Iowa Leading Indicators Index

June 2021 Report

Released August 2, 2021

The Iowa Leading Indicators Index (ILII) increased to 108.9 in June 2021 (100=1999) from 108.5 in May. June marks the ninth month in a row since the ILII has exited contraction. This suggests that the nonfarm employment will continue to improve over the next three to six months. However, the recovery may be losing a little bit of momentum, the pace of gains in the ILII has declined since peaking in March. June is the eleventh month that the index has increased since the COVID Crisis in Iowa began last March. The ILII had decreased as much as 3.0 percent (June 2020) from March 2020 before gradually improving for eleven of the next twelve months. The Iowa nonfarm employment coincident index recorded a 0.36 percent increase in June, the third month of growth since February 2020. During the six-month span through June, the ILII increased 4.4 percent (an annualized rate of 8.8 percent). The six-month diffusion index remained at 87.5 in June. Seven of the eight component indicators (agricultural futures profits index (AFPI), diesel fuel consumption, the Iowa Stock Market Index, the national yield spread, the new orders index, residential building permits, and average weekly unemployment claims) increased more than 0.05 percent over the last half-year.

Four of the eight components increased in June: diesel fuel consumption, average weekly unemployment claims (inverted), the agricultural futures profits index, and the new orders index. Average manufacturing hours, the Iowa Stock Market Index, the national yield spread, and residential building permits are the four components that contributed negatively to the index.

Figure 1. Iowa Leading Indicators Index and Iowa Nonfarm Employment Coincident Index: January 1999-June 2021

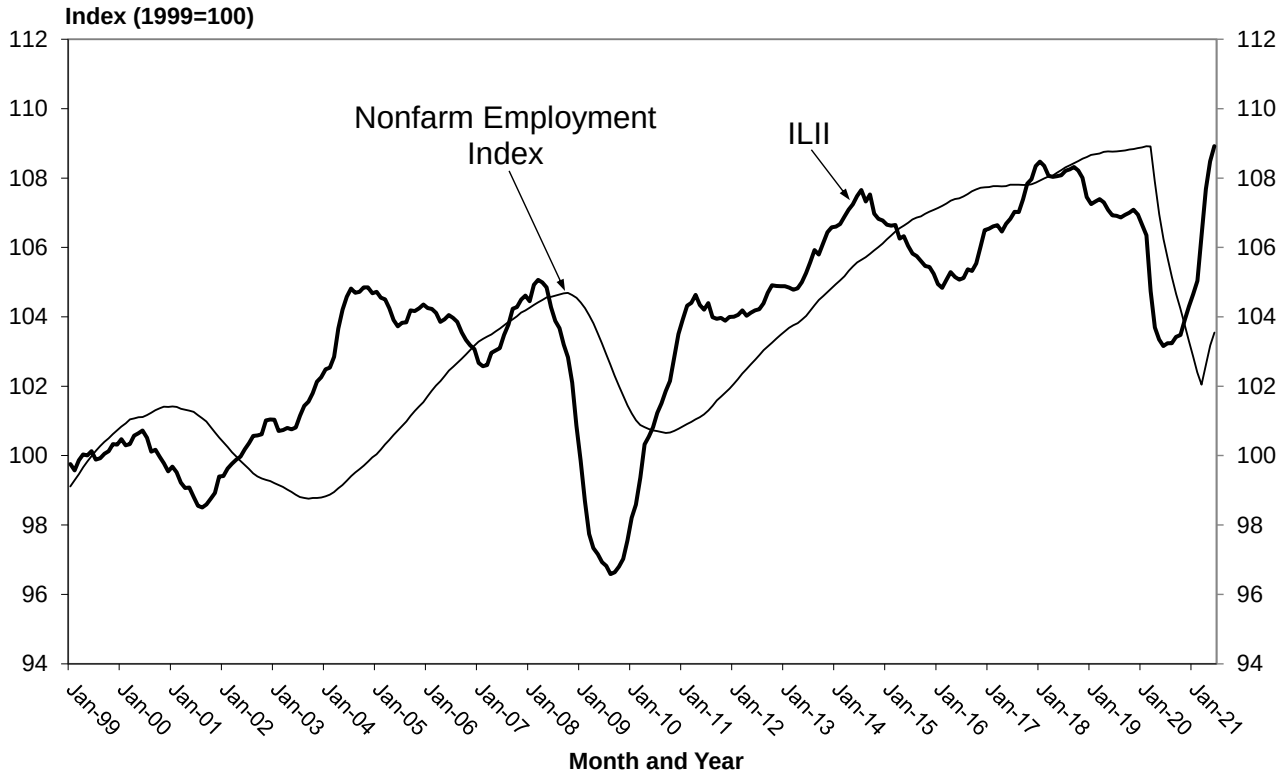

Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2021 Jan	Feb	Mar	Apr	May	Jun
ILII	104.7	105.0	106.4	107.7	108.5	108.9
Percentage Change[a]	0.3%	0.4%	1.3%	1.2%	0.7%	0.4%
Diffusion Index[b]	68.8	68.8	87.5	87.5	81.3	50.0

Six-Month Values	Jul to Jan	Aug to Feb	Sep to Mar	Oct to Apr	Nov to May	Dec to Jun
ILII						
Percentage Change	1.4%	1.7%	2.9%	4.1%	4.4%	4.4%
Annualized Percentage Change	2.7%	3.5%	5.7%	8.1%	8.8%	8.8%
Diffusion Index	62.5	75.0	87.5	87.5	87.5	87.5

Source: Tax Research Division, Iowa Department of Revenue, produced July 29, 2021.

