

Metal Industry Indicators

Composite Indexes of Leading and Coincident Indicators of Selected Metal Industries for August and September—Summary Report

October 16, 2009

The **primary metals leading index** increased 0.4% in September to 131.0 from a revised 130.5 in August, and its 6-month smoothed growth rate increased to 5.1% from a revised 2.6% in August. 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. The leading index has increased for 6 consecutive months, and its relatively high growth rate indicates that primary metals industry activity is likely to continue to grow in the near term. The United States and other global economies appear strong enough to support a sustained upturn in primary metals industry activity.

Two of the four indicators that were available for the September index calculation increased, and two declined. The leading index now includes the JOC-USGS metals price index growth rate, which made the largest positive contribution. It contributed 0.9 percentage points to the index's net increase. The stock price index combining construction and farm machinery companies and industrial machinery companies also made a positive contribution, 0.7 percentage points, to the leading index in September. However, the PMI slipped slightly, its first decrease since the beginning of the year. It still remains above the threshold that denotes an increase in future manufacturing activity and only decreased the leading index less than 0.1 percentage point. On the other hand, the shorter average workweek in primary metals establishments in September held the leading index back 1.2 percentage points. The September 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 August. The steel leading index increased 2.3% in August, with most of its nine indicators posting gains. The rebound in the average workweek in iron and steel plants led with the largest positive contribution. Strong growth in light truck and car sales and the

steel scrap price growth rate also made hefty contributions in August. However, the inflation-adjusted M2 money supply growth rate fell sharply in August, offsetting much of the gain from other indicators. The steel leading index growth rate is now positive, suggesting that the decline in U.S. steel industry activity could be ending. The copper leading index increased 3.5% in August, mainly caused by a shift in the companies comprising the S&P stock price index for building products. The soaring copper price and overtime hours in copper rolling, drawing, extruding, and alloying plants also pushed the copper leading index higher. The copper leading index growth rate is suggesting positive activity growth in the domestic copper industry in the near term.

The **metals price leading index** increased 2.8% to 113.4 in August, the latest month for which it is available, from a revised 110.3 in July. Its 6-month smoothed growth rate increased to 30.2% in August, its highest rate on record, up from a revised 25.4% in July. Three of its four indicators increased, and one declined. An increase in the growth rate of the Organization for Economic Cooperation and Development (OECD) Total Leading Index made the largest contribution, 2.3 percentage points, to the net gain in the metals price leading index. The rising growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar made a 0.8-percentage-point contribution. The change in the yield spread between the U.S. 10-year Treasury Note and the federal funds rate was so slight that its contribution rounded to zero. Meanwhile, the inflation-adjusted value of new orders for U.S. nonferrous metal products declined and contributed -0.4 percentage points to the leading index. 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, continued to fall and is deep in negative territory. The negative inventories growth rate and the high metals price leading index growth rate indicate continued metals price growth. Global metals demand appears to be high enough to support ongoing metals price growth in the near term.

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

Primary Metals	-0.1%
Steel	0.6%
Copper	-0.8%

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 September and October is scheduled for release on the World Wide Web at 10:00 a.m. EST, Friday, November 20.

