



# Metal Industry Indicators

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

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August 17, 2012

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The **primary metals leading index** decreased 1.5% in July to 154.8 from a revised 157.1 in June, and its 6-month smoothed growth rate dropped to -6.8% from a revised -4.4% in June. 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 primary metals leading index has steadily declined since February, and its growth rate is indicating a decrease in U.S. metals industry activity in the near term. The U.S. manufacturing and construction sectors have been underpinning primary metals activity in recent months. However, economic slowdowns in China and Europe have weakened their demand for U.S. metals.

Three of the four indicators that were available for the July index calculation decreased, and one increased only slightly. A more than one-half hour shorter average workweek in primary metals establishments in July made the largest negative contribution, -1.3 percentage points, to the net decline in the leading index. The stock price index combining construction and farm machinery companies and industrial machinery companies, which has been declining since February, contributed -0.1 percentage point. The contribution from the falling USGS metals price index growth rate rounded to zero. Similarly, the PMI edged higher in July, but its contribution rounded to zero also. It still remains below the threshold that denotes a decrease in future manufacturing activity. The July 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 declined 1.6% in June, the latest month for which it is available. Seven of its nine indicators decreased, with drops in the PMI and the S&P stock price index for iron and steel companies making the largest negative contributions to the leading index. In contrast, new orders for iron and steel products and a surge in car and light truck sales offset some of those declines. The steel leading index growth rate sank deeper and is indicating that steel industry activity could decrease in the near term. The copper leading index rose 1.2% in June, buoyed mostly by the more than 1-hour longer workweek in nonferrous metal products, except aluminum, manufacturing plants. The highest value of the year for new orders for nonferrous metal products also boosted the copper index. Decreases in the index for new housing permits and the S&P stock price index for building products companies kept the leading index from moving higher. A tighter yield spread between the U.S. 10-year Treasury Note and the federal funds rate also weighed down the index. The copper leading index growth rate is indicating that copper industry activity could increase in the months ahead.

The **metals price leading index** decreased 0.4% to 106.0 in June, the latest month for which it is available, from a revised 106.4 in May. Its 6-month smoothed growth rate eased down to -3.5% from a revised -3.4% in May. Three of its four indicators decreased in June. The growth rate of the trade-weighted average exchange value of other major currencies against the U.S. dollar fell and made the largest negative contribution, -0.3 percentage points, to the net decline in the leading index. The tightening yield spread between the U.S. 10-year Treasury Note and the federal funds rate contributed -0.2 percentage points. The Organization for Economic Cooperation and Development (OECD) Total Leading Index growth rate has hovered near zero over the last 4 months, and its negative contribution rounded to zero in June. Similarly, the rise in the growth rate of the inflation-adjusted value of new orders for U.S. nonferrous metal products was so slight that its contribution rounded to zero. New orders growth rates now stand at just over one-fifth of the 2011 year-end level. 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, increased a third consecutive month in June. The rising inventory growth rate and the negative metals price leading index growth rate indicate further slowdowns in metals price growth. Slower global economic growth is stifling metals price growth, particularly for copper.

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

Primary Metals	-0.1%
Steel	-0.4%
Copper	1.8%

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. 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 July and August is scheduled for release on the World Wide Web at 10:00 a.m. EDT, Friday, September 21, 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
<b>2011</b>						
June	111.1r	16.5	0.4	11.1	16.3	25.8
July	110.0	19.4	-1.5	12.7	20.3	22.8
August	108.5	3.6	3.2	-4.0	3.8	16.0
September	106.6	-35.5	6.1	-19.8	-37.1	11.2
October	107.5	-24.0	19.6	-20.6	-22.8	1.2
November	107.3	-31.4	17.9	-33.6	-31.1	-12.9
December	109.1	-28.1	21.6	-32.9	-27.4	-3.3
<b>2012</b>						
January	107.5	-7.4	18.6	-11.1	-6.8	7.8
February	107.5r	-3.7	12.3r	-6.5	-2.7	-3.1
March	107.3	-5.3	9.9	-20.0	-2.7	-3.0
April	107.3	-1.6	11.4	-20.3	0.0	-6.4
May	106.4r	-20.3	15.4r	-22.5	-19.6	-3.6
June	106.0	-17.0	18.0	-29.1	-15.3	-25.1
July	NA	-13.6	NA	-23.5	-13.0	-38.6

