

Nonmetallic Mineral Products Industry Indexes

May 2017

This report analyzes and explains the U.S. Geological Survey's (USGS) monthly leading and coincident indexes for the nonmetallic mineral products industry. This industry was classified as the stone, clay, glass, and concrete products industry (SIC 32) under the Standard Industrial Classification system, which has been replaced by the North American Industry Classification System (NAICS 327). This industry processes certain industrial minerals, minerals that are neither metals nor fuels, into useful products. More than 50 percent of the total value of these products is shipped to the highly cyclical construction industry. The indexes have been computed for each month back to 1948 and are available on the World Wide Web at: <http://minerals.usgs.gov/minerals/pubs/imii/scghist.xls>

Analysis

The **nonmetallic mineral products industry leading index** decreased to 259.6 in April from an upwardly revised 259.9 in March, its 6-month smoothed growth rate decreased to 4.0% in April from an upwardly revised 5.0% in March (table 1). The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. A growth rate above +1.0% is usually a signal of future growth in industry activity, while a growth rate below -1.0% usually points to a decrease in activity.¹ Since April 2016, the leading index growth rate has been above the growth rate threshold (+1.0%) that could suggest a near term increase in industry activity. The two largest positive contributions to the leading index in April were nonmetallic mineral products average weekly hours [0.2] and the S&P stock price index of building products companies [0.1] (table 2). The two largest negative contributions were the spread between the U.S. 10-year Treasury Note and the federal funds rate [-0.3] and the index of new private housing units authorized by permits [-0.2] (table 2).

The **nonmetallic mineral products industry coincident index**, which measures current industry activity, decreased to 150.8 in April from an upwardly revised 151.3 in March, its 6-month

¹The 6-month smoothed growth rate is a compound annual rate based on the ratio of the current month's index to its average level during the preceding 12 months.

smoothed growth rate decreased to 6.2% in April from an upwardly revised 7.7% in March. The coincident index growth rate had declined steadily April through August 2016. September reversed that trend, and November through April 2017 the coincident index's growth rates have been above +1.0% that could signal strength in the nonmetallic mineral products industry near term. In April, the single positive contribution to the coincident index was nonmetallic mineral products total employee hours [0.1] (table 2). The single negative contribution was the industrial production index of nonmetallic mineral products [-0.6] (table 2).

Explanation

The USGS uses the same methodology for the nonmetallic mineral products indexes that it uses for the metal manufacturing indexes in the *Metal Industry Indicators*. This methodology consists of constructing and tracking, each month, two composite indexes of diverse economic indicators. The composite leading index for nonmetallic mineral products signals, several months in advance, major changes in current economic activity as measured by a composite coincident index. The construction of the leading and coincident indexes follows well-established procedures for the analysis of cyclical indicators that were developed at the National Bureau of Economic Research, the U.S. Department of Commerce, and the Center for International Business Cycle Research.

Coincident indicators

The indicators selected to represent current activity in the coincident index for the nonmetallic mineral products industry are industrial production, the value of shipments in 1982 dollars, and total employee hours worked. Previously, these indicators reflected activity in the stone, clay, glass, and concrete products industry (SIC 32). The source agencies for these data, the Bureau of Labor Statistics (BLS), U.S. Census Bureau, and the Federal Reserve Board have completed their conversions to the NAICS. These indicators now reflect activity in the nonmetallic mineral products industry (NAICS 327). According to BLS, approximately 99% of the employment in NAICS 327 was classified in SIC 32.

Leading indicators

Leading indicators represent various economic activities that can point to near-term changes in industry activity. The following four indicators proved to be reliable at signaling major changes in economic activity in the nonmetallic mineral products industry: 1) average weekly hours worked in the nonmetallic mineral products industry, 2) an index of new private housing units authorized by building permits in the United States, 3) the Standard & Poor's stock price index for building products companies, and 4) the yield spread between the 10-year Treasury Note interest rate and the federal funds interest rate.

This report was produced at the U.S. Geological Survey (USGS) by the National Minerals Information Center. For more information about these indexes, contact Jeff Busse (703-648-4914), e-mail (jbusse@usgs.gov). Data provided by Jacob Fuhr and Annie Hwang.

The USGS also produces *Mineral Industry Surveys* (MIS) or *Minerals Yearbook* chapters for most industrial minerals important to the U.S. economy. These minerals include cement, clay and shale, crushed stone, dimension stone, and construction sand and gravel. Information on how to access these reports is available on the World Wide Web at: <http://minerals.usgs.gov/minerals/pubs/>

Tables and charts follow.

