



Nonmetallic Mineral Products Industry Indexes

February 2016

This report analyzes and explains the U.S. Geological Survey's (USGS) monthly leading and coincident indexes for the nonmetallic mineral products industry (NAICS 327). 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clay, glass, and concrete products industry (SIC 32) under the Standard Industrial Classification system, which has been replaced by the North American Industry Classification System. 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 2.2% to 248.1 in January from a revised 253.6 in December, and its 6-month smoothed growth rate declined to 2.5% from a revised 7.7% in December. 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% points to a decrease in activity.¹ Although the leading index growth rate fell in January, it is still above the threshold that suggests that activity is likely to increase in the nonmetallic mineral products industry. Residential construction activity is likely to underpin nonmetallic mineral products demand. Low unemployment, higher wages, and historically low interest rates, along with home inventories below a balanced market level, will continue to promote home construction. However, nonresidential construction spending could slow in the near term, despite a restart in manufacturing plants construction.

Three of the four leading index indicators decreased in January, and one was essentially unchanged from its December level. A shorter average workweek in nonmetallic mineral products facilities contributed -1.0 percentage point to the net decrease in

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.

the leading index. A fall in the stock price index for building products companies in January also contributed -1.0 percentage point. A tighter yield spread between the U.S. 10-year Treasury Note and the Federal Reserve's federal funds rate contributed -0.3 percentage point. In contrast, the index of new housing permits issued was flat in January and made no contribution to the leading index. However, building permits are over 13% higher than January 2015 (table 2).

The coincident index, which measures current industry activity, decreased 1.0% to 144.7 in January from a revised 146.1 in December. Its 6-month smoothed growth rate decreased to 6.3% in January from a revised 9.1% in December. Although the average workweek was shorter in nonmetallic minerals products manufacturing facilities, employment is at its highest level since May 2009. Industrial production remained close to the level before the 2008-2009 recession.

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. The

composite leading index constructed from these indicators turned before the coincident index at every trough and at 89% of the peaks. Although the leading index did not lead the coincident index at every peak, the average leads at troughs and peaks were 8.1 and 9.4 months, respectively, for an overall lead of 8.8 months.

This report was produced at the U.S. Geological Survey (USGS) by the National Minerals Information Center. For more information about these indexes, contact Gail James (703-648-4915), e-mail (gjames@usgs.gov).

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> |
| 2015 | | | | |
| February | 241.6 | 1.8r | 138.3r | 3.5r |
| March | 238.7 | -0.8r | 137.2r | 1.0r |
| April | 241.3r | 1.2r | 137.6r | 1.0r |
| May | 243.6r | 2.7r | 137.5r | 0.4r |
| June | 246.8 | 4.7r | 138.5r | 1.3r |
| July | 241.5r | 0.2r | 139.0r | 1.6 |
| August | 245.4 | 3.2r | 140.3r | 3.2r |
| September | 244.3 | 2.0 | 140.2r | 2.6r |
| October | 247.3 | 4.2r | 142.4r | 5.4r |
| November | 253.4r | 8.5r | 144.0r | 7.1r |
| December | 253.6r | 7.7r | 146.1r | 9.1r |
| 2016 | | | | |
| January | 248.1 | 2.5 | 144.7 | 6.3 |

