



Metal Industry Indicators

Composite Indexes of Leading and Coincident Indicators of Selected Metal Industries for November and December—Summary Report

January 20, 2012

The **primary metals leading index** increased 1.8% to 162.7 in December from a revised 159.8 in November, and its 6-month smoothed growth rate rose to 6.3% from a revised 3.5% in November. 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. It appears that the downward trend of the primary metals leading index growth rate has ended. Growth in the manufacturing sector is boosting metals consumption. The relatively high primary metals leading index growth rate is suggesting that the recovery in U.S. metals industry activity is likely to continue in the near term.

Three of the four indicators that were available for the December index calculation increased, and one declined slightly. A nearly 1-hour longer average workweek in primary metals establishments made the largest positive contribution, 1.5 percentage points, to the net increase in the leading index. A second consecutive hefty jump in the PMI, which has been volatile but trending down since the start of the year, pushed the leading index up another 0.3 percentage points. The USGS metals price index growth rate edged up in November, although it remains deep in negative territory. Its contribution rounded to zero. In contrast, the stock price index combining construction and farm machinery companies and industrial machinery companies eased back in December, holding the leading index back 0.1 percentage point. The December 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 steel leading index increased 1.4% in November, the latest month for which it is available. Six of its nine indicators posted gains, but the longer average workweek in iron and steel plants made the largest positive contribution. A rebound in the S&P stock price index for iron and steel companies and a surge in new orders for iron and steel mill products also made sizable positive contributions to the leading index. Fewer shipments of household appliances, the falling growth rate of the steel scrap price, and a lower inflation-adjusted M2 money supply growth rate offset some of gains in the steel leading index. After a dip into negative territory in October, the steel leading index growth rate moved above the threshold that signals an increase in industry activity. The copper leading index resumed its recent decline with a 0.5% decrease in November, despite relatively large positive contributions from the S&P stock price index for building products companies, the

index for new housing permits, and added new orders for nonferrous metals products. A 1-hour cut in the average workweek in nonferrous metals (except aluminum) establishments held the leading index back the most in November. The volatile movement of the copper leading index growth rate is suggesting that the recovery in the domestic copper industry could continue to be tenuous in the near term.

The **metals price leading index** decreased 0.4% to 105.1 in November, the latest month for which it is available, from a revised 105.5 in October. Its 6-month smoothed growth rate slipped to -5.2% from a revised -4.8% in October. Three of its four indicators decreased in November. The drop in the growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar made the largest negative contribution, -0.3 percentage points, to the net decline in the leading index. A tighter yield spread between the U.S. 10-year Treasury Note and the federal funds rate contributed -0.2 percentage points. The growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products moved slightly lower, and its contribution rounded to -0.1 percentage point. In contrast, the growth rate of the Organization for Economic Cooperation and Development (OECD) Total Leading Index edged up for the first month since January, making a 0.1 percentage point contribution to the metals price leading index. The still negative OECD leading index growth rate is signaling further slowdowns in most industrialized countries. 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, edged up in November from October's 31-month high. The recovery in the U.S. manufacturing sector has boosted metals demand in the second half of the year. However, high metals inventories and the negative metals price leading index growth suggest that a drawdown of metal supplies may need to occur before metals price growth picks up.

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

Primary Metals	1.3%
Steel	2.2%
Copper	-1.3%

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. 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 December and January is scheduled for release on the World Wide Web at 10:00 a.m. EST, Friday, February 17, 2012.

