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# Supply and Demand Are Driving Copper Volatility

Copper is our lifeblood and we keep our finger on its pulse across the globe, on one hand tracking its sources and costs, and on the other where demand is changing.

Historically, copper has been a valuable product for more than 7,000 years, prized for both its ease of mining and its workability.

By the mid-1800s, Britain, with superior smelting technology, controlled more than three-quarters of the world copper trade. But the discovery of major copper deposits in North America, Chile, and Australia challenged England's preeminent position. Twentieth-century American smelting technology allowed profitable use of lower grade ores, greatly expanding both production sources and markets.

Today, about 88% of the world copper supply is produced by mining operations, primarily from Chile and Latin American countries (45%), followed by former eastern bloc (19%) and Asian countries (18%). Only about 12% of the world's copper is mined in North America. And only 2% in Western Europe. Another 12% of the supply comes from recycling, primarily in the developed countries of Europe and North America.

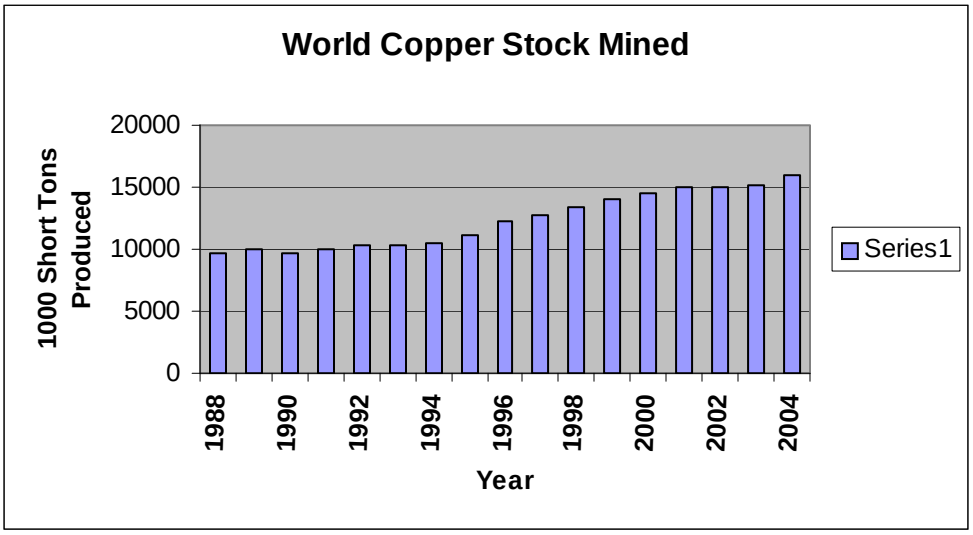
The global demand for copper is expected to continue to grow at a rate of over 3.5% over the next few years and to reach over 18 million metric tons annually by 2006. The largest overall increases in demand are expected to continue to come from Asia, led by China.

As the world's population grows and economic development continues, the consumption of copper can be expected to increase as annual per capita consumption for products such as electrical power, automobiles, plumbing supplies, telecommunications devices and air conditioners increases.

The largest demand for copper (37%) is from building construction, and as population growth and economic change have driven that market, the demand has put a strain on available supplies. Experts estimate that each new home incorporates over 400 pounds of copper.

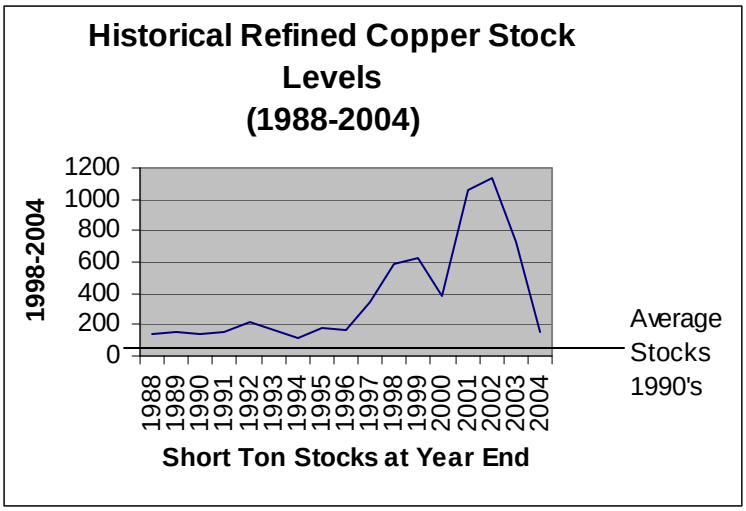
Since 2002, copper production increases have not been able to keep pace with demand, which has resulted in supply/demand deficits in both 2003 and 2004.

