

# IOWA Department of REVENUE

## Iowa Leading Indicators Index August 2012 Report

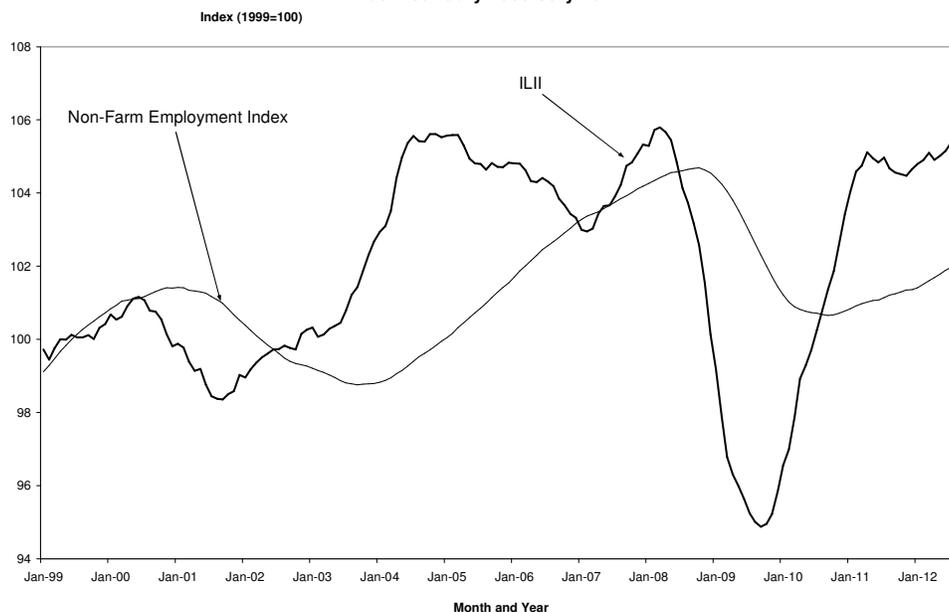
Tax Research and Program Analysis Section  
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The Iowa Leading Indicators Index (ILII) rose to 105.6 (100=1999) in August 2012 from 105.4 in July, the fourth consecutive increase. The Iowa non-farm employment coincident index recorded a 0.07 percent rise in August, which extends the streak of employment gains to twenty-three consecutive months.

The ILII's value increased 0.2 percent in August, after a 0.1 percent increase in June and a 0.2 percent increase in July. During the six-month span through August, the ILII increased 0.7 percent (an annualized rate of 1.4 percent) and remained in positive territory for a seventh month. The six-month diffusion index was 75 with six of the eight components (average weekly manufacturing hours, residential building permits, the new orders index, average weekly unemployment claims, diesel fuel consumption, and the Iowa stock market index) experiencing an increase of more than 0.05 percent over the last half a year.

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

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-July 2012**



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

| Monthly Values                 | 2012         |              |            |             |             |               |
|--------------------------------|--------------|--------------|------------|-------------|-------------|---------------|
|                                | March        | April        | May        | June        | July        | August        |
| ILII                           | 105.1        | 104.9        | 105.0      | 105.1       | 105.4       | 105.6         |
| Percentage Change <sup>a</sup> | 0.2%         | -0.2%        | 0.1%       | 0.1%        | 0.2%        | 0.2%          |
| Diffusion Index <sup>b</sup>   | 68.8         | 37.5         | 62.5       | 62.5        | 75.0        | 75.0          |
| Six-Month Values               | Sep to March | Oct to April | Nov to May | Dec to June | Jan to July | Feb to August |
| ILII                           |              |              |            |             |             |               |
| Percentage Change              | 0.5%         | 0.4%         | 0.5%       | 0.5%        | 0.6%        | 0.7%          |
| Annualized Percentage Change   | 1.0%         | 0.7%         | 1.1%       | 0.9%        | 1.1%        | 1.4%          |
| Diffusion Index                | 62.5         | 37.5         | 50.0       | 50.0        | 62.5        | 75.0          |

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced September 27, 2012.