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

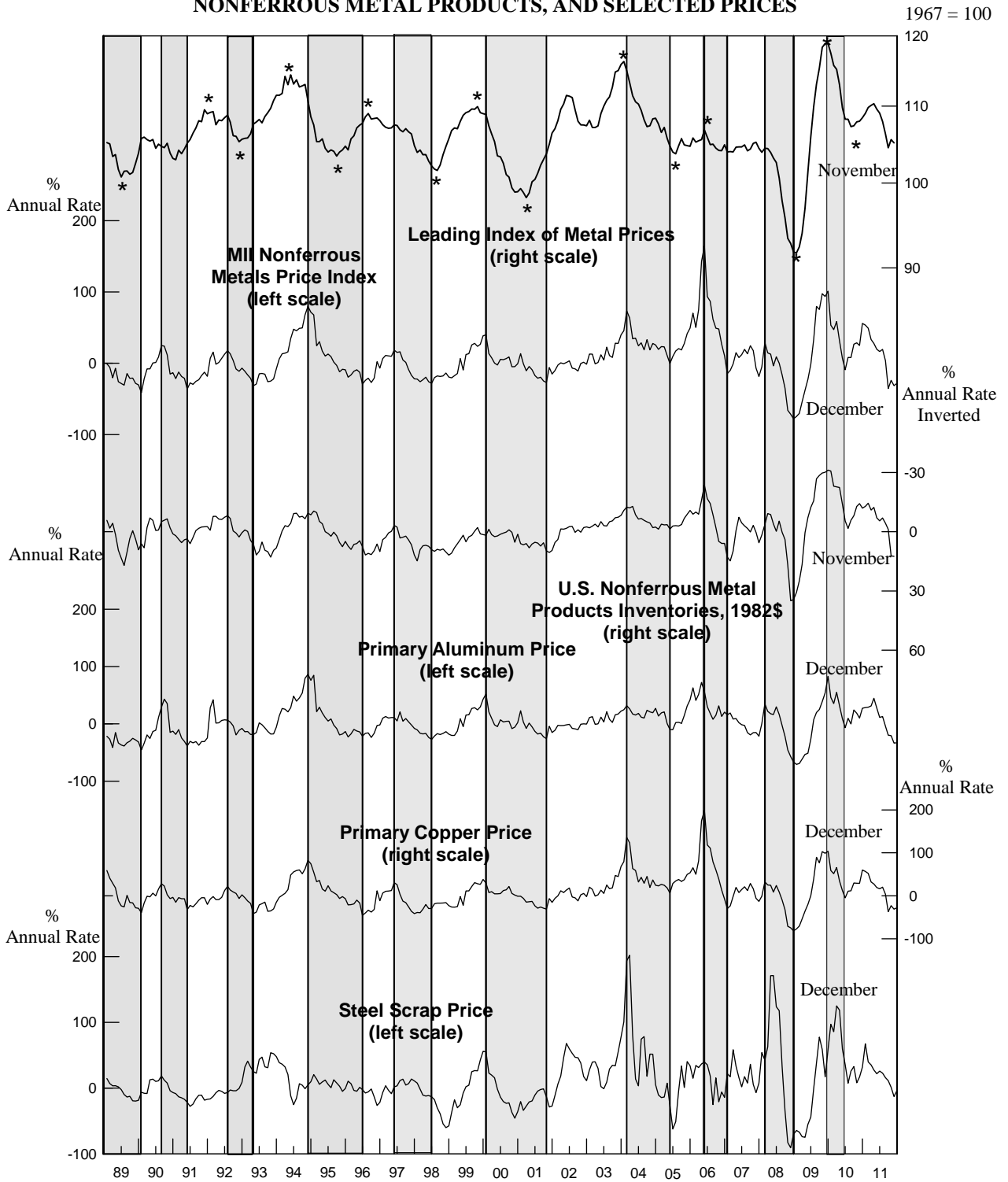
	Six-Month Smoothed Growth Rates					
	Leading Index of Metal Prices (1967=100)	MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982\$)	Primary Aluminum	Primary Copper	Steel Scrap
2010						
November	108.0r	24.9	-14.2	10.1	29.1	16.8
December	108.4	56.0	-12.0	27.2	60.1	32.0
2011						
January	109.0	53.6	-12.9	28.4	57.0	67.3
February	109.8	49.0r	-14.5	29.2	52.3	39.9
March	110.1	33.1	-11.0	31.1	32.2	35.3
April	110.3	27.7	-12.3	44.7	27.6	27.7
May	109.6	19.7	-7.1	27.8	19.4	21.8
June	109.0r	16.5	-5.6	11.1	16.3	25.8
July	107.9r	19.4	-7.0r	12.7	20.3	22.8
August	106.3	3.6	-4.3r	-4.0	3.8	16.0
September	104.4	-35.5	-1.2r	-19.8	-37.1	11.2
October	105.5r	-24.0	12.2	-20.6	-22.8	1.2
November	105.1	-31.4	12.5	-33.6	-31.1	-12.9
December	NA	-28.1	NA	-32.9	-27.4	-3.3

