

# IOWA Department of REVENUE

## Iowa Leading Indicators Index February 2008 Report

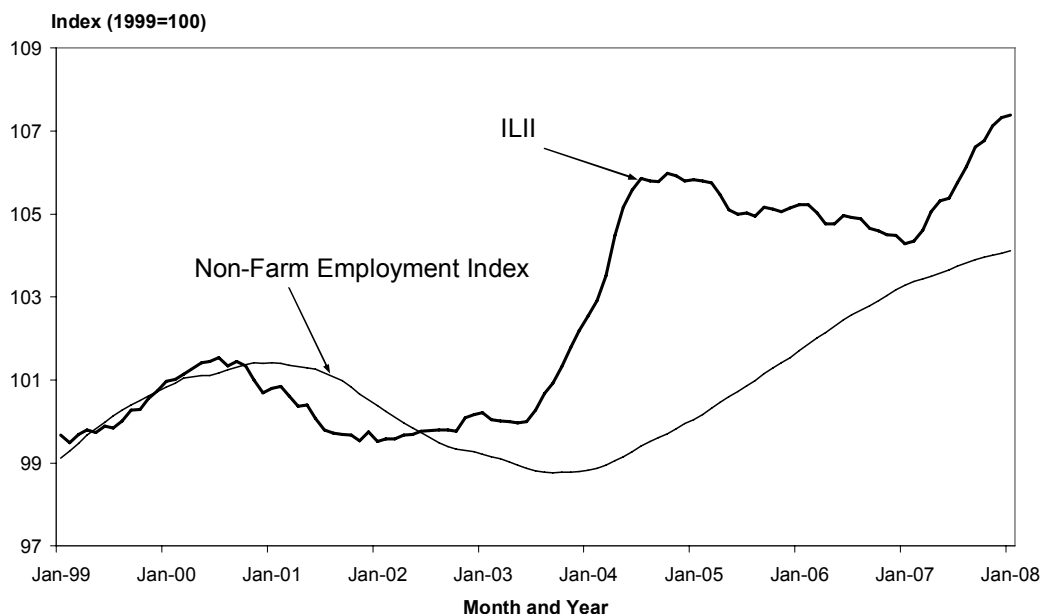
Tax Research and Program Analysis Section

The Iowa Leading Indicators Index (ILII) increased 0.3 percent in February 2008. The Iowa non-farm employment coincident index experienced a 0.06 percent increase in February, the 51<sup>st</sup> consecutive increase, although the rate of growth has been less than 0.1 percent per month since February 2007.

The ILII's value in February rose to 107.7 (100=1999), the thirteenth consecutive increase in the index, although January's rise was only 0.1 percent after 0.2 and 0.3 percent increases in December and November. During the six-month span through February, the ILII increased 1.5 percent (a 3.0 percent annual rate). The six-month diffusion index (value of 87.5) reflects seven of eight components experiencing a 0.5 percent or greater increase and building permits experiencing a 0.5 percent or greater decrease over the last half year.

In February, five of the eight Iowa Leading Indicators components increased. The positive contributors were the yield spread, diesel fuel consumption, the agricultural futures price index, average weekly manufacturing hours, and the Iowa stock market index. The negative contributors were residential building permits, the new orders index, and unemployment insurance claims (inverted).

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-February 2008**



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

Monthly Values	2007				2008	
	September	October	November	December	January	February
ILII	106.6	106.8	107.1	107.3	107.4	107.7
Percentage Change <sup>a</sup>	0.5%	0.1%	0.3%	0.2%	0.1%	0.3%
Diffusion Index <sup>b</sup>	100.0	68.8	87.5	68.8	62.5	56.3

Six-Month Values	Mar to September	Apr to October	May to November	June to December	July to January	Aug to February
ILII						
Percentage Change	1.9%	1.6%	1.7%	1.8%	1.6%	1.5%
Diffusion Index	87.5	87.5	87.5	87.5	87.5	87.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 28, 2008.

