



Iowa Leading Indicators Index
July 2020 Report
Released September 11, 2020

NOTICE: The Iowa Leading Indicators Index (ILII) underwent an annual update between the release of the July and July 2020 reports, slightly revising the level of the ILII for most months.

A revised historical series for the ILII and its components are 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: Fourteenth Annual Assessment and Update* available on the Department's website September 10, 2020.

The Iowa Leading Indicators Index (ILII) increased 0.1 percent to 103.3 in July 2020 (100=1999) from a revised 103.1 in June. This is the first month of increase after seven months in a row of decreases. The ILII had decreased 3.0 percent from February 2020, the last month before the COVID-19 quarantines began in Iowa, to June 2020. The Iowa non-farm employment coincident index recorded a 0.51 percent decline in July, the eighth month in a row of decline and the fourth largest one month decline in its history behind April, May, and June 2020. July marked the fourth month that COVID-19 fully affected non-farm employment. The revision of the June index reflects the impact of annual ILII updates.

During the six-month span through July, the ILII decreased 3.2 percent (an annualized rate of -6.3 percent). The six-month diffusion index remained unchanged at 25.0 in July from June. Two of the eight component indicators (national yield spread and residential building permits) experienced an increase of greater than 0.05 percent over the last half-year.

Four of the eight components added to the ILII's monthly increase in July, residential building permits, the new orders index, diesel fuel consumption, and average manufacturing hours. Average weekly unemployment claims (inverted), the national yield spread, the agricultural futures profits index, and the Iowa stock market index dragged down the index.

Figure 1. Iowa Leading Indicators Index and Iowa Non-Farm Employment Coincident Index: January 1999-July 2020