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 Organization for Economic Cooperation and Development (OECD) Total 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 Organization for Economic Cooperation and Development (OECD); 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>
2011				
January	155.8	11.2	99.2	9.8
February	155.9	9.9	100.0	9.7
March	157.5	10.5	101.6	11.2
April	157.6	9.4	102.0	10.4
May	156.5	6.9	103.3	11.5
June	157.0	6.4	103.8	11.0
July	159.2r	7.7	104.3	10.4r
August	159.2r	6.2r	104.1r	8.5r
September	157.6r	2.8r	104.8	8.3r
October	157.8r	2.0r	106.4r	9.7r
November	159.8r	3.5r	107.8	10.6
December	162.7	6.3	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	November	December
1. Average weekly hours, primary metals (NAICS 331)	-0.2r	1.5
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994=100)	0.5r	-0.1
3. Ratio of price to unit labor cost (NAICS 331)	0.2	NA
4. USGS metals price index growth rate	0.0r	0.0
5. New orders, primary metal products, (NAICS 331 & 335929) 1982\$	0.3	NA
6. Index of new private housing units authorized by permit	0.3	NA
7. Growth rate of U.S. M2 money supply, 2005\$	-0.2	NA
8. PMI	0.2r	0.3
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	1.1	1.7
Coincident Index	October	November
1. Industrial production index, primary metals (NAICS 331)	0.2r	0.3
2. Total employee hours, primary metals (NAICS 331)	0.2	0.0
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$	1.0r	0.9
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	1.5r	1.3

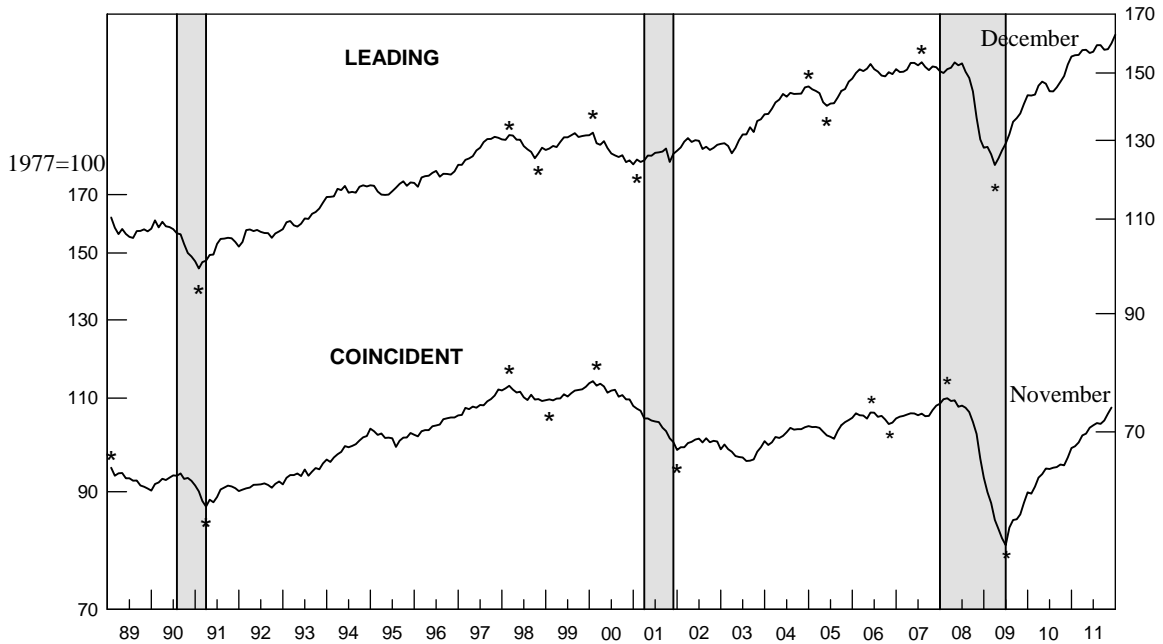
Sources: Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and U.S. Geological Survey; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board, 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.