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

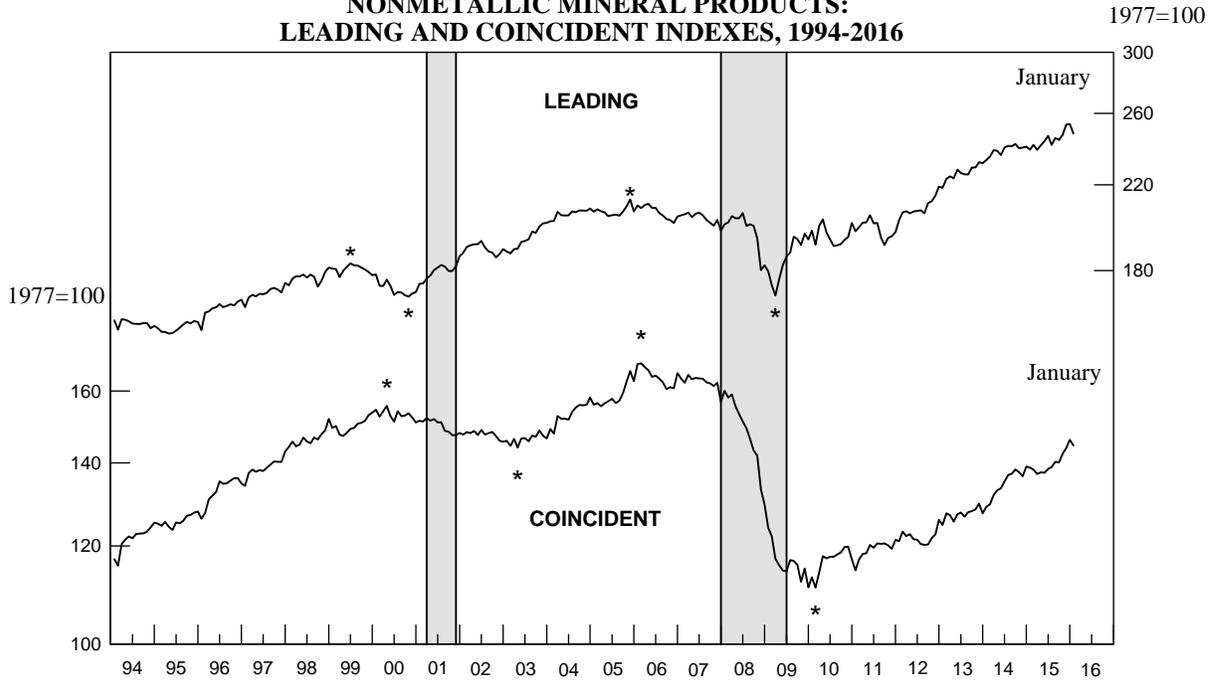
| Leading Index | December | January |
|---|-----------------|----------------|
| 1. Average weekly hours, nonmetallic mineral products (NAICS 327) | 0.7r | -1.0 |
| 2. Index of new private housing units authorized by permits | -0.5r | 0.0 |
| 3. S&P stock price index, building products companies | 0.0 | -1.0 |
| 4. Spread between the U.S. 10-year Treasury Note and the federal funds rate | -0.2 | -0.3 |
| Trend adjustment | 0.1 | 0.1 |
| Percent change (except for rounding differences) | 0.1 | -2.2 |
| Coincident Index | | |
| 1. Industrial production index, nonmetallic mineral products (NAICS 327) | 0.4r | -0.3 |
| 2. Total employee hours, nonmetallic mineral products (NAICS 327) | 0.9r | -0.8 |
| 3. Shipments of nonmetallic mineral products (NAICS 327) | 0.1 | NA |
| Trend adjustment | 0.1 | 0.1 |
| Percent change (except for rounding differences) | 1.5r | -1.0 |

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.

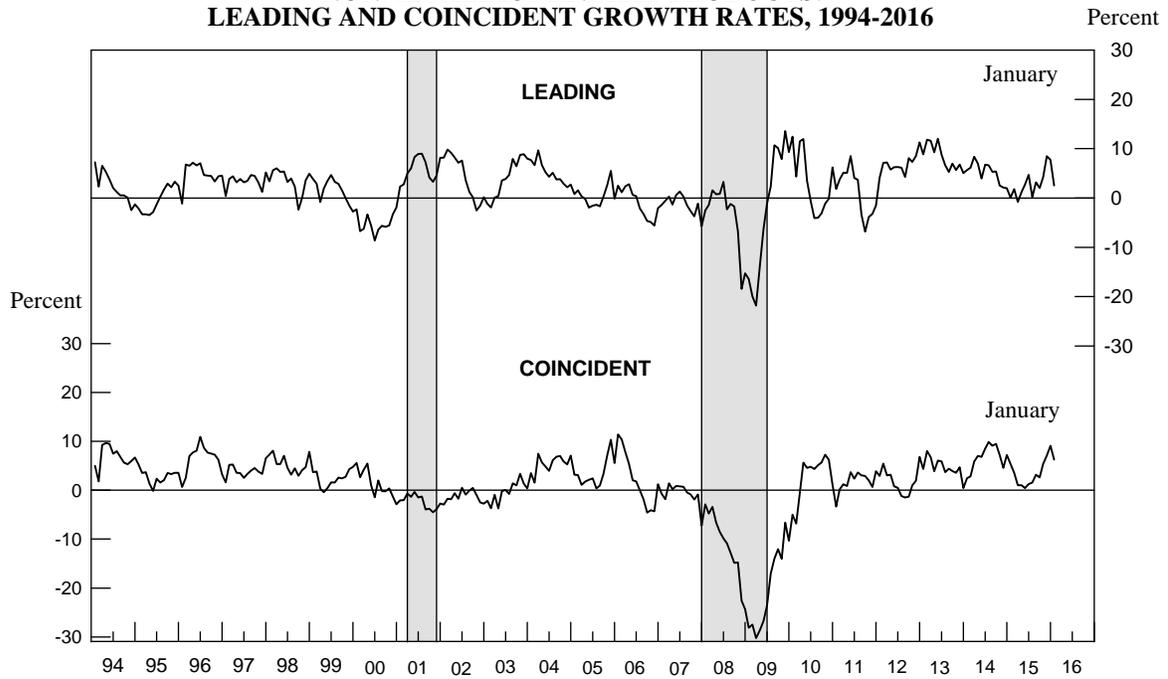
**NONMETALLIC MINERAL PRODUCTS:
LEADING AND COINCIDENT INDEXES, 1994-2016**



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, 1994-2016**



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.