

# Metal Industry Indicators

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

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September 17, 2004

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The **primary metals leading index** fell 1.3% in August to 141.8 from a revised 143.6 in July, and its 6-month smoothed growth rate continued to decline. The growth rate has decreased 5 consecutive months from its recent high in March. It now stands at 3.5%, down from a revised 7.4% in July. 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. While economic conditions are still favorable in the United States and most other industrialized countries, many economies have slowed from higher growth levels experienced earlier this year. As for metals activity, global demand for metals is still high enough to keep industry activity growth moving along at a moderate pace over the next few months.

Three of the four indicators that were available for the August index calculation decreased, and one increased. A decrease in the PMI, a measure of U.S. manufacturing activity, made the largest negative contribution to the overall decline in the leading index. It contributed -0.7 percentage points. The PMI, however, is still in the range that suggests increased manufacturing activity. The JOC-ECRI metals price index growth rate contributed -0.5 percentage points to the leading index. The second decrease in a row in the S&P stock price index for construction and farm machinery companies and for industrial machinery companies contributed -0.4 percentage points. In contrast, a slightly longer average workweek in primary metals establishments added 0.2 percentage points to the leading index. The August 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 July. The steel leading index rebounded

in July, moving up 1.4% with seven of its nine indicators increasing. An uptick in car and light truck sales was the largest contributor to the net increase in the leading index. Rising stock prices for steel companies and increased shipments of household appliances also pushed the index higher in July. The demand for steel and the leading index growth rate are both indicating, at least, moderate activity growth in the steel industry in the near future. The copper leading index edged up 0.2% in July, with half of its six indicators increasing. Rises in new housing permits issued, the S&P stock price index for building materials, and the spot price of copper pushed the leading index up. While the copper leading index growth rate has steadily declined recently, it is still indicating moderate growth in copper activity in the near term.

The **metals price leading index** slipped 0.4% in July, the latest month for which it is available, to 111.1 from a revised 111.6 in June, and its 6-month smoothed growth rate lowered to -3.8% from a revised -3.1% in June. Two of its three available indicators decreased. A closer yield spread between the U.S. 10-year Treasury Note and the federal funds rate made a -0.6-percentage-point contribution to the net decline in the leading index. The growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products contributed -0.2 percentage points. However, a gain in the growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar contributed 0.4 percentage points. The fourth component, the growth rate of the ECRI 18-Country Long Leading Index retracted for the second month in June, the latest month for which it is available. This is an indication of slower growth in global economies. The ECRI 18-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, edged down to -7.6% in July from -7.1% in June. Although the growth rate decreased in July, it has generally increased since March, suggesting a decline metals price growth. This indicator usually moves inversely with the price of metals. Moreover, the declining metals price leading index growth rate is signaling continued weakness in metals price growth.

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

Primary Metals	-0.1%
Steel	-1.2%
Copper	-0.4%

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](mailto:gjames@usgs.gov)) at the U.S. Geological Survey.

