



Iowa Leading Indicators Index

July 2021 Report

Released September 15, 2021

NOTICE: The Iowa Leading Indicators Index (ILII) underwent an annual update between the release of the June and July 2021 reports, slightly revising the level of the ILII for most months.

A revised historical series for the ILII and its components is also available on the Department's website. Please select the link entitled [Historical ILII Series](#).

To read more about the changes to the ILII, please refer to the following report [Iowa Leading Indicators Index: Fifteenth Annual Assessment and Update](#) available on the Department's website September 13, 2021.

The Iowa Leading Indicators Index (ILII) increased to 109.1 in July 2021 (100=1999) from 108.9 in June. July marks the tenth 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 and April. July is the twelfth month that the index has increased since last March. The ILII had decreased as much as 3.0 percent (June 2020) from March 2020 before gradually improving for twelve of the next thirteen months. The Iowa nonfarm employment coincident index recorded a 0.29 percent increase in July, the fourth month of growth since February 2020. During the six-month span through July, the ILII increased 4.1 percent (an annualized rate of 8.2 percent). The six-month diffusion index remained at 87.5 in July for the fifth month in a row. 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 July: the AFPI, average weekly unemployment claims (inverted), diesel fuel consumption, and the new orders index. Residential building permits, the national yield spread, average manufacturing hours, and the Iowa Stock Market Index are the four components detracted from the index.

