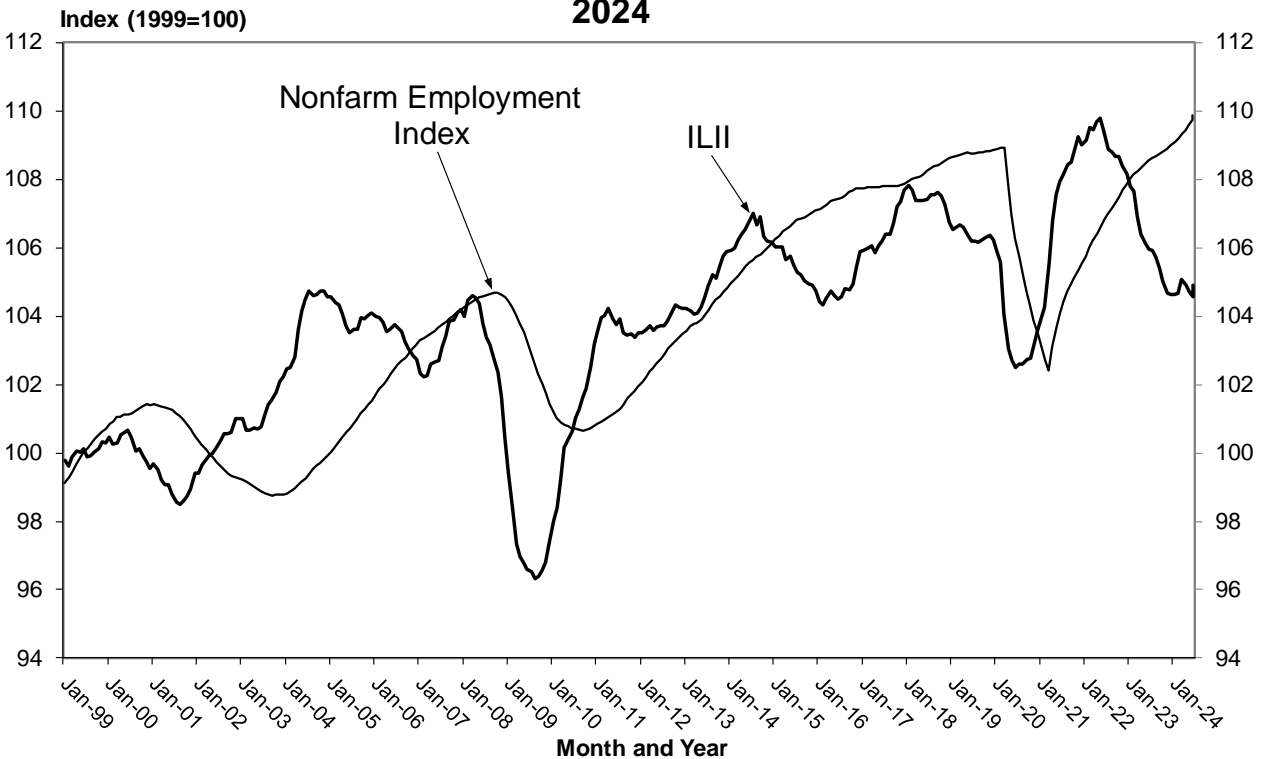


The Iowa Leading Indicators Index (ILII) increased to 104.9 (100=1999) in July from a revised 104.6 in June. The monthly diffusion index increased to 75.0 in July from 37.5 in June. The Iowa nonfarm employment coincident index recorded a 0.13 percent increase in July. Long term trends in the ILII suggest that nonfarm employment will increase over the next three to six months.

During the six-month span through July, the ILII increased 0.2 percent (an annualized rate of 0.5 percent). The six-month diffusion index decreased to 37.5 in July from 50.0 in June. The ILII was constructed to signal economic turning points with two key metrics that when seen together are considered a signal of a coming contraction: a six-month annualized change in the index below -2.0 percent and a six-month diffusion index below 50.0. Three of the eight component indicators increased more than 0.05 percent over the last half-year: average manufacturing hours, the Iowa Stock Market index, and the national yield spread. The agricultural futures profits index (AFPI), diesel fuel consumption, new orders index, residential building permits, and initial unemployment insurance claims were the components to decrease by more than 0.05 percent over the last six months.

Seven of the eight components increased month over month in July: residential building permits, average manufacturing hours, the new orders index, the Iowa Stock Market Index, the AFPI, the national yield spread, and diesel fuel consumption. Average weekly unemployment claims (inverted) was the only component that detracted from the Index.

