

Metal Industry Indicators

Indicators of Domestic Primary Metals, Steel, Aluminum, and Copper Activity

April 17, 2009

The **primary metals leading index** decreased 0.5% to 121.7 in March from a revised 122.3 in February, however, its 6-month smoothed growth rate edged up to -22.3% in March from a revised -23.9%. The 6-month smoothed growth rate is a compound annual rate that measures the near-term trend. Usually a growth rate above +1.0% signals an increase in metals activity, and a growth rate below -1.0% indicates a downturn in activity. Although the primary metals leading index growth rate rose slightly in March, it remains deep in negative territory and is not yet suggesting an upturn in primary metals industry activity. It may take a few more months before government stimulus programs in the United States and other countries boost activity growth in the primary metals industry.

Three of the four indicators that were available for the March index calculation increased, and one declined. However, the decline in the stock price index combining construction and farm machinery companies and industrial machinery companies outweighed the gains in the other indicators. It contributed -1.6 percentage points to the net decline in the leading index. A longer average workweek in primary metals establishments in March buoyed the leading index 0.5 percentage points. The JOC-ECRI metals price index growth rate increased for the second month in a row, but it is still deeply negative. It contributed 0.4 percentage points. A slight lift in the PMI made a 0.2-percentage-point contribution, however it remains below the threshold that denotes a decrease in future manufacturing activity. The March leading index should be considered preliminary because only four of its eight indicators were available, and the leading index will likely be revised when the other components are added next month.

Metals are key inputs in durable goods manufacturing and construction, which account for almost a quarter of gross domestic product final sales. Therefore, the primary metals leading index also gives early signals of major changes in activity for the overall U.S. economy (Chart 8).

The primary aluminum and the aluminum mill products indexes are suspended because of discontinued availability of industry-specific historical data. The USGS will continue to calculate the steel and copper composite indexes. These indexes are available through February. The steel leading index fell 1.2% in February, although only four of its nine indicators declined. The largest negative impact on the leading index came from a decrease in the inflation-adjusted M2 money supply growth rate. Declines in the S&P stock price index for steel

companies, car and light truck sales, and household appliance shipments also held the index down. The steel leading index growth rate is indicating further declines in U.S. steel industry activity. The copper leading index decreased 3.2% in March, with only two of its six indicators declining. The plummeting S&P stock price index for building products companies made the largest negative contribution to the copper leading index. A nearly 1-hour cut in overtime hours in copper rolling, drawing, extruding, and alloying plants in March also made a sizable negative contribution. In contrast, the contributions from rises in the price of copper and the index of permits for new housing units offset some the negative impact of the declining indicators. The copper leading index growth rate is still indicating a decrease in activity growth in the domestic copper industry in the months directly ahead.

The **metals price leading index** decreased 0.2% to 100.2 in February, the latest month for which it is available, from a revised 100.4 in January. However, its 6-month smoothed growth rate moved up to -6.1% from a revised -6.7% in January. Only one of its three available indicators decreased, but that decline outweighed the gains in the other components. A drop in the growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar contributed -0.6 percentage points to the overall decline in the leading index. In contrast, a wider yield spread between the U.S. 10-year Treasury Note and the federal funds rate contributed 0.4 percentage points to the leading index. The slight rise in growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products rounded to zero. The fourth component, the growth rate of the Economic Cycle Research Institute's (ECRI) 19-Country Long Leading Index, is only available through January. It increased, but is still deeply negative, indicating further decreases for most major global economies. The ECRI 19-Country Long Leading Index gauges future economic activity for major industrialized countries and signals changes in the growth of economic activity about 5 months in advance. The metals price leading index signals major changes in the growth rate of nonferrous metal prices an average of 8 months in advance.

The growth rate of the inflation-adjusted value of U.S. nonferrous metal products inventories, which is an indicator of supply and usually moves inversely with the price of metals, decreased in February. This is the first decline in this indicator since July. Nevertheless, still relatively high inventories and weak metals demand in the United States and other global economies are suppressing any significant metals price growth.

The percent changes from January to February for the **metal industry coincident indexes**, which measure current economic activity, are shown below. February is the latest month for which these indexes are available.

Primary Metals	-2.1%
Steel	-0.4%
Copper	-2.3%

Tables 1, 3, 5, and 7 identify the indicators and, for the industry indexes, show the contributions of each indicator to its respective index.

The *Metal Industry Indicators* report is produced at the U.S. Geological Survey by the Minerals Information Team. For more information about these indexes and the *Metal Industry Indicators* monthly report, contact Gail James (703-648-4915), (e-mail, gjames@usgs.gov) at the U.S. Geological Survey.

The *Metal Industry Indicators* summary report with indexes for March and April is scheduled for release on the World Wide Web at 10:00 a.m. EDT, Friday, May 22.