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**

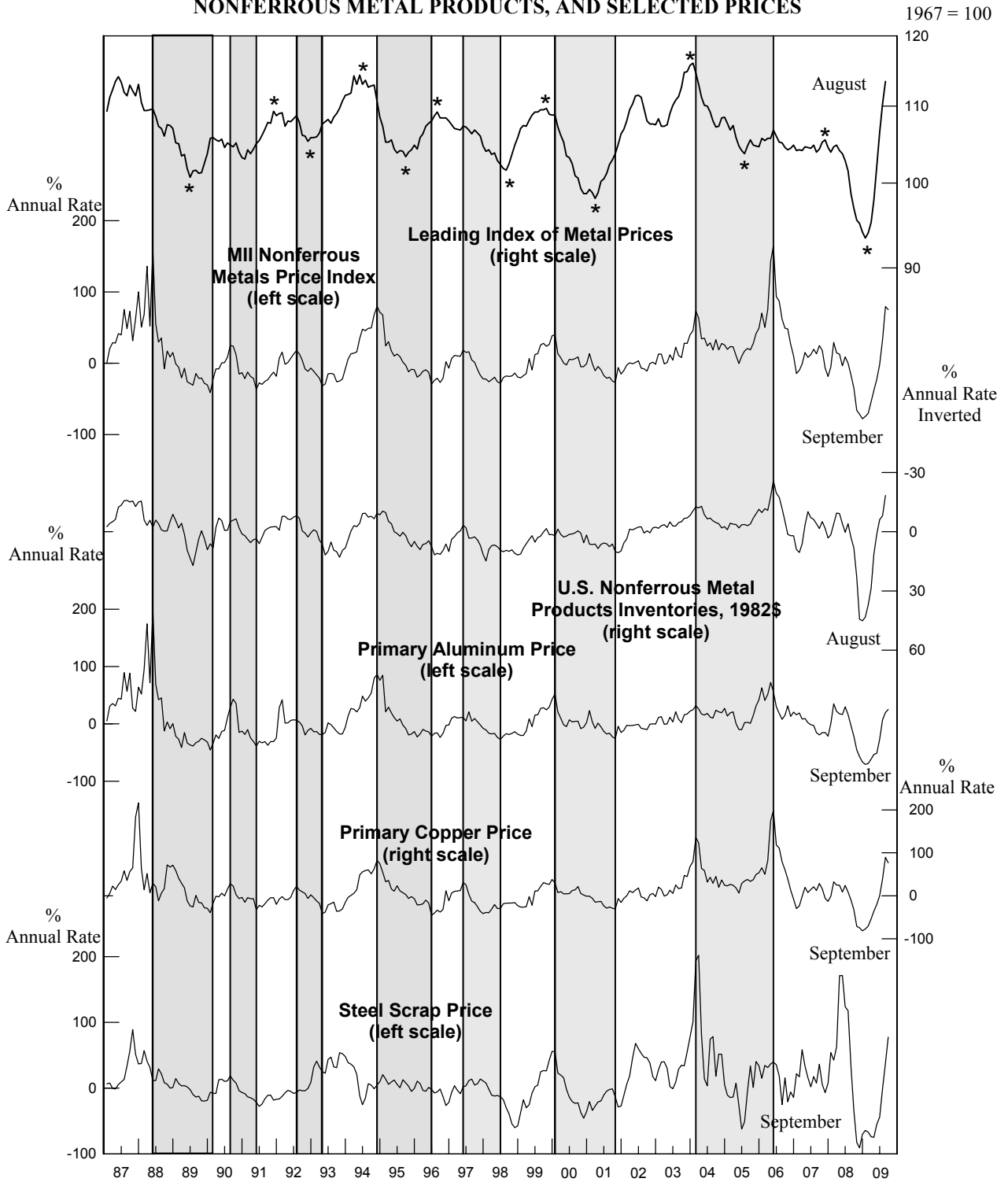
	Six-Month Smoothed Growth Rates					
	Leading Index of Metal Prices (1967=100)	MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982\$)	Primary Aluminum	Primary Copper	Steel Scrap
2008						
August	98.7r	-16.3	2.9	-2.7	-9.5	33.4
September	96.9r	-34.8	8.2	-21.9	-32.2	-34.1
October	95.5r	-65.9	23.1	-45.4	-70.8	-82.7
November	95.1r	-71.4	44.3	-57.2	-74.2	-90.8
December	94.1r	-77.9	45.1	-66.5	-81.2	-70.2
2009						
January	93.4r	-74.7	43.2	-70.8	-76.9	-64.3
February	94.0r	-70.2	37.1	-69.3	-70.3	-67.0
March	95.2r	-54.1	28.7	-61.6	-53.5	-74.0
April	97.9r	-38.1	11.4r	-53.4	-35.6	-74.9
May	102.1r	-22.6	1.2r	-51.2	-19.8	-55.1
June	106.5r	-1.6	-6.1r	-26.9	0.2	-44.0
July	110.3r	33.3	-8.1r	7.2	39.7	-0.7
August	113.4	79.3	-18.4r	19.8	89.7	38.1
September	NA	75.2	NA	25.2	77.0	77.4