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

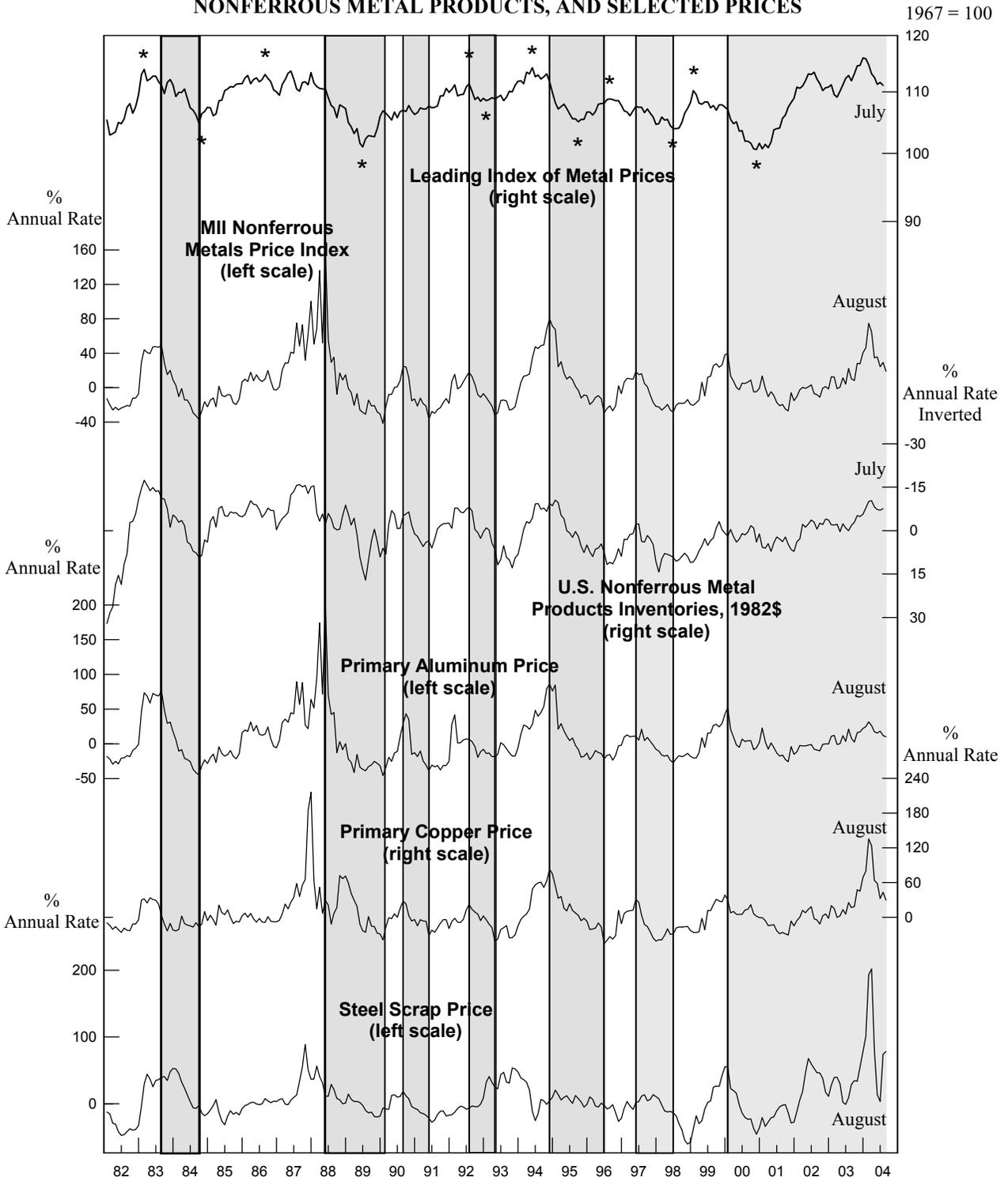
	Leading Index of Metal Prices (1967=100)	Six-Month Smoothed Growth Rates				
		MII Nonferrous Metals Price Index	U.S. Nonferrous Metal Products Inventories (1982\$)	Primary Aluminum	Primary Copper	Steel Scrap
<b>2003</b>						
July	112.8r	22.4	0.0	21.2	25.2	9.1
August	111.9r	10.4	-1.8	7.9	16.8	29.1
September	113.1r	8.2	-2.9	2.5	18.4	34.7
October	114.5r	28.2	-5.2	15.9	47.5	33.8
November	114.6r	27.7	-4.9	17.2	44.8	55.2
December	115.9r	40.4	-5.6	22.2	68.6	77.9
<b>2004</b>						
January	115.8r	46.1	-7.8	24.7	79.3	100.7
February	114.7r	74.8	-10.1	31.7	135.4	193.5
March	113.1r	64.7	-10.3r	26.3	123.4	201.9
April	112.5r	34.7	-8.2r	17.3	63.4	80.1
May	111.3r	35.9	-7.3r	15.5	58.8	13.8
June	111.6r	24.5	-7.1	18.2	32.4	3.4
July	111.1	29.4	-7.6	11.8	43.2	74.4
August	NA	19.2	NA	10.2	29.4	78.3

