

## News Release

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

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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:  
August 21, 2017  
8:30 am Eastern Time  
7:30 am Central Time

FEDERAL RESERVE BANK  
OF CHICAGO

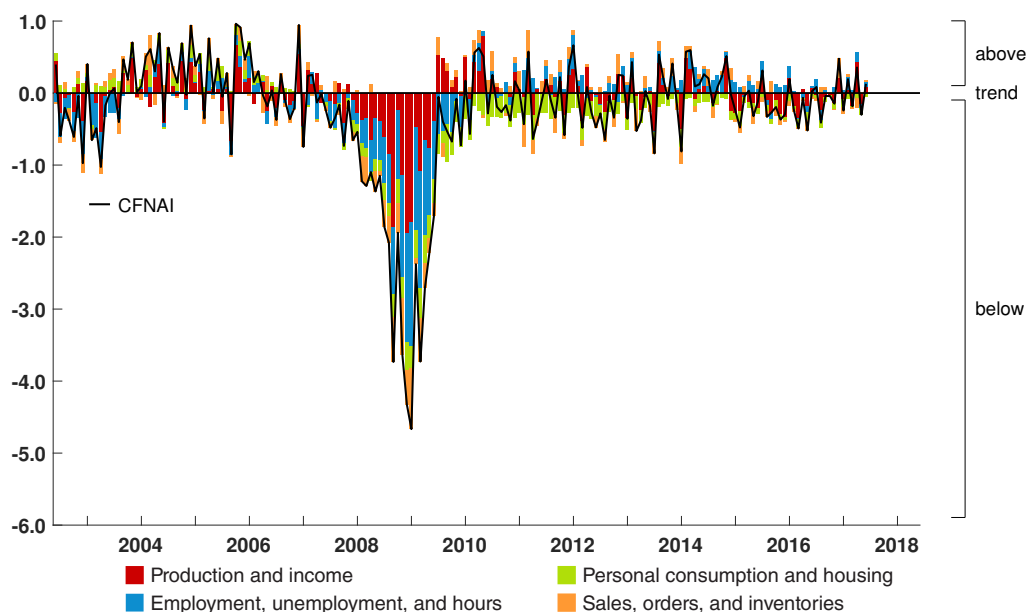
# Chicago Fed National Activity Index

## Index points to a pickup in economic growth in June

Led by increases in production-related indicators, the Chicago Fed National Activity Index (CFNAI) moved up to  $+0.13$  in June from  $-0.30$  in May. All four broad categories of indicators that make up the index increased from May, and three of the four categories made positive contributions to the index in June. The index's three-month moving average, CFNAI-MA3, increased to  $+0.06$  in June from  $-0.04$  in May.

The CFNAI Diffusion Index, which is also a three-month moving average, increased to  $+0.01$  in June from  $-0.08$  in May. Forty of the 85 individual indicators made positive contributions to the CFNAI in June, while 45 made negative contributions. Fifty-six indicators improved from May to June, while 28 indicators deteriorated and one was unchanged. Of the indicators that improved, 21 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

	Jun '17	May '17	Apr '17	Mar '17	Feb '17	Jan '17	Jun '16
<b>CFNAI</b>							
Current	+0.13	-0.30	+0.36	-0.18	+0.19	-0.24	+0.03
Previous	N/A	-0.26	+0.57	-0.18	+0.23	-0.26	+0.03
<b>CFNAI-MA3</b>							
Current	+0.06	-0.04	+0.12	-0.08	+0.14	+0.03	-0.19
Previous	N/A	+0.04	+0.21	-0.07	+0.15	+0.02	-0.19
<b>CFNAI Diffusion</b>							
Current	+0.01	-0.08	+0.06	-0.04	+0.10	+0.02	-0.18
Previous	N/A	-0.08	+0.10	0.00	+0.12	+0.01	-0.18

Current and Previous values reflect index values as of the July 27, 2017, release and June 26, 2017, release, respectively. N/A indicates not applicable.

The contribution from production-related indicators to the CFNAI increased to +0.09 in June from -0.16 in May. Total industrial production increased 0.4 percent in June after moving up 0.1 percent in May, and the Institute for Supply Management's Manufacturing Purchasing Managers' Index increased to 57.8 in June from 54.9 in the previous month. The sales, orders, and inventories category made a contribution of +0.02 to the CFNAI in June, up slightly from a neutral contribution in May.

