

# News Release

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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 24, 2022**  
 8:30 am Eastern Time  
 7:30 am Central Time

FEDERAL RESERVE BANK  
 OF CHICAGO

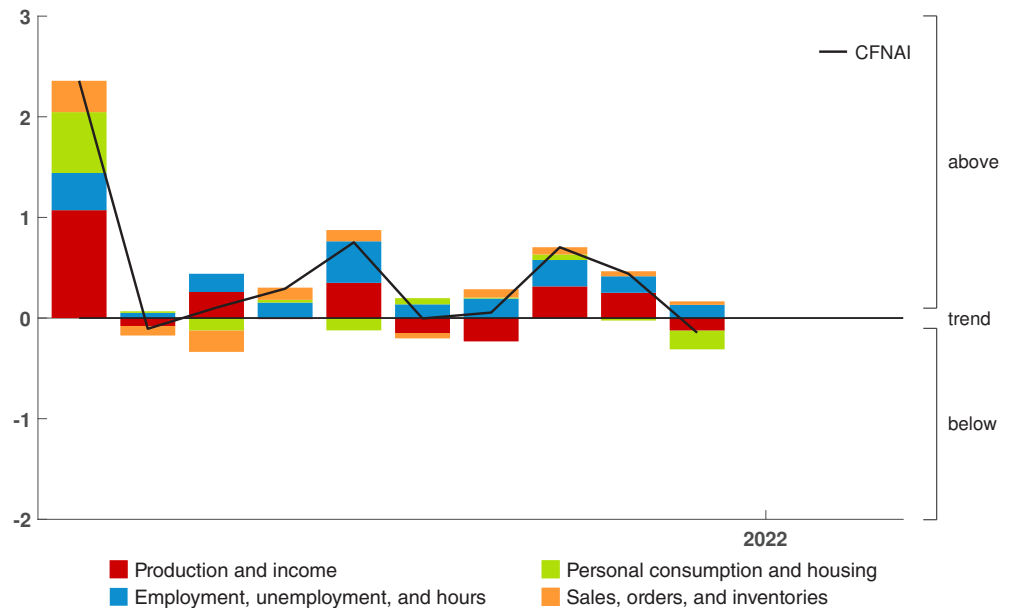
# Chicago Fed National Activity Index

## Index suggests economic growth declined in December

Led by declines in production-related indicators, the Chicago Fed National Activity Index (CFNAI) fell to  $-0.15$  in December from  $+0.44$  in November. Two of the four broad categories of indicators used to construct the index made negative contributions in December, and all four categories deteriorated from November. The index's three-month moving average, CFNAI-MA3, moved down to  $+0.33$  in December from  $+0.40$  in November.

The CFNAI Diffusion Index, which is also a three-month moving average, edged down to  $+0.37$  in December from  $+0.42$  in November. Thirty-eight of the 85 individual indicators made positive contributions to the CFNAI in December, while 47 made negative contributions. Thirty-one indicators improved from November to December, while 54 indicators deteriorated. Of the indicators that improved, 13 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 '21	Nov '21	Oct '21	Sep '21	Aug '21	Jul '21	Dec '20
<b>CFNAI</b>							
Current	-0.15	+0.44	+0.70	+0.05	0.00	+0.75	+0.30
Previous	N/A	+0.37	+0.75	-0.01	+0.02	+0.76	+0.30
<b>CFNAI-MA3</b>							
Current	+0.33	+0.40	+0.25	+0.27	+0.35	+0.38	+0.55
Previous	N/A	+0.37	+0.25	+0.26	+0.35	+0.38	+0.55
<b>CFNAI Diffusion</b>							
Current	+0.37	+0.42	+0.23	+0.19	+0.21	+0.36	+0.48
Previous	N/A	+0.35	+0.18	+0.15	+0.20	+0.35	+0.48

