

# News Release

Embargoed for release:  
**8:30 am Eastern Time**  
**7:30 am Central Time**  
**November 23, 2015**

**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 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.

A zero value for the index indicates that the national economy is expanding at its historical trend rate of growth; negative values indicate below-average growth; and positive values indicate above-average growth.

### Why are there three index values?

Each month, we provide a monthly index, 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 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?

When the CFNAI-MA3 value moves below  $-0.70$  following a period of economic expansion, there is an increasing likelihood that a recession has begun. Conversely, when the CFNAI-MA3 value moves above  $-0.70$  following a period of economic contraction, there is an increasing likelihood that a recession has ended.

When the CFNAI-MA3 value moves above  $+0.70$  more than two years into an economic expansion, there is an increasing likelihood that a period of sustained increasing inflation has begun.

**The next CFNAI will be released:**  
**December 21, 2015**  
**8:30 am Eastern Time**  
**7:30 am Central Time**

**FEDERAL RESERVE BANK  
 OF CHICAGO**

# Chicago Fed National Activity Index

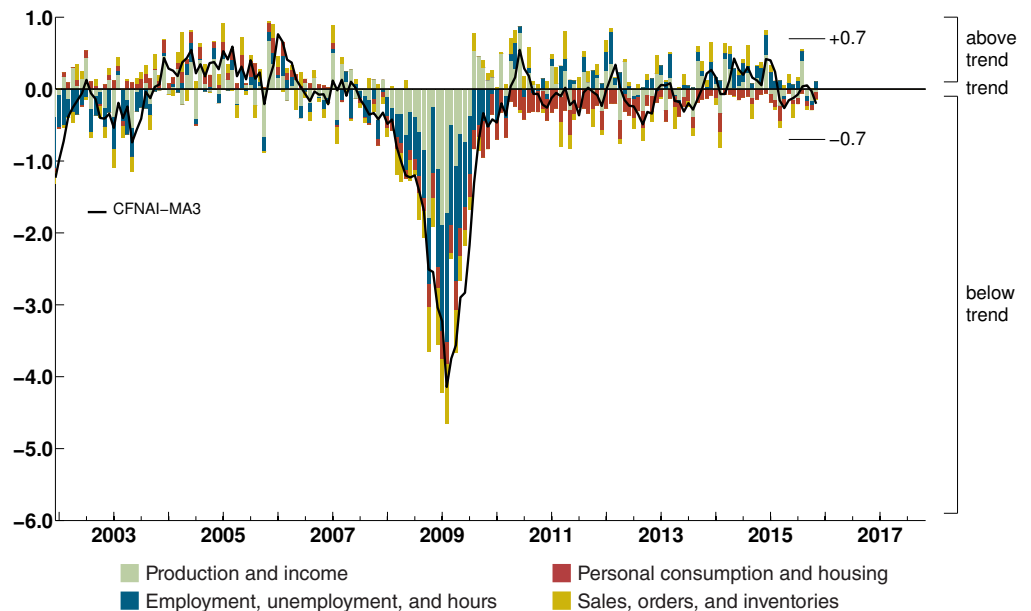
## Index shows economic growth improved in October

*Led by improvements in employment- and production-related indicators, the Chicago Fed National Activity Index (CFNAI) rose to  $-0.04$  in October from  $-0.29$  in September. Two of the four broad categories of indicators that make up the index increased from September, but only one category made a positive contribution to the index in October.*

The index's three-month moving average, CFNAI-MA3, decreased to  $-0.20$  in October from  $-0.03$  in September. October's CFNAI-MA3 suggests that growth in national economic activity was somewhat below its historical trend. The economic growth reflected in this level of the CFNAI-MA3 suggests subdued inflationary pressure from economic activity over the coming year.

The CFNAI Diffusion Index, which is also a three-month moving average, decreased to  $-0.18$  in October from  $-0.07$  in September. Forty-one of the 85 individual indicators made positive contributions to the CFNAI in October, while 44 made negative contributions. Forty-six indicators improved from September to October, while 39 indicators deteriorated. Of the indicators that improved, 16 made negative contributions.

**Chicago Fed National Activity Index, by Categories, and CFNAI-MA3**



### CFNAI, CFNAI-MA3, and CFNAI Diffusion for the Latest Six Months and Year-Ago Month

	Oct '15	Sep '15	Aug '15	Jul '15	Jun '15	May '15	Oct '14
<b>CFNAI</b>							
Current	-0.04	-0.29	-0.29	+0.49	-0.04	-0.33	+0.30
Previous	N/A	-0.37	-0.39	+0.49	-0.06	-0.33	+0.30
<b>CFNAI-MA3</b>							
Current	-0.20	-0.03	+0.05	+0.04	-0.08	-0.12	+0.05
Previous	N/A	-0.09	+0.01	+0.03	-0.08	-0.13	+0.05
<b>CFNAI Diffusion</b>							
Current	-0.18	-0.07	-0.01	+0.06	-0.04	-0.06	+0.11
Previous	N/A	-0.17	-0.04	+0.07	-0.04	-0.06	+0.11

Current and Previous values reflect index values as of the November 23, 2015, release and October 22, 2015, release, respectively. N/A indicates not applicable.

