

# IOWA Department of REVENUE

## Iowa Leading Indicators Index May 2008 Report

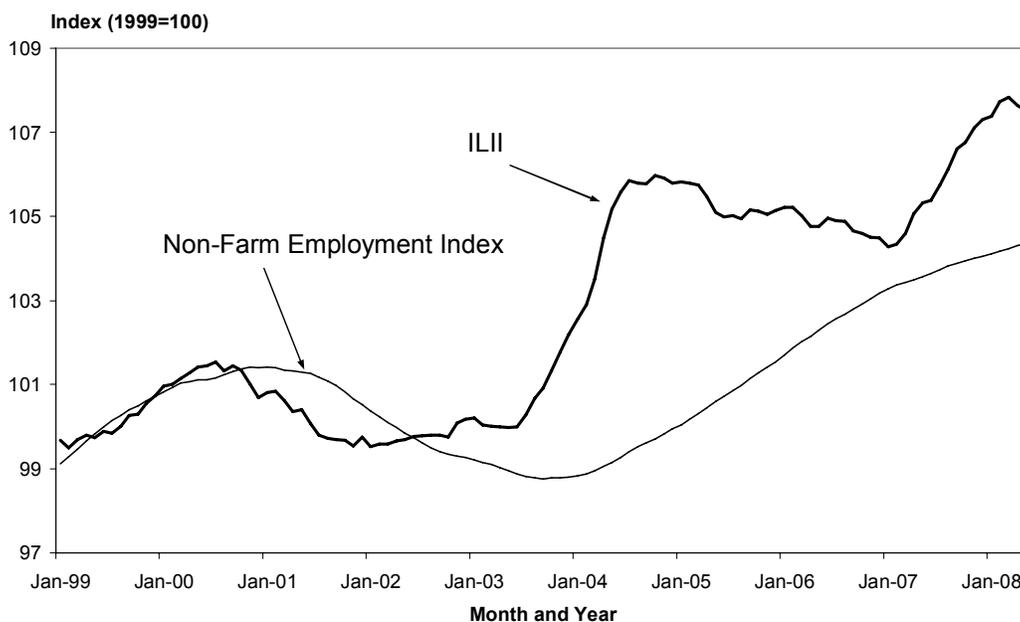
Tax Research and Program Analysis Section

The Iowa Leading Indicators Index (ILII) decreased 0.1 percent in May 2008. The Iowa non-farm employment coincident index experienced a 0.05 percent increase in May, the 54<sup>th</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 May fell to 107.5 (100=1999) after a 0.2 percent drop in April. The index increased 0.1 percent in March, 0.3 percent in February, and 0.1 percent in January. During the six-month span through May, the ILII increased 0.4 percent (a 0.8 percent annual rate). The six-month diffusion index (value of 62.5) reflects five of eight components experiencing a 0.5 percent or greater increase and building permits, the new orders index, and unemployment claims (inverted) experiencing a 0.5 percent or greater decrease over the last half year.

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

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



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

Monthly Values	2007	2008				
	December	January	February	March	April	May
ILII	107.3	107.4	107.7	107.8	107.6	107.5
Percentage Change <sup>a</sup>	0.2%	0.1%	0.3%	0.1%	-0.2%	-0.1%
Diffusion Index <sup>b</sup>	68.8	62.5	56.3	56.3	37.5	37.5
Six-Month Values	June to December	July to January	Aug to February	Sept to March	Oct to April	Nov to May
ILII						
Percentage Change	1.8%	1.6%	1.5%	1.1%	0.8%	0.4%
Diffusion Index	87.5	87.5	87.5	75.0	75.0	62.5

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced June 30, 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				
		December	January	February	March	April	May
AFPI <sup>b</sup>	↑ <sup>c</sup>						
Corn (cents per bushel)		384.8	393.3	402.4	414.7	434.1	453.2
Hog Profits (cents per pound)		13.1	12.3	11.6	10.7	10.3	10.4
Soybeans (cents per bushel)		879.8	926.8	979.1	1028.9	1077.0	1123.6
Cattle Profits (cents per pound)		-0.4	-0.6	-1.0	-2.0	-3.0	-3.4
Iowa Stock Market Index (10=1984-86)	↓	63.91	64.00	64.02	64.00	64.13	64.04
Yield Spread (10-year less 3-month)	↓	1.03	0.92	1.57	2.23	2.37	2.12
Building Permits	↓	894	896	890	844	813	785
Average Weekly Unemployment Claims <sup>d</sup>	↓	3,314	3,316	3,320	3,346	3,439	3,531
Average Weekly Manufacturing Hours	↑	41.3	41.4	41.4	41.5	41.4	41.4
New Orders Index (percent)	↓	61.2	60.9	60.7	60.3	59.5	58.7
Diesel Fuel Consumption (mil gallons)	↑	56.86	56.91	57.24	57.38	57.25	57.35

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

- **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 May 2008 this component contributed 0.12 to the ILII value as corn and soybean prices continued their rise, hog profits stabilized, and cattle profits continued their fall.
- **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 May 2008 this component contributed 0.03 to the ILII value as May hours rose 2.5 percent relative to the previous month, pushing the 12-month moving average up by 0.1 percent.
- **Diesel fuel consumption:** Number of taxable gallons of diesel fuel sold in Iowa. Changes are calculated based on a 12-month moving average. During May 2008 this component's contribution to the ILII value was 0.03 as diesel fuel consumption increased 2.3 percent relative to the prior 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 May 2008 this component fell slightly, contributing -0.01 to the ILII value. Thirteen of the 37 companies and five of the 15 financial-sector companies gained value during the month.
- **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 monthly new orders index value for May of 55.3 fell below April's value and was well below the May 2007 level of 64.7, thus it contributed -0.04 to the May 2008 ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During May, the yield spread narrowed as the long-term rate rose 20 basis points while the short-term rate rose 45 basis points. This component contributed -0.06 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. During May 2008 this component contributed -0.09 to the ILII value. May 2008 unemployment claims were 47.5 percent above May 2007 due in large part to lay-offs in the trade industry.
- **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 May 2008 this component contributed -0.10 to the ILII value. May permits dipped slightly below April's value and fell 28.3 percent below the number reported in May 2007. This drop pushed down the 12-month moving average by 3.4 percent. May 2008 permits were 39.2 percent below the historical average for May, based on reports from 1998 through 2007.

**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.