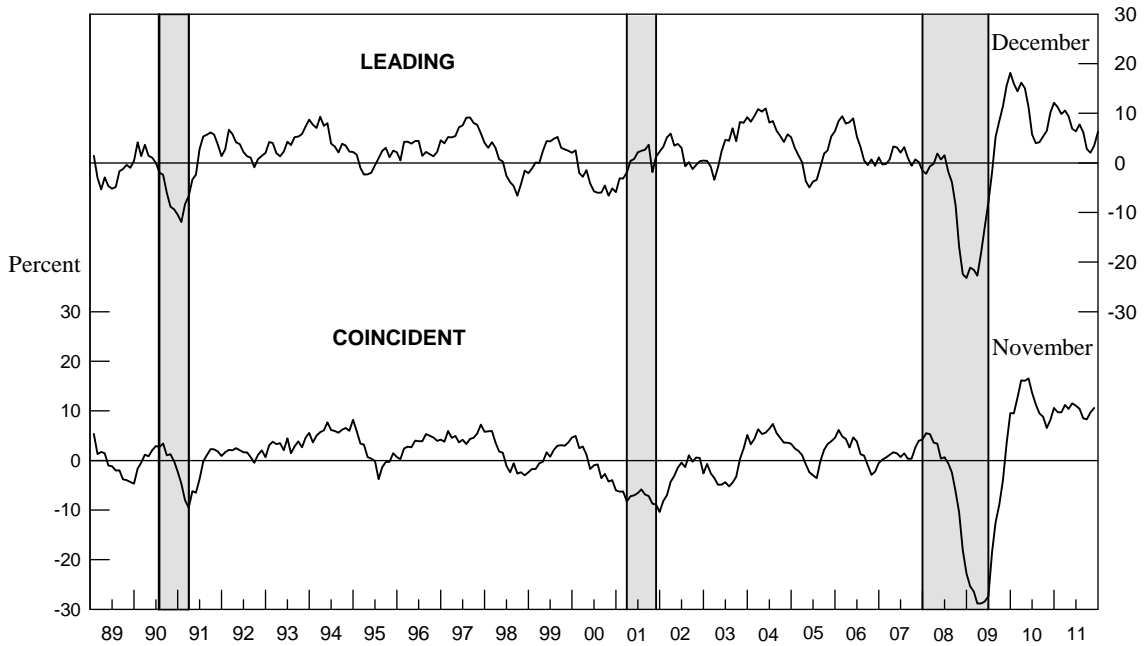
PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1989-2011 1977=100



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, 1989-2011 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
2010				
December	113.0	8.1	102.0	10.5
2011				
January	112.7	6.6	102.1	9.2
February	112.9	6.2	101.7	7.1
March	113.5	6.4	102.7	8.0
April	112.8	4.7	102.7	7.1
May	111.4	2.1	103.0	6.7
June	111.5	2.2	103.4	6.6
July	112.5	3.1r	102.2	3.5
August	113.1	3.2r	103.2	4.2
September	112.2	0.8	103.3r	3.2
October	112.0r	-0.3r	104.3r	4.3r
November	113.6	1.9	106.6	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 5.
The Contribution of Each Steel Index Component to the Percent Change in the Index from the Previous Month

Leading Index	October	November
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	-0.4r	0.6
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.2r	0.4
3. Shipments of household appliances, 1982\$	0.1	-0.3
4. S&P stock price index, steel companies	-0.3	0.5
5. Retail sales of U.S. passenger cars and light trucks (units)	0.1r	0.1
6. Growth rate of the price of steel scrap (#1 heavy melting, \$/ton)	-0.1	-0.2
7. Index of new private housing units authorized by permit	0.4	0.3
8. Growth rate of U.S. M2 money supply, 2005\$	-0.2	-0.2
9. PMI	-0.1	0.2
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	-0.3r	1.4
Coincident Index		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	0.2r	0.5
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.5r	0.8
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	0.2r	0.7
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	1.0r	2.1