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]		2021 Jan	Feb	Mar	Apr	May	Jun
AFPI[b]	↑[c]						
Corn Profits (cents per bushel)		63.0	68.7	77.2	92.0	111.2	129.7
Soybean Profits (cents per bushel)		85.1	105.5	132.7	167.2	209.8	247.2
Hog Profits (cents per pound)		18.4	20.0	22.6	21.3	21.4	21.5
Cattle Profits (cents per pound)		13.2	12.8	13.8	12.9	13.9	14.2
Iowa Stock Market Index (10=1984-86)	↓	101.74	108.11	119.37	125.94	130.76	126.65
Yield Spread (10-year less 3-month)	↓	1.00	1.22	1.58	1.62	1.60	1.48
Residential Building Permits	↓	1,045	1,073	1,144	1,231	1,231	1,226
Average Weekly Unemployment Claims[d]	↑	11,502	11,736	8,783	6,654	5,970	5,413
Average Weekly Manufacturing Hours	↓	40.22	40.15	40.08	40.09	40.10	40.00
New Orders Index (percent)	↑	60.7	62.4	65.4	70.0	73.5	75.5
Diesel Fuel Consumption (mil gallons)	↑	63.64	63.63	63.82	64.17	64.68	65.27

Source: Tax Research Division, Iowa Department of Revenue, produced July 29, 2021.

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 September 2, 2020).

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

- **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 12.2 percent between June 2020 and June 2021. The 12-month moving average increased to 65.27 million gallons in June from 64.68 million in May, contributing 0.17 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 0.15 to the ILII value with the 12-month moving average of claims decreasing from 5,970 to 5,413. Unemployment claims were 76.4 percent below June 2020 claims and 35.6 percent below average historical claims for June (1988-2020).
- **Agricultural futures profits index:** Composite measure of corn and soybean expected profits, measured as the 12-month moving average of the futures price less estimated breakeven costs, and cattle and hog expected profits, measured as the average of the crush margin for the next 12 months, weighted by the respective share of Iowa annual cash receipts averaged over the prior ten calendar years. During June, this component contributed 0.13 to the ILII with both grain and livestock commodities expecting profit gains. Compared to last year, new crop corn prices were 67.7 percent higher while soybean prices were 56.6 percent higher. The June crush margin for hogs increased 0.4 percent from May while the crush margin for cattle increased 2.5 percent.
- **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 new orders index has recovered sharply over the last year, up to 74.1 compared to 50.2 last June. The 12-month moving average of the new orders index increased to 75.5 from 73.5 in May, contributing 0.13 to the ILII.
- **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. In June, permits were 1,359, slightly down from 1,417 last year. This component detracted 0.01 from the June ILII with the 12-month moving average decreasing to 1,226 in June from 1,231 in May. June 2021 permits were 4.1 percent below June 2020, yet 15.0 percent above the monthly historical average (1998-2020).
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During June, the yield spread contracted to 1.48 percent from 1.60 percent in May. June is the sixth month in a row since June 2018 that the yield spread has been at or above 1.0 percent. The long-term rate decreased 10 basis points while the short-term rate decreased 4 basis points. For the month, the yield spread contributed -0.04 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 31 Iowa-based or Iowa-concentrated publicly-traded companies. During June 2021, only 13 of the 31 companies gained value, and 4 of the 11 financial-sector companies increased. With just over one-third of the stocks experiencing gains, the index decreased to 126.65 in June from 130.76 in May, contributing -0.05 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 June, this component contributed -0.08 to the ILII with the 12-month moving average decreasing to 40.0 from a revised 40.1 in May. In June 2021, average hours were 39.7, below the 40.9 hours in June 2020, and nearly two hours below the historical monthly average (1996-2020).

Table 3. ILII Components and Standardization Factors for FY 2021

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.035
Iowa Stock Market Index	0.015
Yield Spread	0.349
Residential Building Permits	0.032
Average Weekly Unemployment Claims	0.015
Average Weekly Manufacturing Hours	0.307
New Orders Index	0.065
Diesel Fuel Consumption	0.183

Source: Tax Research and Program Analysis Section, Iowa Department of Revenue, produced September 2, 2020

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 2020 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 agricultural futures profits index, the Iowa stock market index, and yield spread. 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 nonfarm employment coincident index measures the change in non-seasonally adjusted, total nonfarm 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.