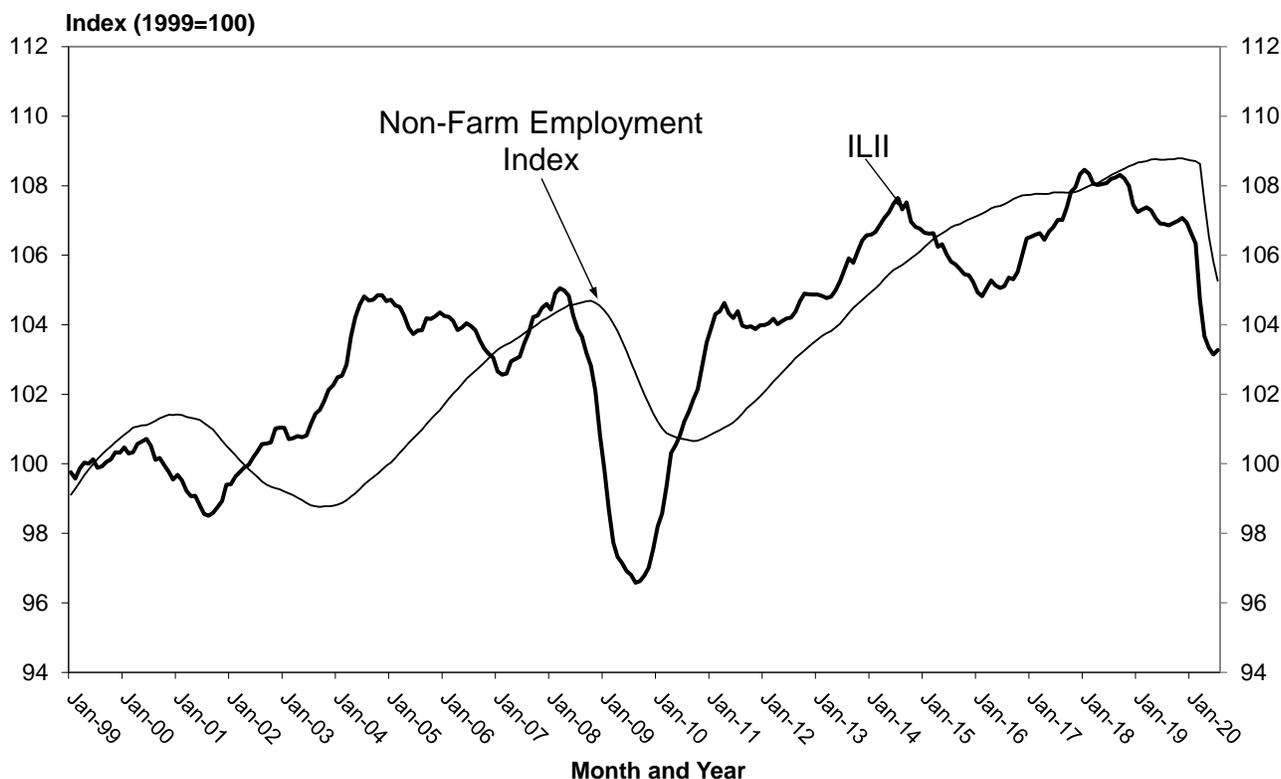


Table 1. Iowa Leading Indicators Index: Six Month Overview

Monthly Values	2020					
	Feb	Mar	Apr	May	Jun	Jul
ILII	106.3	104.7	103.7	103.3	103.1	103.3
Percentage Change ^a	-0.3%	-1.5%	-1.0%	-0.3%	-0.2%	0.1%
Diffusion Index ^b	25.0	31.3	18.8	18.8	18.8	43.8
Six-Month Values	Aug to Feb	Sep to Mar	Oct to Apr	Nov to May	Dec to June	Jan to July
ILII						
Percentage Change	-0.5%	-2.1%	-3.1%	-3.5%	-3.5%	-3.2%
Annualized Percentage Change	-1.0%	-4.1%	-6.2%	-7.0%	-7.1%	-6.3%
Diffusion Index	43.8	37.5	37.5	37.5	25.0	25.0

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

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	2020					
	Feb	Mar	Apr	May	Jun	Jul
AFPI ^b						
Corn Profits (cents per bushel)	89.2	85.9	80.8	73.9	64.1	55.5
Soybean Profits (cents per bushel)	74.8	64.6	54.2	47.7	44.2	43.2
Hog Profits (cents per pound)	23.7	22.5	19.2	23.0	22.5	22.6
Cattle Profits (cents per pound)	12.5	10.4	10.1	12.9	10.8	12.3
Iowa Stock Market Index (10=1984-86)	105.35	77.11	72.85	70.28	77.51	76.55
Yield Spread (10-year less 3-month)	-0.04	0.57	0.52	0.54	0.57	0.49
Residential Building Permits	956	986	974	961	960	997
Average Weekly Unemployment Claims ^d	2,885	6,113	8,466	9,248	9,778	10,270
Average Weekly Manufacturing Hours	40.93	40.83	40.69	40.59	40.51	40.53
New Orders Index (percent)	54.1	52.2	49.5	48.0	47.7	48.8
Diesel Fuel Consumption (mil gallons)	62.93	62.91	63.04	62.98	62.65	62.85

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

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

- **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 1,484, higher than the 1,042 seen in the prior year. This component contributed 0.12 to the July ILII with the 12-month moving average increasing to 997 from 960 in June. July 2020 permits were 42.4 percent above July 2019, and 41.7 percent above the monthly historical average (1998-2019).
- **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 a very strong reading of 66.4 compared to 52.6 seen one year ago. The 12-month moving average of the new orders index increased to 48.8 from 47.7 in June, contributing 0.07 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 increased 3.7 percent between July 2019 and July 2020. The 12-month moving average increased to 62.85 million gallons from 62.66 million in June, 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 July, this component contributed 0.01 to the ILII with the 12-month moving average increasing to 40.53 from a revised 40.51 in June. July 2020 average hours were 41.1, above the 40.9 hours in July 2019, yet one-tenth below the historical monthly average (1996-2019).
- **Iowa stock market index:** Capitalization-weighted index of 31 Iowa-based or Iowa-concentrated publicly-traded companies. During July 2020, 11 of the 31 companies gained value, including only 2 of the 11 financial-sector companies. With approximately one-third of the stocks experiencing gains, the index decreased to 76.55 in July from 77.51 in June, contributing -0.02 to the ILII value.
- **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 -0.02 to the ILII with expected profit gains in both livestock commodities and losses in the two crop commodities. The July crush margin for hogs increased 0.4 percent from June while the crush margin for cattle increased 13.5 percent. Compared to last year, new crop corn prices were 21.7 percent lower and soybean prices were 1.3 percent lower.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During July, the yield spread contracted to 0.49 percent from 0.57 percent in June. The long-term rate decreased 11 basis point while the short-term rate decreased 3 basis points. For the month, the yield spread contributed -0.03 to the ILII.
- **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 -0.07 to the ILII value with the 12-month moving average of claims increasing from 9,026 to 9,480. Unemployment claims for the month were 259 percent above July 2019 claims and 157 percent above average historical claims for July (1988-2019). The 8,188 average weekly unemployment claims for July were 79.9 percent lower than that of March's 40,835 average weekly unemployment claims.

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 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.