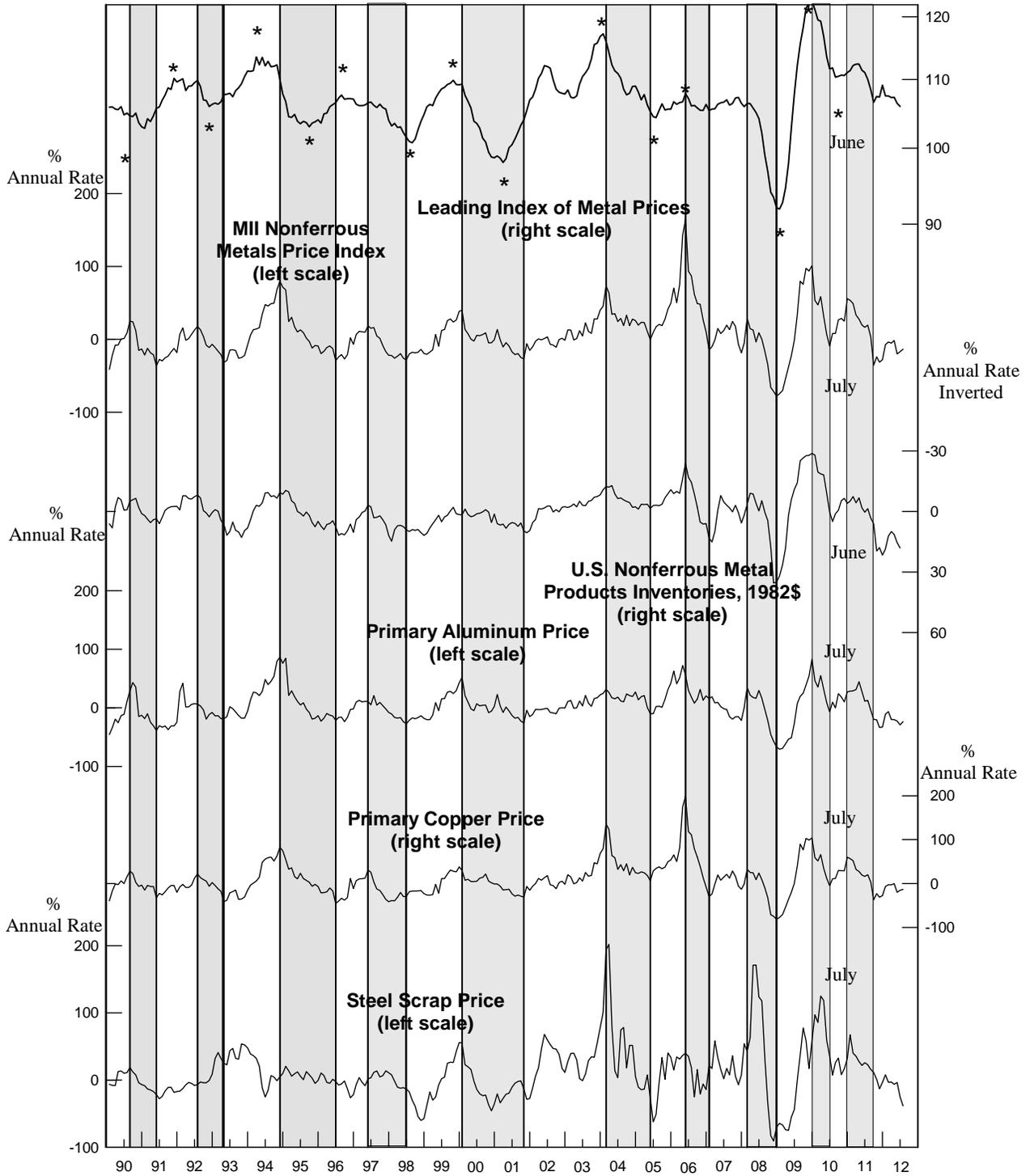
NA: Not available    r: Revised

**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**

1967 = 100



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**

	Leading Index		Coincident Index	
	(1977 = 100)	Growth Rate	(1977 = 100)	Growth Rate
<b>2011</b>				
August	160.9r	5.9r	107.3	9.1
September	158.8r	2.0r	108.0	8.9
October	158.6	0.9r	109.5	10.2
November	161.4r	3.4r	111.1	11.3
December	162.2	3.7	114.2	15.2
<b>2012</b>				
January	162.6	3.6	113.3r	11.6r
February	163.3r	3.9	113.5	10.1r
March	162.4r	2.3r	112.6r	6.7r
April	161.9r	1.4r	113.6r	7.3r
May	160.2r	-0.8r	113.7r	5.9r
June	157.1r	-4.4r	113.6	4.6
July	154.8	-6.8	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>June</b>	<b>July</b>
1. Average weekly hours, primary metals (NAICS 331)			-0.1r	-1.3
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)			-0.4	NA
4. USGS metals price index growth rate			-0.2r	0.0