Table 1.
**Leading Index of Metal Prices and Growth Rates of the Nonferrous Metals Price Index,
Inventories of Nonferrous Metal Products, and Selected Metal Prices**

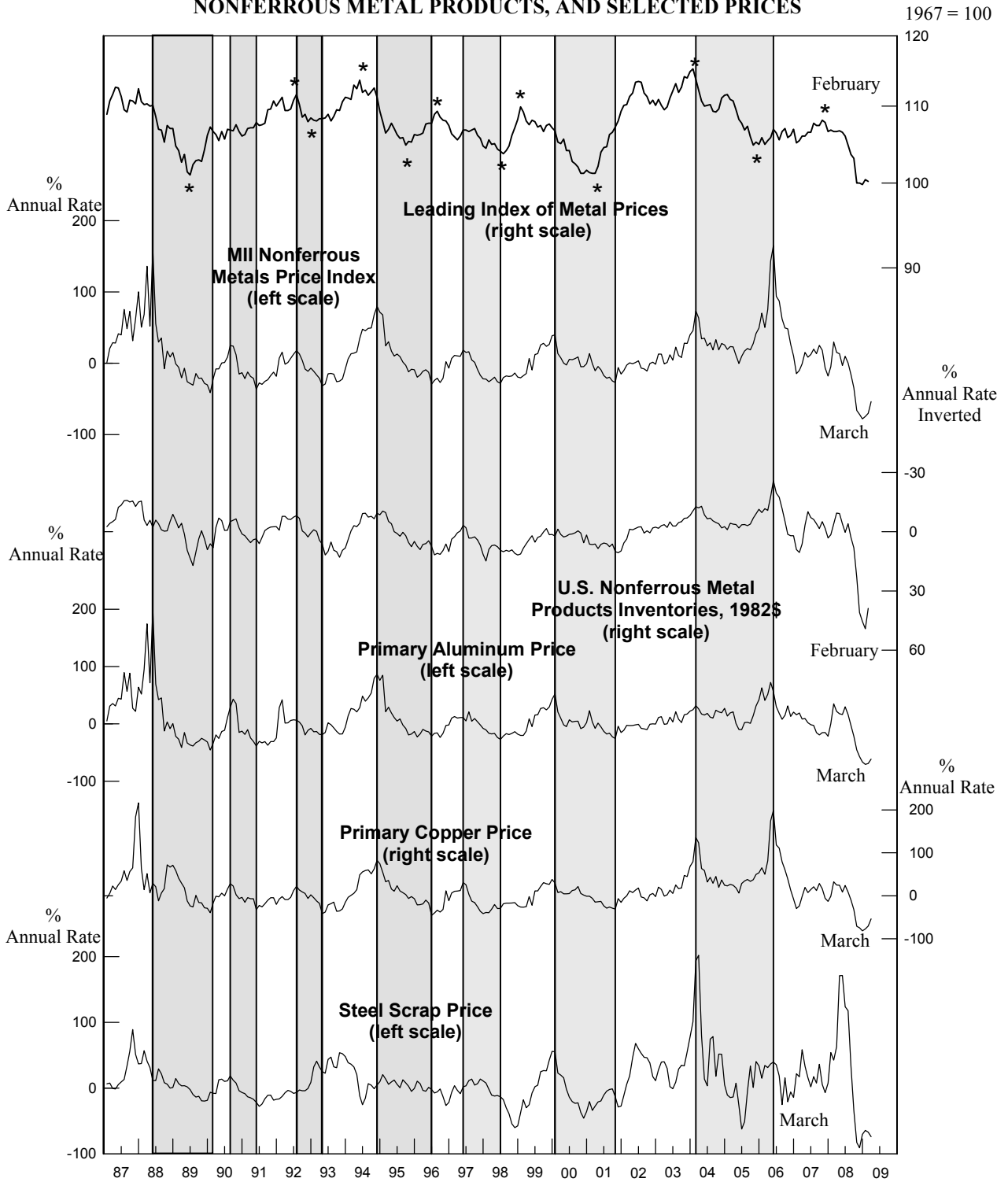
	Six-Month Smoothed Growth Rates					
	Leading Index of Metal Prices (1967=100)	MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982\$)	Primary Aluminum	Primary Copper	Steel Scrap
2008						
February	106.6	29.6	-4.0	34.9	32.5	42.5
March	106.6	15.1	-9.5	21.6	25.1	62.7
April	106.7r	13.2	-9.2	17.6	24.6	170.9
May	106.5	-3.2	-4.1	16.2	8.7	171.1
June	106.0	9.7	0.3	29.7	24.2	123.6
July	104.8r	0.4	-4.1	16.1	8.7	117.7
August	103.6r	-15.9	2.9	-2.7	-9.5	33.4
September	103.1r	-34.6	8.2	-21.9	-32.2	-34.1
October	100.0r	-66.1	23.1r	-45.4	-70.8	-82.7
November	100.0r	-71.6	40.9r	-57.2	-74.2	-90.8
December	99.8r	-78.0	45.4r	-66.5	-81.2	-70.2
2009						
January	100.4r	-74.7	49.1r	-70.8	-76.9	-64.3
February	100.2	-70.1	38.8r	-69.3	-70.3	-67.0
March	NA	-53.9	NA	-61.6	-53.5	-74.0