**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 Economic Cycle Research Institute's 18-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>
<b>2003</b>				
September	132.8	5.2	95.1	-3.8
October	134.9r	7.5r	95.6	-2.3
November	136.1	8.4	96.5	0.1
December	137.8	9.8	97.5	2.4
<b>2004</b>				
January	138.9r	10.4r	97.6	2.6
February	140.9	12.0	98.0	3.6
March	142.8	13.3r	99.2	5.8r
April	142.5	10.8	98.3	3.8
May	142.7r	9.2r	98.3	3.4
June	142.8r	7.7r	99.5r	5.3r
July	143.6r	7.4r	99.4	4.3
August	141.8	3.5	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**

<b>Leading Index</b>	<b>July</b>	<b>August</b>
1. Average weekly hours, primary metals (NAICS 331)	0.0r	0.2
2. Weighted S&P stock price index, machinery, construction and farm and industrial (December 30, 1994 = 100)	-0.1r	-0.4
3. Ratio of price to unit labor cost (NAICS 331)	-0.1	NA
4. JOC-ECRI metals price index growth rate	0.3r	-0.5
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, 2000\$	-0.2	NA
8. PMI	0.1r	-0.7
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	0.6r	-1.4
<b>Coincident Index</b>	<b>June</b>	<b>July</b>
1. Industrial production index, primary metals (NAICS 331)	0.6r	-0.3
2. Total employee hours, primary metals (NAICS 331)	0.3r	-0.1
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$	0.2r	0.1
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	1.2r	-0.2

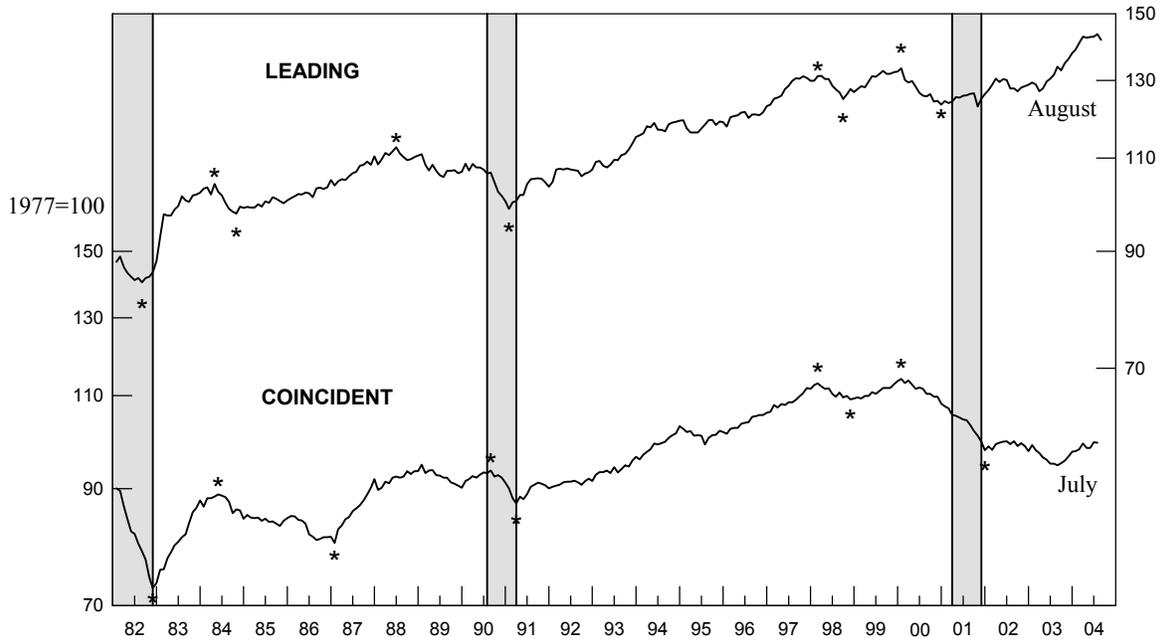
**Sources:** Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and Economic Cycle Research Institute, Inc.; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal 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.**

