

News Release

Embargoed for release:
8:30 am Eastern Time
7:30 am Central Time
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What is the National Activity Index?

The index is a weighted average of 85 indicators of growth in national economic activity drawn from four broad categories of data: 1) production and income; 2) employment, unemployment, and hours; 3) personal consumption and housing; and 4) sales, orders, and inventories.

Why are there three index values?

Each month, we provide a monthly index (the CFNAI), its three-month moving average, and a diffusion index. Month-to-month movements can be volatile, so the monthly index's three-month moving average, the CFNAI-MA3, provides a more consistent picture of national economic growth. The CFNAI Diffusion Index instead captures the degree to which a change in the monthly index is spread out among its 85 indicators, averaged over a three-month period.

What do the numbers mean?

A zero value for the monthly index has been associated with the national economy expanding at its historical trend (average) rate of growth; negative values with below-average growth (in standard deviation units); and positive values with above-average growth.

Periods of economic expansion have historically been associated with values of the CFNAI-MA3 above -0.70 and the CFNAI Diffusion Index above -0.35 . Conversely, periods of economic contraction have historically been associated with values of the CFNAI-MA3 below -0.70 and the CFNAI Diffusion Index below -0.35 .

An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above $+0.70$ more than two years into an economic expansion. Similarly, a substantial likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above $+1.00$ more than two years into an economic expansion.

The next CFNAI will be released:
February 23, 2023
8:30 am Eastern Time
7:30 am Central Time

FEDERAL RESERVE BANK
OF CHICAGO

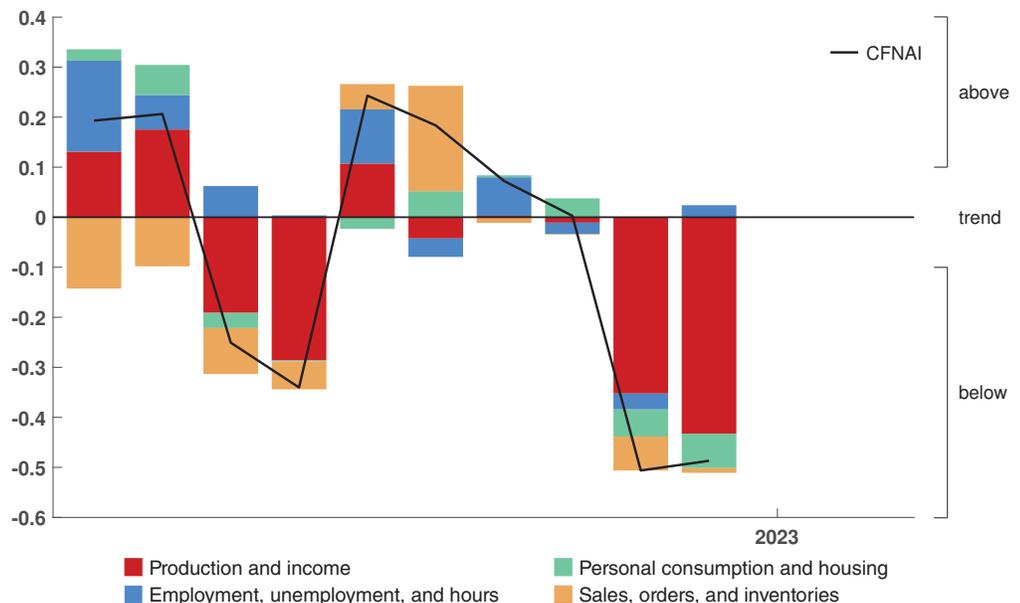
Chicago Fed National Activity Index

Index points to little change in economic growth in December

The Chicago Fed National Activity Index (CFNAI) edged up to -0.49 in December from -0.51 in November. Three of the four broad categories of indicators used to construct the index made negative contributions in December, but two categories improved from November. The index's three-month moving average, CFNAI-MA3, decreased to -0.33 in December from -0.14 in November.