NA: Not available r: Revised

Note: The components of the Leading Index of Metal Prices are the spread between the U.S. 10-year Treasury Note and the federal funds rate, and the 6-month smoothed growth rates of the deflated value of new orders for nonferrous metal products, the Economic Cycle Research Institute's 19-Country Long Leading Index, and the reciprocal of the trade-weighted average exchange value of the U.S. dollar against other major currencies. The Metal Industry Indicators (MII) Nonferrous Metals Price Index measures changes in end-of-the-month prices for primary aluminum, copper, lead, and zinc traded on the London Metal Exchange (LME). The steel scrap price used is the price of No. 1 heavy melting. Inventories consist of the deflated value of finished goods, work in progress, and raw materials for U.S.-produced nonferrous metal products (NAICS 3313, 3314, & 335929). Six-month smoothed growth rates are based on the ratio of the current month's index or price to its average over the preceding 12 months, expressed at a compound annual rate.

Sources: U.S. Geological Survey (USGS); American Metal Market (AMM); the London Metal Exchange (LME); U.S. Census Bureau; the Economic Cycle Research Institute, Inc. (ECRI); and Federal Reserve Board.

**CHART 1.
LEADING INDEX OF METAL PRICES AND GROWTH RATES
OF NONFERROUS METALS PRICE INDEX, INVENTORIES OF
NONFERROUS METAL PRODUCTS, AND SELECTED PRICES**



Shaded areas are downturns in the nonferrous metals price index growth rate. Asterisks (*) are peaks and troughs in the economic activity reflected by the leading index of metal prices. Scale for nonferrous metal products inventories is inverted.

Table 2.
The Primary Metals 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>
2008				
April	152.2r	1.1r	105.6r	-0.2r
May	151.6r	0.7r	104.4r	-2.4r
June	151.2r	0.5r	104.6r	-1.9r
July	149.0r	-2.0r	104.7r	-1.6r
August	146.2r	-4.9r	103.7r	-3.3r
September	141.2r	-10.4r	101.6r	-6.8r
October	132.4r	-19.7r	98.7r	-11.3r
November	127.3r	-23.9r	94.4r	-17.4r
December	125.0r	-24.7r	90.6r	-22.2r
2009				
January	124.7r	-23.1r	87.4r	-25.4
February	122.3r	-23.9r	85.6	-26.0
March	121.7	-22.3	NA	NA

NA: Not available **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 3.
The Contribution of Each Primary Metals Index Component to the Percent Change in the Index from the Previous Month

Leading Index	February	March
1. Average weekly hours, primary metals (NAICS 331)	-0.6r	0.5
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	-1.0r	-1.6
3. Ratio of price to unit labor cost (NAICS 331)	-0.2	NA
4. JOC-ECRI metals price index growth rate	0.0r	0.4
5. New orders, primary metal products, (NAICS 331 & 335929) 1982\$	0.2	NA
6. Index of new private housing units authorized by permit	0.3	NA
7. Growth rate of U.S. M2 money supply, 2000\$	-0.8	NA
8. PMI	0.0r	0.2
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	-2.1r	-0.5
Coincident Index	January	February
1. Industrial production index, primary metals (NAICS 331)	-1.4r	-0.6
2. Total employee hours, primary metals (NAICS 331)	-1.3r	-1.9
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$	-1.1r	0.3
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	-3.7r	-2.1