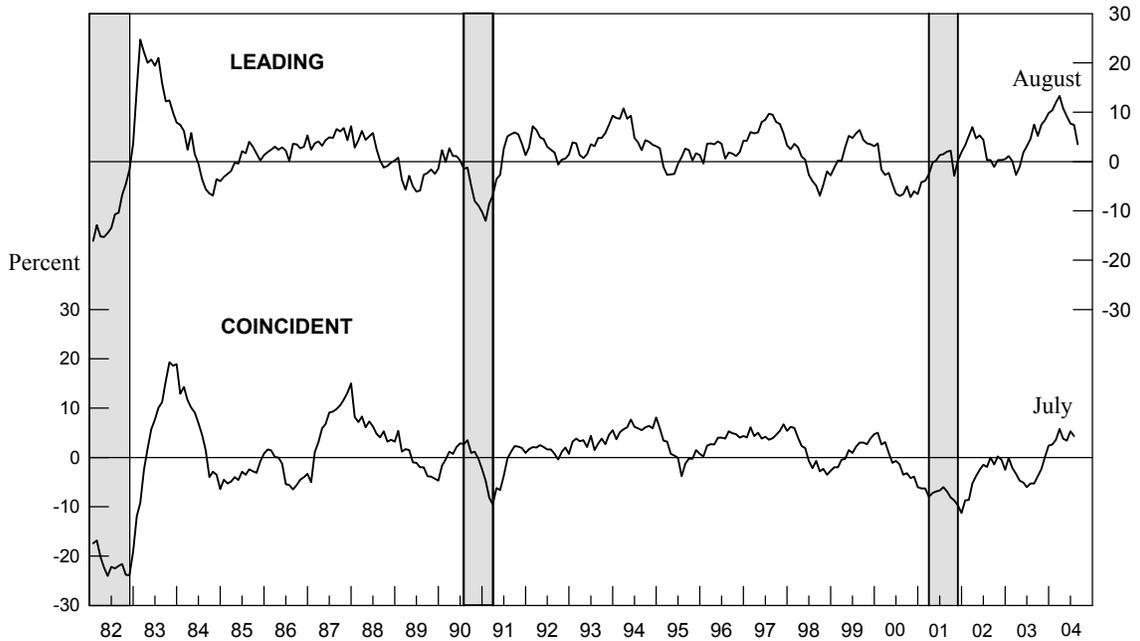
**PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1982-2004** 1977=100



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, 1982-2004** 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
<b>2003</b>				
August	112.6	4.3	90.1	-7.1
September	111.8	2.6	91.0	-4.4
October	112.1	2.9r	90.9	-4.0
November	113.6	5.1	91.5	-2.1
December	114.5	6.1	93.4	2.3
<b>2004</b>				
January	113.7r	4.3r	93.2	2.1
February	113.3	3.2	92.1	0.1
March	114.5r	4.5r	92.4r	1.1r
April	115.3r	4.8r	92.4	1.2
May	116.5r	6.0r	92.6	1.8
June	116.1r	4.5r	94.0r	4.5r
July	117.7	6.4	92.9	1.7

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.

