

# IOWA Department of REVENUE

**NOTICE:** The Iowa Leading Indicators Index underwent an annual update between the release of the June and July 2010 reports. As part of that update, the calculations of two components were altered, reducing the level of the ILII over much of the history of the index, tempering the peak observed in early 2008, and reducing the magnitude of recent increases in the index.

The first change was made to the Iowa stock market index, a capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. Because the stock market does not show strong seasonal variation, the Iowa stock market index component in the ILII was changed to the monthly value rather than a 12-month moving average. In addition, during the last year, an Iowa fertilizer company merged with a company headquartered in Illinois, and an Iowa telecommunications company was purchased by a company headquartered in Arkansas. Both were kept in the index, but the stock price and shares data were changed to reflect the historical valuations of the purchasing companies.

The second change was made to the Agricultural Futures Profits Index (AFPI), an index of corn, soybean, hog, and cattle estimated profits. Each fall, annual Iowa cash farm income from the four commodities is released for the prior calendar year. The weights on the commodities in the index, based on the distribution of this income between the commodities, were updated accordingly.

To read more about the changes to the ILII, please refer to *Iowa Leading Indicators Index: Fourth Annual Assessment and Update* that can be found at: <http://www.iowa.gov/tax/taxlaw/econindicators.html>

A revised historical series for the ILII and its components are available at the above location. Please click on *Historical ILII Series*.

# IOWA Department of REVENUE

## Iowa Leading Indicators Index July 2010 Report

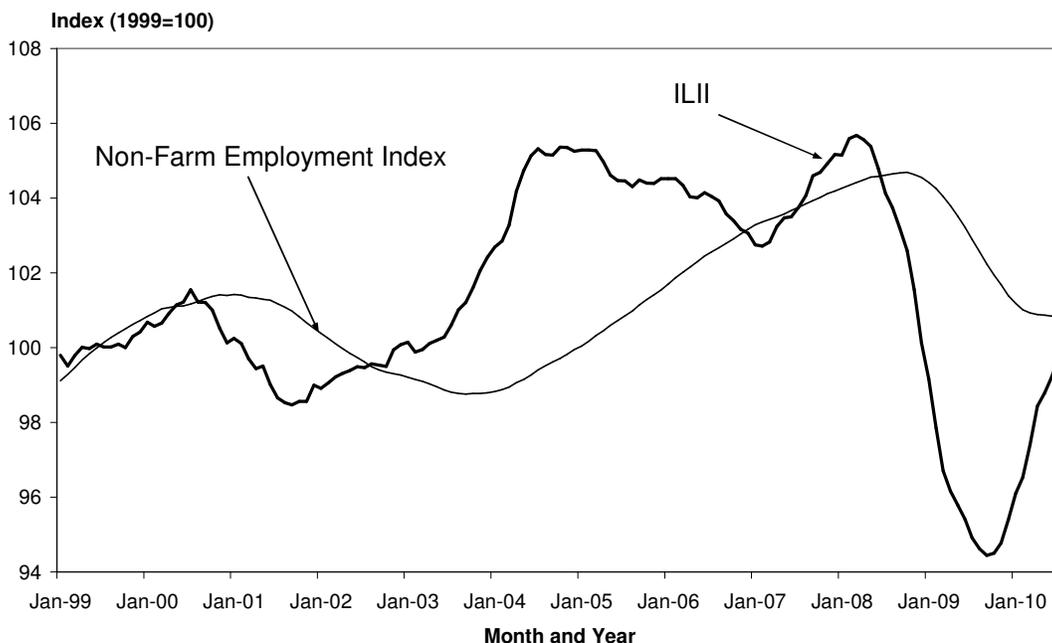
Tax Research and Program Analysis Section  
Released September 3, 2010

The Iowa Leading Indicators Index (ILII) rose to 99.8 (100=1999) in July 2010 from a revised 99.2 in June. The Iowa non-farm employment coincident index increased by 0.02 percent, the first rise in the index since October 2008.

The ILII's value increased 0.6 percent in July, higher than the revised 0.4 percent increases in May and June, and extending the streak of gains to ten months. During the six-month span through July, the ILII rose 3.8 percent (an annualized rate of 7.6 percent). The six-month diffusion index (value of 75.0) reflects an increase of 0.05 percent or greater over the last half year in six of the eight components, with the yield spread and the Iowa stock market index experiencing a drop exceeding 0.05 percent over that time.