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, 1989-2011

1977=100

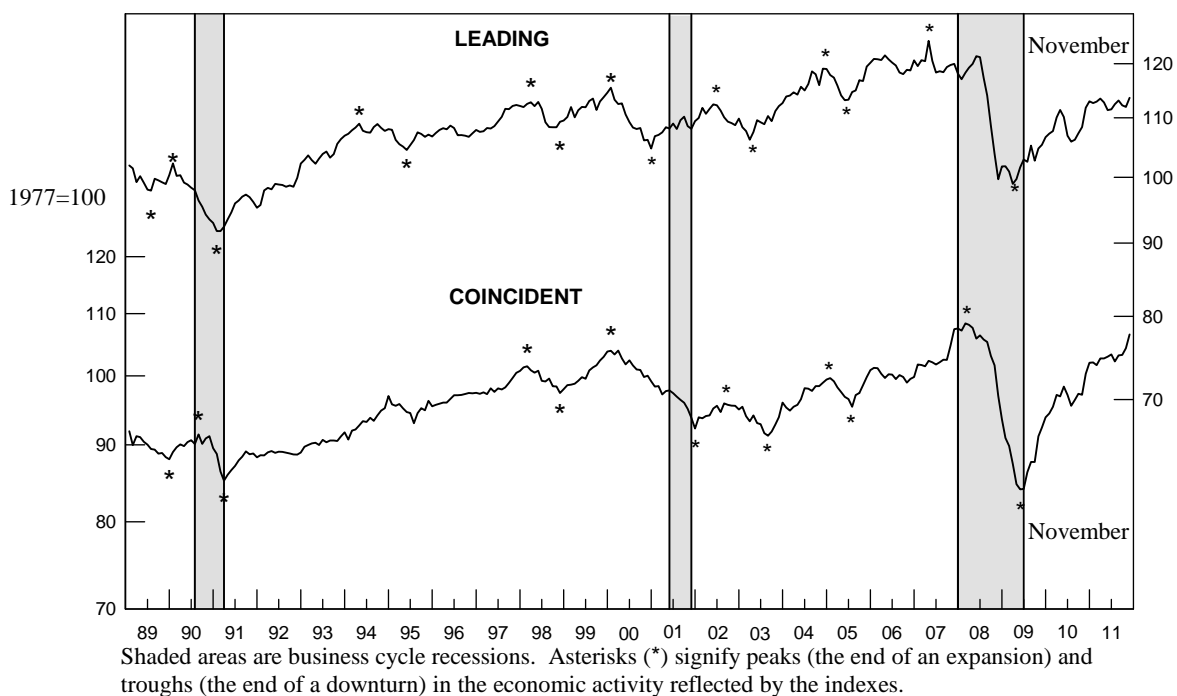
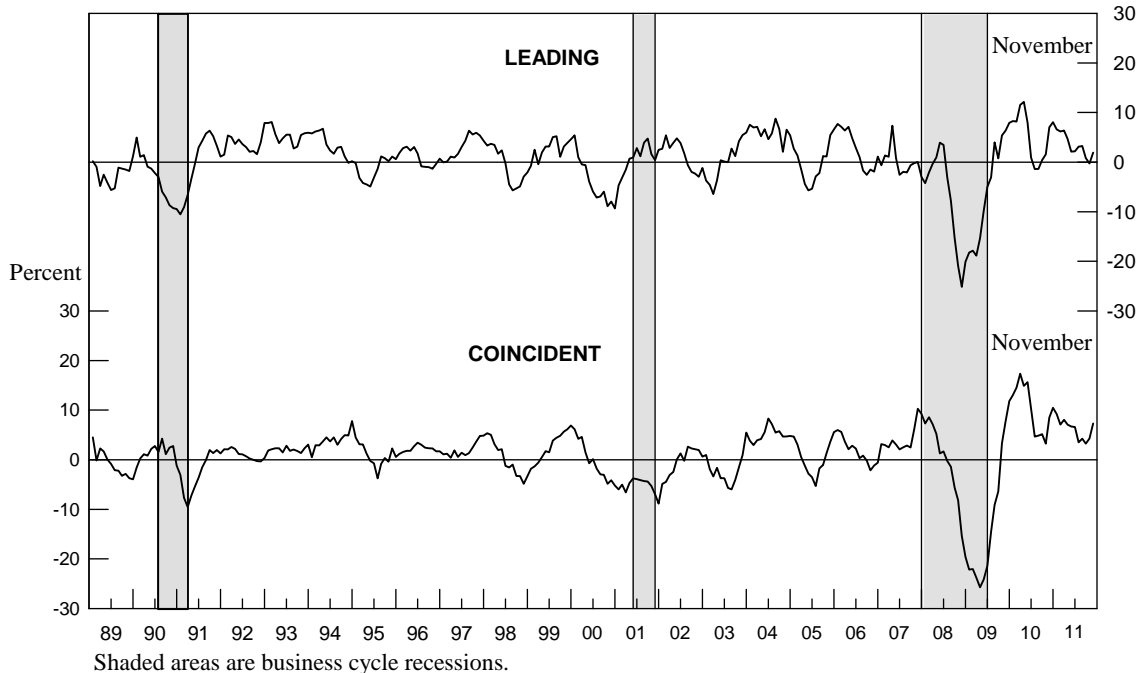