Table 1.
The Nonmetallic Mineral Products Industry Indexes and Growth Rates

| | <u>Leading Index</u> | | <u>Coincident Index</u> | |
|-------------|----------------------|--------------------|-------------------------|--------------------|
| | <u>(1977 = 100)</u> | <u>Growth Rate</u> | <u>(1977 = 100)</u> | <u>Growth Rate</u> |
| 2016 | | | | |
| April | 251.1r | 2.7r | 144.6r | 4.5r |
| May | 251.9r | 2.8r | 144.3r | 3.1r |
| June | 250.7r | 1.4r | 144.4r | 2.4r |
| July | 252.4r | 2.5r | 144.1r | 1.3r |
| August | 251.8r | 1.5r | 142.8r | -1.1 |
| September | 252.3r | 1.4r | 143.4r | -0.5r |
| October | 252.6r | 1.2 | 144.3r | 0.2 |
| November | 254.8r | 2.7r | 145.8r | 1.9r |
| December | 256.6r | 3.9 | 146.9r | 3.1r |
| 2017 | | | | |
| January | 258.6r | 5.3r | 148.3r | 4.7 |
| February | 257.4r | 3.8r | 150.9r | 7.7r |
| March | 259.9r | 5.0r | 151.3r | 7.7r |
| April | 259.6 | 4.0 | 150.8 | 6.2 |

r: Revised

Note: Growth rates are expressed as compound annual rates based on the ratio of the current month's index to the average index during the preceding 12 months.

Table 2.
The Contribution of Nonmetallic Mineral Products Index Component to the Percent Change in the Index from the Previous Month

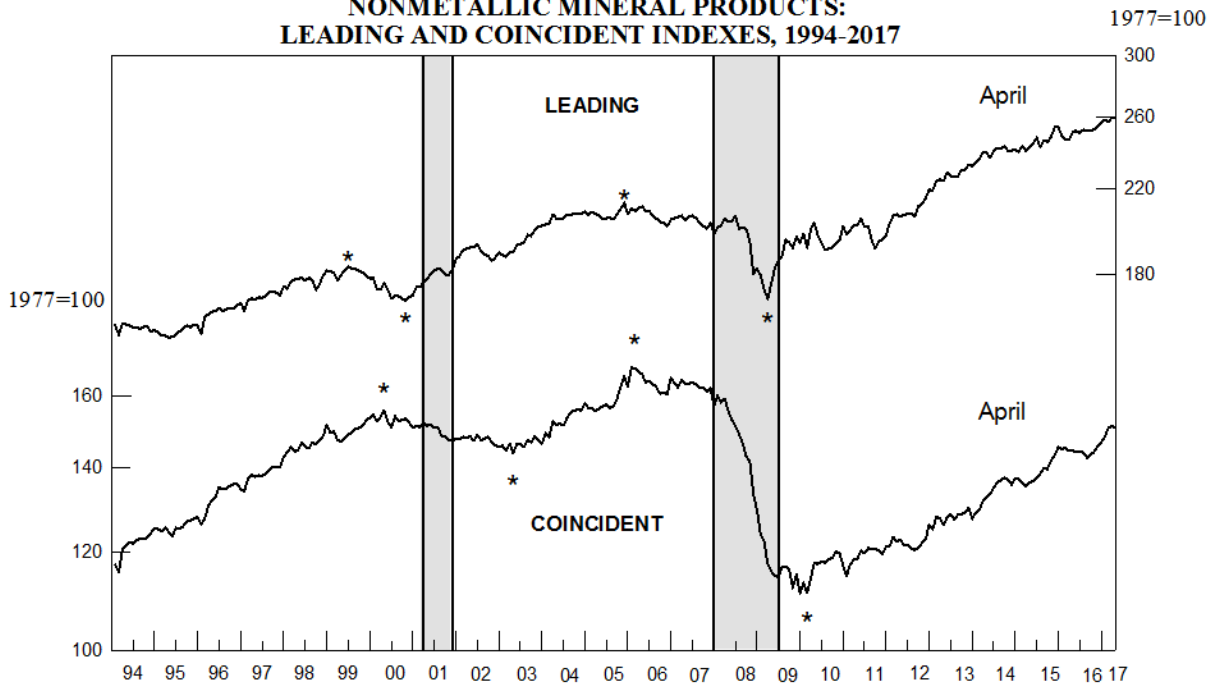
| Leading Index | March | April |
|---|--------------|--------------|
| 1. Average weekly hours, nonmetallic mineral products (NAICS 327) | 0.5r | 0.2 |
| 2. Index of new private housing units authorized by permits | 0.3 | -0.2 |
| 3. S&P stock price index, building products companies | 0.1 | 0.1 |
| 4. Spread between the U.S. 10-year Treasury Note and the federal funds rate | -0.1 | -0.3 |
| Trend adjustment | 0.1 | 0.1 |
| Percent change (except for rounding differences) | 1.0r | -0.1 |
| Coincident Index | | |
| 1. Industrial production index, nonmetallic mineral products (NAICS 327) | 0.0r | -0.6 |
| 2. Total employee hours, nonmetallic mineral products (NAICS 327) | 0.1r | 0.1 |
| 3. Shipments of nonmetallic mineral products (NAICS 327) | 0.1 | NA |
| Trend adjustment | 0.1 | 0.1 |
| Percent change (except for rounding differences) | 0.3r | -0.3 |