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>
2008				
October	133.5r	-17.7r	98.5	-11.6
November	128.3r	-22.2r	94.3	-17.5
December	125.8r	-23.3r	90.4	-22.4
2009				
January	125.5r	-21.7r	87.3	-25.5
February	123.0r	-22.7r	85.0	-26.8
March	121.0r	-22.9r	82.5r	-28.4r
April	121.9r	-19.3r	81.1r	-27.9r
May	124.2r	-13.7r	79.9r	-27.2r
June	126.2r	-8.4r	79.4	-25.0
July	128.1r	-3.2r	82.1r	-16.8r
August	130.5r	2.6r	82.0	-13.7
September	131.0	5.1	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	August	September
1. Average weekly hours, primary metals (NAICS 331)	0.4r	-1.2
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	1.0r	0.7
3. Ratio of price to unit labor cost (NAICS 331)	0.8	NA
4. JOC-USGS metals price index growth rate	0.8r	0.9
5. New orders, primary metal products, (NAICS 331 & 335929) 1982\$	-0.2	NA
6. Index of new private housing units authorized by permit	0.1	NA
7. Growth rate of U.S. M2 money supply, 2005\$	-1.6	NA
8. PMI	0.5r	-0.1
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	1.8r	0.3
Coincident Index	July	August
1. Industrial production index, primary metals (NAICS 331)	1.9r	0.2
2. Total employee hours, primary metals (NAICS 331)	0.3r	0.3
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$	1.1r	-0.7
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	3.4r	-0.1

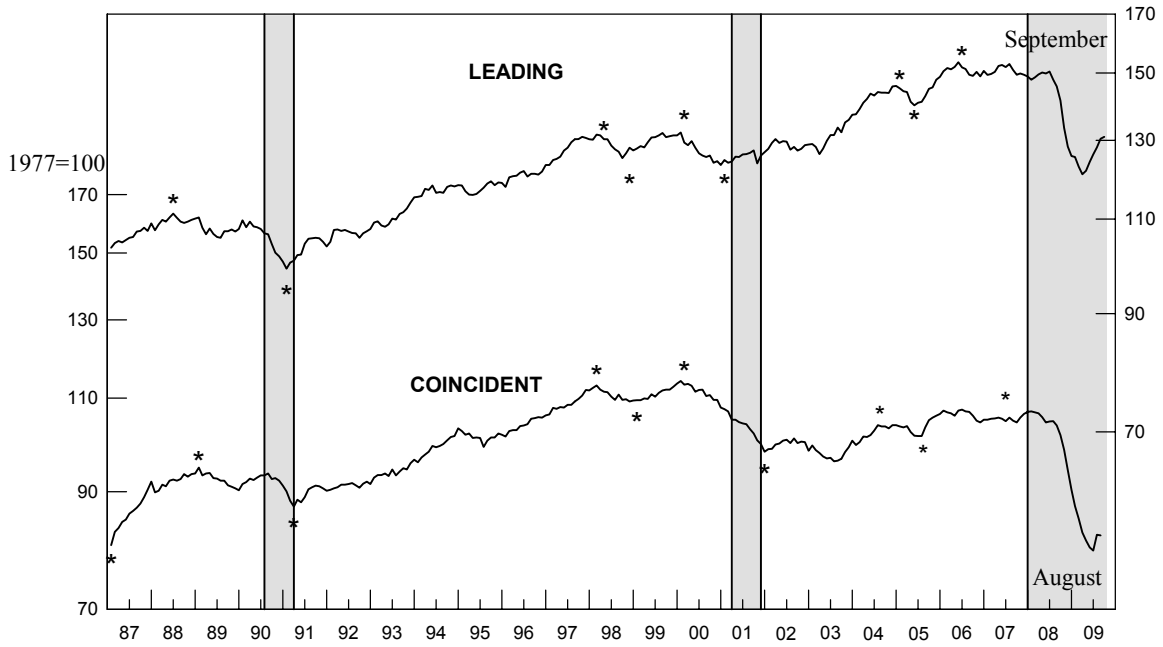
Sources: Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and U.S. Geological Survey; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board,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

