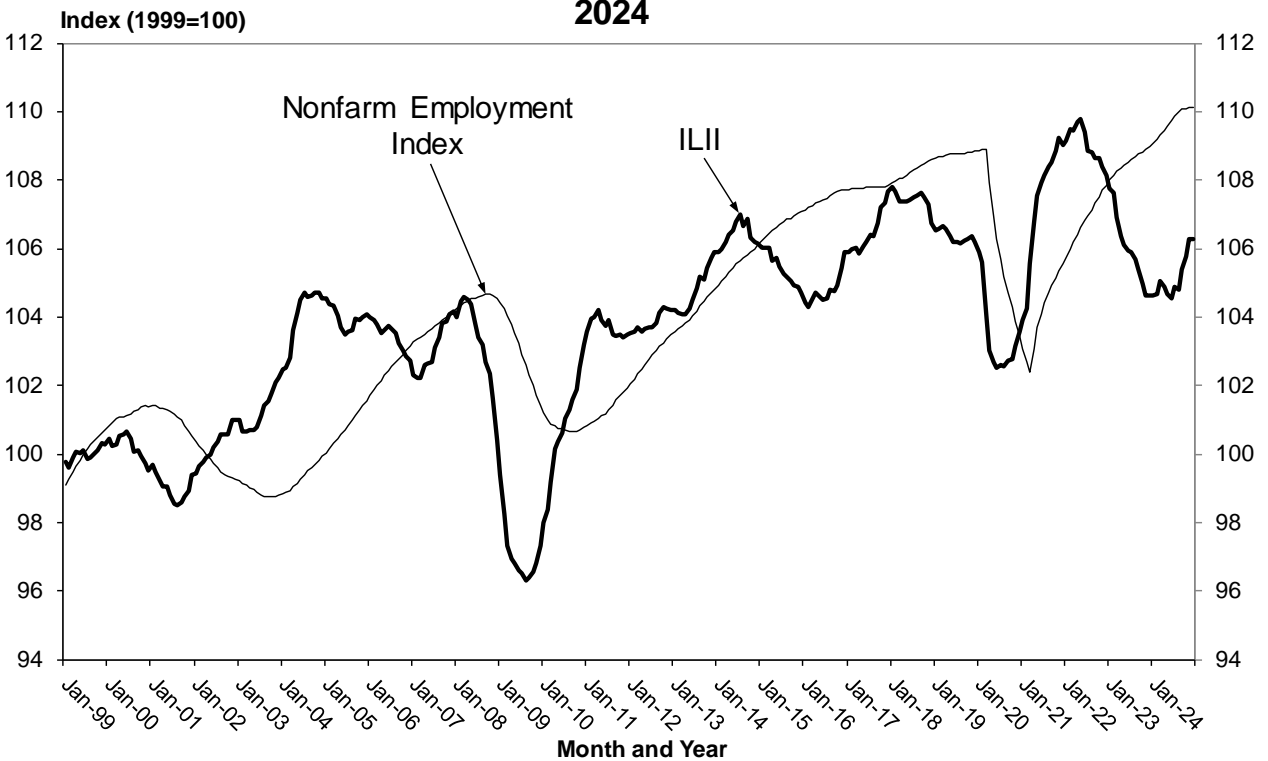


The Iowa Leading Indicators Index (ILII) remained unchanged at 106.3 (100=1999) in December relative to November. The monthly diffusion index decreased to 37.5 in December from 75.0 in November. The Iowa nonfarm employment coincident index recorded a 0.03 percent increase in December. Long term trends in the ILII suggest that nonfarm employment will increase over the next three to six months.

During the six-month span through December, the ILII increased 1.7 percent (an annualized rate of 3.3 percent). The six-month diffusion index decreased to 62.5 in December from 75.0 in November. 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. Five of the eight component indicators increased more than 0.05 percent over the last half-year: average manufacturing hours, diesel fuel consumption, the Iowa Stock Market index, the national yield spread, and residential building permits. The agricultural futures profits index (AFPI) and initial unemployment insurance claims were the components to decrease by more than 0.05 percent over the last six months.