5. New orders, primary metal products, (NAICS 331 & 335929) 1982\$			0.1	NA
6. Index of new private housing units authorized by permit			-0.2	NA
7. Growth rate of U.S. M2 money supply, 2005\$			-0.1	NA
8. PMI			-0.3	-1.0
Trend adjustment			-0.2r	0.0
			-0.7r	-2.0
<b>Coincident Index</b>			<b>May</b>	<b>June</b>
1. Industrial production index, primary metals (NAICS 331)			-0.3	-0.2
2. Total employee hours, primary metals (NAICS 331)			0.0r	-0.1
3. Value of shipments, primary metals products, (NAICS 331 & 335929) 1982\$			0.2	0.2
Trend adjustment			0.1	0.1
			0.0r	0.0

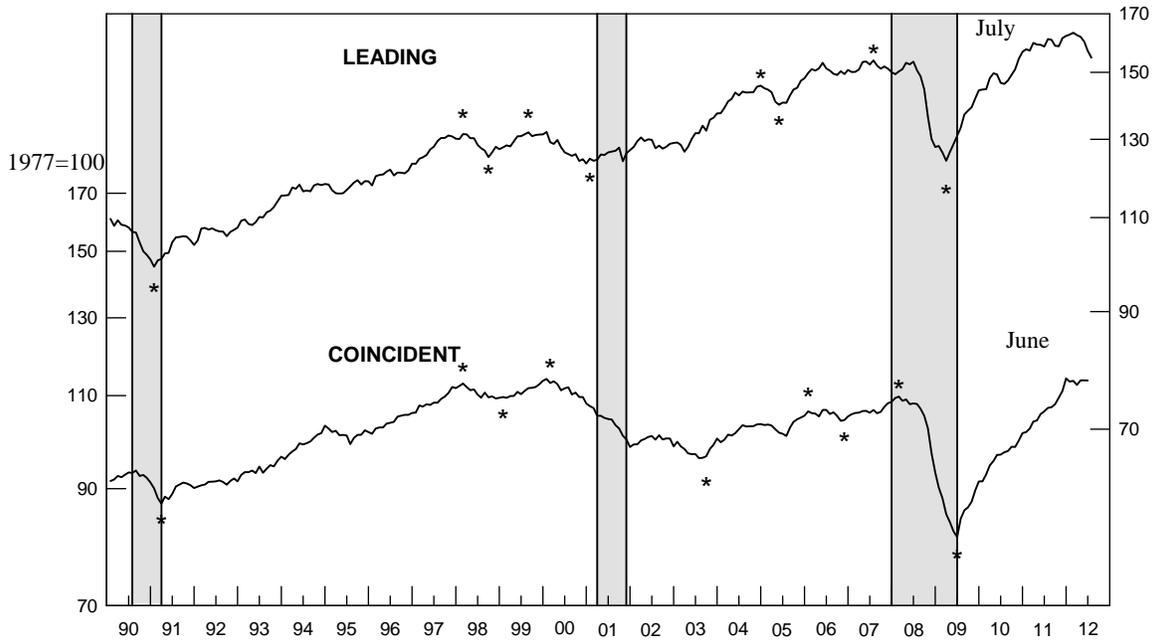
**Sources:** Leading: 1, Bureau of Labor Statistics; 2, Standard & Poor's and U.S. Geological Survey; 3, U.S. Geological Survey; 4, Journal of Commerce and U.S. Geological Survey; 5, U.S. Census Bureau and U.S. Geological Survey; 6, U.S. Census Bureau and U.S. Geological Survey; 7, Federal Reserve Board,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