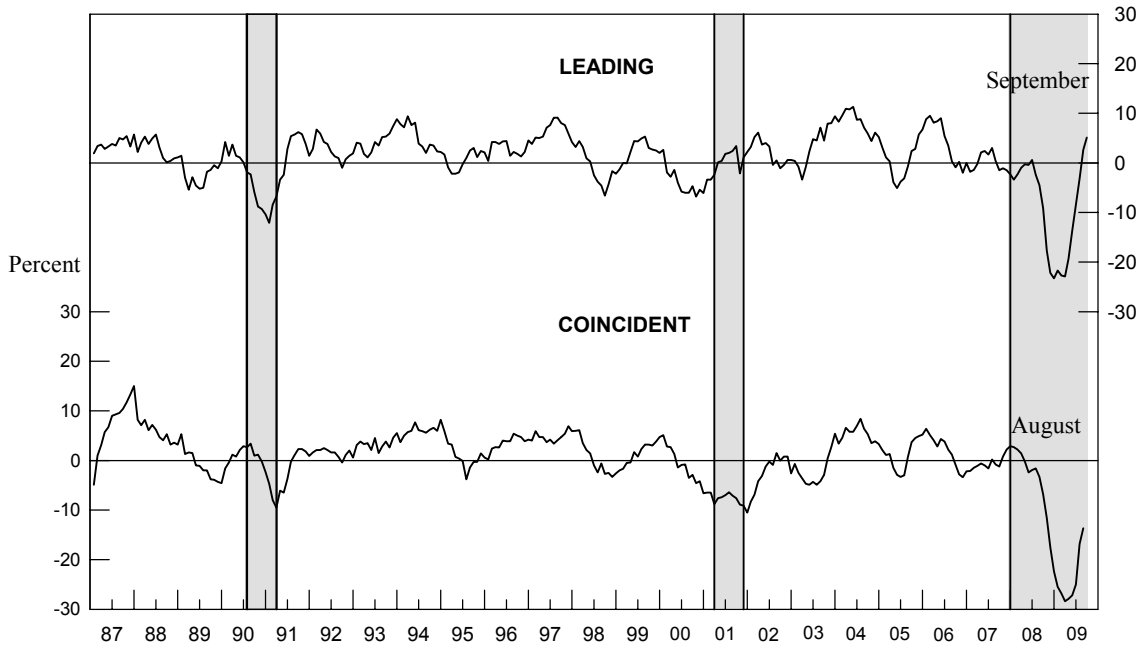
PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1987-2009 1977=100



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				
September	108.1	-15.1	99.3	-6.8
October	103.3	-20.8	96.7	-10.9
November	99.7	-24.3	91.9	-18.0
December	101.4	-19.9	88.1	-22.6
2009				
January	102.0	-17.3	85.5	-25.0
February	100.7	-17.6	84.4	-24.6
March	99.7r	-17.2	82.3r	-25.8r
April	99.4	-15.4	79.9r	-27.3r
May	101.4	-9.8	79.5r	-25.1r
June	102.6	-5.1	80.6r	-20.3r
July	101.6r	-4.3r	82.2r	-14.3r
August	103.9	2.0	82.7	-10.1