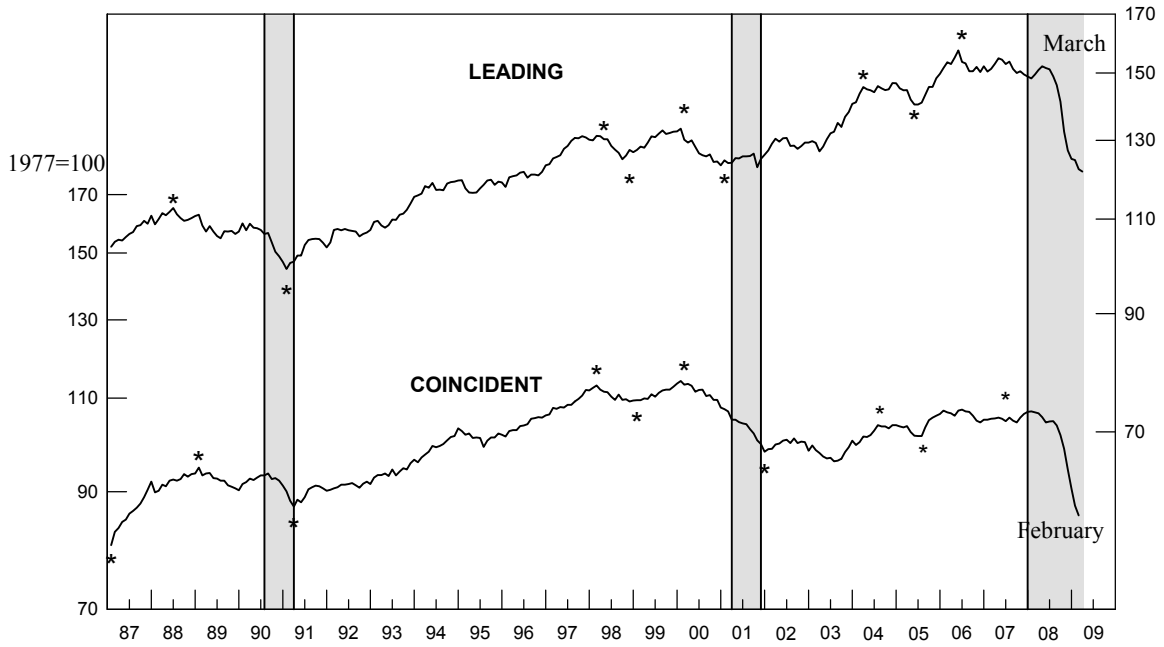
Sources: Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and Economic Cycle Research Institute, Inc.; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 8, Institute for Supply Management. 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 2, 3, and 4 of the leading index.

NA: Not available **r:** Revised

Note: A component's contribution, shown in Tables 3, 5, 7, and 9, measures its effect, in percentage points, on the percent change in the index. Each month, the sum of the contributions plus the trend adjustment equals (except for rounding differences) the index's percent change from the previous month.

CHART 2.

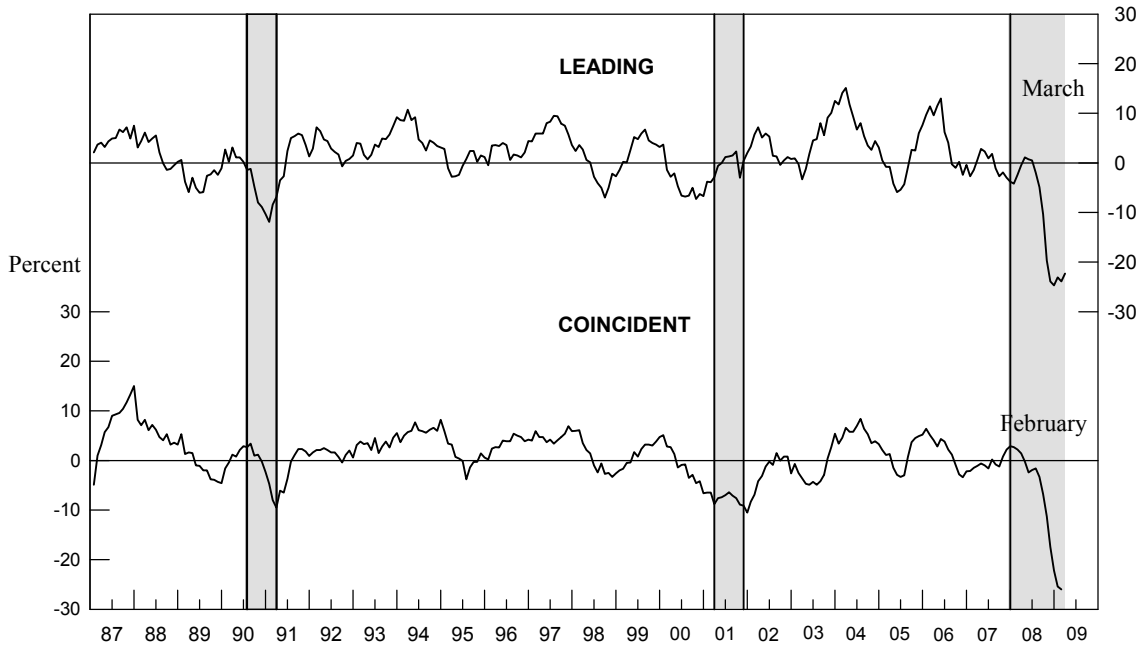
PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1987-2009 1977=100



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.

CHART 3.

PRIMARY METALS: LEADING AND COINCIDENT GROWTH RATES, 1987-2009 Percent



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.