See Chart “A” ‘World Copper Tons Mined’




Copper exchange inventories have been available to fill this gap; exchange inventories have now been reduced to critically low levels and copper demand again exceeded supply in 2005.

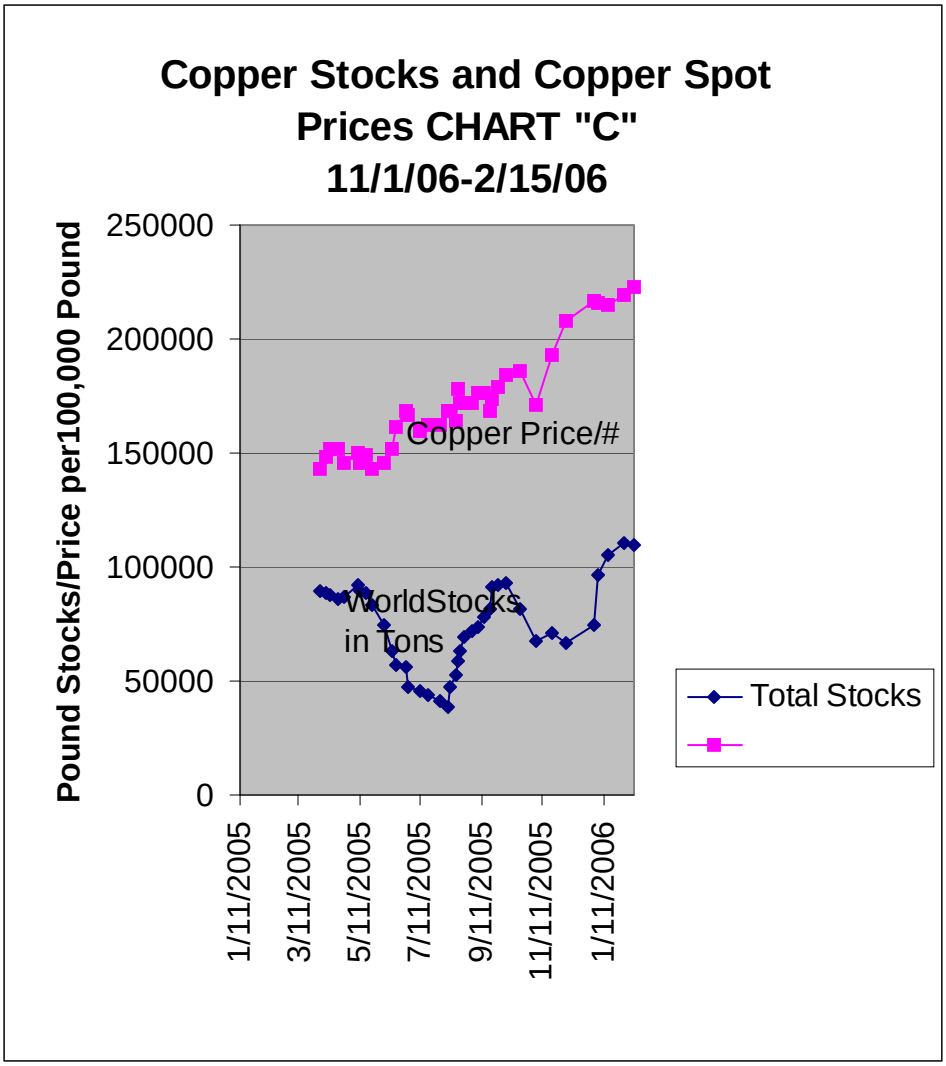
Chart “B” Historical Refined Copper Stock Levels



Copper warehouse stocks tracked in London (LME) and New York (Comex) in January of 2005 fell to their lowest level in 15 years, declining from 723,000 short tons to 149,000 during 2004, resulting in prices of $1.40 per pound.

Stocks continued to fall through August of 2005, with prices nearing $1.80 Comex Spot. Stocks have grown steadily since August, with current stocks in February near the 2004 year end levels.