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

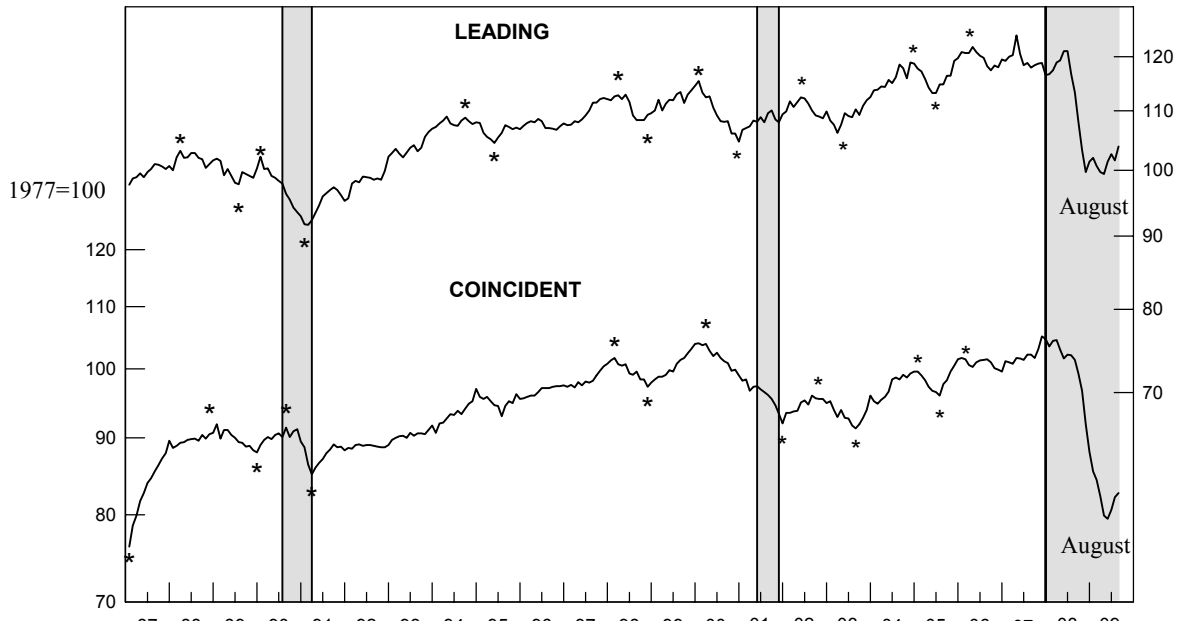
	July	August
Leading Index		
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	-0.9	1.4
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	-0.2	-0.2
3. Shipments of household appliances, 1982\$	0.0	-0.2
4. S&P stock price index, steel companies	-0.3	0.5
5. Retail sales of U.S. passenger cars and light trucks (units)	0.6	0.9
6. Growth rate of the price of steel scrap (#1 heavy melting, \$/ton)	0.4	0.8
7. Index of new private housing units authorized by permit	-0.1	0.1
8. Growth rate of U.S. M2 money supply, 2005\$	-1.0	-1.5
9. PMI	0.6	0.5
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	-0.9	2.3
Coincident Index		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	2.0r	0.1
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.6r	-0.6
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	-0.7r	1.1
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	2.0r	0.7