**Figure 1. Iowa Leading Indicators Index and Iowa Nonfarm Employment Coincident Index: January 1999 - July 2024**



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

Monthly Values	2024					
	Feb	Mar	Apr	May	Jun	Jul
ILII	104.7	105.1	104.9	104.7	104.6	104.9
Percentage Change <sup>a</sup>	0.0%	0.4%	-0.2%	-0.2%	-0.1%	0.3%
Diffusion Index <sup>b</sup>	62.5	43.8	37.5	25.0	37.5	75.0

Six-Month Values	Sep to	Oct to	Nov to	Dec to	Jan to	Feb to
	Feb	Mar	Apr	May	Jun	Jul
ILII						
Percentage Change	-1.0%	-0.3%	-0.1%	0.0%	-0.1%	0.2%
Annualized Percentage Change	-2.0%	-0.6%	-0.2%	0.1%	-0.1%	0.5%
Diffusion Index	37.5	25.0	37.5	31.3	50.0	37.5

Source: Tax Research Bureau, Iowa Department of Revenue, produced September 25, 2024.

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>		2024					
		Feb	Mar	Apr	May	Jun	Jul
AFPI <sup>b</sup>	↑ <sup>c</sup>						
Corn Profits (cents per bushel)		40.8	29.2	18.4	10.0	3.1	-4.7
Soybean Profits (cents per bushel)		28.2	2.3	-21.7	-36.4	-35.2	-38.1
Hog Profits (cents per pound)		30.5	30.6	30.0	28.4	26.7	27.5
Cattle Profits (cents per pound)		11.4	12.1	10.8	12.0	10.6	13.7
Iowa Stock Market Index (10=1984-86)	↑	123.51	131.50	133.15	135.17	129.88	132.24
Yield Spread (10-year less 3-month)	↑	-1.23	-1.26	-0.90	-0.98	-1.20	-1.18
Residential Building Permits	↑	922	911	908	868	864	903
Average Weekly Unemployment Claims <sup>d</sup>	↓	2,350	2,377	2,416	2,419	2,485	2,497
Average Weekly Manufacturing Hours	↑	39.66	39.76	39.78	39.94	40.08	40.19
New Orders Index (percent)	↑	49.7	49.1	48.9	48.6	48.8	49.4
Diesel Fuel Consumption (mil gallons)	↑	64.14	65.57	64.84	64.55	64.70	64.72

Source: Tax Research Bureau, Iowa Department of Revenue, produced September 25, 2024.

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 12, 2024).

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 1,284, up from 817 last year. This component contributed 0.14 to the July ILII with the 12-month moving average increasing to 903 in July from 864 in June. July 2024 permits were 57.2 percent above July 2023, and 22.3 percent above the monthly historical average (1998-2023).
- **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 0.09 to the ILII with the 12-month moving average increasing to 40.19 in July from a revised 40.08 in June. In July, average hours were 40.8, just under a quarter hour below the historical monthly average (1996-2023).
- **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 in July decreased to 49.6 from 54.7 in June. However, the 12-month moving average of the new orders index has increased to 49.4 from 48.8 in June, and contributed 0.03 to the ILII.
- **Iowa stock market index:** Capitalization-weighted index of 27 Iowa-based or Iowa-concentrated publicly-traded companies. During July, 21 of the 27 companies gained value, and 8 of the 9 financial-sector companies increased. With over two-thirds of the stocks experiencing gains, the index increased to 132.24 in July from 129.88 in June, contributing 0.03 to the ILII.
- **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 0.03 to the ILII with expected profits decreases in both crop commodities and increases in both livestock commodities. Compared to last year, new crop corn prices were 21.0 percent lower while soybean prices were 12.5 percent lower. The July crush margin for cattle increased 29.1 percent from June while the crush margin for hogs increased 3.1 percent.
- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During July, the yield spread remained in inversion territory (below 0) at -1.18 percent, down from -1.20 percent in June. July is the twenty-first month in a row that the yield spread has been in inversion. The long-term rate decreased 6 basis points while the short-term rate decreased by 8 basis points. For the month, the yield spread contributed 0.01 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 0.2 percent between July 2023 and July 2024. The 12-month moving average increased to 64.72 million gallons in July from 64.70 million in June, contributing 0.00 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 detracted 0.01 from the ILII value, with the 12-month moving average of claims increasing from 2,485 to 2,497. Unemployment claims were 6.6 percent above July 2023 claims, yet 32.3 percent below average historical claims for July (1988-2023).

**Table 3. ILII Components and Standardization Factors for FY 2024**

Iowa Leading Indicator Index Components	Standardization Factor
Agricultural Futures Profits Index	0.035
Iowa Stock Market Index	0.016
Yield Spread	0.349
Residential Building Permits	0.032
Average Weekly Unemployment Claims	0.014
Average Weekly Manufacturing Hours	0.325
New Orders Index	0.064
Diesel Fuel Consumption	0.166

Source: Tax Research Bureau, Iowa Department of Revenue, produced September 12, 2024

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 2024 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.