

# IOWA Department of REVENUE

## Iowa Leading Indicators Index October 2011 Report

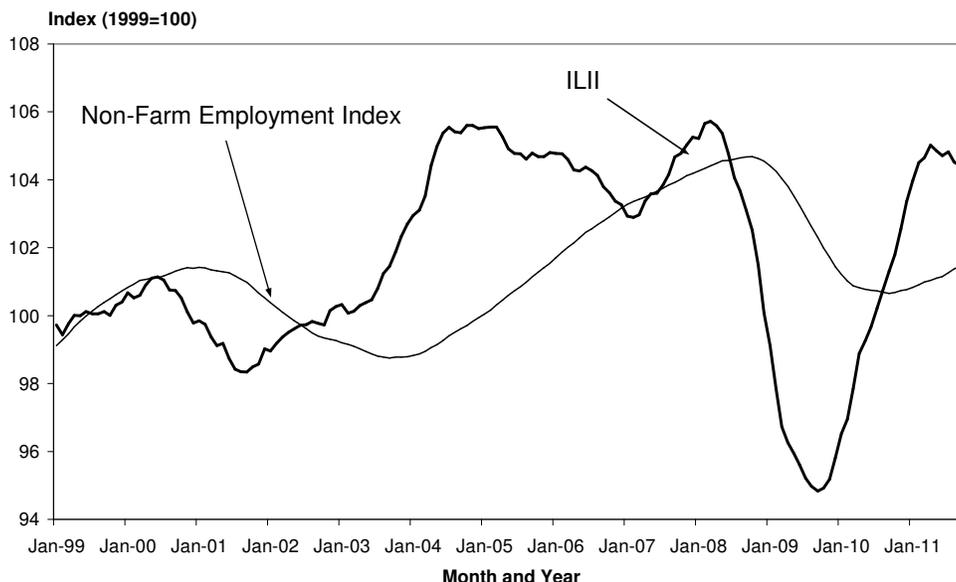
Tax Research and Program Analysis Section  
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The Iowa Leading Indicators Index (ILII) rose to 104.5 (100=1999) in October 2011 from 104.4 in September. The Iowa non-farm employment coincident index recorded a 0.07 percent rise in October, extending the streak of employment gains to thirteen consecutive months.

The ILII's value increased 0.1 percent in October, following the 0.1 percent decrease in September, and a loss of 0.3 percent in August. During the six-month span through October, the ILII decreased 0.5 percent (an annualized rate of -1.0 percent). The six-month diffusion index was 50.0 with four of the eight components (average weekly manufacturing hours, the Iowa stock market index, the national yield spread, and the new orders index) experiencing a decline of more than 0.05 percent over the last half a year.

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

**Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-October 2011**



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

Monthly Values	2011					
	May	June	July	August	September	October
ILII	104.8	104.7	104.8	104.5	104.4	104.5
Percentage Change <sup>a</sup>	-0.2%	-0.1%	0.1%	-0.3%	-0.1%	0.1%
Diffusion Index <sup>b</sup>	37.5	37.5	56.3	43.8	37.5	50.0
Six-Month Values	Nov to May	Dec to June	Jan to July	Feb to August	Mar to September	Apr to October
ILII						
Percentage Change	2.2%	1.3%	0.8%	0.0%	-0.2%	-0.5%
Annualized Percentage Change	4.5%	2.6%	1.7%	0.0%	-0.5%	-1.0%
Diffusion Index	87.5	62.5	37.5	50.0	50.0	50.0

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced November 29, 2011.

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>		2011					
		May	June	July	August	September	October
AFPI <sup>b</sup>	↑ <sup>c</sup>						
Corn Profits (cents per bushel)		252.5	275.3	295.5	318.2	333.2	338.0
Soybean Profits (cents per bushel)		491.7	521.2	547.7	569.7	585.4	649.4
Hog Profits (cents per pound)		22.4	22.1	21.9	21.7	21.3	22.1
Cattle Profits (cents per pound)		5.0	4.2	3.2	1.8	0.6	-0.3
Iowa Stock Market Index (10=1984-86)	↑	69.68	66.89	69.48	61.97	60.81	62.57
Yield Spread (10-year less 3-month)	↑	3.13	2.96	2.96	2.28	1.97	2.13
Building Permits	↓	624	622	613	647	643	642
Average Weekly Unemployment Claims <sup>d</sup>	↑	4,170	4,080	3,996	3,974	3,911	3,857
Average Weekly Manufacturing Hours	↓	40.8	40.7	40.5	40.5	40.5	40.3
New Orders Index (percent)	↓	72.9	70.6	68.9	67.0	65.9	65.1
Diesel Fuel Consumption (mil gallons)	↓	54.74	54.94	55.27	55.13	55.26	55.10

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced November 29, 2011.

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 30, 2011).

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 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 October, this component contributed 0.12 to the ILII value as the 12-month moving average of expected profits for corn, soybeans, and hogs improved. Compared to last year; corn prices are up 16 percent and soybean prices are up 26 percent. Although cattle prices are up 24 percent that increase was not enough to offset the increases in production costs. Hog prices are up 28 percent over last year and a significant decrease in production costs raised expected profitability.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury notes. During October, the yield spread increased to 2.13 percent as the long-term rate rose 17 basis points and the short-term rate increased 1 basis point. For the month, the yield spread contributed 0.05 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 33 Iowa-based or Iowa-concentrated publicly-traded companies. During October 2011, 22 of the 33 companies gained value, including 9 of the 12 financial-sector companies. The stock market index increased to 62.57, contributing 0.05 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 0.05 to the ILII value. The 12-month moving average of claims fell to 3,857 with unemployment claims for the month 18.0 percent below October 2010 claims. Initial claims for October 2011 were only 1.9 percent above average October claims (1987-2008) signaling a possible end to three years of historically high claims.
- **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 October, this component contributed -0.01 to the ILII with the 12-month moving average falling to 642. October 2011 permits were 1.7 percent lower than the number of permits issued in October 2010 and 49.7 percent below the historical average for October (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 October, the index rose to 54.8 from 52.5 in September, but below the 64.9 value from a year ago. The 12-month moving average of the new orders index dropped to 65.1, contributing -0.05 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 decreased 3.4 percent between October 2010 and 2011, causing the 12-month moving average to decrease 0.3 percent to 55.10 million gallons, and contributing -0.06 to the ILII value.
- **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 October 2011, the 12-month moving average fell to 40.3 and contributed -0.08 percent to the ILII. October 2011 hours were 41.0 compared to 42.3 hours in October 2010, remaining below the historical average which has been the case for nearly a year.

**Table 3. ILII Components and Standardization Factors for FY 2012**

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 30, 2011  
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 2011 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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