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>    |                | 2012  |       |       |       |       |        |
|---|----------------|-------|-------|-------|-------|-------|--------|
|   |                | March | April | May   | June  | July  | August |
| AFPI <sup>b</sup>                               | ↓ <sup>c</sup> |       |       |       |       |       |        |
| Corn Profits (cents per bushel)                 |                | 329.5 | 316.2 | 304.1 | 291.0 | 295.2 | 298.8  |
| Soybean Profits (cents per bushel)              |                | 502.9 | 501.2 | 498.9 | 491.9 | 502.4 | 520.1  |
| Hog Profits (cents per pound)                   |                | 25.1  | 24.5  | 24.0  | 24.1  | 24.0  | 22.7   |
| Cattle Profits (cents per pound)                |                | -2.4  | -3.4  | -3.9  | -4.5  | -5.2  | -6.0   |
| Iowa Stock Market Index (10=1984-86)            | ↑              | 74.07 | 74.35 | 71.59 | 70.91 | 74.05 | 75.31  |
| Yield Spread (10-year less 3-month)             | ↑              | 2.09  | 1.97  | 1.71  | 1.53  | 1.43  | 1.58   |
| Residential Building Permits                    | ↑              | 657   | 633   | 671   | 679   | 702   | 721    |
| Average Weekly Unemployment Claims <sup>d</sup> | ↑              | 3,573 | 3,521 | 3,469 | 3,460 | 3,421 | 3,398  |
| Average Weekly Manufacturing Hours              | ↓              | 40.5  | 40.7  | 40.8  | 40.9  | 40.9  | 40.8   |
| New Orders Index (percent)                      | ↑              | 64.6  | 63.7  | 63.8  | 65.0  | 65.4  | 66.6   |
| Diesel Fuel Consumption (mil gallons)           | ↑              | 54.90 | 54.84 | 54.88 | 55.00 | 54.99 | 55.05  |

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced September 27, 2012.

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 28, 2012).

c. Arrows indicate the direction of the series' contribution to the ILII for the latest month.

d. Changes in average weekly initial unemployment insurance claims are inverted when added to the ILII, thus a negative change in the series contributes positively to the index.

# ILII Components

- **Residential 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 August, this component contributed 0.10 to the ILII with the 12-month moving average increasing to 721. August 2012 permits were 25.0 percent above the number of permits issued in August 2011, and only 0.5 percent below the historical average for August (1998-2008).
- **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 August, the monthly value of the index held steady at the July value of 65.0, but it was above the value of 50.4 from a year ago. The 12-month moving average of the new orders index rose to 66.6, contributing 0.08 to the ILII.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During August, the yield spread rose to 1.58 percent as the long-term rate rose 15 basis points and the short-term rate remained unchanged. For the month, the yield spread contributed 0.05 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 34 Iowa-based or Iowa-concentrated publicly-traded companies. During August 2012, 19 of the 34 companies gained value, including 8 of the 11 financial-sector companies. The stock market index increased to 75.31, contributing 0.03 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. This component contributed 0.02 to the ILII value. The 12-month moving average of claims fell to 3,398 with unemployment claims for the month 9.8 percent below August 2011 claims, but 10.9 percent above average historical (1987-2008) claims for August after being below historical claims in July.
- **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 increased 1.4 percent between August 2011 and 2012, causing the 12-month moving average to rise to 55.05 million gallons from 54.99 in July, and contributing 0.02 to the ILII value.
- **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 Iowa annual cash receipts. Changes are calculated based on a 12-month moving average. During August, this component contributed -0.02 to the ILII value. Expected profits rose for both grains but fell for both livestock components. Compared to last year, corn prices are up 11.6 percent and soybean prices are up 21.5 percent, increasing expected profitability for both in August. Cattle prices are up 5.0 percent over last year, but that increase was not enough to offset higher production costs. Hog prices decreased 14.3 percent over last year and expected profitability fell.
- **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 August 2012, this component contributed -0.06 to the ILII value. August 2012 hours were 39.8 compared to 40.8 hours in August 2011, decreasing the 12-month moving average to 40.8.

**Table 3. ILII Components and Standardization Factors for FY 2013**

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| Iowa Leading Indicator Index Components | Standardization Factor |
|---|------------------------|
| Agricultural Futures Profits Index      | 0.049                  |
| Iowa Stock Market Index                 | 0.018                  |
| Yield Spread                            | 0.328                  |
| Building Permits                        | 0.036                  |
| Average Weekly Unemployment Claims      | 0.033                  |
| Average Weekly Manufacturing Hours      | 0.284                  |
| New Orders Index                        | 0.063                  |
| Diesel Fuel Consumption                 | 0.188                  |

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Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 28, 2012  
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 2012 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 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. A contraction signal in the ILII is considered 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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