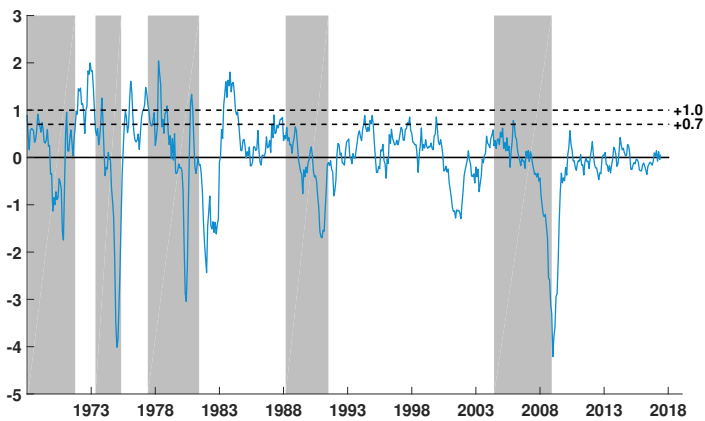
Employment-related indicators contributed +0.06 to the CFNAI in June, up from -0.05 in May. Civilian nonagricultural employment increased by 431,000 in June after decreasing by 64,000 in the previous month; however, the civilian unemployment rate ticked up to 4.4 percent in June from 4.3 percent in May.

The contribution of the personal consumption and housing category to the CFNAI edged up to -0.04 in June from -0.09 in May.

Housing starts increased to 1,215,000 annualized units in June from 1,122,000 in May, and housing permits increased to 1,254,000 annualized units in June from 1,168,000 in the previous month.

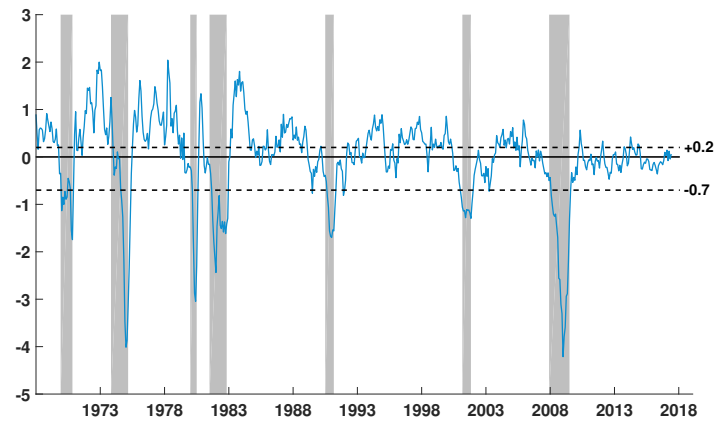
The CFNAI was constructed using data available as of July 20, 2017. At that time, June data for 51 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The May monthly index value was revised to -0.30 from an initial estimate of -0.26, and the April monthly index value was revised to +0.36 from last month's estimate of +0.57. 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 May and April monthly index values were primarily due to the latter.

### CFNAI-MA3 and Inflation Cycles



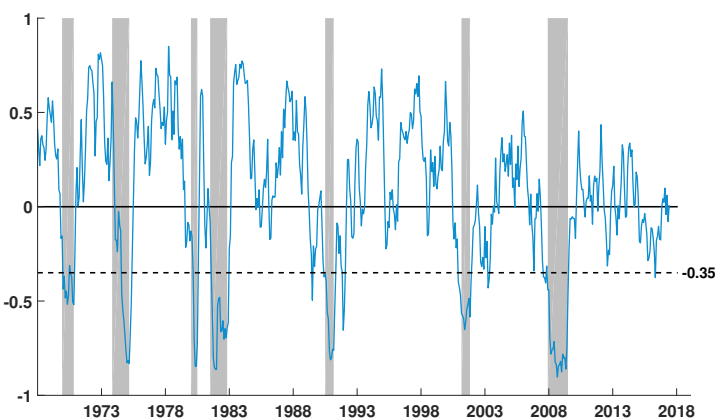
Notes: Shading represents periods of sustained increasing inflation. An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above +0.70 more than two years into an economic expansion. Similarly, a substantial likelihood of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

