

# IOWA Department of REVENUE

## Iowa Leading Indicators Index January 2010 Report

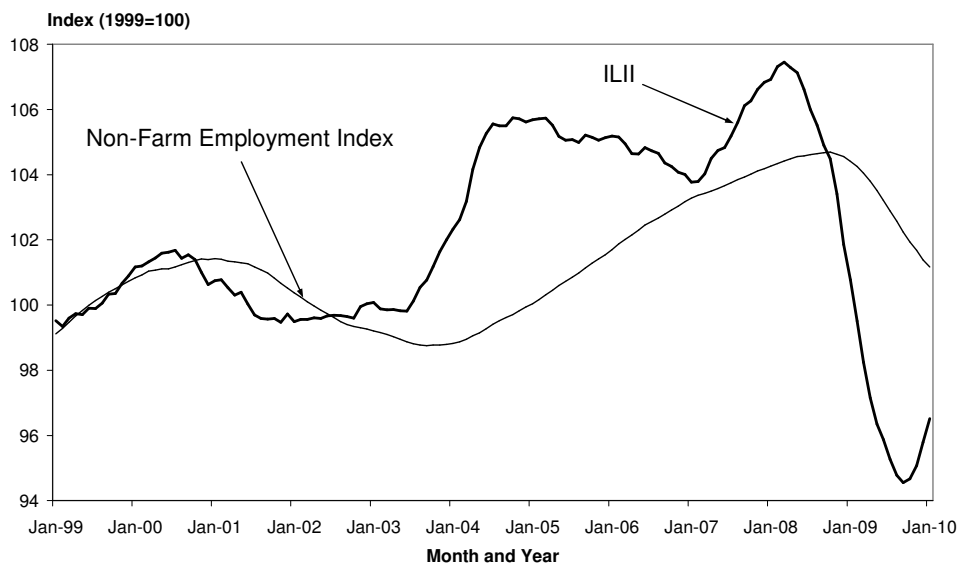
Tax Research and Program Analysis Section  
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The Iowa Leading Indicators Index (ILII) rose to 96.5 (100=1999) in January 2010 from 95.8 in December 2009. The Iowa non-farm employment coincident index fell by 0.21 percent for the month, the fifteenth consecutive monthly decrease. In March, the Bureau of Labor Statistics released revised employment numbers, lowering 2009 monthly values by an average of 0.5 percent.

The ILII's value increased 0.8 percent in January, matching the December increase and extending the streak of positive movements to four months. During the six-month span through January, the ILII rose 1.3 percent (an annualized rate of 2.6 percent), turning positive for the first time since May 2008. The six-month diffusion index (value of 62.5) reflects an increase of 0.5 percent or greater over the last half year in the new orders index, new residential building permits, average weekly manufacturing hours, the Iowa stock market index, and the yield spread. The other three components experienced a 0.5 percent or greater decrease over that time.

In January, six of eight Iowa Leading Indicators Index components contributed positively. The positive contributors were average weekly manufacturing hours, the new orders index, the Iowa stock market index, unemployment insurance claims (inverted), the yield spread, and new residential building permits. The negative contributors were diesel fuel consumption and the agricultural futures price index, although the latter contribution (-0.0048) rounds to zero.

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-January 2010**



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

Monthly Values	2009					2010	
	August	September	October	November	December	January	
ILII	94.8	94.5	94.7	95.1	95.8	96.5	
Percentage Change <sup>a</sup>	-0.5%	-0.2%	0.1%	0.4%	0.8%	0.8%	
Diffusion Index <sup>b</sup>	25.0	31.3	43.8	81.3	100.0	75.0	

Six-Month Values	Feb to August	Mar to September	Apr to October	May to November	June to December	July to January
ILII						
Percentage Change	-4.8%	-3.8%	-2.6%	-1.3%	-0.1%	1.3%
Annualized Percentage Change	-9.5%	-7.5%	-5.1%	-2.6%	-0.2%	2.6%
Diffusion Index	12.5	25.0	37.5	50.0	56.3	62.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 10, 2010.

