

## News Release

Embargoed for release:  
8:30 am Eastern Time  
7:30 am Central Time  
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Contact:  
Laura LaBarbera  
Media Relations  
Federal Reserve Bank of Chicago  
312-322-2387

### 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:  
June 25, 2018  
8:30 am Eastern Time  
7:30 am Central Time

FEDERAL RESERVE BANK  
OF CHICAGO

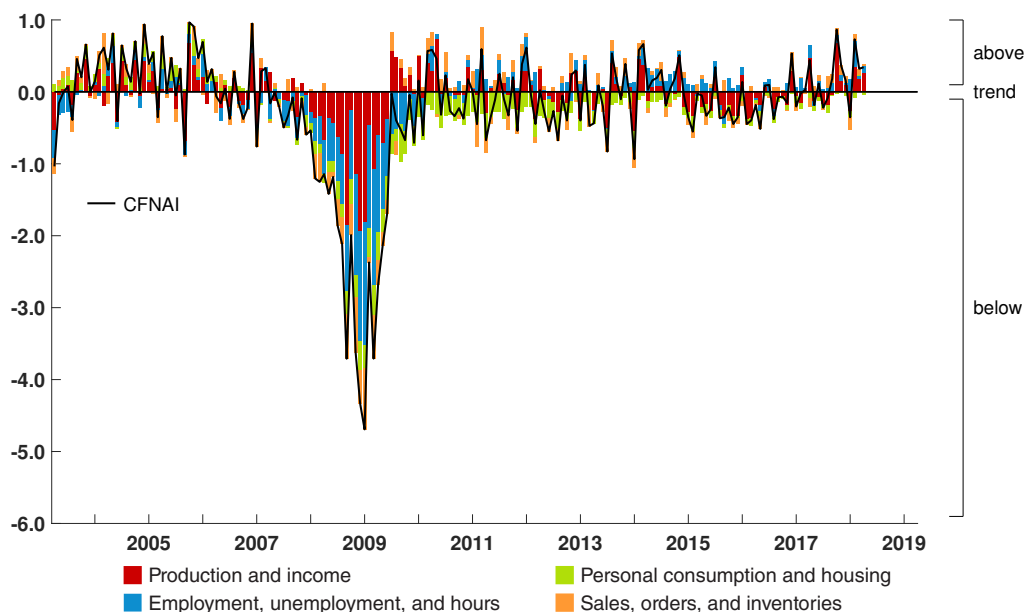
# Chicago Fed National Activity Index

## Index points to little change in economic growth in April

The Chicago Fed National Activity Index (CFNAI) ticked up to  $+0.34$  in April from  $+0.32$  in March. Two of the four broad categories of indicators that make up the index increased from March, and three of the four categories made positive contributions to the index in April. The index's three-month moving average, CFNAI-MA3, increased to  $+0.46$  in April from  $+0.23$  in March.

The CFNAI Diffusion Index, which is also a three-month moving average, moved up to  $+0.23$  in April from  $+0.11$  in March. Fifty of the 85 individual indicators made positive contributions to the CFNAI in April, while 35 made negative contributions. Thirty-five indicators improved from March to April, while 50 indicators deteriorated. Of the indicators that improved, eight 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

	Apr '18	Mar '18	Feb '18	Jan '18	Dec '17	Nov '17	Apr '17
<b>CFNAI</b>							
Current	+0.34	+0.32	+0.73	-0.35	+0.16	+0.36	+0.44
Previous	N/A	+0.10	+0.98	-0.26	+0.22	+0.36	+0.44
<b>CFNAI-MA3</b>							
Current	+0.46	+0.23	+0.18	+0.06	+0.46	+0.47	+0.15
Previous	N/A	+0.27	+0.31	+0.11	+0.48	+0.47	+0.15
<b>CFNAI Diffusion</b>							
Current	+0.23	+0.11	+0.10	+0.11	+0.32	+0.37	+0.04
Previous	N/A	+0.18	+0.20	+0.10	+0.32	+0.35	+0.04

