Nonmetallic Mineral Products Industry Indexes

February 2015

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clay, glass, and concrete products industry (SIC 32) under the Standard Industrial Classification system, which has been replaced by the North American Industry Classification System.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 0.3% to 239.6 in January from a revised 240.3 in December and its 6-month smoothed growth rate declined to 0.9% from a revised 2.1% 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] The decrease in the nonmetallic mineral products industry leading index growth suggests that the recovery in the nonmetallic mineral products industry is likely to slow in the near term. Nonresidential construction spending underpinned the nonmetallic mineral product industry during 2014, particularly spending on manufacturing plants which increased over 18% from 2013. However, declining new orders for durable goods and lower oil prices are likely to have a negative effect on manufacturing and energy plant construction in the near term. Meanwhile, sales of new homes increased in 2014 and the supply of available homes on the market is down to a 4.4--month supply, well below the 6.0-month supply which is considered to be a balanced market. This low housing inventory, along with rising employment and low interest rates could promote residential construction activity in 2015.

Three of the four leading index indicators decreased in January and one was unchanged from December. 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 to the overall decrease in the leading index. A lower index of new housing permits contributed -0.1 percentage point. Permits for single-family home building, the largest portion of residential construction spending, decreased from the seven-year high level of December. The change in the S&P stock price index for building products companies was so small that its contribution rounded to zero. The average workweek in nonmetallic mineral products establishments was unchanged from December (table 2).

The coincident index, which measures current industry activity, increased 0.1% to 139.1 in January from a revised 138.9 in December. However, its 6-month smoothed growth rate slowed to 7.3% in January from a revised 8.5% in December.

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

[1] The 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.

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

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2014				
February	233.9r	5.5r	128.0	2.4r
March	236.9r	7.3r	130.0	5.1r
April	238.5r	7.7r	131.5	6.7r
May	236.0r	4.5r	132.4r	7.1
June	238.8r	6.2r	133.9r	8.5r
July	240.9r	7.0r	135.8r	10.3r
August	240.8r	5.7r	136.5r	10.1r
September	242.3r	5.8r	137.8r	10.7
October	240.6r	3.6r	137.5	8.9r
November	240.0r	2.4r	136.8	6.6r
December	240.3r	2.1r	138.9r	8.5r
2015				
January	239.6	0.9	139.1	7.3

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

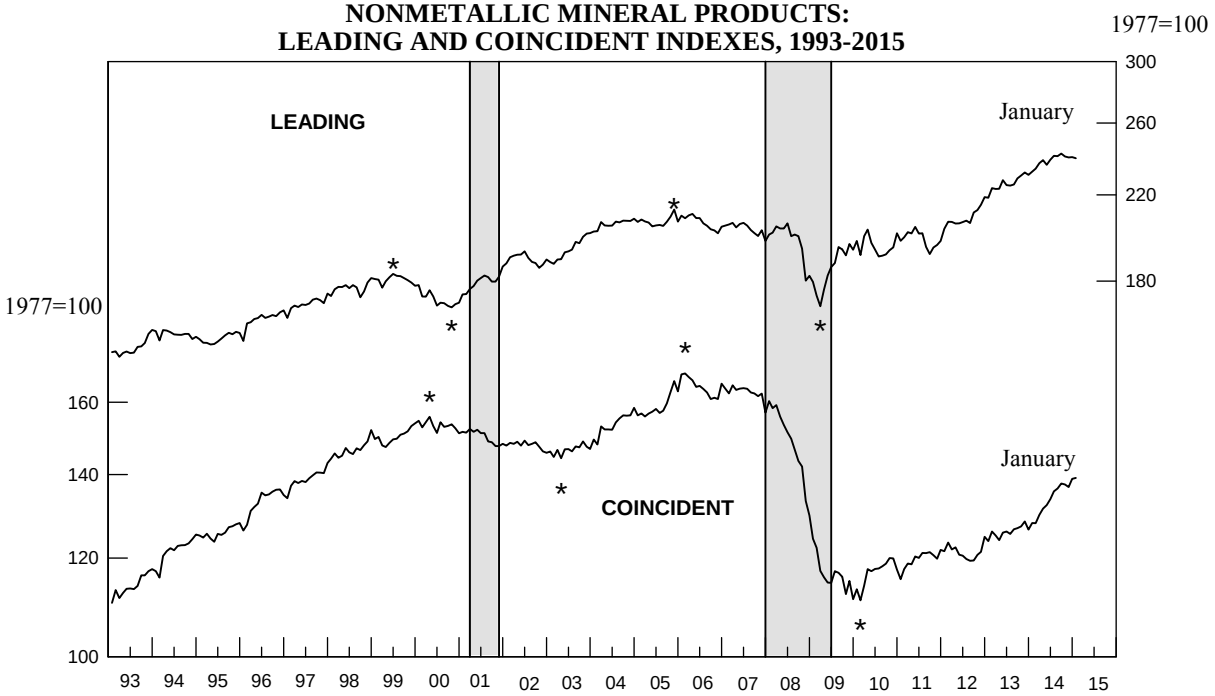
Leading Index	**December**	**January**
1. Average weekly hours, nonmetallic mineral products (NAICS 327)	-0.3r	0.0
2. Index of new private housing units authorized by permits	0.0r	-0.1
3. S&P stock price index, building products companies	0.4	0.0
4. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.2r	-0.3
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.0r	-0.3
Coincident Index		
1. Industrial production index, nonmetallic mineral products (NAICS 327)	0.4	0.4
2. Total employee hours, nonmetallic mineral products (NAICS 327)	0.6r	-0.3
3. Shipments of nonmetallic mineral products (NAICS 327)	0.4	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	1.5r	0.2