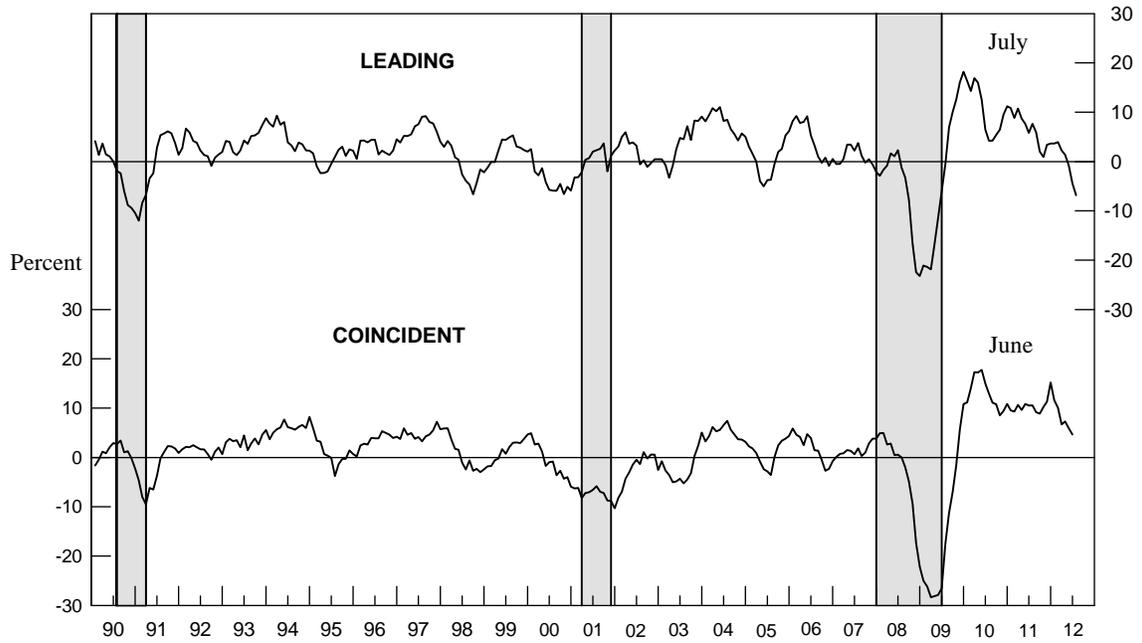
**PRIMARY METALS: LEADING AND COINCIDENT INDEXES, 1990-2012** 1977=100



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, 1990-2012** 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**

	<b>Leading Index</b>		<b>Coincident Index</b>	
	<b>(1977 = 100)</b>	<b>Growth Rate</b>	<b>(1977 = 100)</b>	<b>Growth Rate</b>
<b>2011</b>				
July	111.0	4.6r	112.2	5.9
August	111.2r	4.1r	112.8	6.0
September	110.5r	2.1r	113.0	5.2
October	110.3	1.2r	114.2	6.5
November	111.6	2.7r	115.6	7.7
December	112.0r	3.0r	117.5	9.7
<b>2012</b>				
January	112.2r	3.0r	117.0	7.8
February	111.5r	1.5r	117.4r	7.4
March	111.7r	1.5r	116.4	4.5
April	111.6r	1.3r	117.3	5.1
May	110.9r	-0.2r	117.5r	4.6r
June	109.1	-3.4	117.0	2.8