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>		2007				2008	
		September	October	November	December	January	February
AFPI <sup>b</sup>	↑ <sup>c</sup>						
Corn (cents per bushel)		373.4	377.9	380.1	384.8	393.3	402.4
Hog Profits (cents per pound)		14.9	14.2	13.4	13.1	12.3	11.6
Soybeans (cents per bushel)		777.5	809.3	839.2	879.8	926.8	979.1
Cattle Profits (cents per pound)		-0.4	-0.9	-0.8	-0.4	-0.6	-1.0
Iowa Stock Market Index (10=1984-86)	↑	62.50	63.17	63.49	63.90	63.99	64.02
Yield Spread (10-year less 3-month)	↑	0.53	0.53	0.80	1.03	0.92	1.57
Building Permits	↓	973	942	924	894	896	890
Average Weekly Unemployment Claims <sup>d</sup>	↓	3,305	3,330	3,291	3,314	3,316	3,320
Average Weekly Manufacturing Hours	↑	41.1	41.2	41.3	41.3	41.4	41.4
New Orders Index (percent)	↓	58.3	58.8	59.7	61.2	60.9	60.7
Diesel Fuel Consumption (mil gallons)	↑	56.23	56.45	56.65	56.86	56.91	57.24

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced March 28, 2008.

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 annual share of the commodity to Iowa cash farm income.

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

- Yield spread: Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During February, the yield spread increased sharply as the short-term rate fell 65 basis points while the long-term rate was unchanged. This component contributed 0.16 percent 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. During February 2008 this component contributed 0.09 percent to the ILII value as diesel fuel consumption for the month increased 7.4 percent relative to the prior year.
- Agricultural futures price index: Composite measure of cattle, hogs, corn and soybeans futures prices weighted by the respective share of annual Iowa cash farm income. Changes are calculated based on a 12-month moving average of the futures price series, where cattle and hogs series also incorporate estimates of break-even costs. During February 2008 this component contributed 0.07 percent to the ILII value with strong increases in corn and soybean prices, but further deterioration in hog and cattle profits.
- 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. During February 2008 this component contributed 0.04 percent to the ILII value as February hours fell 0.25 percent relative to the previous month but rose 0.06 percent relative to the previous year.
- Iowa stock market index: Capitalization-weighted index of 37 Iowa-based or Iowa-concentrated publicly-traded companies. Changes are calculated based on a 12-month moving average. During February 2008 this component increased only slightly, contributing 0.00 percent to the ILII value as 18 of the 37 companies and seven of the 15 financial-sector companies gained value during the month.
- 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. During February 2008 this component contributed -0.00 percent to the ILII value. February 2008 unemployment claims were 0.4 percent above February 2007.
- 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. Although the monthly new orders index value for February rose above January's level, its 60.0 value was slightly lower than February 2007 and thus this component contributed -0.01 percent to the February 2008 ILII value.
- 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. During February 2008 this component contributed -0.02 percent to the ILII value. February permits, the lowest recorded since January 1998, were 20.4 percent below the number reported in February 2007 which pushed down the 12-month moving average by 0.7 percent.

**Table 3. ILII Components and Standardization Factors for FY 2008**

Iowa Leading Indicator Components	Standardization Factor
Agricultural Futures Price Index	0.124
Iowa Stock Market Index	0.058
Yield Spread	0.247
Building Permits	0.029
Unemployment Claims	0.034
Average Weekly Hours	0.289
New Orders Index	0.055
Diesel Fuel Consumption	0.164

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 28, 2007. 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 2007 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 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 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 indicators index. A movement in the ILII for only one month 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 national leading indicators index reliable when two conditions are met: 1. the index declines by at least two percent over a six month period (using an annual rate); and, 2. a majority of the individual components also decline over those six months (six-month diffusion index less than 50.0).

The Iowa Non-Farm Employment Coincident Index measures the change in non-farm employment of all workers 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 designed to represent the current state of economic activity in Iowa.

The Employment Index and the ILII are constructed to have a value of 100 in the year 1999.