Table 4.
The Steel Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2008				
March	118.7	-0.2	104.5	3.2
April	119.3	0.9	103.0	0.0r
May	121.0	4.3	101.6r	-2.7r
June	120.6	3.6	102.2r	-1.6r
July	116.5	-3.0	102.1r	-1.9r
August	113.5	-7.4	101.4	-3.1
September	108.2	-14.7	99.3r	-6.8
October	103.2	-20.7r	96.9	-10.5r
November	99.5	-24.4r	92.3r	-17.5r
December	101.5	-19.6r	88.7r	-21.7r
2009				
January	102.3r	-16.7	85.6r	-25.0r
February	101.1	-16.9	85.3	-23.4

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 5.
The Contribution of Each Steel Index Component to the Percent Change in the Index from the Previous Month

	January	February
Leading Index		
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	0.0r	0.1
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	-0.1	0.2
3. Shipments of household appliances, 1982\$	0.5	-0.2
4. S&P stock price index, steel companies	0.1	-0.5
5. Retail sales of U.S. passenger cars and light trucks (units)	-0.5	-0.4
6. Growth rate of the price of steel scrap (#1 heavy melting, \$/ton)	0.4	0.1
7. Index of new private housing units authorized by permit	-0.1	0.3
8. Growth rate of U.S. M2 money supply, 2000\$	0.1r	-0.8