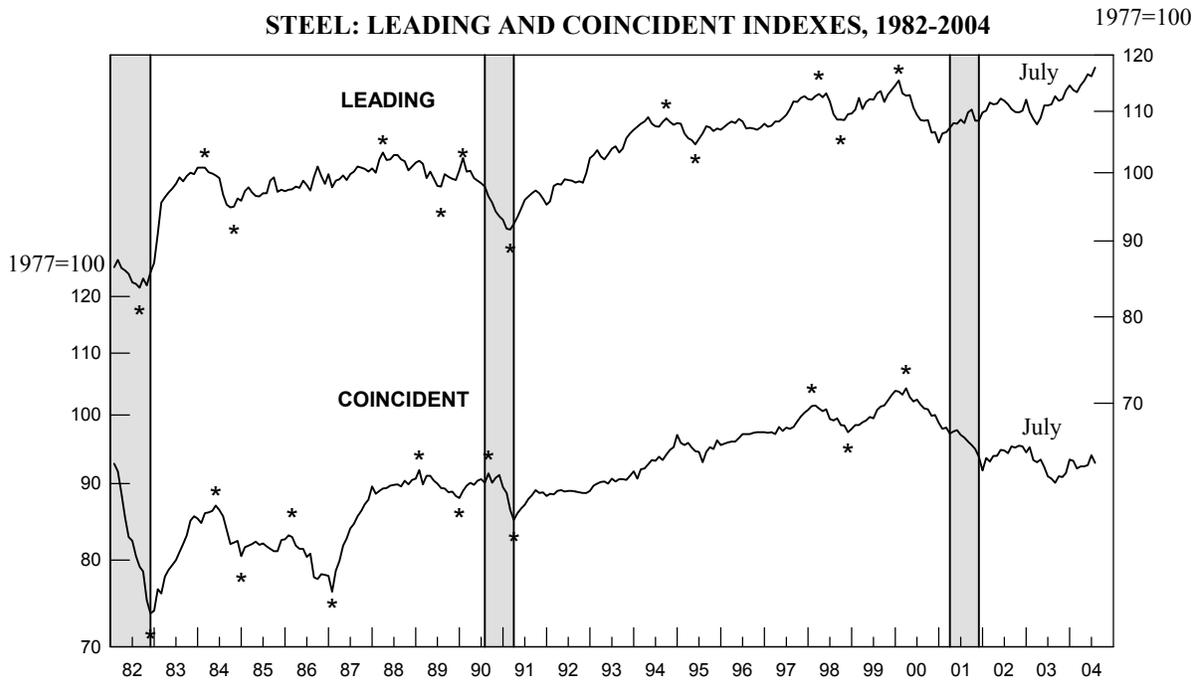
**Table 5.  
The Contribution of Each Steel Index Component to the Percent Change  
in the Index from the Previous Month**

<b>Leading Index</b>	<b>June</b>	<b>July</b>
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	0.2r	-0.7
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.0r	0.2
3. Shipments of household appliances, 1982\$	0.2r	0.4
4. S&P stock price index, steel companies	0.7	0.5
5. Retail sales of U.S. passenger cars and light trucks (units)	-0.7	0.6
6. Growth rate of the price of steel scrap (#1 heavy melting, \$/ton)	0.0	0.0
7. Index of new private housing units authorized by permit	-0.4	0.3
8. Growth rate of U.S. M2 money supply, 2000\$	-0.3	-0.2
9. PMI	-0.2	0.1
Trend adjustment	0.0	0.0
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Percent change (except for rounding differences)	-0.5r	1.2
<b>Coincident Index</b>		
1. Industrial production index, iron and steel products (NAICS 3311 & 3312)	0.3	-0.3
2. Value of shipments, iron and steel mills (NAICS 3311 & 3312), 1982\$	0.4r	-0.1
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	0.6r	-0.9
Trend adjustment	0.1	0.1
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Percent change (except for rounding differences)	1.4r	-1.2

