

## News Release

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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:  
July 27, 2017  
8:30 am Eastern Time  
7:30 am Central Time

FEDERAL RESERVE BANK  
OF CHICAGO

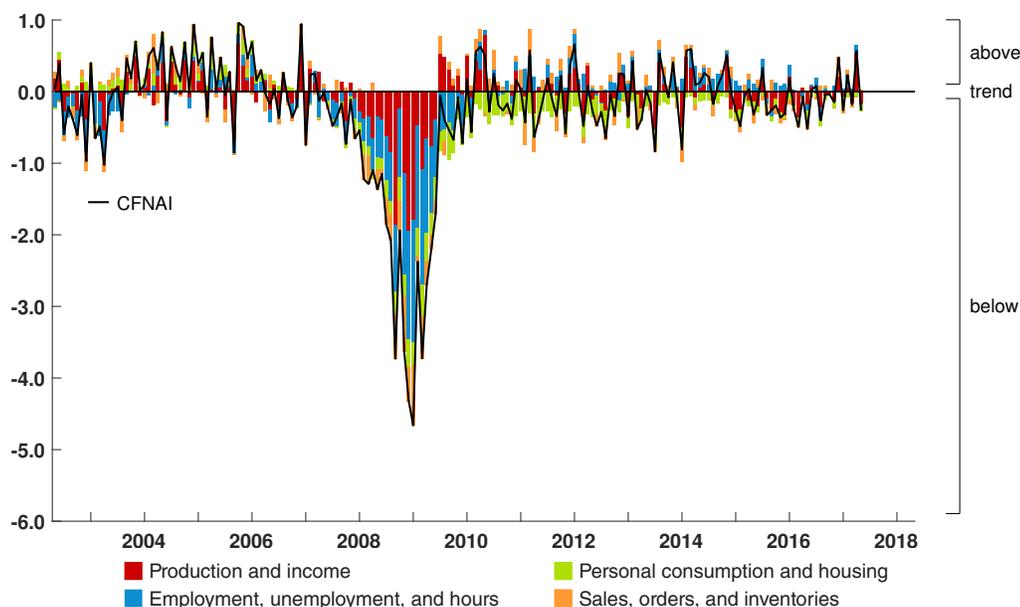
# Chicago Fed National Activity Index

## Index points to slower economic growth in May

Led by declines in production-related indicators, the Chicago Fed National Activity Index (CFNAI) moved down to  $-0.26$  in May from  $+0.57$  in April. Three of the four broad categories of indicators that make up the index decreased from April, and three of the four categories made negative contributions to the index in May. The index's three-month moving average, CFNAI-MA3, declined to  $+0.04$  in May from  $+0.21$  in April.

The CFNAI Diffusion Index, which is also a three-month moving average, decreased to  $-0.08$  in May from  $+0.10$  in April. Thirty-two of the 85 individual indicators made positive contributions to the CFNAI in May, while 53 made negative contributions. Twenty-six indicators improved from April to May, while 56 indicators deteriorated and three were unchanged. Of the indicators that improved, ten 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

	May '17	Apr '17	Mar '17	Feb '17	Jan '17	Dec '16	May '16
<b>CFNAI</b>							
Current	-0.26	+0.57	-0.18	+0.23	-0.26	+0.48	-0.52
Previous	N/A	+0.49	+0.07	+0.15	-0.21	+0.48	-0.52
<b>CFNAI-MA3</b>							
Current	+0.04	+0.21	-0.07	+0.15	+0.02	+0.10	-0.36
Previous	N/A	+0.23	+0.00	+0.14	+0.04	+0.11	-0.37
<b>CFNAI Diffusion</b>							
Current	-0.08	+0.10	+0.00	+0.12	+0.01	+0.04	-0.38
Previous	N/A	+0.16	+0.06	+0.10	+0.04	+0.04	-0.38

Current and Previous values reflect index values as of the June 26, 2017, release and May 22, 2017, release, respectively. N/A indicates not applicable.

The contribution from production-related indicators to the CFNAI declined to  $-0.16$  in May from  $+0.53$  in April. Total industrial production was unchanged in May after moving up 1.1 percent in April, and manufacturing production decreased 0.4 percent in May after increasing 1.1 percent in the previous month.

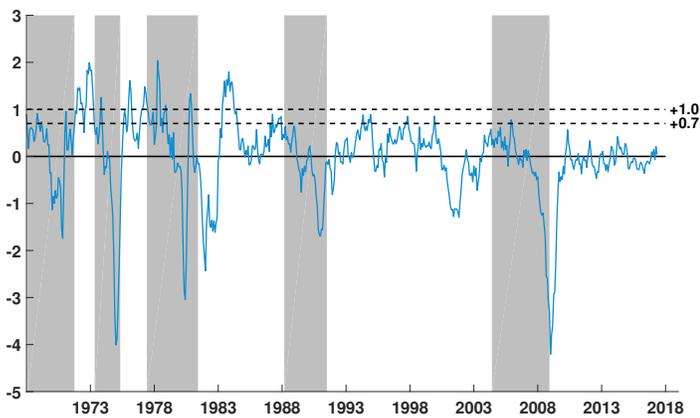
Employment-related indicators contributed  $-0.02$  to the CFNAI in May, down from  $+0.12$  in April. Civilian employment decreased by 233,000 in May after increasing by 156,000 in the previous month; and nonfarm payrolls increased by 138,000 in May, following a gain of 174,000 in April.