9. PMI	0.5	0.0
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.9	-1.2
Coincident Index		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	-1.6r	0.5
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982\$	-1.6	0.0
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	-0.5r	-1.0
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	-3.6r	-0.4

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, U.S. Census Bureau and U.S. Geological Survey; 4, Standard & Poor's; 5, U.S. Bureau of Economic Analysis and American Automobile Manufacturers Association; 6, Journal of Commerce and U.S. Geological Survey; 7, U.S. Census Bureau and U.S. Geological Survey; 8, Federal Reserve Board, Conference Board, and U.S. Geological Survey; and 9, Institute for Supply Management. Coincident: 1, Federal Reserve Board; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Bureau of Labor Statistics and U.S. Geological Survey. All series are seasonally adjusted, except 4 and 6 of the leading index.

r: Revised

CHART 4.
STEEL: LEADING AND COINCIDENT INDEXES, 1987-2009

1977=100

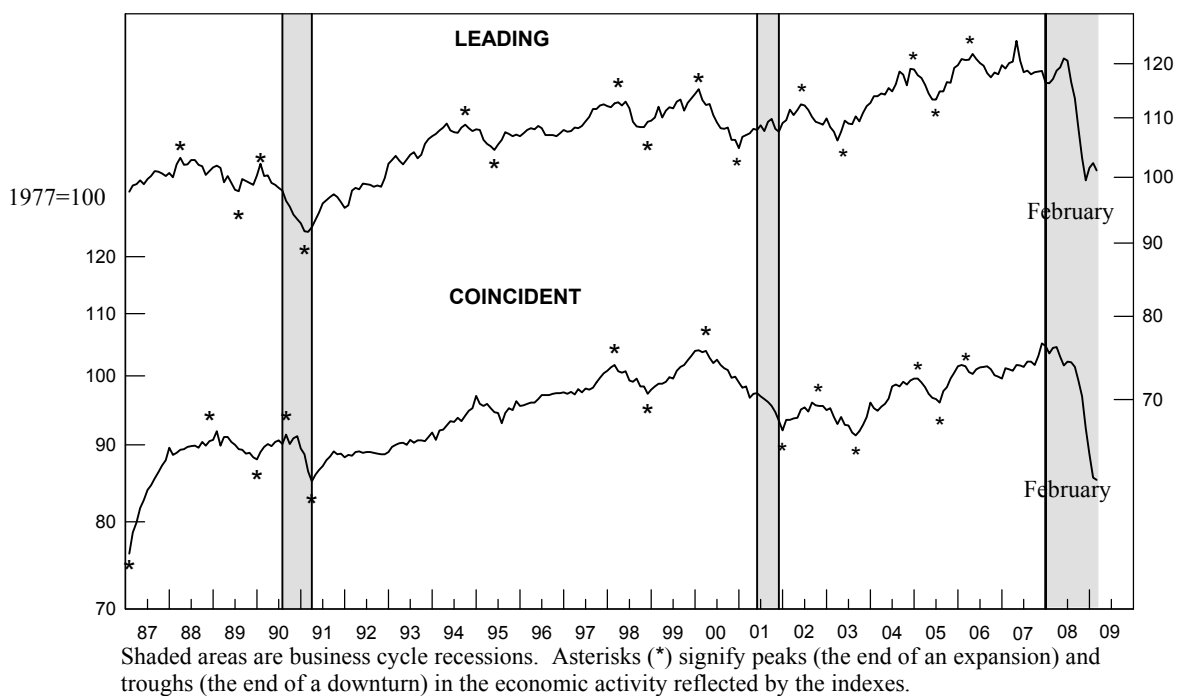
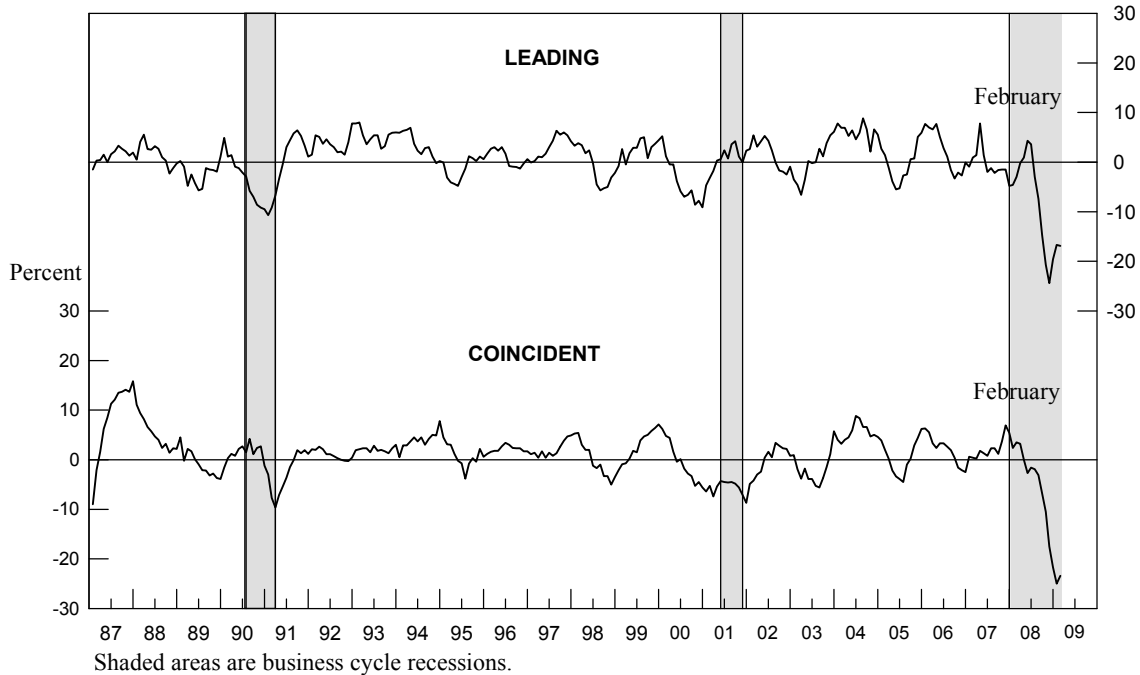