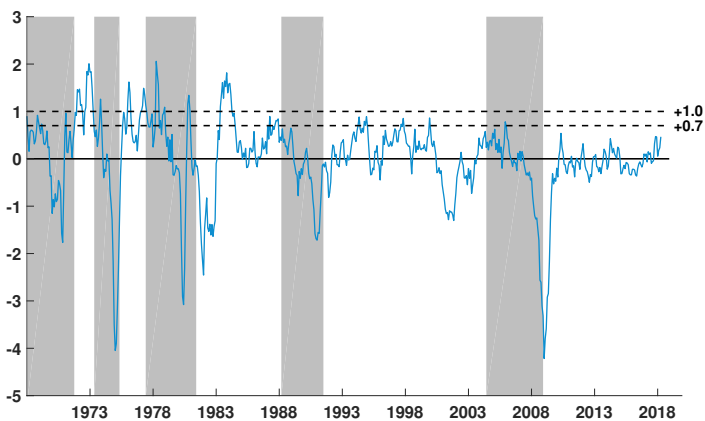
Current and Previous values reflect index values as of the May 21, 2018, release and April 23, 2018, release, respectively. N/A indicates not applicable.

Production-related indicators contributed +0.27 to the CFNAI in April, up from +0.19 in March. Manufacturing industrial production increased by 0.5 percent in April after being unchanged in March. The sales, orders, and inventories category made a contribution of +0.02 to the CFNAI in April, down slightly from +0.08 in March.

Employment-related indicators contributed +0.10 to the CFNAI in April, up from +0.04 in March. The civilian unemployment rate decreased to 3.9 percent in April from 4.1 percent in March. The contribution of the personal consumption and housing category to the CFNAI edged down to -0.05 in April from +0.02 in March. Housing starts decreased to 1,287,000 annualized units in April from 1,336,000 in March, and housing permits decreased to 1,352,000 annualized units in April from 1,377,000 in the previous month.

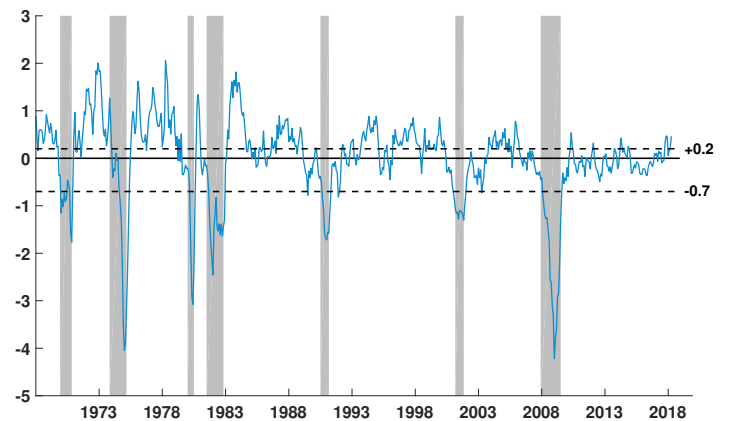
The CFNAI was constructed using data available as of May 17, 2018. At that time, April data for 51 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The March monthly index value was revised to +0.32 from an initial estimate of +0.10, and the February monthly index value was revised to +0.73 from last month's estimate of +0.98. 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 March monthly index value was primarily due to the latter, while the revision to the February monthly index value was primarily due to the former.

### CFNAI-MA3 and Inflation Cycles



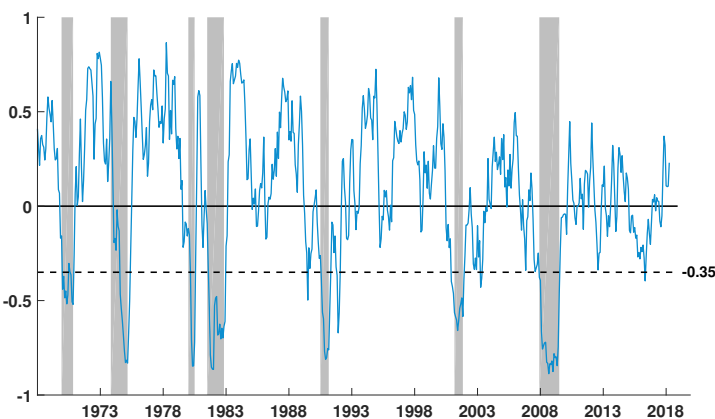
Notes: Shading represents periods of sustained increasing inflation. An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above +0.70 more than two years into an economic expansion. Similarly, a substantial likelihood of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