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

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



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

| Monthly Values                 | 2010            |               |              |            |             |             |
|--------------------------------|-----------------|---------------|--------------|------------|-------------|-------------|
|                                | February        | March         | April        | May        | June        | July        |
| ILII                           | 96.5            | 97.4          | 98.4         | 98.8       | 99.2        | 99.8        |
| Percentage Change <sup>a</sup> | 0.4%            | 0.9%          | 1.1%         | 0.4%       | 0.4%        | 0.6%        |
| Diffusion Index <sup>b</sup>   | 62.5            | 93.8          | 100.0        | 75.0       | 62.5        | 75.0        |
| Six-Month Values               | Aug to February | Sept to March | Oct to April | Nov to May | Dec to June | Jan to July |
| ILII                           |                 |               |              |            |             |             |
| Percentage Change              | 2.0%            | 3.1%          | 4.2%         | 4.2%       | 4.0%        | 3.8%        |
| Annualized Percentage Change   | 4.0%            | 6.3%          | 8.3%         | 8.5%       | 8.0%        | 7.6%        |
| Diffusion Index                | 75.0            | 87.5          | 100.0        | 87.5       | 87.5        | 75.0        |

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 31, 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>    |                | 2010     |       |       |       |       |       |
|---|----------------|----------|-------|-------|-------|-------|-------|
|   |                | February | March | April | May   | June  | July  |
| AFPI <sup>b</sup>                               | ↑ <sup>c</sup> |          |       |       |       |       |       |
| Corn Profits (cents per bushel)                 |                | 37.5     | 31.6  | 23.9  | 14.4  | 14.7  | 25.1  |
| Soybean Profits (cents per bushel)              |                | 189.3    | 185.3 | 173.8 | 153.4 | 149.9 | 159.5 |
| Hog Profits (cents per pound)                   |                | 8.3      | 9.4   | 11.1  | 13.1  | 15.2  | 17.1  |
| Cattle Profits (cents per pound)                |                | -5.2     | -3.5  | -1.7  | -0.3  | 0.8   | 1.3   |
| Iowa Stock Market Index (10=1984-86)            | ↑              | 62.46    | 67.01 | 71.55 | 67.20 | 62.00 | 62.22 |
| Yield Spread (10-year less 3-month)             | ↓              | 3.58     | 3.58  | 3.69  | 3.26  | 3.08  | 2.85  |
| Building Permits                                | ↓              | 605      | 641   | 668   | 673   | 672   | 664   |
| Average Weekly Unemployment Claims <sup>d</sup> | ↑              | 7,298    | 6,980 | 6,675 | 6,435 | 6,124 | 5,813 |
| Average Weekly Manufacturing Hours              | ↑              | 39.4     | 39.6  | 40.0  | 40.2  | 40.4  | 40.6  |
| New Orders Index (percent)                      | ↑              | 53.0     | 55.7  | 59.1  | 61.6  | 64.2  | 66.4  |
| Diesel Fuel Consumption (mil gallons)           | ↑              | 51.10    | 51.32 | 51.63 | 51.97 | 52.18 | 52.31 |

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 31, 2010.

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

- **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 5,813 with unemployment claims in July 2010 47.7 percent below July 2009 claims. This component contributed 0.18 to the ILII value. However, initial claims for July 2010 were still 34.9 percent above average July claims (1987-2008).
- **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 July, this component contributed 0.16 to the ILII value as the 12-month moving average of expected profits for all four commodities improved, including a 10 cent increase in both corn and soybeans as new crop prices jumped during July.
- **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 July 2010, this component contributed 0.15 to the ILII value with the 12-month moving average rising to 40.6. July 2010 hours were 41.2, just below the historical average for July of 41.3 hours (1996-2008), but well above the 38.6 reported in July 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. In July, the index fell to 81.0 from 87.0 in June, but remained above July 2009 when the index was at 55.0. The 12-month moving average of the new orders index rose to 66.4, contributing 0.13 to 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 rose 3.2 percent between July 2009 and 2010, causing the 12-month moving average to rise 0.3 percent to 52.31 million gallons, and contributing 0.05 to the ILII value.
- **Iowa stock market index:** Capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. During July 2010, 15 of the 34 companies gained value, including 4 of the 12 financial-sector companies. The stock market index, rising slightly to 62.22, contributed 0.01 to the 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. For July, this component contributed -0.04 to the ILII with the 12-month moving average falling to 664. July 2010 permits were 12.7 percent lower than the number of permits issued in July 2009 and 46.5 percent below the historical average for July (1998-2008).
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During July, the yield spread fell to 2.85 as the long-term rate dropped 19 basis points while the short-term rate rose 4 basis points. For the month, the yield spread contributed -0.07 to the ILII.

**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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