**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.

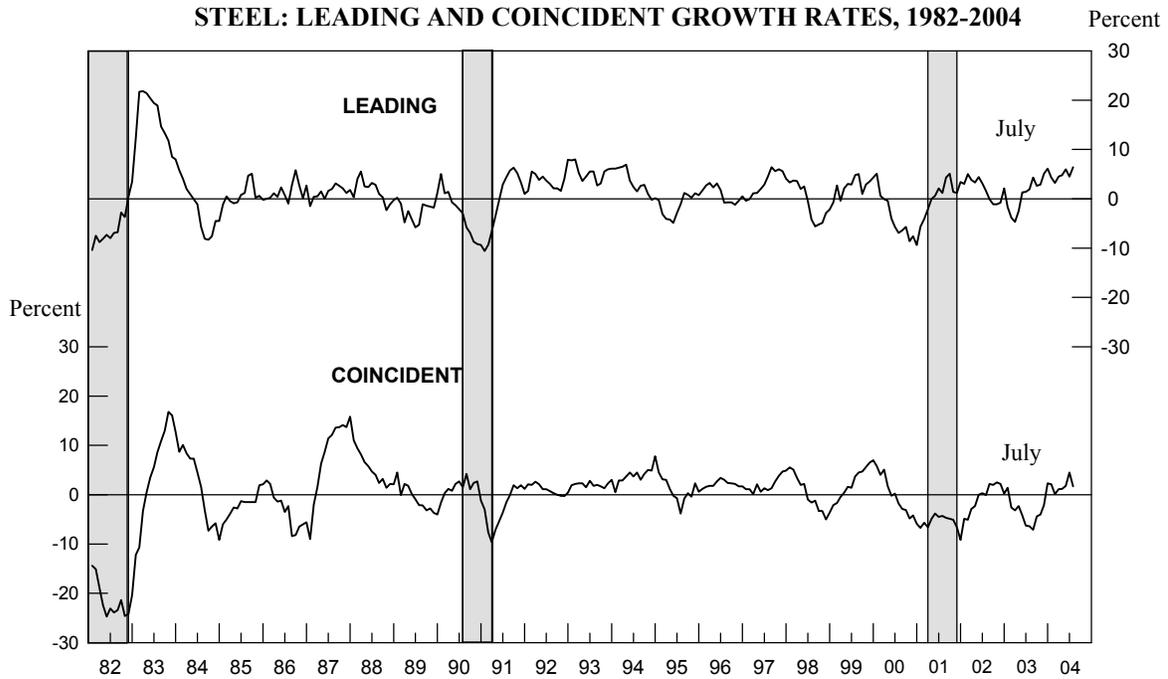
r: Revised

**CHART 4.**  
**STEEL: LEADING AND COINCIDENT INDEXES, 1982-2004**



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, 1982-2004**



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**

	<u>Leading Index</u>		<u>Coincident Index</u>	
	<u>(1977 = 100)</u>	<u>Growth Rate</u>	<u>(1977 = 100)</u>	<u>Growth Rate</u>
<b>2003</b>				
August	120.0	4.6	107.3	-1.4
September	120.5	5.1	107.5	-0.6
October	122.4	7.7	106.2	-2.6
November	122.9	7.6	106.5	-1.8
December	124.6	9.6	107.8	0.9
<b>2004</b>				
January	124.8	8.9	106.9	-0.6
February	126.4	10.4	106.9	-0.2
March	128.0r	11.5r	108.3	2.4
April	127.8	9.5	109.8r	4.9r
May	128.8	9.4	111.7r	7.4r
June	128.2r	6.9r	111.5r	6.4r
July	128.4	5.9	111.1	4.9

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.

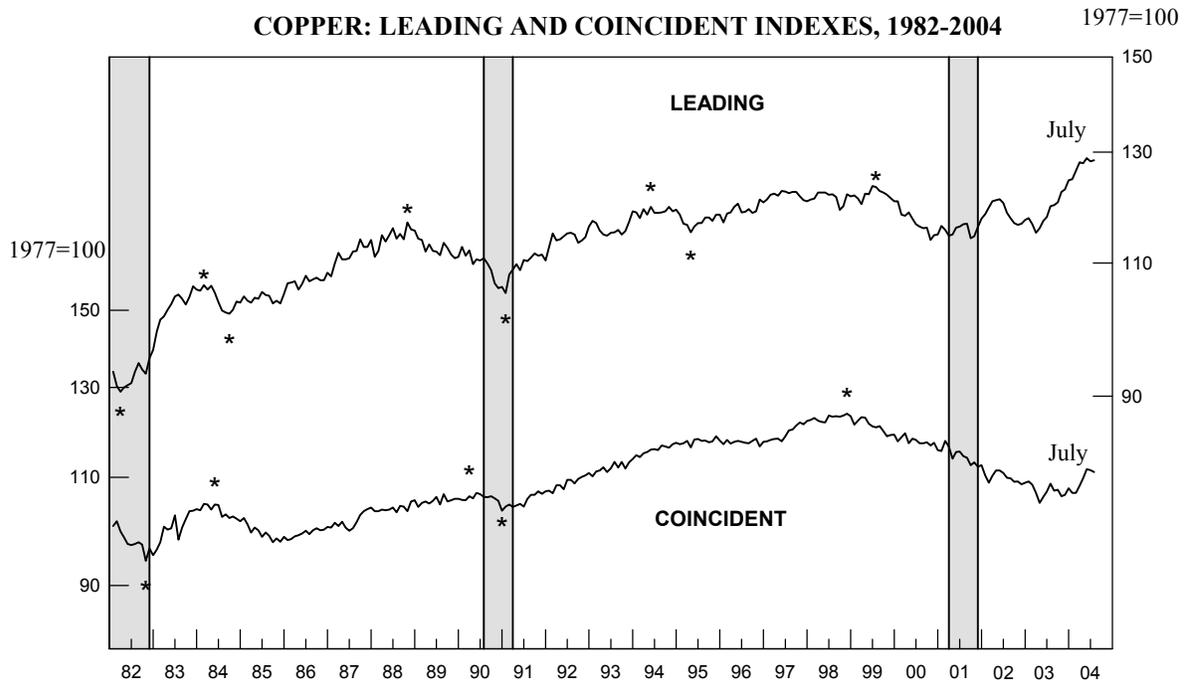
**Table 7.**  
**The Contribution of Each Copper Index Component to the Percent Change in the Index from the Previous Month**