The contribution from production-related indicators to the CFNAI increased to  $-0.05$  in October from  $-0.17$  in September. Manufacturing production moved up 0.4 percent in October, following a decline of 0.1 percent in September. However, industrial production declined by 0.2 percent in October for the second straight month. The sales, orders, and inventories category made a contribution of  $-0.01$  to the CFNAI in October, down slightly from  $+0.01$  in September.

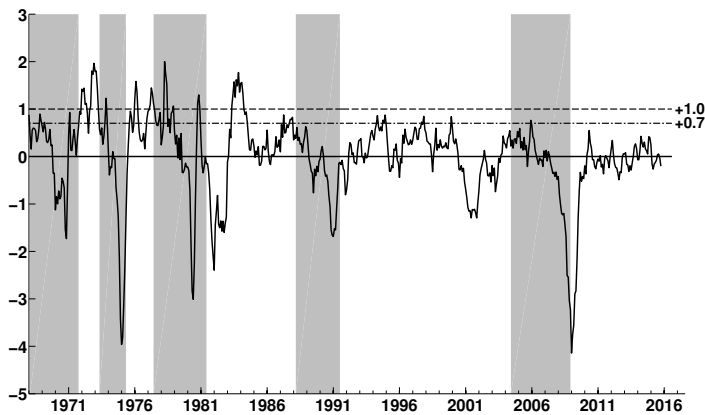
Employment-related indicators contributed  $+0.11$  to the CFNAI in October, up from  $-0.06$  in September. Nonfarm payrolls increased 271,000 in October after rising 137,000 in September, and the unemployment rate ticked down to 5.0 percent in October from 5.1 percent in the previous month.

The contribution of the personal consumption and housing category to the CFNAI ticked down to  $-0.09$  in October from  $-0.07$  in September. Housing starts declined to 1,060,000 annualized units

in October from 1,191,000 in September. However, housing permits moved up to 1,150,000 annualized units in October from 1,105,000 in the previous month.

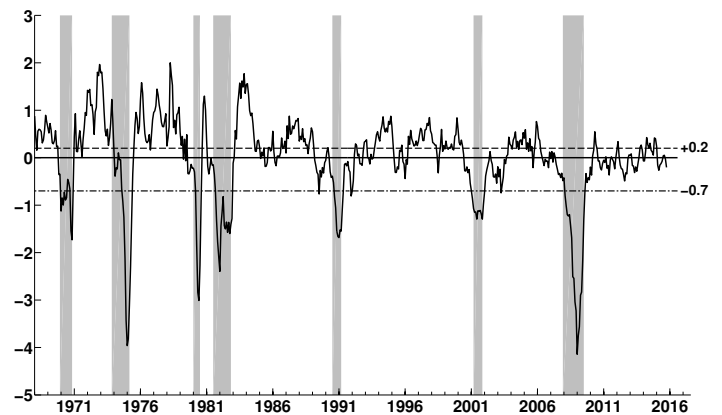
The CFNAI was constructed using data available as of November 19, 2015. At that time, October data for 51 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The September monthly index value was revised to  $-0.29$  from an initial estimate of  $-0.37$ , and the August monthly index value was revised to  $-0.29$  from last month's estimate of  $-0.39$ . Revisions to the monthly index value 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 September and August monthly index values were due primarily to the former.

### CFNAI-MA3 and Inflation Cycles



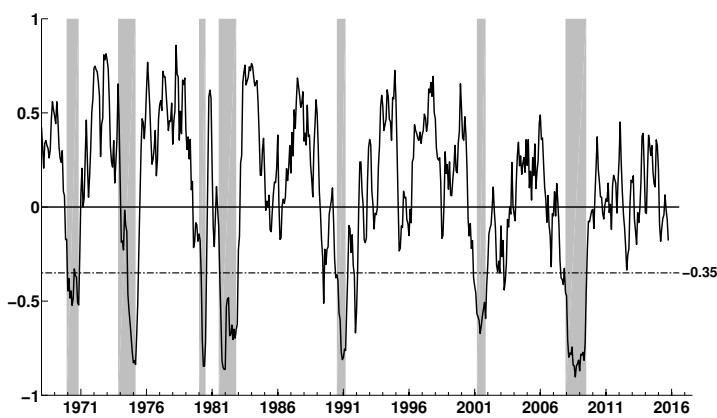
Notes: Shading represents periods of substantial inflation increases. A CFNAI-MA3 value above  $+0.70$  more than two years into an economic expansion indicates an increasing likelihood that a period of sustained increasing inflation has begun. A CFNAI-MA3 value above  $+1.00$  more than two years into an economic expansion indicates a substantial likelihood that a period of sustained increasing inflation has begun.

### CFNAI-MA3 and Business Cycles



Notes: Shading indicates official periods of recession as identified by the National Bureau of Economic Research. A CFNAI-MA3 value below  $-0.70$  following a period of economic expansion indicates an increasing likelihood that a recession has begun. A CFNAI-MA3 value above  $-0.70$  following a period of economic contraction indicates an increasing likelihood that a recession has ended. A CFNAI-MA3 value above  $+0.20$  following a period of economic contraction indicates a significant likelihood that a recession has ended.

### CFNAI Diffusion Index, Three-Month Moving Average



Notes: Shading indicates official periods of recession as identified by the National Bureau of Economic Research. The CFNAI Diffusion Index represents 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 three-month moving average of the CFNAI Diffusion Index above  $-0.35$ .

### CFNAI, Monthly Index