CHART 5.
STEEL: LEADING AND COINCIDENT GROWTH RATES, 1989-2011

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
2010				
December	121.2	2.6	98.8	3.2
2011				
January	118.7	-1.2	98.1	1.1
February	119.8	0.6	100.0	4.1
March	120.4	1.4	100.7	4.4
April	121.0	2.5	101.8	5.7
May	121.0	2.9	103.6	8.5
June	120.3	1.7	102.9r	5.8
July	119.9r	0.7r	104.8	8.7
August	117.9	-2.6r	107.0r	11.9r
September	113.9	-8.7	106.0r	8.8r
October	118.2r	-1.8r	107.5r	10.3r
November	117.6	-2.6	106.1	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.

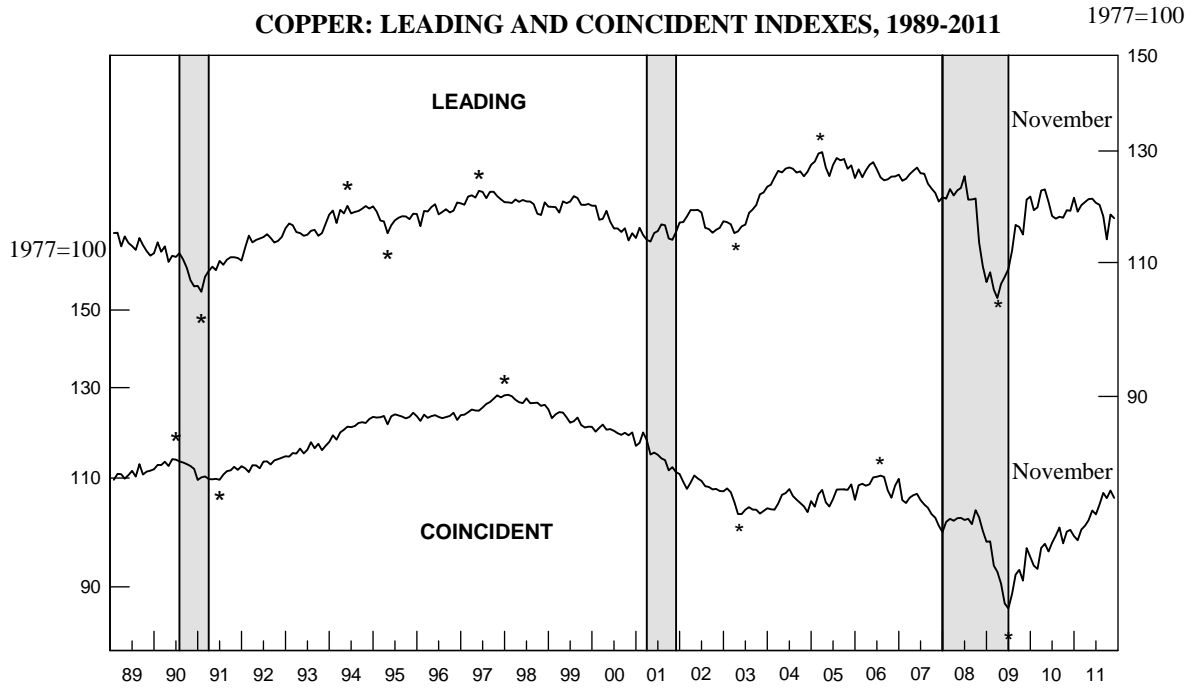
**Table 7.
The Contribution of Each Copper Index Component to the Percent Change
in the Index from the Previous Month**

