



The Iowa Leading Indicators Index (ILII) grew to 105.2 (100=1999) in March 2016 from 105.0 in February, the first monthly increase since December 2014. The Iowa non-farm employment coincident index recorded a 0.09 percent rise in March, which extends the streak of employment gains to 66 months.

During the six-month span through March, the ILII decreased 1.4 percent (an annualized rate of -2.7 percent). The six-month diffusion index expanded to 25.0 with six of the eight components experiencing a decrease of greater than 0.05 percent over the last half a year. Residential building permits and average manufacturing hours are the only components to show positive growth over the past six months. The average weekly manufacturing hours' six-month growth rate grew from between 0.00 and 0.05 percent to over 0.05 percent in March, resulting in the increase of the six-month diffusion index.

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

Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-March 2016

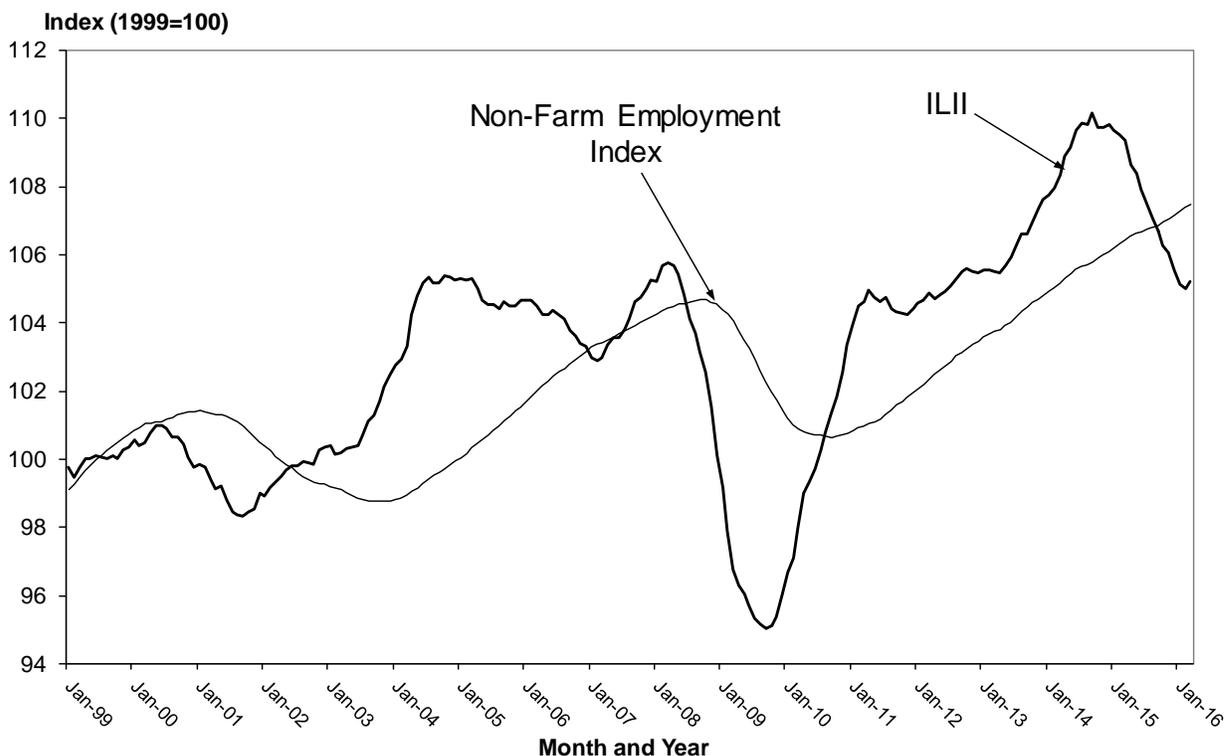


Table 1. Iowa Leading Indicators Index: Six Month Overview

| Monthly Values | 2015 | | | 2016 | | |
|--------------------------------|------------|------------|------------|------------|------------|-------------|
| | Oct | Nov | Dec | Jan | Feb | Mar |
| ILII | 106.3 | 106.1 | 105.6 | 105.1 | 105.0 | 105.2 |
| Percentage Change ^a | -0.4% | -0.2% | -0.5% | -0.4% | -0.1% | 0.2% |
| Diffusion Index ^b | 25.0 | 56.3 | 18.8 | 25.0 | 50.0 | 68.8 |
| Six-Month Values | Apr to Oct | May to Nov | Jun to Dec | Jul to Jan | Aug to Feb | Sept to Mar |
| ILII | | | | | | |
| Percentage Change | -2.2% | -2.1% | -2.2% | -2.2% | -2.0% | -1.4% |
| Annualized Percentage Change | -4.4% | -4.3% | -4.4% | -4.4% | -3.9% | -2.7% |
| Diffusion Index | 18.8 | 12.5 | 12.5 | 25.0 | 18.8 | 25.0 |

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced April 28, 2016.