The contribution of the personal consumption and housing category to the CFNAI edged down to  $-0.09$  in May from  $-0.07$  in April. Housing starts decreased to 1,092,000 annualized units in May from 1,156,000 in April, and housing permits decreased to 1,168,000 annualized units in May from 1,228,000 in the previous month.

The sales, orders, and inventories category made a contribution of  $+0.02$  to the CFNAI in May, up slightly from  $-0.01$  in April.

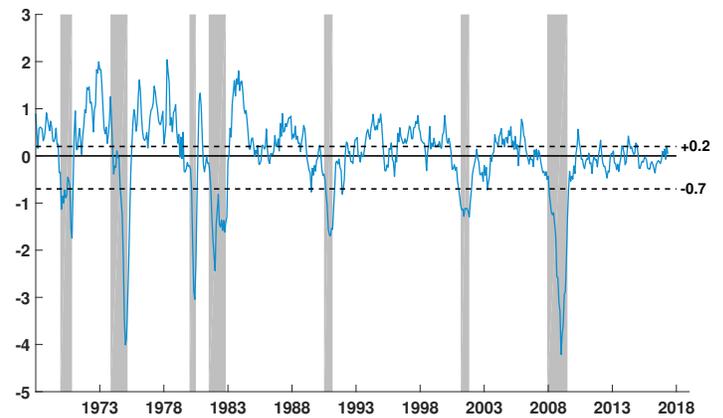
The CFNAI was constructed using data available as of June 22, 2017. At that time, May data for 51 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The April monthly index value was revised to  $+0.57$  from an initial estimate of  $+0.49$ , and the March monthly index value was revised to  $-0.18$  from last month's estimate of  $+0.07$ . 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 revision to the April monthly index value was primarily due to the latter, while the revision to the March monthly index value was primarily due to the former.

### CFNAI-MA3 and Inflation Cycles



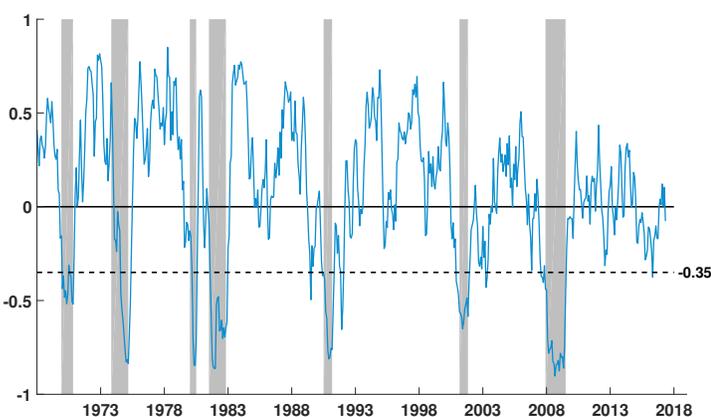
Notes: Shading represents periods of sustained increasing inflation. An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above  $+0.70$  more than two years into an economic expansion. Similarly, a substantial likelihood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



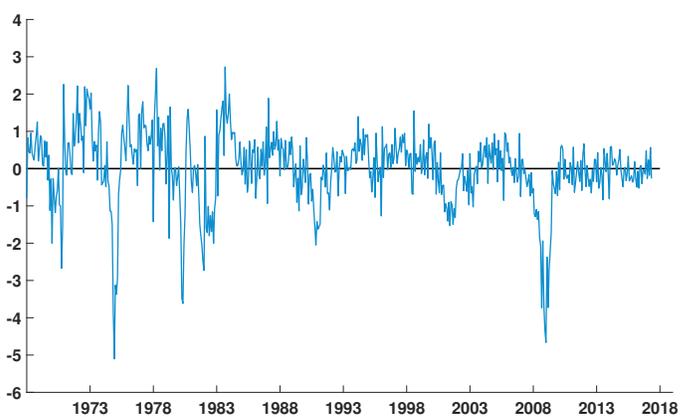
Notes: Shading indicates official periods of recession as identified by the National Bureau of Economic Research. Following a period of economic expansion, an increasing likelihood of a recession has historically been associated with a CFNAI-MA3 value below  $-0.70$ . Conversely, following a period of 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/cfna](http://chicagofed.org/cfna).**