The CFNAI Diffusion Index, which is also a three-month moving average, decreased to -0.13 in December from a neutral value in November. Forty of the 85 individual indicators made positive contributions to the CFNAI in December, while 45 made negative contributions. Forty-four indicators improved from November to December, while 40 indicators deteriorated and one was unchanged. Of the indicators that improved, 17 made negative contributions.

Chicago Fed National Activity Index, by Categories



CFNAI, CFNAI-MA3, and CFNAI Diffusion for the Latest Six Months and Year-Ago Month

	Dec '22	Nov '22	Oct '22	Sep '22	Aug '22	Jul '22	Dec '21
CFNAI							
Current	-0.49	-0.51	0.00	+0.07	+0.18	+0.24	+0.09
Previous	N/A	-0.36	-0.01	+0.10	+0.17	+0.24	+0.10
CFNAI-MA3							
Current	-0.33	-0.14	+0.09	+0.17	+0.03	-0.12	+0.48
Previous	N/A	-0.09	+0.09	+0.17	+0.02	-0.12	+0.48
CFNAI Diffusion							
Current	-0.13	0.00	+0.19	+0.31	+0.14	-0.02	+0.44
Previous	N/A	+0.01	+0.20	+0.31	+0.12	-0.03	+0.44

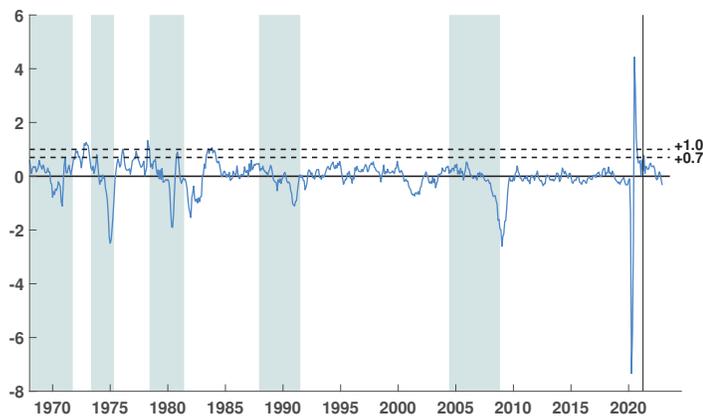
Current and Previous values reflect index values as of the January 26, 2023, release and the January 4, 2023, model run's results, respectively. Please see the [technical report](#) for further details on the early January 2023 model run, whose results were not formally published. N/A indicates not applicable.

Production-related indicators contributed -0.43 to the CFNAI in December, down from -0.35 in November. Industrial production fell 0.7 percent in December after decreasing 0.6 percent in November. The contribution of the sales, orders, and inventories category to the CFNAI moved up to -0.01 in December from -0.07 in the previous month.

Employment-related indicators contributed $+0.02$ to the CFNAI in December, up from -0.03 in November. The unemployment rate ticked down to 3.5 percent in December from 3.6 percent in November. The contribution of the personal consumption and housing category to the CFNAI ticked down to -0.07 in December from -0.05 in November.

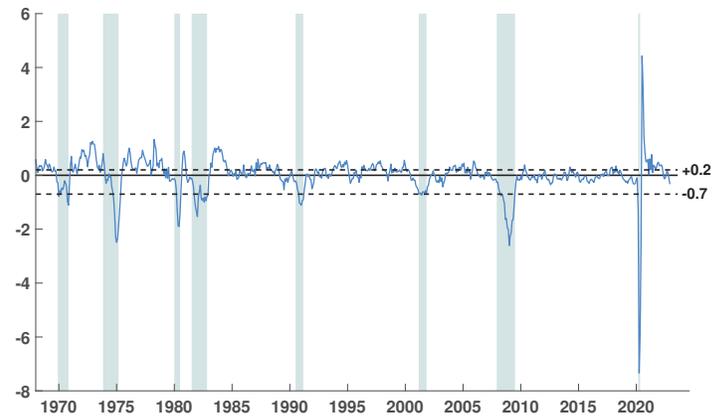
The CFNAI was constructed using data available as of January 23, 2023. At that time, December data for 51 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The November monthly index value was revised to -0.51 from an initial estimate of -0.36 , and the October monthly index value was revised to a neutral value from the previous estimate of -0.01 . Revisions to the monthly index can be attributed to two main factors: revisions in previously published data and differences between the estimates of previously unavailable data and subsequently published data. The revisions to both the November and October monthly index values were primarily due to the former.