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 | 2015 | | | 2016 | | |
|---|-------|-------|-------|-------|-------|-------|
| | Oct | Nov | Dec | Jan | Feb | Mar |
| AFPI ^b | | | | | | |
| Corn Profits (cents per bushel) | 29.2 | 30.3 | 28.8 | 27.9 | 27.4 | 27.0 |
| Soybean Profits (cents per bushel) | 80.7 | 65.7 | 52.4 | 41.0 | 30.7 | 23.2 |
| Hog Profits (cents per pound) | 16.8 | 14.7 | 13.6 | 13.9 | 15.2 | 16.7 |
| Cattle Profits (cents per pound) | -8.5 | -13.5 | -18.2 | -21.2 | -23.0 | -23.9 |
| Iowa Stock Market Index (10=1984-86) | 87.66 | 91.57 | 90.98 | 81.46 | 80.79 | 84.88 |
| Yield Spread (10-year less 3-month) | 2.05 | 2.13 | 2.01 | 1.83 | 1.47 | 1.59 |
| Residential Building Permits | 832 | 833 | 841 | 878 | 878 | 905 |
| Average Weekly Unemployment Claims ^d | 3,047 | 3,087 | 3,092 | 3,084 | 3,075 | 3,098 |
| Average Weekly Manufacturing Hours | 42.06 | 42.09 | 42.11 | 42.04 | 42.04 | 42.03 |
| New Orders Index (percent) | 51.2 | 50.3 | 49.1 | 48.4 | 48.6 | 48.1 |
| Diesel Fuel Consumption (mil gallons) | 58.39 | 58.38 | 57.89 | 57.61 | 57.72 | 57.88 |

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced April 28, 2016.

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 25, 2015).

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 March, this component contributed 0.10 to the ILII with the 12-month moving average growing to 905. March 2016 permits were 38.5 percent above March 2015 and 13.1 percent above the historical average for March (1998-2015).
- **Iowa stock market index:** Capitalization-weighted index of 35 Iowa-based or Iowa-concentrated publicly-traded companies. During March 2016, 31 of the 35 companies gained value, including all of the 12 financial-sector companies. With nearly all of the stocks recording gains the index grew to 84.88 in March from 80.79 in February and contributed 0.09 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. Diesel fuel consumption increased 3.8 percent between March 2015 and 2016, causing the 12-month moving average to grow to 57.88 million gallons from 57.72 in February and contributing 0.05 to the ILII value.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During March, the yield spread expanded to 1.59 percent as the long-term rate increased 11 basis points to 1.89 while the short-term rate decreased 1 basis point to 0.30. For the month, the yield spread contributed 0.04 to the ILII.
- **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 in the prior calendar year. Changes are calculated based on a 12-month moving average. This component contributed 0.01 to the index despite expected profit decreases for three of four commodities; hogs were the exception. With a heavier weight on hogs within the index reflecting the commodity's relative share of Iowa farm income, the 12.3 percent price gain for hogs offset the 6.4 percent decline in corn prices, 8.7 percent drop in soybean prices, and 12.6 percent decline in cattle prices from March 2015.
- **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 March 2016, this component contributed -0.01 to the ILII value with its decrease to 42.03 from a revised 42.04. March 2016 hours were 41.3, below the 41.5 hours in March 2015, yet above the historical monthly average of 41.0 (1996-2015).
- **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 weekly unemployment insurance claims increased to 3,098 in March from 3,075 in February. Average monthly claims were up 12.7 percent from last March, yet 15.3 percent below the monthly historical average (1987-2015).
- **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 value of the index increased to 54.2 in March from 51.3 in February, however was down from 60.5 one year ago. The 12-month moving average of the new orders index decreased to 48.1, contributing -0.03 to the ILII.

Table 3. ILII Components and Standardization Factors for FY 2016

| Iowa Leading Indicator Index Components | Standardization Factor |
|---|------------------------|
| Agricultural Futures Profits Index | 0.037 |
| Iowa Stock Market Index | 0.019 |
| Yield Spread | 0.335 |
| Residential Building Permits | 0.034 |
| Average Weekly Unemployment Claims | 0.035 |
| Average Weekly Manufacturing Hours | 0.290 |
| New Orders Index | 0.064 |
| Diesel Fuel Consumption | 0.187 |

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced August 27, 2015
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 2015 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.

Contact: Questions can be addressed to Victoria Daniels of the Iowa Department of Revenue at (515) 281-8450 or Victoria.Daniels@iowa.gov.