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

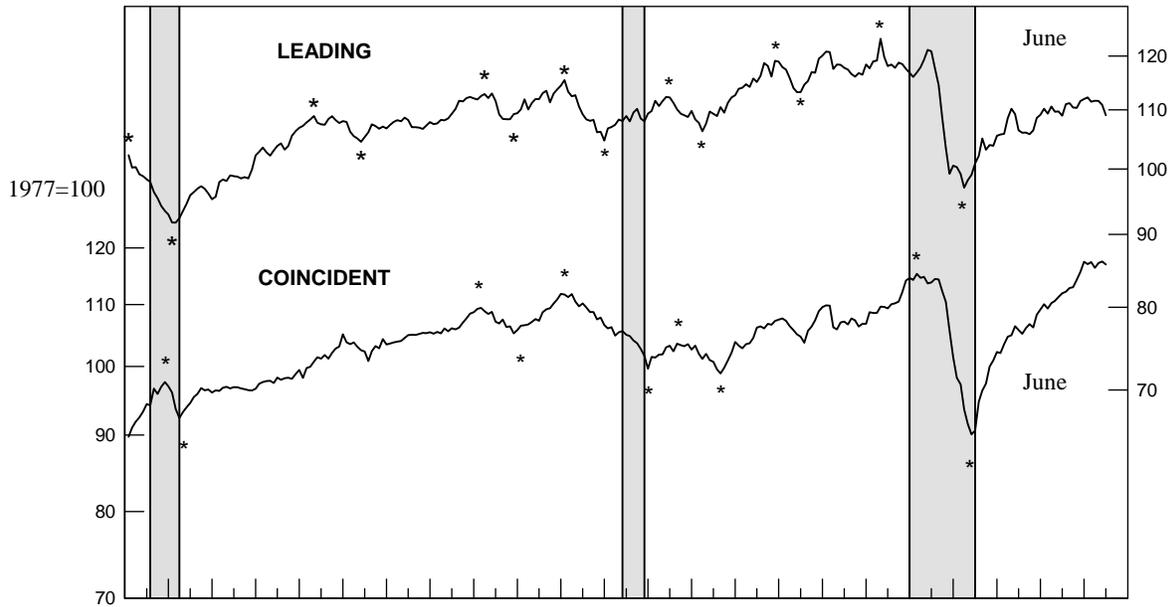
<b>Leading Index</b>	<b>May</b>	<b>June</b>
1. Average weekly hours, iron and steel mills (NAICS 3311 & 3312)	0.1	-0.3
2. New orders, iron and steel mills (NAICS 3311 & 3312), 1982\$	-0.2r	0.2
3. Shipments of household appliances, 1982\$	0.0r	-0.3
4. S&P stock price index, steel companies	-0.8	-0.5
5. Retail sales of U.S. passenger cars and light trucks (units)	0.0r	0.2
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	-0.2
8. Growth rate of U.S. M2 money supply, 2005\$	-0.1	-0.3
9. PMI	-0.2	-0.5
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	<hr/> -0.8	<hr/> -1.7
<b>Coincident Index</b>		
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\$	0.1r	0.0
3. Total employee hours, iron and steel mills (NAICS 3311 & 3312)	0.2	0.0
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	<hr/> 0.2r	<hr/> -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, 1990-2012**

