

## News Release

Embargoed for release:  
8:30 am Eastern Time  
7:30 am Central Time  
September 25, 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:  
October 23, 2017  
8:30 am Eastern Time  
7:30 am Central Time

FEDERAL RESERVE BANK  
OF CHICAGO

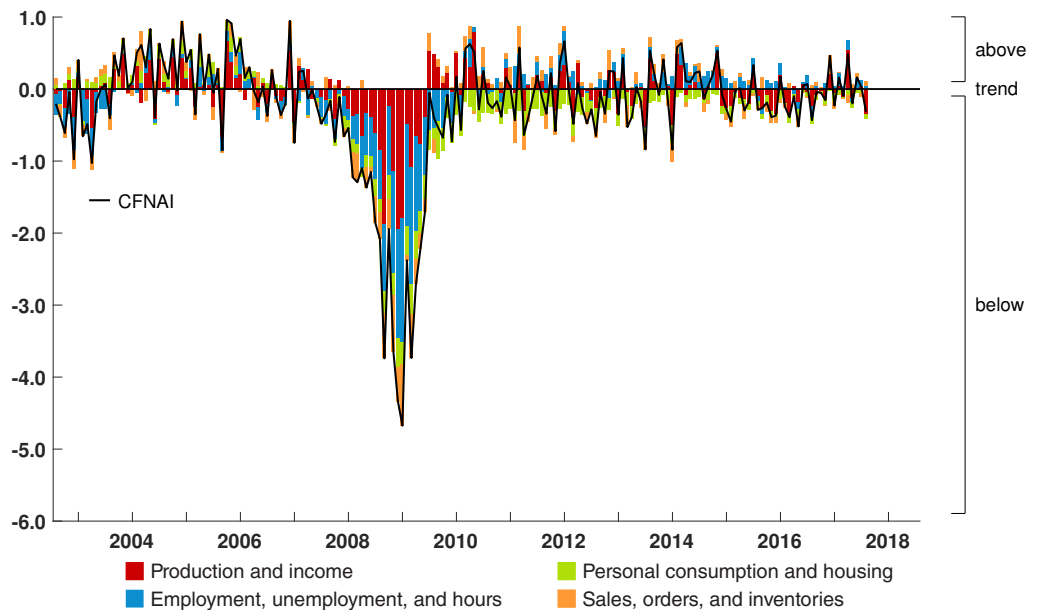
# Chicago Fed National Activity Index

## Index points to slower economic growth in August

Led by declines in production-related indicators, the Chicago Fed National Activity Index (CFNAI) moved down to  $-0.31$  in August from  $+0.03$  in July. Two of the four broad categories of indicators that make up the index decreased from July, and two of the four categories made negative contributions to the index in August. The index's three-month moving average, CFNAI-MA3, decreased to  $-0.04$  in August from a neutral reading in July.

The CFNAI Diffusion Index, which is also a three-month moving average, was unchanged at  $-0.01$  in August. Thirty-five of the 85 individual indicators made positive contributions to the CFNAI in August, while 50 made negative contributions. Forty-five indicators improved from July to August, while 40 indicators deteriorated. Of the indicators that improved, 14 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

	Aug '17	Jul '17	Jun '17	May '17	Apr '17	Mar '17	Aug '16
<b>CFNAI</b>							
Current	-0.31	+0.03	+0.16	-0.20	+0.49	-0.10	-0.43
Previous	N/A	-0.01	+0.16	-0.30	+0.41	-0.10	-0.43
<b>CFNAI-MA3</b>							
Current	-0.04	0.00	+0.15	+0.06	+0.18	-0.06	-0.11
Previous	N/A	-0.05	+0.09	0.00	+0.16	-0.06	-0.11
<b>CFNAI Diffusion</b>							
Current	-0.01	-0.01	+0.07	0.00	+0.10	+0.01	-0.08
Previous	N/A	-0.06	+0.01	-0.03	+0.10	0.00	-0.08

Current and Previous values reflect index values as of the September 25, 2017, release and August 21, 2017, release, respectively. N/A indicates not applicable.

The contribution from production-related indicators to the CFNAI decreased to  $-0.36$  in August from  $+0.03$  in July. Total industrial production declined 0.9 percent in August after moving up 0.4 percent in July.

Personal consumption and housing-related indicators also made a negative contribution to the CFNAI in August—unchanged from July at  $-0.06$ . Housing starts decreased slightly to 1,180,000 annualized units in August from 1,190,000 in July.

