## **News Release**

Embargoed for release: 8:30 am Eastern Time 7:30 am Central Time August 22, 2016

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: September 22, 2016 8:30 am Eastern Time 7:30 am Central Time

FEDERAL RESERVE BANK OF CHICAGO

# Chicago Fed National Activity Index

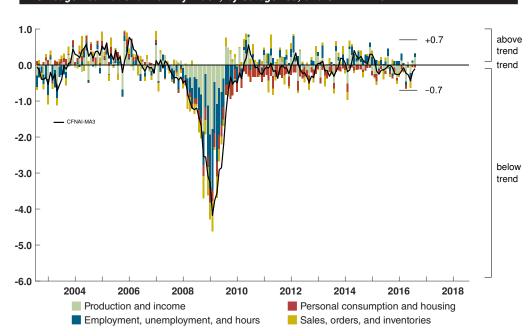
## Index shows economic growth increased in July

Led by improvements in production-related indicators, the Chicago Fed National Activity Index (CFNAI) rose to +0.27 in July from +0.05 in June. Three of the four broad categories of indicators that make up the index increased from June, and three of the four categories made positive contributions to the index in July.

The index's three-month moving average, CFNAI-MA3, increased to -0.10 in July from -0.19 in June. July's CFNAI-MA3 suggests that growth in national economic activity was slightly 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, moved up to -0.02 in July from -0.16 in June. Fifty-three of the 85 individual indicators made positive contributions to the CFNAI in July, while 32 made negative contributions. Forty-nine indicators improved from June to July, while 36 indicators deteriorated. Of the indicators that improved, 11 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

	Jul '16	Jun '16	May '16	Apr '16	Mar '16	Feb '16	Jul '15
CFNAI			-				
Current	+0.27	+0.05	-0.63	+0.02	-0.67	-0.16	+0.34
Previous	N/A	+0.16	-0.56	+0.04	-0.66	-0.16	+0.40
CFNAI-MA3							
Current	-0.10	-0.19	-0.43	-0.27	-0.23	-0.08	-0.02
Previous	N/A	-0.12	-0.39	-0.26	-0.22	-0.07	-0.01
CFNAI Diffusion							
Current	-0.02	-0.16	-0.43	-0.27	-0.24	-0.09	+0.05
Previous	N/A	-0.16	-0.38	-0.27	-0.24	-0.11	+0.05

Current and Previous values reflect index values as of the August 22, 2016, release and July 21, 2016, release, respectively. N/A indicates not applicable.

The contribution from production-related indicators to the CFNAI rose to  $\pm 0.23$  in July from  $\pm 0.07$  in June. Manufacturing industrial production increased 0.5 percent in July after moving up 0.3 percent in June; and manufacturing capacity utilization increased to 75.4 percent in July from 75.0 percent in the previous month. The sales, orders, and inventories category made a contribution of  $\pm 0.01$  to the CFNAI in July, up slightly from  $\pm 0.01$  in June.

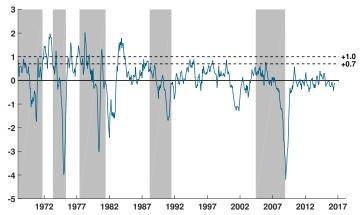
Employment-related indicators contributed +0.09 to the CFNAI in July, up from +0.05 in June. Civilian nonagricultural employment rose by 515,000 in July after increasing by 211,000 in the previous month. However, nonfarm payrolls increased by only 255,000 in July after rising by 292,000 in June.

The contribution of the personal consumption and housing category to the CFNAI was steady at -0.06 in July. Housing starts increased to 1,211,000 annualized units in July from 1,186,000 in June.

However, housing permits decreased to 1,152,000 annualized units in July from 1,153,000 in the previous month.

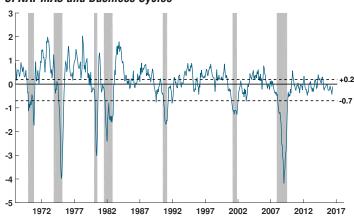
The CFNAI was constructed using data available as of August 18, 2016. At that time, July data for 51 of the 85 indicators had been published. For all missing data, estimates were used in constructing the index. The June monthly index value was revised to  $\pm$ 0.05 from an initial estimate of  $\pm$ 0.16, and the May monthly index value was revised to  $\pm$ 0.63 from last month's estimate of  $\pm$ 0.56. 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 revision to the June monthly index value was due primarily to the former, while the revision to the May monthly index value was due primarily to the latter.

## CFNAI-MA3 and Inflation Cycles



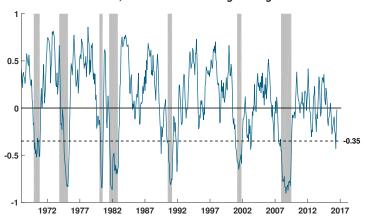
Notes: Shading represents periods of substantial inflation increases. A CFNAI-MA3 value above +0.70 more than two years into an economic expansion indicates an increasing likelihood that a period of sustained increasing inflation has begun. A CFNAI-MA3 value above +1.00 more than two years into an economic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