Three of the eight components increased month over month in December: The national yield spread, average weekly manufacturing hours, and diesel fuel consumption. The AFPI, residential building permits, average weekly unemployment claims (inverted), the new orders index, and the Iowa Stock Market Index were the five components that detracted from the Index.

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



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

Monthly Values	2024					
	Jul	Aug	Sep	Oct	Nov	Dec
ILII	104.9	104.8	105.4	105.8	106.3	106.3
Percentage Change <sup>a</sup>	0.3%	-0.1%	0.6%	0.4%	0.5%	0.0%
Diffusion Index <sup>b</sup>	75.0	37.5	62.5	62.5	75.0	37.5
Six-Month Values	Feb to Jul	Mar to Aug	Apr to Sep	May to Oct	Jun to Nov	Jul to Dec
ILII						
Percentage Change	0.2%	0.1%	0.3%	0.9%	1.5%	1.7%
Annualized Percentage Change	0.5%	0.2%	0.7%	1.7%	3.1%	3.3%
Diffusion Index	37.5	37.5	50.0	68.8	75.0	62.5

Source: Tax Research Bureau, Iowa Department of Revenue, produced January 31, 2025.

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					
	Jul	Aug	Sep	Oct	Nov	Dec
AFPI <sup>b</sup>						
Corn Profits (cents per bushel)						
Soybean Profits (cents per bushel)						
Hog Profits (cents per pound)						
Cattle Profits (cents per pound)						
Iowa Stock Market Index (10=1984-86)						
Yield Spread (10-year less 3-month)						
Residential Building Permits						
Average Weekly Unemployment Claims <sup>d</sup>						
Average Weekly Manufacturing Hours						
New Orders Index (percent)						
Diesel Fuel Consumption (mil gallons)						

Source: Tax Research Bureau, Iowa Department of Revenue, produced January 31, 2025.

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

- **Yield spread:** Difference between the yield on 10-year Treasury bonds and 3-month Treasury bills. During December, the yield spread was flat (0.00percent), up from -0.26 percent in November. December was the first month after 25 months in a row that the yield spread not inverted. The long-term rate increased 3 basis points while the short-term rate decreased by 23 basis points. For the month, the yield spread contributed 0.09 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 December, this component contributed 0.05 to the ILII with the 12-month moving average increasing to 40.68 in December from 40.62 in November. In December, average hours were 41.5, just above the historical monthly average (1996-2023).
- **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 2.6 percent between December 2023 and December 2024. The 12-month moving average increased to 65.26 million gallons in December from 65.12 million in November, contributing 0.04 to the ILII value.
- **Iowa stock market index:** Capitalization-weighted index of 27 Iowa-based or Iowa-concentrated publicly-traded companies. During December, 8 of the 27 companies gained value, and only 1 of the 9 financial-sector companies increased in value. With over two-thirds of the stocks experiencing losses, the index decreased to 153.55 in December from 154.12 in November, detracting 0.01 from the ILII.
- **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 December decreased to 44.3 from 45.6 in November. The 12-month moving average of the new orders index has decreased to 48.7 from 48.8 in November, and detracted 0.01 from 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 detracted 0.03 from the ILII value, with the 12-month moving average of claims increasing from 2,561 to 2,609. Unemployment claims were 11.5 percent above December 2023 claims, yet 15.9 percent below average historical claims for December (1988-2023).
- **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 December, permits were 651, down from 860 December 2023. This component detracted 0.06 from the December ILII with the 12-month moving average decreasing to 998 in December from 1,015 in November. December 2024 permits were 24.3 percent below December 2023, and 7.1 percent below the monthly historical average (1998-2023).
- **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 December, this component detracted 0.09 from the ILII with expected profit decreases in both crop commodities and livestock commodities. Compared to last year, new crop corn prices were 10.3 percent lower while soybean prices were 21.3 percent lower. The December crush margin for cattle decreased 21.0 percent from November while the crush margin for hogs decreased 5.2 percent from November.

**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.