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.

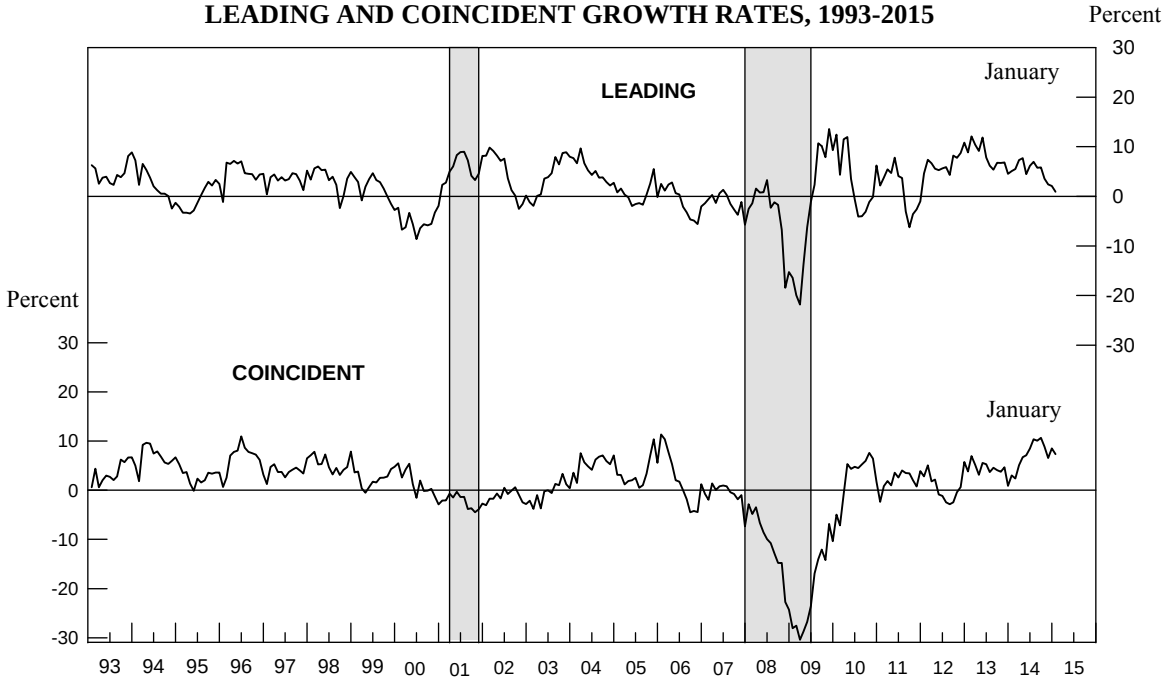
NONMETALLIC MINERAL PRODUCTS:
LEADING AND COINCIDENT INDEXES, 1993-2015



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, 1993-2015



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.