

## News Release

Embargoed for release:  
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:  
December 24, 2018  
8:30 am Eastern Time  
7:30 am Central Time

FEDERAL RESERVE BANK  
OF CHICAGO

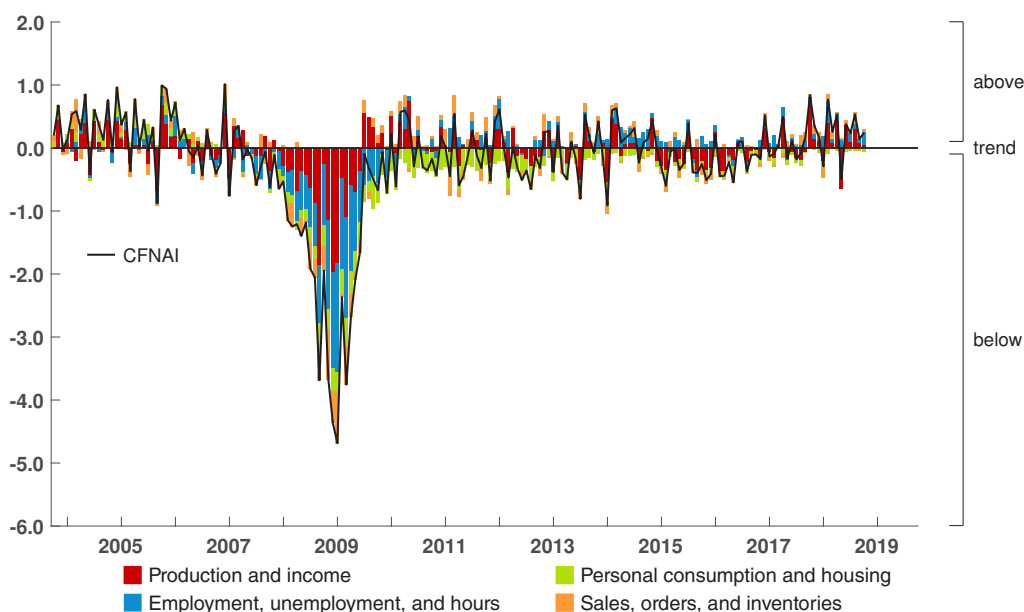
# Chicago Fed National Activity Index

## Index points to a slight increase in economic growth in October

Led by improvements in employment-related indicators, the Chicago Fed National Activity Index (CFNAI) increased to  $+0.24$  in October from  $+0.14$  in September. Only one of the four broad categories of indicators that make up the index increased from September, but three of the four categories made positive contributions to the index in October. The index's three-month moving average, CFNAI-MA3, ticked up to  $+0.31$  in October from  $+0.30$  in September.

The CFNAI Diffusion Index, which is also a three-month moving average, increased to  $+0.32$  in October from  $+0.24$  in September. Fifty of the 85 individual indicators made positive contributions to the CFNAI in October, while 35 made negative contributions. Fifty-one indicators improved from September to October, while 33 indicators deteriorated and one was unchanged. Of the indicators that improved, 17 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

|                        | Oct '18 | Sep '18 | Aug '18 | Jul '18 | Jun '18 | May '18 | Oct '17 |
|------------------------|---------|---------|---------|---------|---------|---------|---------|
| <b>CFNAI</b>           |         |         |         |         |         |         |         |
| Current                | +0.24   | +0.14   | +0.53   | +0.23   | +0.38   | -0.49   | +0.84   |
| Previous               | N/A     | +0.17   | +0.27   | +0.18   | +0.37   | -0.49   | +0.84   |
| <b>CFNAI-MA3</b>       |         |         |         |         |         |         |         |
| Current                | +0.31   | +0.30   | +0.38   | +0.04   | +0.14   | +0.10   | +0.31   |
| Previous               | N/A     | +0.21   | +0.27   | +0.02   | +0.14   | +0.10   | +0.31   |
| <b>CFNAI Diffusion</b> |         |         |         |         |         |         |         |
| Current                | +0.32   | +0.24   | +0.28   | +0.09   | +0.18   | +0.14   | +0.18   |
| Previous               | N/A     | +0.18   | +0.18   | +0.07   | +0.18   | +0.14   | +0.18   |