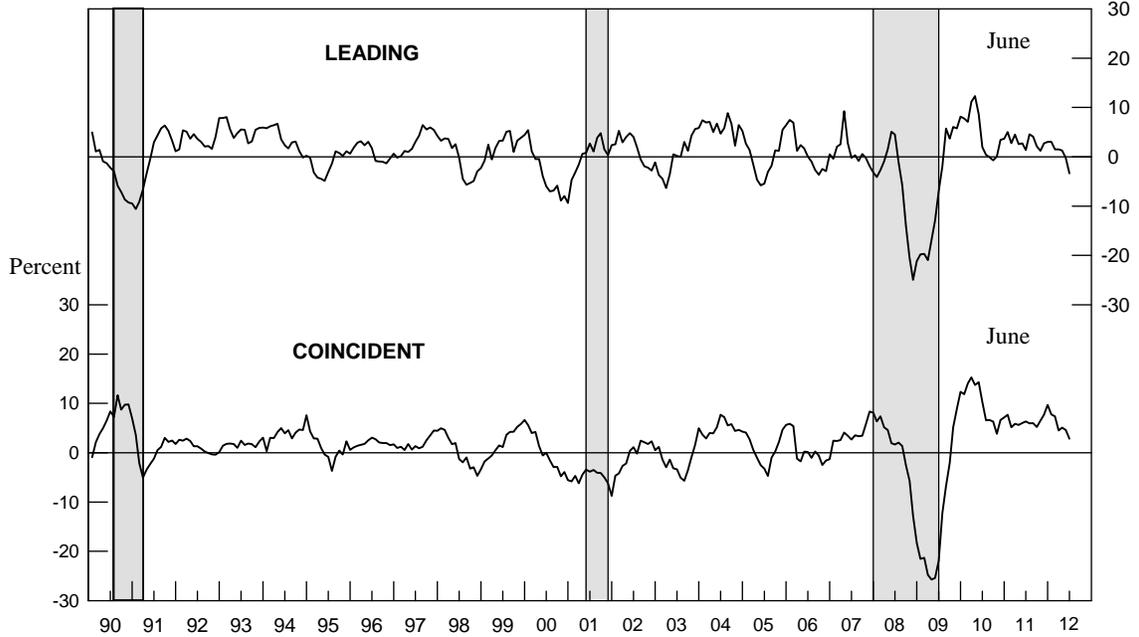
1977=100



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, 1990-2012**

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**

	<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>2011</b>				
July	121.0	1.2	106.9	6.8
August	119.0	-2.3	108.9	9.9
September	115.0	-8.3	108.0	7.3
October	119.2	-1.7	109.5	9.0
November	118.3	-2.9	108.6	6.2
December	120.7	0.9	108.5	5.4
<b>2012</b>				
January	123.1	4.8	109.1	5.4
February	123.3	4.7	109.4r	4.6
March	123.7	4.9	106.7r	-1.0r
April	124.5	5.8	109.4r	3.1r
May	121.5r	0.9r	106.7r	-2.3r
June	122.9	3.1	108.6	1.0

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**

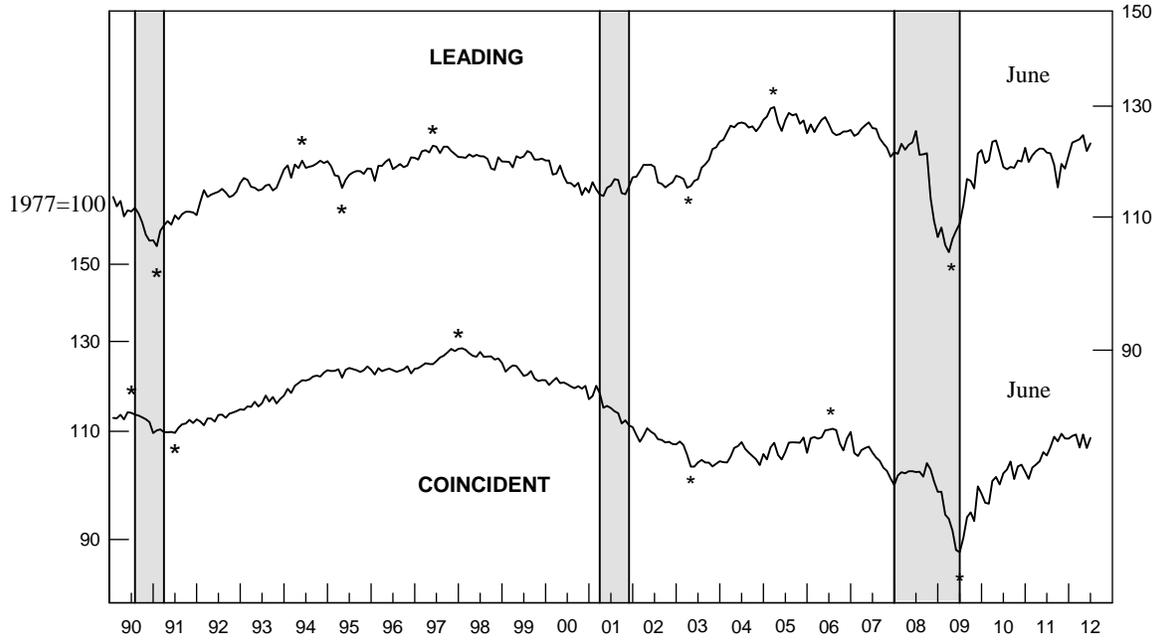
	<b>May</b>	<b>June</b>
<b>Leading Index</b>		
1. Average weekly hours, nonferrous metals (except aluminum) (NAICS 3314)	-2.5	1.4
2. New orders, nonferrous metal products, (NAICS 3313, 3314, & 335929) 1982\$	0.0r	0.2
3. S&P stock price index, building products companies	0.4	-0.1
4. LME spot price of primary copper	-0.7	0.1
5. Index of new private housing units authorized by permit	0.5	-0.2
6. Spread between the U.S. 10-year Treasury Note and the federal funds rate	-0.2	-0.1
Trend adjustment	0.0	0.0
Percent change (except for rounding differences)	<u>-2.5r</u>	<u>1.3</u>
<b>Coincident Index</b>		
1. Industrial production index, primary smelting and refining of copper (NAICS 331411)	0.4r	0.2
2. Total employee hours, nonferrous metals (except aluminum) (NAICS 3314)	-3.0	1.6
3. Copper refiners' shipments (short tons)	NA	NA
Trend adjustment	0.1	0.1
Percent change (except for rounding differences)	<u>-2.5r</u>	<u>1.9</u>