	October	November
Leading Index		
1. Average weekly hours, nonferrous metals (except aluminum) (NAICS 3314)	0.9	-1.0
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982\$	0.8r	0.2
3. S&P stock price index, building products companies	0.8	0.5
4. LME spot price of primary copper	0.5	-0.3
5. Index of new private housing units authorized by permit	0.6	0.3
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	0.1	-0.1
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	3.7	-0.4
Coincident Index		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	-0.1r	-0.1
2. Total employee hours, nonferrous metals (except aluminum) (NAICS 3314)	1.5	-1.4
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	1.5r	-1.4

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.

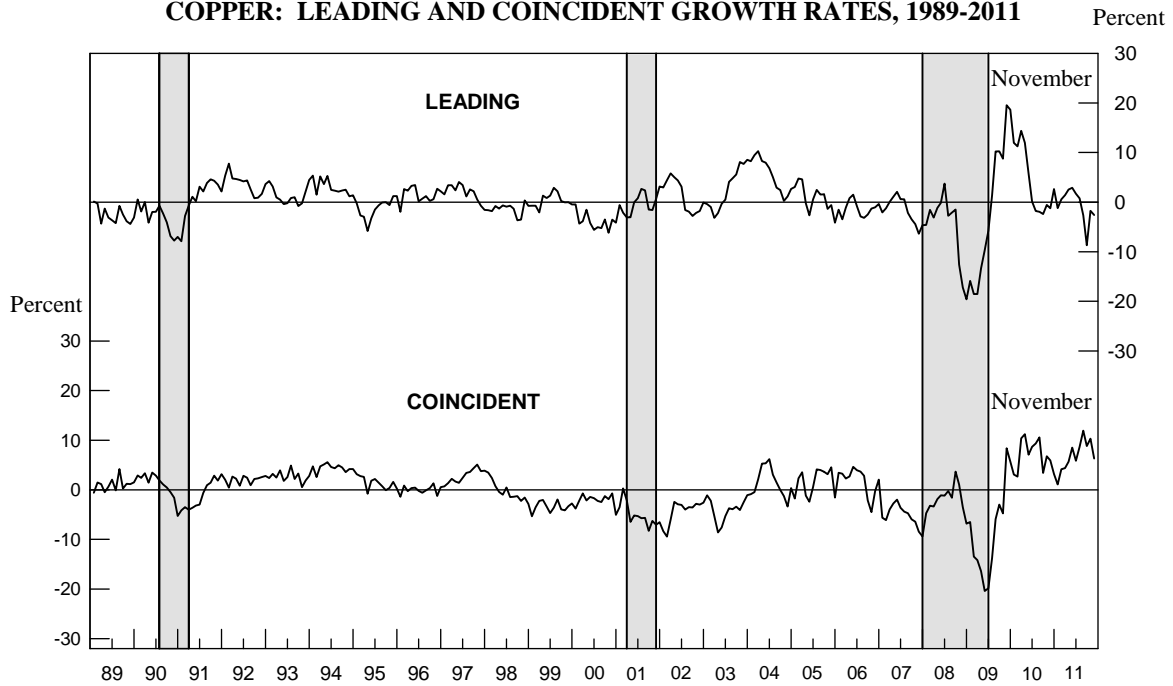
r: Revised NA: Not available

CHART 6.
COPPER: LEADING AND COINCIDENT INDEXES, 1989-2011



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.