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

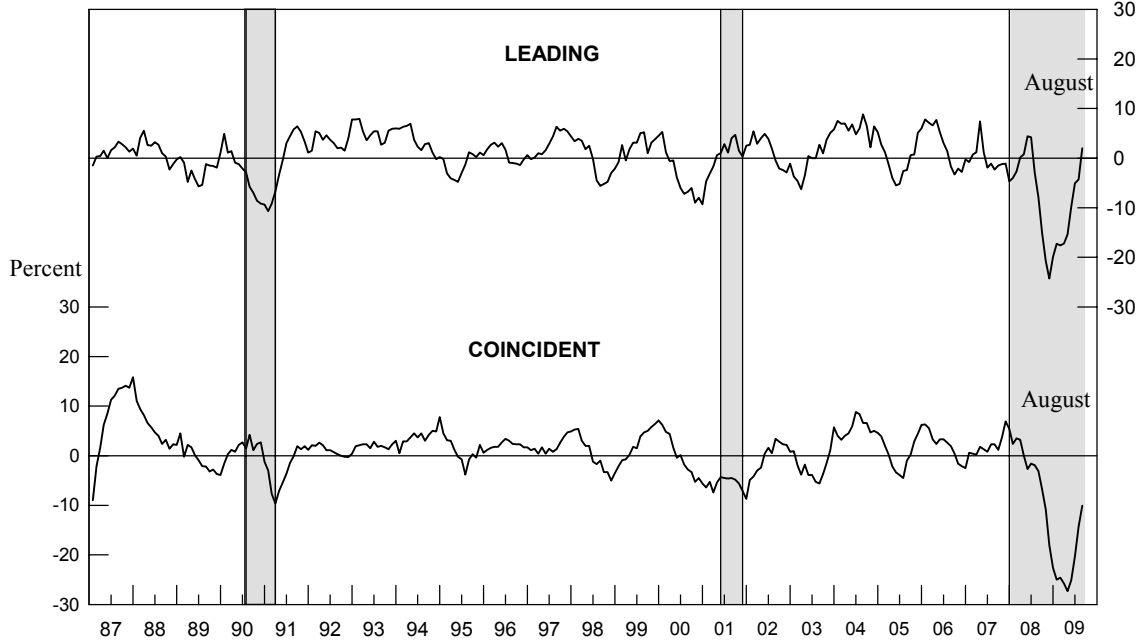
1977=100



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 5.
STEEL: 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 6.
The Copper Industry Indexes and Growth Rates

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
2008				
September	121.8	-3.6	103.4	-0.1
October	114.7	-13.4	101.3	-3.7
November	110.4	-18.4	99.6	-6.3
December	108.5	-19.7	98.4	-8.1
2009				
January	107.2	-19.8	97.9	-8.5
February	103.7	-23.0	94.9	-12.9r
March	102.3	-22.7	96.0	-9.9
April	105.6r	-15.6r	94.1r	-12.1r
May	107.9	-10.1	93.3r	-12.2r
June	110.3	-4.1	93.4r	-10.4r
July	112.9r	2.4r	95.7r	-4.7r
August	116.9	10.7	94.9	-5.0

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.

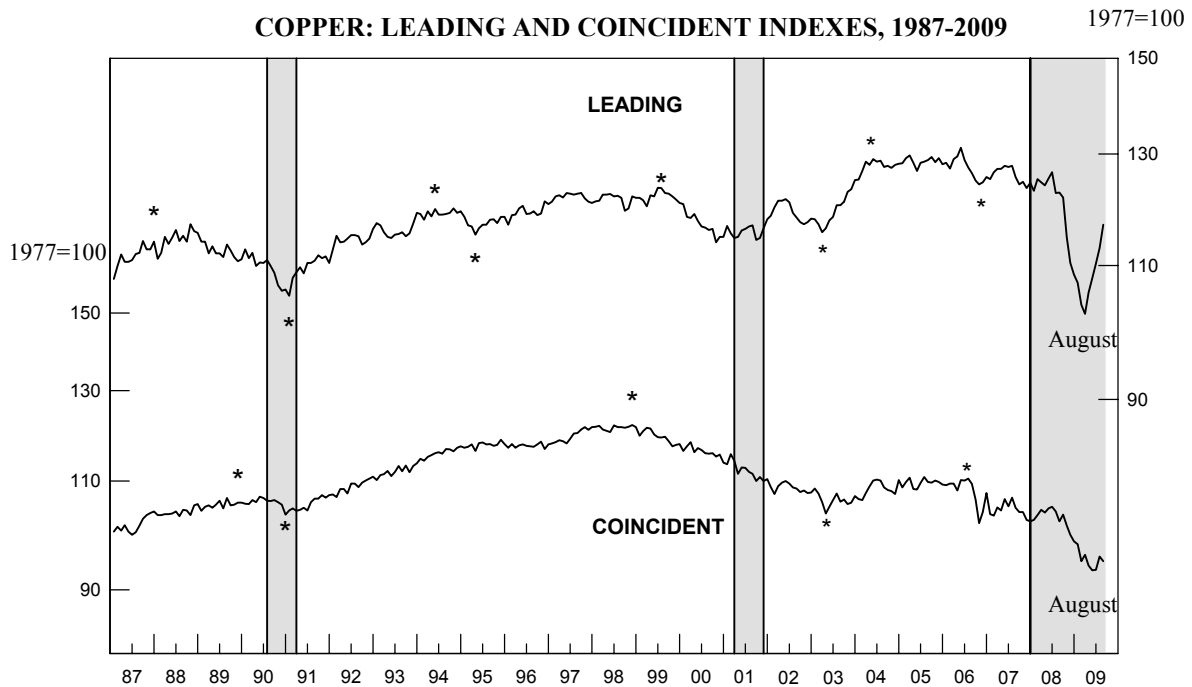
Table 7.
The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month

