment claims for the month 30.1 percent below January 2010 claims. This component contributed 0.13 to the ILII value. However, initial claims for January 2011 were still 15.4 percent above average January claims (1987-2008).
- **Iowa stock market index:** Capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. During January 2011, 24 of the 34 companies gained value, including 7 of the 12 financial-sector companies. The stock market index, rising to 77.92, contributed 0.09 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 rose 2.9 percent between January 2010 and 2011, causing the 12-month moving average to rise 0.2 percent to 54.57 million gallons, and contributing 0.04 to the ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During January, the yield spread rose to 3.39 as the long-term rate increased 10 basis points while the short-term rate rose one point. For the month, the yield spread contributed 0.03 to the ILII.
- **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 January, this component contributed -0.01 to the ILII with the 12-month moving average slipping to 624. January 2011 permits were 11.3 percent lower than the number of permits issued in January 2010 and 71.0 percent below the historical average for January (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 January 2011, this component contributed -0.02 to the ILII value with the 12-month moving average remaining flat at 41.3. January 2011 hours were 40.3, below the revised 40.5 hours reported in January 2010. In March, the Bureau of Labor Statistics released revised manufacturing hours numbers, lowering 2010 monthly values by an average of 0.2 percent.

**Table 3. ILII Components and Standardization Factors for FY 2011**

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 31, 2010. 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 2010 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 likely 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. The Conference Board considers a contraction signal in the LEI 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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