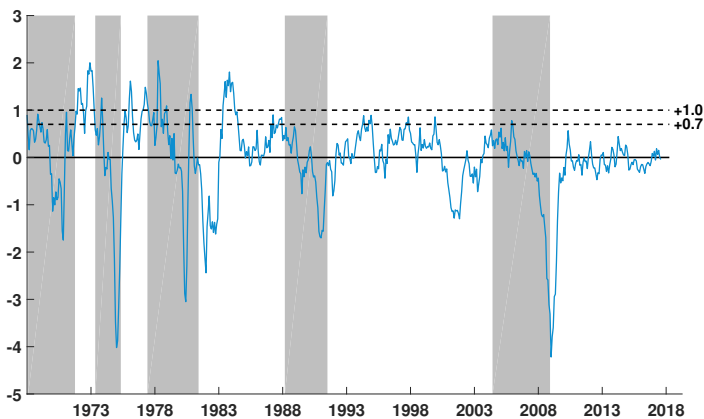
Employment-related indicators contributed  $+0.05$  to the CFNAI in August, down from  $+0.09$  in July. Nonfarm payrolls increased by 156,000 in August after increasing by 189,000 in the previous month.

The sales, orders, and inventories category also made a positive contribution to the CFNAI in August, increasing to  $+0.06$  from  $-0.04$

in July. The Institute for Supply Management's Manufacturing Purchasing Managers' Inventories Index rose to 55.5 in August from 50.0 in July.

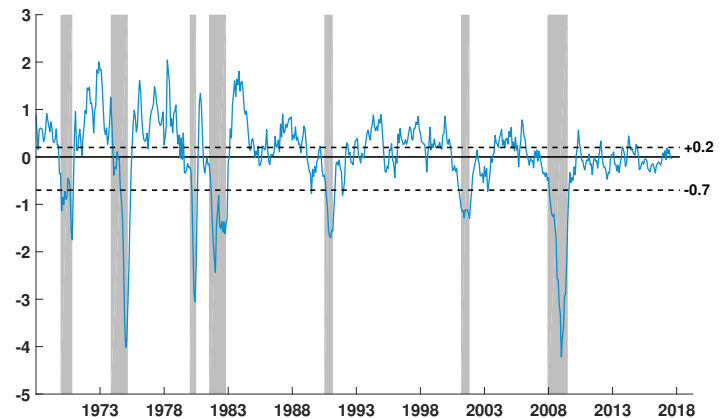
The CFNAI was constructed using data available as of September 21, 2017. At that time, August data for 51 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The July monthly index value was revised to  $+0.03$  from an initial estimate of  $-0.01$ , and the June monthly index value was unchanged from last month's estimate of  $+0.16$ . 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 July monthly index value was primarily due to the former.

### CFNAI-MA3 and Inflation Cycles



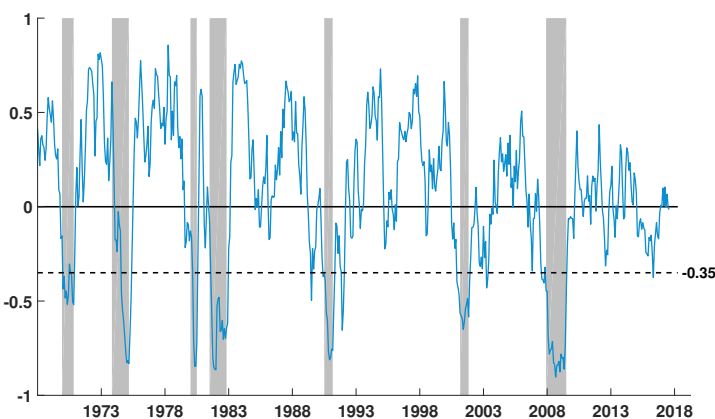
Notes: Shading represents periods of sustained increasing inflation. An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above  $+0.70$  more than two years into an economic expansion. Similarly, a substantial likelihood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



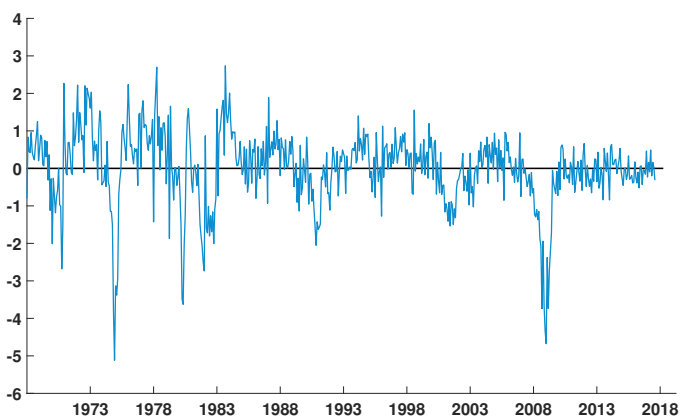
Notes: Shading indicates official periods of recession as identified by the National Bureau of Economic Research. Following a period of economic expansion, an increasing likelihood of a recession has historically been associated with a CFNAI-MA3 value below  $-0.70$ . Conversely, following a period of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