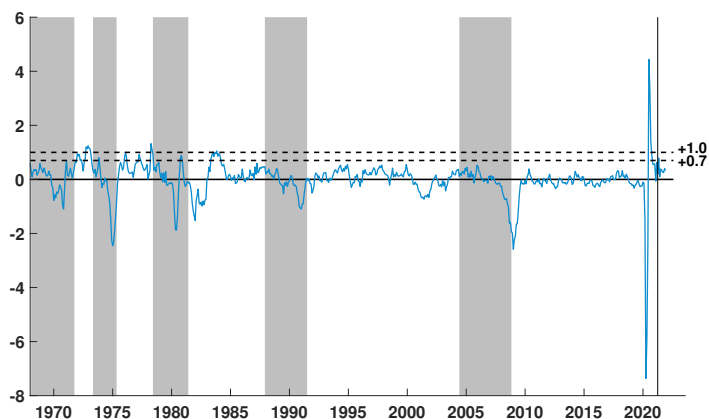
Current and Previous values reflect index values as of the January 24, 2022, release and December 22, 2021, release, respectively. N/A indicates not applicable.

Production-related indicators contributed  $-0.13$  to the CFNAI in December, down from  $+0.25$  in November. Manufacturing production decreased 0.3 percent in December after increasing 0.6 percent in November, and manufacturing capacity utilization moved down by 0.2 percentage points in December after increasing by 0.4 percentage points in the previous month. The contribution of the sales, orders, and inventories category to the CFNAI ticked down to  $+0.03$  in December from  $+0.05$  in November.

Employment-related indicators contributed  $+0.13$  to the CFNAI in December, down slightly from  $+0.16$  in November. Nonfarm payrolls moved up by 199,000 in December after increasing by 249,000 in November, but the unemployment rate decreased to 3.9 percent in December from 4.2 percent in the previous month. The contribution of the personal consumption and housing category to the CFNAI decreased to  $-0.19$  in December from  $-0.02$  in November.

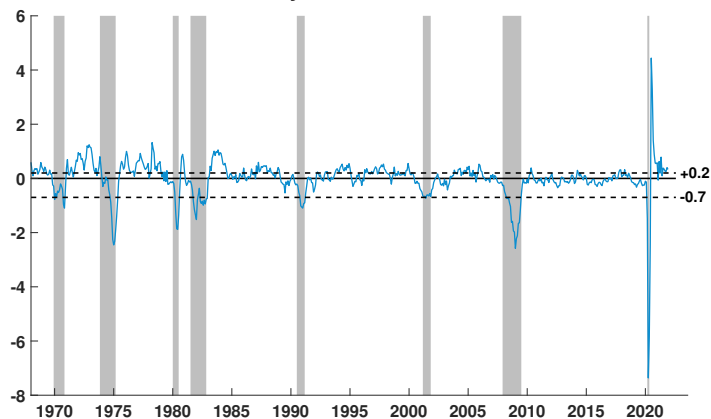
The CFNAI was constructed using data available as of January 20, 2022. At that time, December data for 50 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The November monthly index value was revised to  $+0.44$  from an initial estimate of  $+0.37$ , and the October monthly index value was revised to  $+0.70$  from last month's estimate of  $+0.75$ . 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



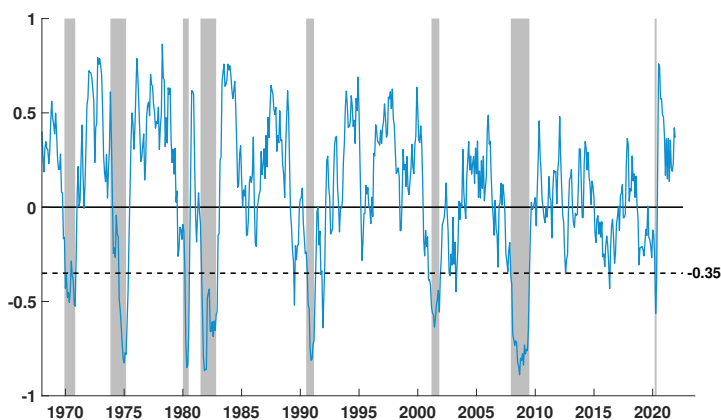
Notes: Shading represents periods of sustained increasing inflation; the vertical line indicates the start of the most recent period. For details on the timing of these periods based on readings of core inflation (which excludes food and energy prices), see pp. 4–5 of the [background information document](#). 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