See Chart “C” Copper Stocks and Copper Stock Prices 11/1/05-2/1/06



However stocks for February 06 of approximately 150,000 tons remain below the 10 year average of 269,000 short tons for the period 1990-1999 ( See Refined Stocks Chart “D” attached.)Though stocks did increase in the last quarter of 2005 to levels near 4th quarter 2004; prices, in the period September05 through February06, have soared to all-time record highs of $2.30.
See Chart “E” Copper High Grade Futures Price.

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**Table 1,** Item 15.

**Refined stocks and other**

COPPER CONTENT, thousands of short tons

| | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| End-of year Refined Copper Stocks at: | | | | | | | | | | | | | | | | | | | | | |
| Refineries | 193 | 150 | 145 | 63 | 43 | 56 | 52 | 42 | 30 | 29 | 25 | 42 | 36 | 66 | 49 | 11 | 16 | 32 | 13 | 13 | 11 |
| Wire Rod Mills | 148 | 110 | 73 | 31 | 32 | 35 | 27 | 33 | 41 | 38 | 44 | 27 | 35 | 27 | 41 | 37 | 44 r | 41 | 25 | 33 | 22 |
| Brass Mills | 30 | 22 | 15 | 17 | 19 | 13 | 11 | 12 | 14 | 16 | 9 | 8 | 15 | 16 | 23 | 26 | 26 | 28 | 32 | 22 | 24 |
| Other Processors | 8 | 8 | 9 | 10 | 10 | 11 | 9 | 7 | 9 | 7 | 11 | 3 | 3 | 4 | 4 | 4 r | 5 | 5 | 5 r | 5 r | 5 |
| Government | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | 22 | — | — | — | — | — | — | — | — | — | — | — | — |
| Commodity Exchange | 276 | 120 | 93 | 18 | 13 | 16 | 20 | 34 | 106 | 74 | 27 | 24 | 29 | 92 | 94 | 92 | 65 | 269 | 399 | 281 | 48 |
| London Metal Exchange [1] | — | — | — | — | — | — | — | — | — | — | — | 75 | 42 | 142 | 376 | 454 | 225 | 680 | 662 | 369 | 39 |
| **End-of Year Total** | **679** | **433** | **358** | **161** | **140** | **154** | **142** | **149** | **221** | **164** | **116** | **179** | **160** | **347** | **587** | **624 r** | **381 r** | **1,055** | **1,136 r** | **723 r** | **149** |
| Net Change [a] | 14 | (244) | (76) | (197) | (22) | 15 | (13) | 8 | 72 | (58) | (48) | 64 | (19) | 187 | 240 | 37 r | (243) r | 674 r | 81 r | (413) | (574) |
| Apparent Change [b] | (257) | (233) | (159) | (108) | (89) | (100) | (86) | (36) | 76 | 18 | (158) | (51) | 210 | 254 | 263 | 29 r | (339) r | 368 | 197 r | (459) r | (579) |

Sources: U.S. Department of the Interior, U.S. Geological Survey; ABMS.

p - preliminary, r - revised

(a) - Net Change - the year-to-year increase (+) or decrease ( ) of refined copper stocks as reported.

(b) - Apparent Change - the difference between Line 16 and the sum of Lines 13 and 14 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The signs of the data are opposite of those shown in Table 1.

[1] Prior to 1995 there were no LME warehouses in the USA.