CFNAI-MA3 and Inflation Cycles



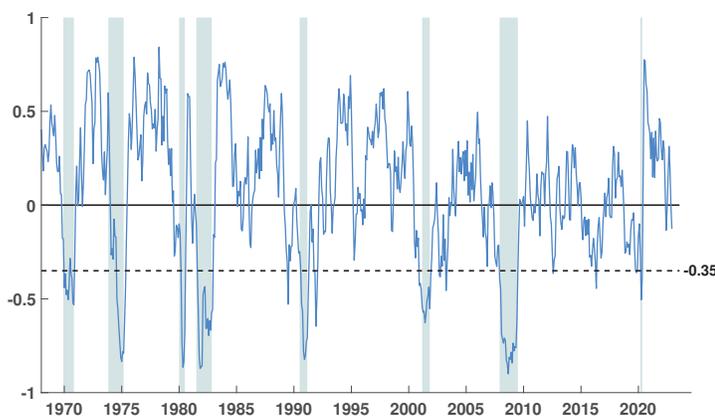
Notes: Shading represents periods of sustained increasing inflation; the vertical line indicates the start of the most recent period. For details on the timing of these periods based on readings of core inflation (which excludes food and energy prices), see pp. 4–5 of the [background information document](#). An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above $+0.70$ more than two years into an economic expansion. Similarly, a substantial likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above $+1.00$ more than two years into an economic expansion.

CFNAI-MA3 and Business Cycles



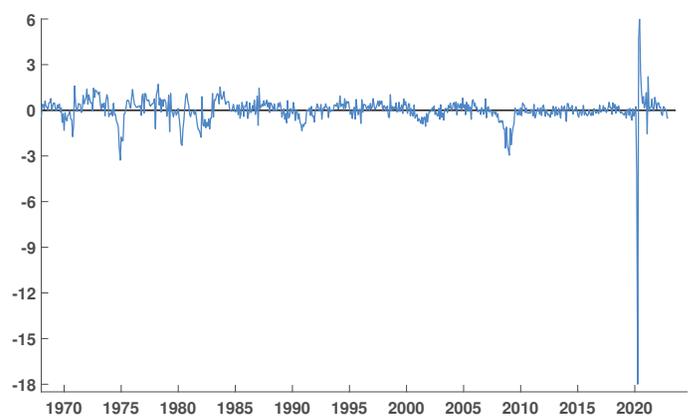
Notes: Shading indicates official periods of recession as identified by the National Bureau of Economic Research. Following a period of economic expansion, an increasing likelihood of a recession has historically been associated with a CFNAI-MA3 value below -0.70 . Conversely, following a period of economic contraction, an increasing likelihood of an expansion has historically been associated with a CFNAI-MA3 value above $+0.20$.

CFNAI Diffusion Index



Notes: Shading indicates official periods of recession as identified by the National Bureau of Economic Research. The CFNAI Diffusion Index represents the three-month moving average of the sum of the absolute values of the weights for the underlying indicators whose contribution to the CFNAI is positive in a given month less the sum of the absolute values of the weights for those indicators whose contribution is negative or neutral in a given month. Periods of economic expansion have historically been associated with values of the CFNAI Diffusion Index above -0.35 .

CFNAI, Monthly Index



CFNAI release dates, historical data, and background information are available at chicagofed.org/cfna1.