CHART 5.
STEEL: LEADING AND COINCIDENT GROWTH RATES, 1987-2009

Percent



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.

Table 6.
The Copper Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2008				
March	124.3	-1.9	104.3r	0.2r
April	124.0	-2.1	103.8r	-0.5r
May	125.3	0.3	104.6r	1.0r
June	126.2	2.0	104.9r	1.7r
July	122.7	-3.0	104.0r	0.1r
August	122.7	-2.4	102.1r	-2.9r
September	121.8	-3.4	103.4r	-0.1r
October	114.7r	-13.2r	100.6r	-5.1r
November	110.1	-18.5	98.5r	-8.2r
December	108.2	-19.8	96.9r	-10.4r
2009				
January	107.3r	-19.4r	97.5r	-8.6r
February	103.9	-22.5	95.3	-11.8

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.

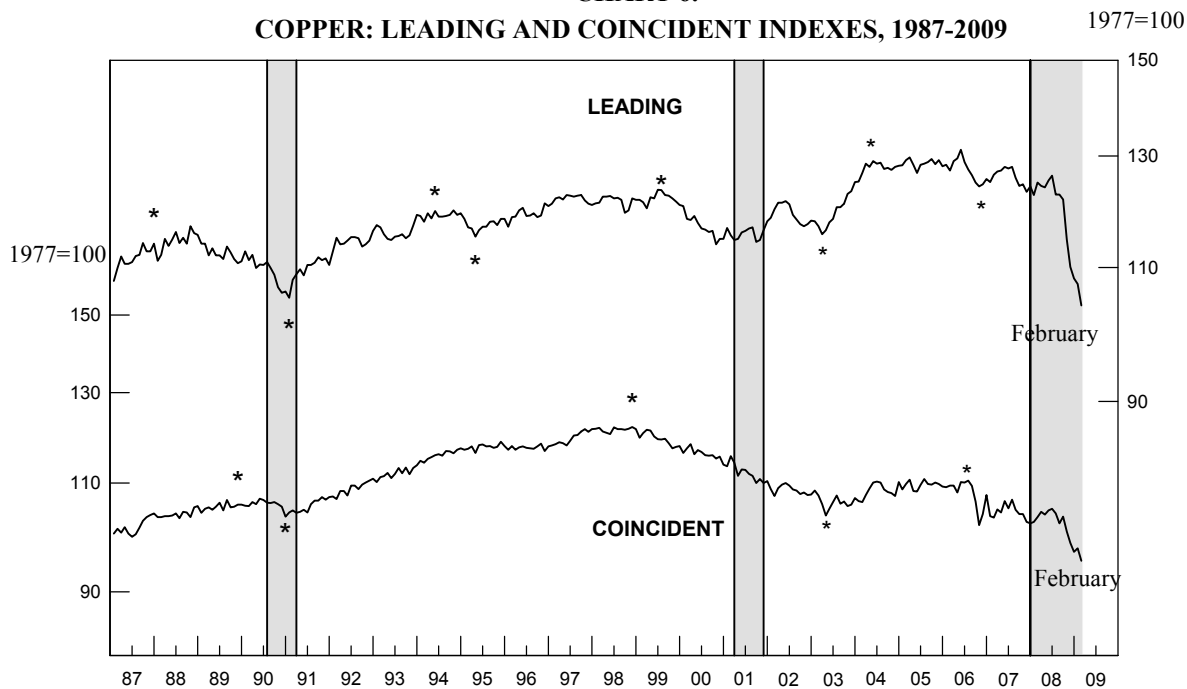
Table 7.
The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month

	January	February
Leading Index		
1. Average weekly overtime hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	-0.8	-1.2
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982\$	-0.1r	0.0
3. S&P stock price index, building products companies	-0.2	-3.0
4. LME spot price of primary copper	0.4	0.5
5. Index of new private housing units authorized by permit	-0.2	0.4
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	0.1	0.2
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	-0.8r	-3.1
Coincident Index		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	-0.4r	-0.5
2. Total employee hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	0.9	-1.9
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	0.6r	-2.3

Sources: Leading: 1, Bureau of Labor Statistics; 2, U.S. Census Bureau and U.S. Geological Survey; 3, Standard & Poor's; 4, London Metal Exchange; 5, U.S. Census Bureau and U.S. Geological Survey; 6, Federal Reserve Board and U.S. Geological Survey. Coincident: 1, Federal Reserve Board; 2, Bureau of Labor Statistics; 3, American Bureau of Metal Statistics, Inc. and U.S. Geological Survey. All series are seasonally adjusted, except 3, 4, and 6 of the leading index.

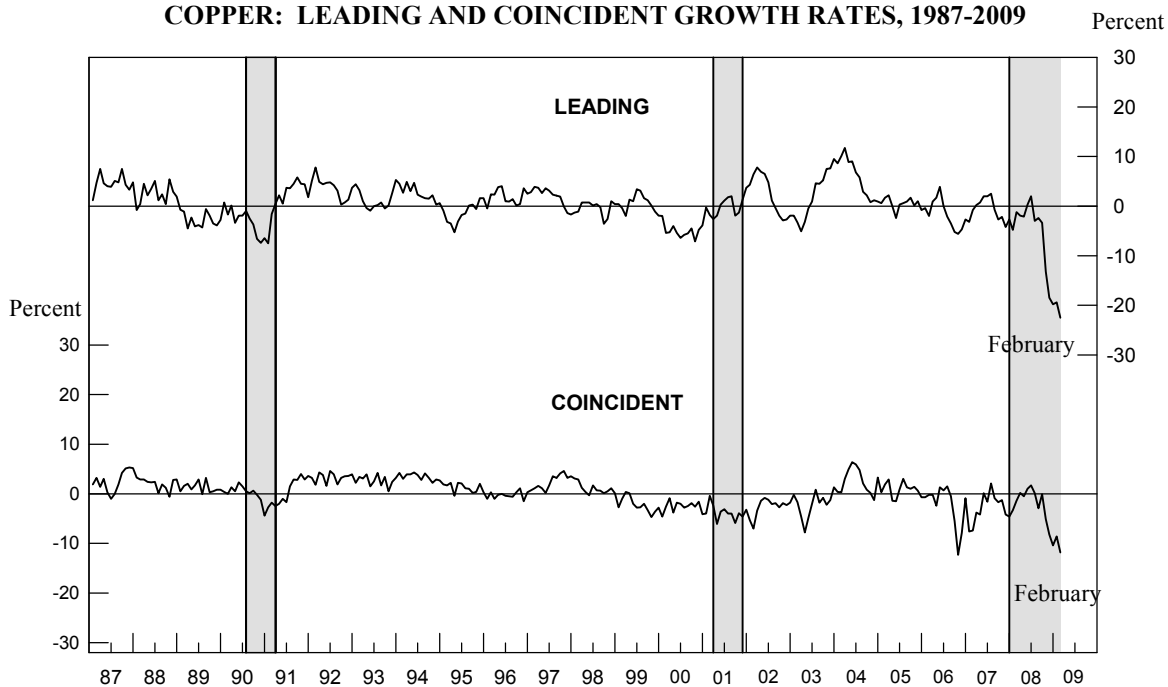
r: Revised NA: Not available

CHART 6.
COPPER: LEADING AND COINCIDENT INDEXES, 1987-2009



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.