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, Federal Reserve Board, Conference Board, and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey. All series are seasonally adjusted, except 3 of the leading index.

r: Revised NA: Not available

Chart 1.

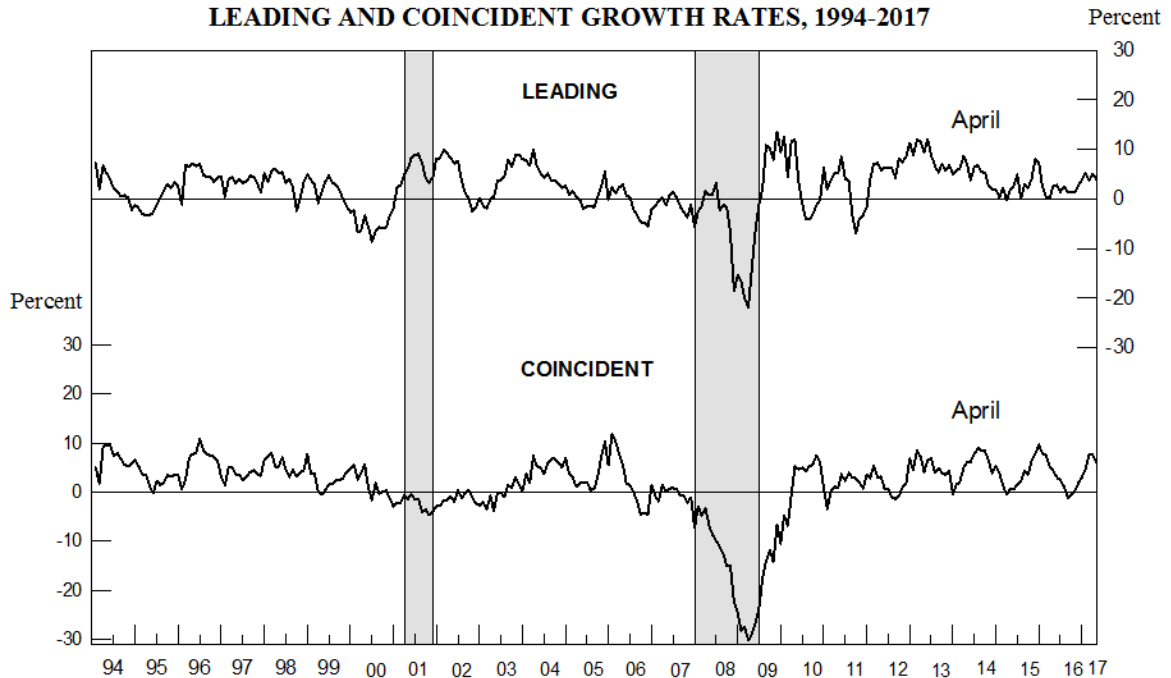
**NONMETALLIC MINERAL PRODUCTS:
LEADING AND COINCIDENT INDEXES, 1994-2017**



Shaded areas are business cycle recessions. Asterisks (*) signify peaks (the end of an expansion) and troughs (the end of a downturn) in the economic activity reflected by the indexes. More than 50% of the value of shipments of nonmetallic mineral products is used in the construction industry.

Chart 2.

**NONMETALLIC MINERAL PRODUCTS:
LEADING AND COINCIDENT GROWTH RATES, 1994-2017**



Shaded areas are business cycle recessions. The growth rates are expressed as compound annual rates based on the ratio of the current month's index to its average level during the preceding 12 months.