	July	August
Leading Index		
1. Average weekly overtime hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	1.1	0.5
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982\$	0.6r	-0.4
3. S&P stock price index, building products companies	0.2	2.6
4. LME spot price of primary copper	0.7	0.7
5. Index of new private housing units authorized by permit	-0.1	0.2
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.1	0.0
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	2.4r	3.6
Coincident Index		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	-0.2r	0.3
2. Total employee hours, copper rolling, drawing, extruding, and alloying (NAICS 33142)	2.5r	-1.1
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	2.4r	-0.7

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.

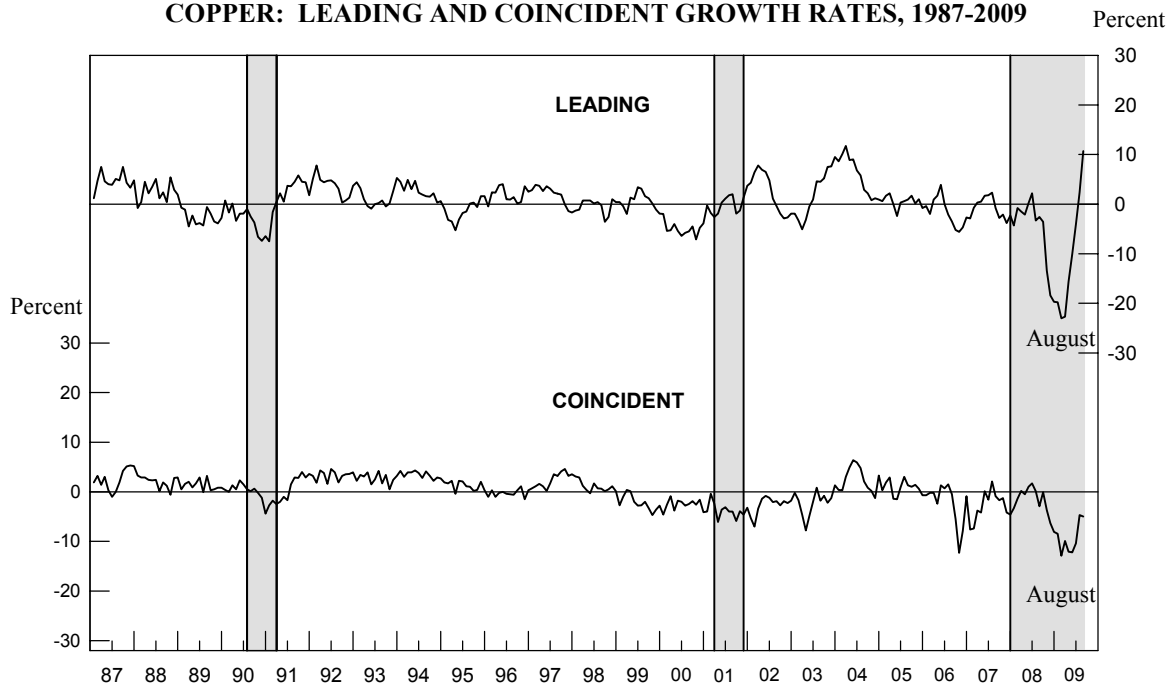
r: Revised NA: Not available

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

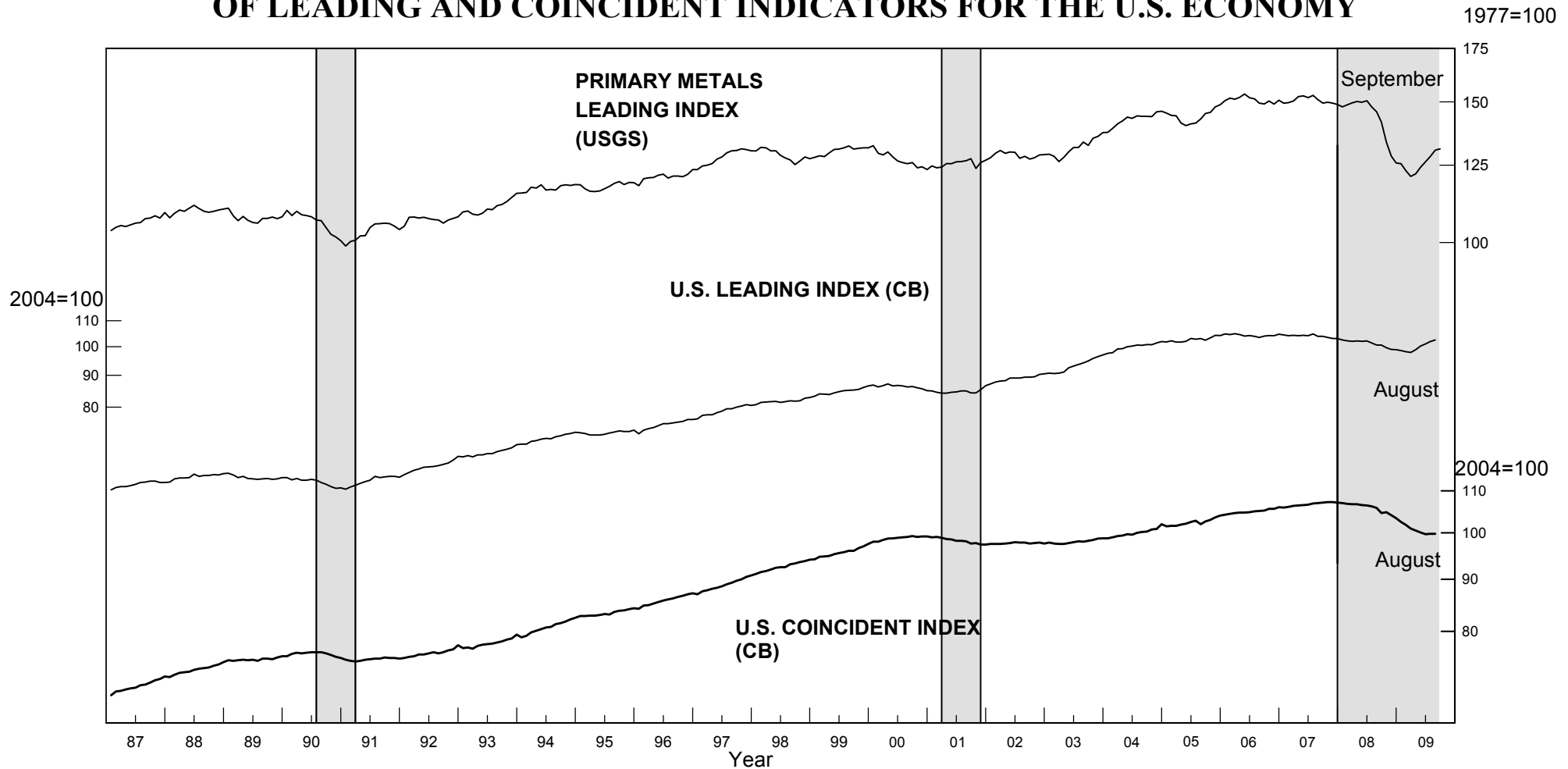


Shaded areas are business cycle recessions.

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).

October 2009