CHART 7.
COPPER: LEADING AND COINCIDENT GROWTH RATES, 1987-2009

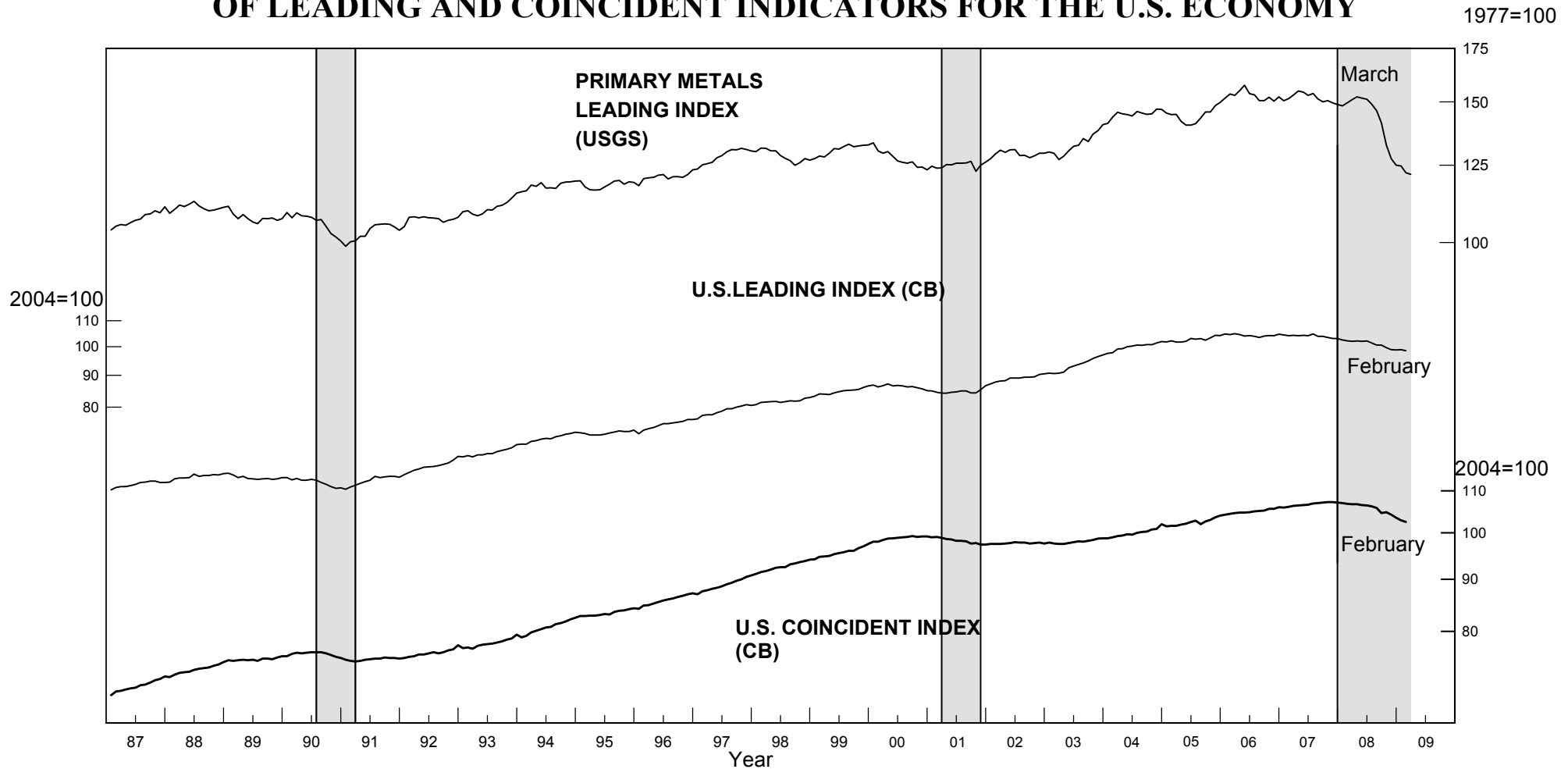


Shaded areas are business cycle recessions.

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.

Chart 8.

**PRIMARY METALS LEADING INDEX AND COMPOSITE INDEXES
OF LEADING AND COINCIDENT INDICATORS FOR THE U.S. ECONOMY**



Shaded areas are business cycle recessions.

Sources: U.S. Geological Survey (USGS) and Conference Board (CB).

April 2009