**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, 1990-2012**

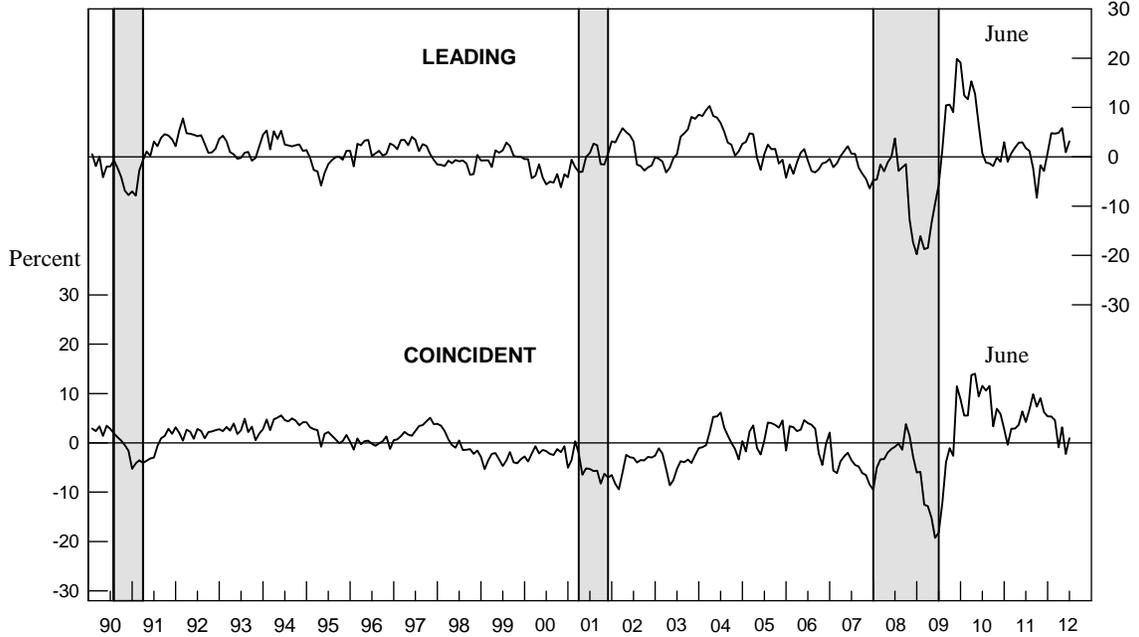
1977=100



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 7.**  
**COPPER: LEADING AND COINCIDENT GROWTH RATES, 1990-2012**

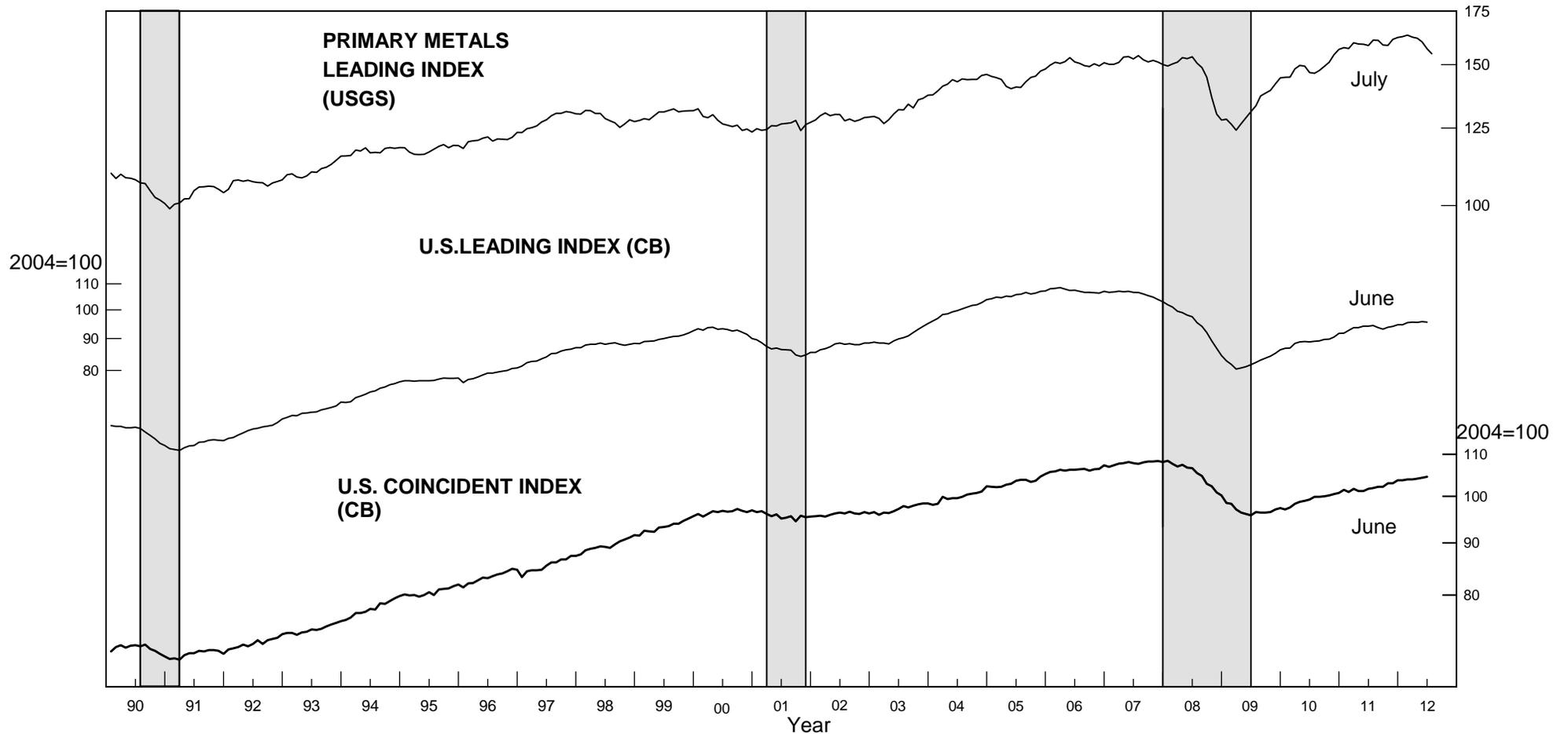
Percent



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.

**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).

August 2012