

Iowa Leading Indicators Index April 2007

Iowa Department of Revenue
Tax Research and Program Analysis Section

The Iowa Leading Indicators Index (ILII) rose 0.5 percent in April 2007. The Iowa non-farm employment coincident index increased by 0.1 percent in April, the 41st consecutive monthly increase.

The ILII's value in April rose to 106.4 (100=1999). In March the index rose 0.4 percent following a 0.2 percent increase in February. The index was relatively flat the previous three months. During the six-month span through April, the ILII increased 1.1 percent (a 2.2 percent annual rate). The six-month diffusion index (value of 56.3) reflects five of eight components experiencing some increase and the other three decreasing over the last half year.

In April, all eight of the Iowa Leading Indicators components increased. The positive contributors – beginning with the largest – were average weekly manufacturing hours, the agricultural futures price index, the Iowa stock market index, the yield spread, the new orders index, unemployment claims, building permits, and diesel fuel consumption.

Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: Jan. 1999-April 2007

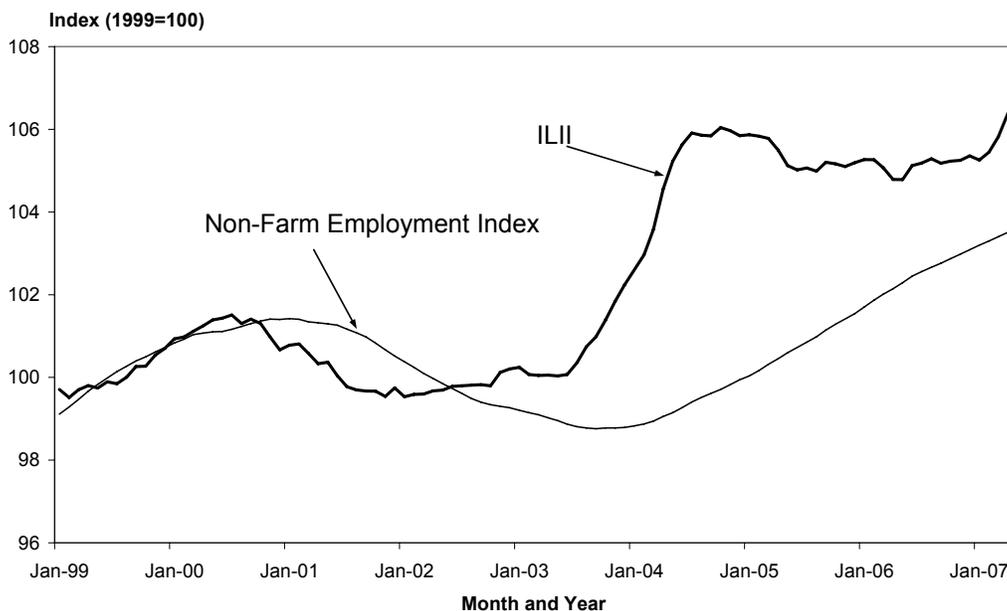


Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2006		2007			
	November	December	January	February	March	April
ILII	105.2	105.4	105.3	105.4	105.8	106.4
Percentage Change ^a	0.0%	0.1%	-0.1%	0.2%	0.4%	0.5%
Diffusion Index ^b	37.5	68.8	43.8	50.0	81.3	93.8
Six-Month Values	May to November	June to December	July to January	Aug to February	Sept to March	Oct to April
ILII						
Percentage Change	0.4%	0.2%	0.1%	0.2%	0.6%	1.1%
Diffusion Index	50.0	50.0	50.0	50.0	50.0	56.3

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced May 30, 2007.

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 ^a	2006		2007			
	November	December	January	February	March	April
AFPI ^b						
Hog Profits (cents per pound)						
Corn (cents per bushel)						
Soybeans (cents per bushel)						
Cattle Profits (cents per pound)						
Iowa Stock Market Index (10=1984-86)						
Yield Spread (10-year less 3-month)						
Building Permits						
Average Weekly Unemployment Claims ^d						
Average Weekly Manufacturing Hours						
New Orders Index (percent)						
Diesel Fuel Consumption (mil gallons)						

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced May 30, 2007.

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

- 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 April 2007 this component contributed 0.18 percent to the ILII value.
- Agricultural futures price index: Composite measure of cattle, hogs, corn and soybeans futures prices weighted by the respective share of annual Iowa production value. 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 April 2007 this component contributed 0.16 percent to the ILII value with continued strong markets for corn and soybean prices and improvements in profits for hogs and cattle.
- Iowa stock market index: Capitalization-weighted index of 29 Iowa-based or Iowa-concentrated publicly-traded companies. Changes are calculated based on a 12-month moving average. During April 2007 this component contributed 0.07 percent to the ILII value as 19 of 29 companies and 9 of the 11 financial-sector companies gained value during the month.
- Yield spread: Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During April, the yield spread remained inverted for the ninth month, although the negative gap between long- and short-term rates narrowed as the long-term rate rose while the short-term rate fell. This component contributed 0.05 percent to the ILII value.
- 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. During April 2007 this component contributed 0.04 percent to the ILII value. The monthly new orders index value for April came in at the highest level since July 2004 suggesting strong future demand for goods produced in Iowa.
- 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 April 2007 this component contributed 0.03 percent to the ILII value as the number of initial claims fell for a second month after a six month rise.
- 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 April 2007 this component contributed 0.02 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 April 2007 this component contributed 0.01 percent to the ILII value as average consumption experienced a slight increase.

Table 3. ILII Components and Standardization Factors

Iowa Leading Indicator Components	Standardization Factor
Agricultural Futures Price Index	0.130
Iowa Stock Market Index	0.056
Yield Spread	0.236
Building Permits	0.030
Unemployment Claims	0.032
Average Weekly Hours	0.302
New Orders Index	0.053
Diesel Fuel Consumption	0.161

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced July 24, 2006. 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 2006 period. These factors equalize the volatility of the contribution from each component and are normalized to 1. 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.