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

**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.

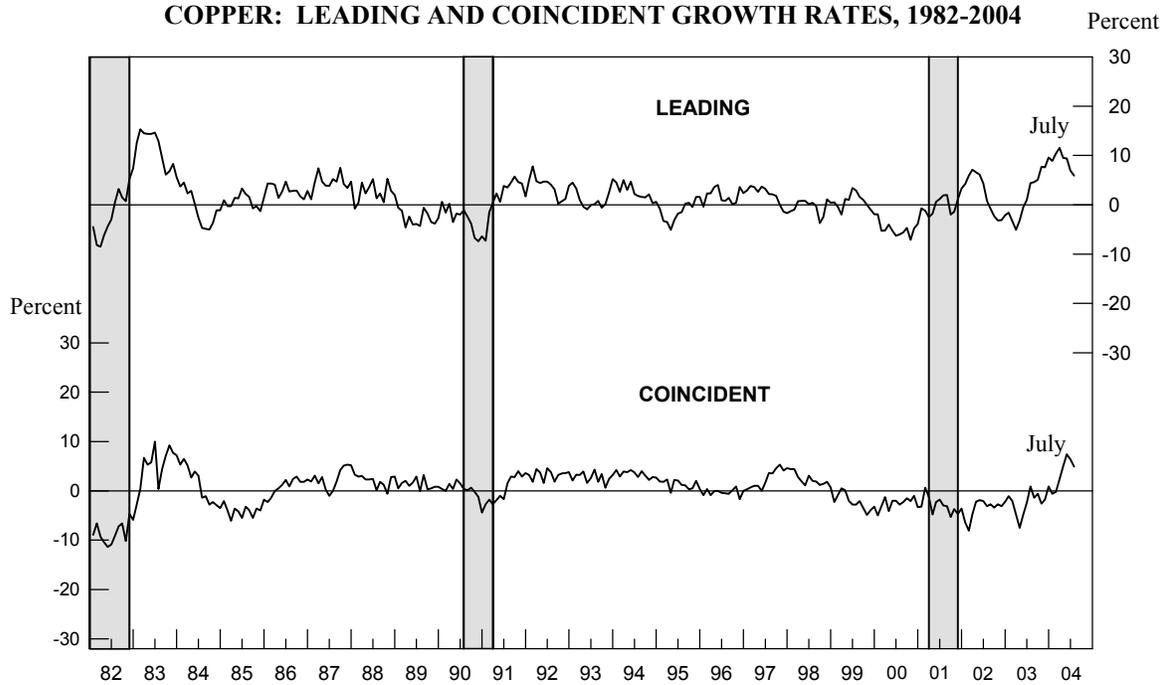
r: Revised      NA: Not available

**CHART 6.**  
**COPPER: LEADING AND COINCIDENT INDEXES, 