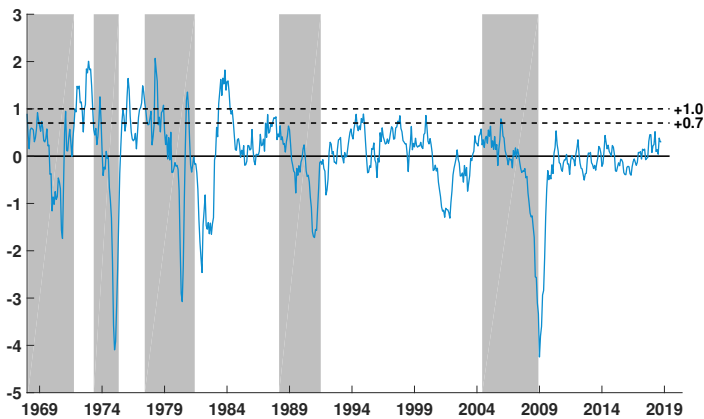
Current and Previous values reflect index values as of the November 26, 2018, release and October 22, 2018, release, respectively. N/A indicates not applicable.

The contribution from production-related indicators to the CFNAI moved down to +0.06 in October from +0.09 in September. Industrial production edged up 0.1 percent in October after increasing 0.2 percent in September. The contribution from the sales, orders, and inventories category to the CFNAI was unchanged at +0.04 in October.

Employment-related indicators contributed +0.19 to the CFNAI in October, up from +0.05 in September. Total nonfarm payrolls rose by 250,000 in October after increasing by 118,000 in the previous month. The contribution of the personal consumption and housing category to the CFNAI ticked down to -0.05 in October from -0.04 in September. On balance, housing indicators weakened slightly from September, pushing down the category's overall contribution in October.

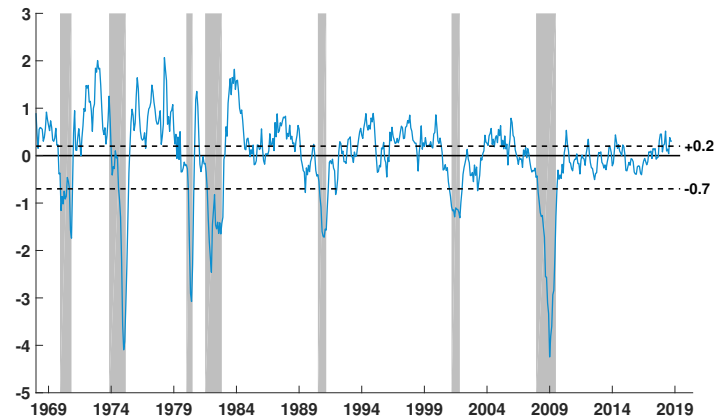
The CFNAI was constructed using data available as of November 20, 2018. At that time, October data for 50 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The September monthly index value was revised to +0.14 from an initial estimate of +0.17, and the August monthly index value was revised to +0.53 from last month's estimate of +0.27. 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 September monthly index value was primarily due to the former, while the revision to the August monthly index value was primarily due to the latter.

### CFNAI-MA3 and Inflation Cycles



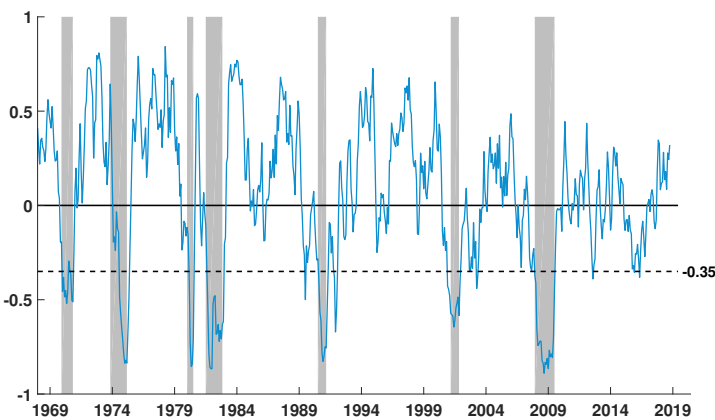
Notes: Shading represents periods of sustained increasing inflation. An increasing likelihood of a period of sustained increasing inflation has historically been associated with values of the CFNAI-MA3 above +0.70 more than two years into an economic expansion. Similarly, a substantial likelihood of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

### 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