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>		2009					2010	
		August	September	October	November	December	January	
AFPI <sup>b</sup>	↓ <sup>c</sup>							
Corn Profits (cents per bushel)		84.9	61.6	53.4	51.6	49.2	43.3	
Soybean Profits (cents per bushel)		236.2	207.2	202.2	202.4	206.9	196.6	
Hog Profits (cents per pound)		5.7	4.8	4.6	5.2	6.3	7.1	
Cattle Profits (cents per pound)		-9.9	-9.8	-9.1	-8.6	-7.8	-6.5	
Iowa Stock Market Index (10=1984-86)	↑	47.77	47.39	48.02	48.92	49.88	51.42	
Yield Spread (10-year less 3-month)	↑	3.42	3.28	3.32	3.35	3.54	3.67	
Building Permits	↑	551	565	564	568	586	591	
Average Weekly Unemployment Claims <sup>d</sup>	↑	7,670	7,816	8,010	7,863	7,725	7,564	
Average Weekly Manufacturing Hours	↑	38.3	38.3	38.4	38.6	38.8	39.1	
New Orders Index (percent)	↑	36.8	39.3	42.1	44.6	47.5	50.9	
Diesel Fuel Consumption (mil gallons)	↓	52.06	51.71	51.51	51.23	51.37	51.30	

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 10, 2010.

a. For all component series except for the yield spread (the only national series) the values represent 12-month backward moving averages.

b. The agricultural futures price 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 21, 2009).

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

- **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. The Bureau of Labor Statistics released revised values for this series, although revisions were minor. For January 2010, this component contributed 0.25 to the ILII value with the 12-month moving average rising to 39.1. January 2010 hours were 40.5, well above the 36.6 reported in January 2009.
- **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 12-month moving average of the new orders index rose to 50.9 with the January 2010 value of 52.1 exceeding the January 2009 value of 10.7. However, January 2010 was down from the 54.3 value reported for December 2009. The year-over-year strength in the index contributed 0.22 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. Changes are calculated based on a 12-month moving average. During January 2010, 24 of the 34 companies gained value, including 8 of the 12 financial-sector companies. The strong gains in January contributed 0.18 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. The 12-month moving average of claims fell to 7,564 with unemployment claims in January 2010 21.6 percent below January 2009 claims. This component contributed 0.07 to the ILII value. However, initial claims for January 2010 were still 65 percent above average January claims for 1987 through 2008.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During January, the yield spread increased to 3.67 as the long-term rate gained 14 basis points while the short-term rate only inched up 1 basis point. This component contributed 0.04 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 0.03 to the ILII with the 12-month moving average rising to 591. Although January 2010 permits were 41.3 percent above January 2009 permits, January 2010 permits were still 68 percent below the average permits reported in January for 1998 through 2007.
- **Agricultural futures price 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 -0.00 to the ILII value as the 12-month moving average of expected profits for hogs and cattle improved while expected profits for soybeans and corn fell. The break-even series for hogs was changed to a series tracking the input costs for raising 12 pound pigs from a 50 pound pig series because the latter was no longer available, reflecting changes in the feeder pig market. Historical data was changed from 2007 forward with minimal impact on the ILII.
- **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 fell 1.6 percent between January 2009 and 2010, causing the 12-month moving average to fall 0.1 percent to 51.3 million gallons, and contributing -0.02 to the ILII value.

### Table 3. ILII Components and Standardization Factors for FY 2010

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Price Index	0.052
Iowa Stock Market Index	0.059
Yield Spread	0.289
Building Permits	0.034
Average Weekly Unemployment Claims	0.033
Average Weekly Manufacturing Hours	0.298
New Orders Index	0.064
Diesel Fuel Consumption	0.171

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 21, 2009. 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 2009 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, which is the only national series. 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 the summer.

## 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). 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-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 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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