1982-2004**



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, 1982-2004**

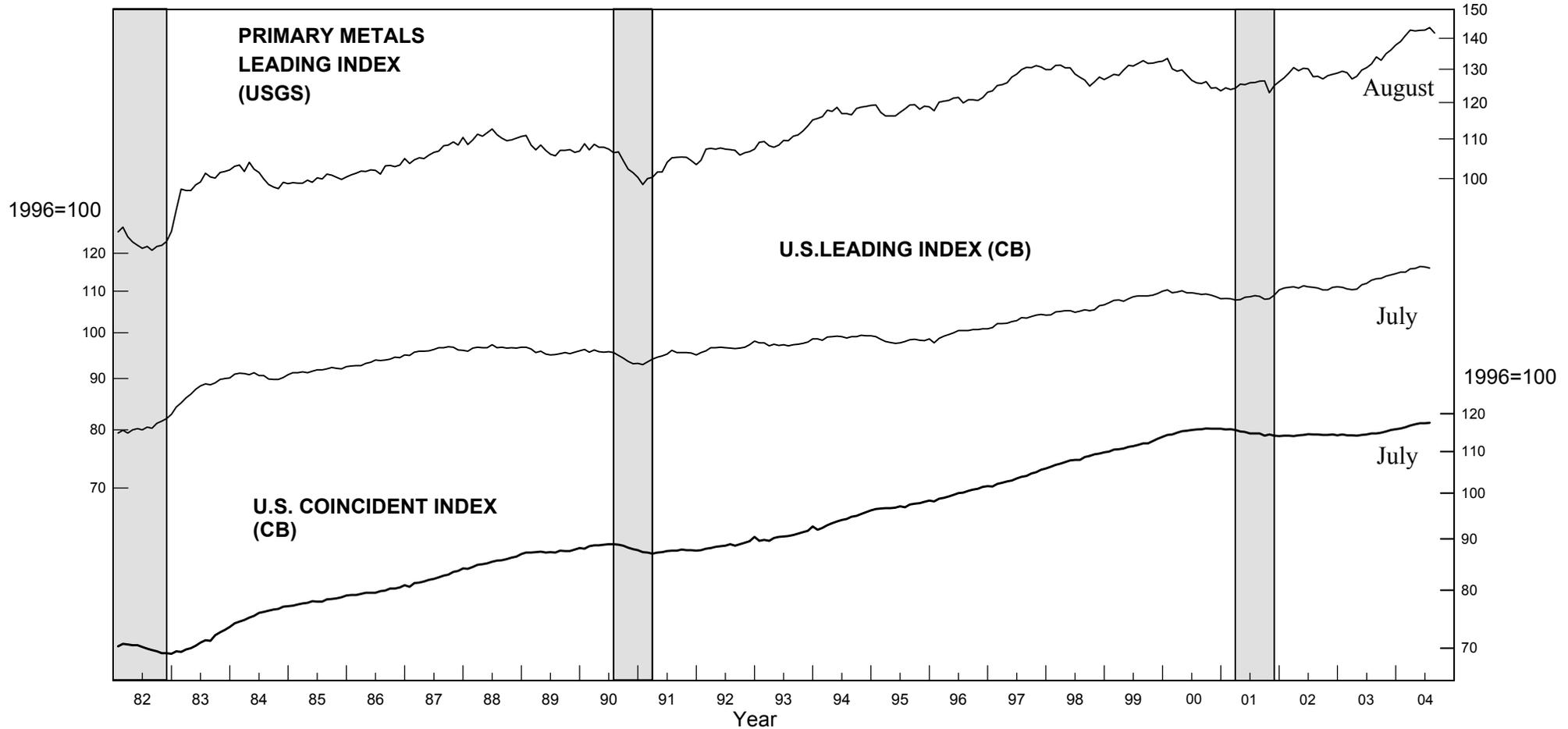


Shaded areas are business cycle recessions.

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).

September 2004