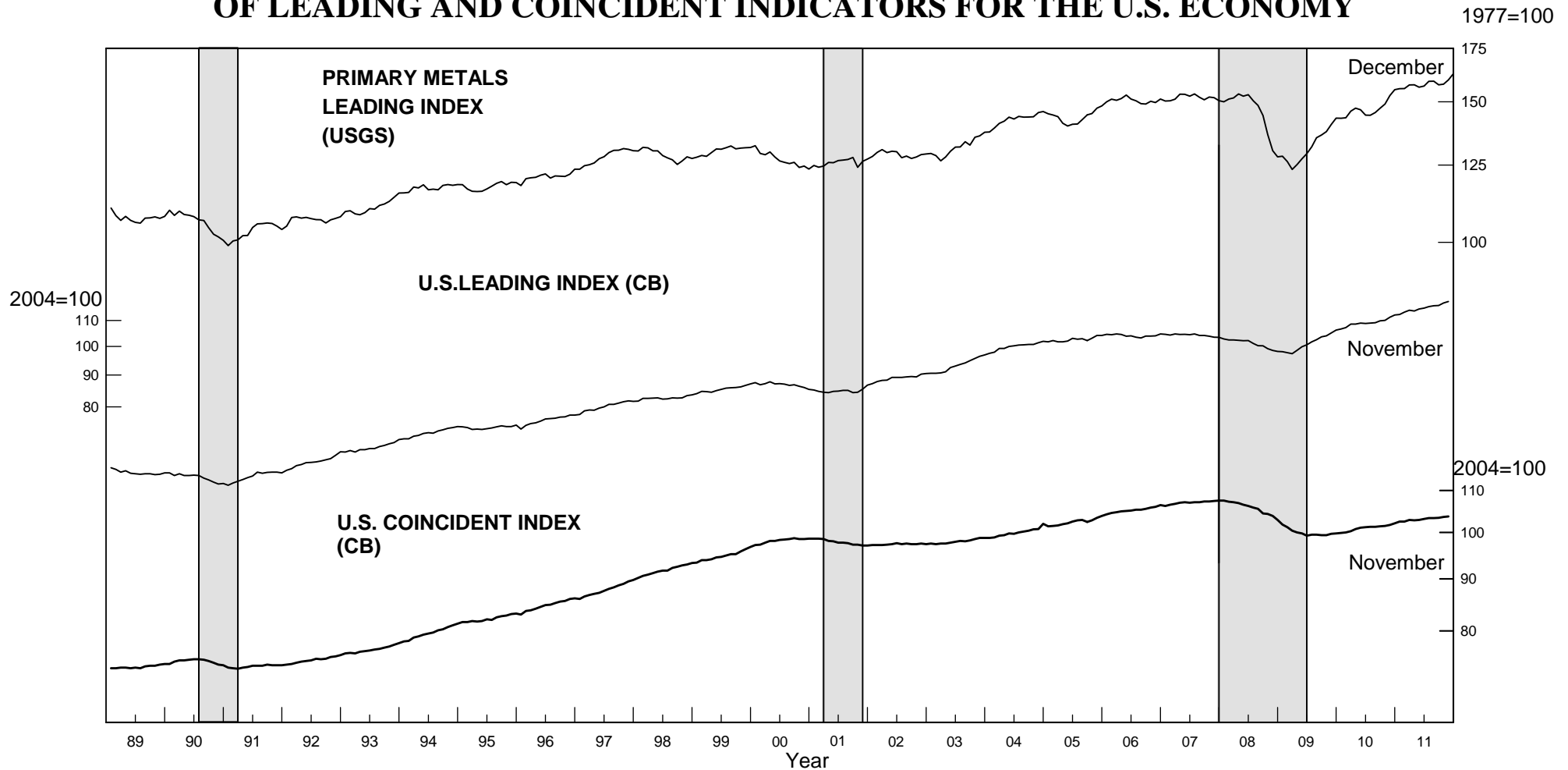
CHART 7.
COPPER: LEADING AND COINCIDENT GROWTH RATES, 1989-2011



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).

January 2012