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

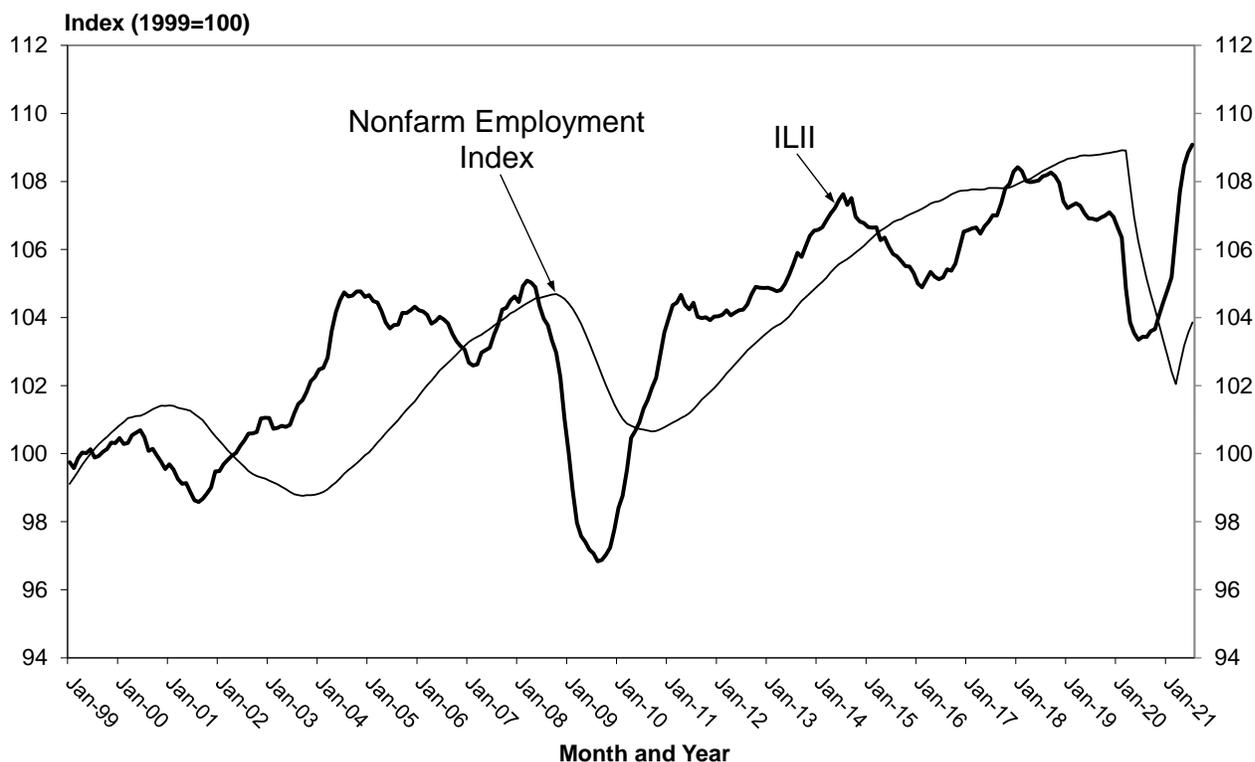


Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2021					
	Feb	Mar	Apr	May	Jun	Jul
ILII	105.2	106.5	107.7	108.5	108.9	109.1
Percentage Change ^a	0.4%	1.2%	1.2%	0.7%	0.4%	0.2%
Diffusion Index ^b	68.8	87.5	87.5	81.3	50.0	50.0
Six-Month Values	Aug to Feb	Sep to Mar	Oct to Apr	Nov to May	Dec to Jun	Jan to Jul
ILII						
Percentage Change	1.7%	2.8%	3.9%	4.2%	4.2%	4.1%
Annualized Percentage Change	3.4%	5.5%	7.8%	8.4%	8.4%	8.2%
Diffusion Index	75.0	87.5	87.5	87.5	87.5	87.5

Source: Tax Research Bureau, Iowa Department of Revenue, produced September 8, 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					
	Feb	Mar	Apr	May	Jun	Jul
AFPI ^b						
Corn Profits (cents per bushel)	68.7	77.2	92.0	111.2	129.7	146.6
Soybean Profits (cents per bushel)	105.5	132.7	167.2	209.8	247.2	282.8
Hog Profits (cents per pound)	20.0	22.6	21.3	21.4	21.5	22.4
Cattle Profits (cents per pound)	12.8	13.8	12.9	13.9	14.2	14.8
Iowa Stock Market Index (10=1984-86)	109.00	120.39	127.04	131.89	127.72	125.29
Yield Spread (10-year less 3-month)	1.22	1.58	1.62	1.60	1.48	1.27
Residential Building Permits	1,073	1,144	1,231	1,231	1,226	1,195
Average Weekly Unemployment Claims ^d	11,736	8,783	6,654	5,970	5,413	4,886
Average Weekly Manufacturing Hours	40.15	40.08	40.09	40.10	39.98	39.89
New Orders Index (percent)	62.4	65.4	70.0	73.5	75.5	76.4
Diesel Fuel Consumption (mil gallons)	63.63	63.82	64.17	64.68	65.27	65.68

Source: Tax Research Bureau, Iowa Department of Revenue, produced September 8, 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, 2021).

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

- **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 July, this component contributed 0.15 to the ILII with both grain and livestock commodities expecting profit gains. Compared to last year, new crop corn prices were 61.9 percent higher while soybean prices were 52.4 percent higher. The July crush margin for hogs increased 4.1 percent from June while the crush margin for cattle increased 4.0 percent.
- **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 0.14 to the ILII value with the 12-month moving average of claims decreasing from 5,413 to 4,886. Unemployment claims were 77.3 percent below July 2020 claims and 45.0 percent below average historical claims for July (1988-2020).
- **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 7.6 percent between July 2020 and July 2021. The 12-month moving average increased to 65.68 million gallons in July from 65.27 million in June, contributing 0.11 to the ILII value.
- **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 77.2 compared to 66.4 last July. The 12-month moving average of the new orders index increased to 76.4 from 75.5 in June, contributing 0.05 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 30 Iowa-based or Iowa-concentrated publicly-traded companies. During July 2021, only 8 of the 30 companies gained value, and none of the 10 financial-sector companies increased. With under one-third of the stocks experiencing gains, the index decreased to 125.3 in July from a revised 129.7 in June, taking off 0.03 of 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 July, this component detracted 0.06 from the ILII with the 12-month moving average decreasing to 39.9 from a revised 40.0 in June. In July 2021, average hours were 39.5, below the 40.5 hours in July 2020, and over one and a half hours below the historical monthly average (1996-2020).
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During July, the yield spread contracted to 1.27 percent from 1.48 percent in June. July is the seventh month in a row since July 2018 that the yield spread has been at or above 1.0 percent. The long-term rate decreased 20 basis points while the short-term rate increased 1 basis point. For the month, the yield spread dragged down the ILII 0.07.
- **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 July, permits were 1,116, down from 1,484 last year. This component detracted -0.08 from the July ILII with the 12-month moving average decreasing to 1,231 in July from 1,226 in June. July 2021 permits were 24.8 percent below July 2020, yet 4.7 percent above the monthly historical average (1998-2020).

Table 3. ILII Components and Standardization Factors for FY 2022

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.035
Iowa Stock Market Index	0.015
Yield Spread	0.352
Residential Building Permits	0.031
Average Weekly Unemployment Claims	0.014
Average Weekly Manufacturing Hours	0.310
New Orders Index	0.061
Diesel Fuel Consumption	0.183

Source: Tax Research Bureau, Iowa Department of Revenue, produced September 8, 2021

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 2021 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.