**Numbers may not sum due to rounding.**

**Table 1,** Item 16.

**Consumption of refined copper in the United States**

COPPER CONTENT, thousands of short tons

| | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumption of Refined Copper by: | | | | | | | | | | | | | | | | | | | | | |
| Wire Rod Mills | 1,659 | 1,545 | 1,645 | 1,757 | 1,838 | 1,872 | 1,823 | 1,755 | 1,846 | 2,006 | 2,271 | 2,149 | 2,183 | 2,362 | 2,396 | 2,458 r | 2,469 r | 2,138 r | 1,885 r | 1,806 r | 1,962 |
| Brass Mills | 635 | 567 | 623 | 539 | 544 | 508 | 491 | 457 | 505 | 555 | 626 | 588 | 648 | 659 | 727 | 782 | 797 | 687 | 654 | 647 | 632 |
| Ingot Makers | 8 | 6 | 6 | 6 | 6 | 6 | 6 | 5 | 6 | 5 | 8 | 9 | 4 | 5 | 6 | 5 | 5 | 5 | 5 | 5 | 4 |
| Foundries and Other Industries | 18 | 16 | 16 | 16 | 17 | 17 | 17 | 14 | 15 | 14 | 19 | 53 | 50 | 52 | 57 | 66 r | 64 | 57 | 62 r | 63 r | 56 |
| Powder Plants | 9 | 8 | 8 | 9 | 9 | 9 | 9 | 8 | 8 | 7 | 10 | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) | (a) |
| Other Industries | 12 | 17 | 18 | 18 | 19 | 19 | 18 | 16 | 17 | 15 | 21 | 0 | 0 | (4) | (5) | 0 r | 0 r | 0 r | 0 r | 0 r | 0 |
| **TOTAL REFINED CONSUMPTION** | **2,340** | **2,158** | **2,315** | **2,344** | **2,432** | **2,432** | **2,364** | **2,254** | **2,397** | **2,602** | **2,954** | **2,799** | **2,885** | **3,074** | **3,181** | **3,291 r** | **3,335** | **2,887** | **2,606 r** | **2,521 r** | **2,654** |

Sources: U.S. Department of the Interior, U.S. Geological Survey; U.S. Department of Commerce, Bureau of the Census; ABMS.

p - preliminary, r - revised

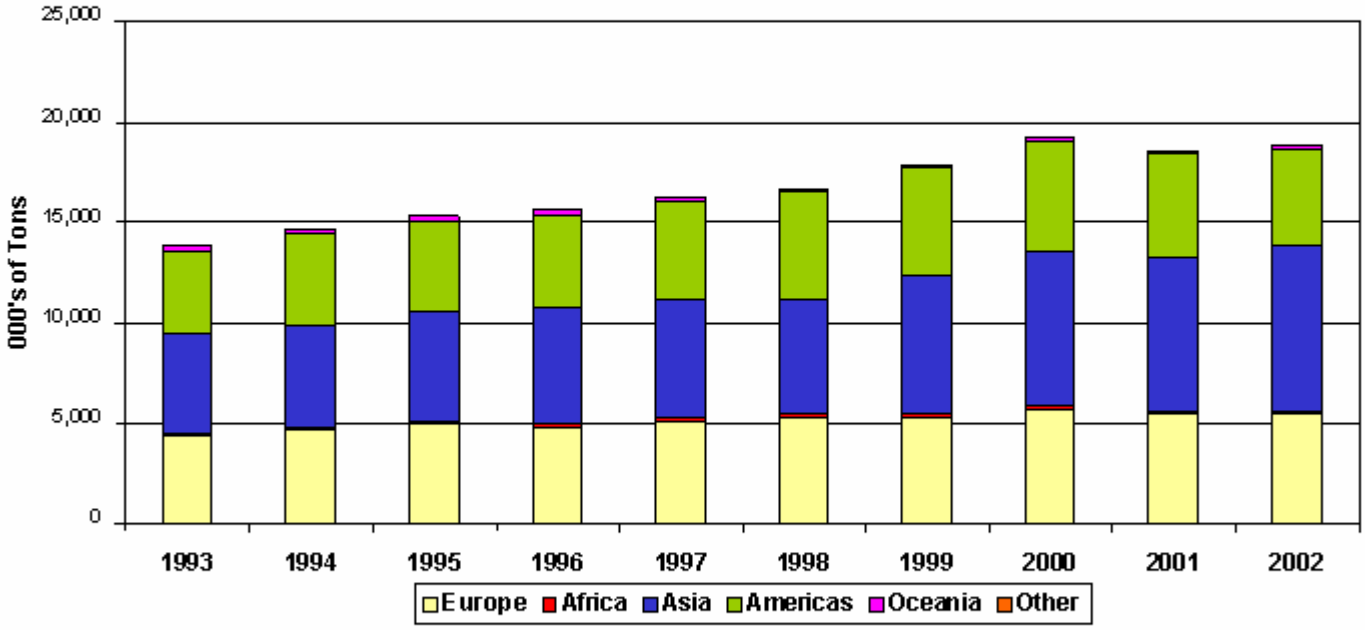
(a) -Starting with 1995 Powder Plants data are included with Foundries.

**Numbers may not sum due to rounding.**

At first, this seems confusing. As stocks increase, supply/demand theory suggests prices should moderate. However, as stocks remain at the low end of historically moderate supply; the additional cushion provided by larger stocks currently is perceived as less important than the risk of future consumption exceeding supply in the short term.

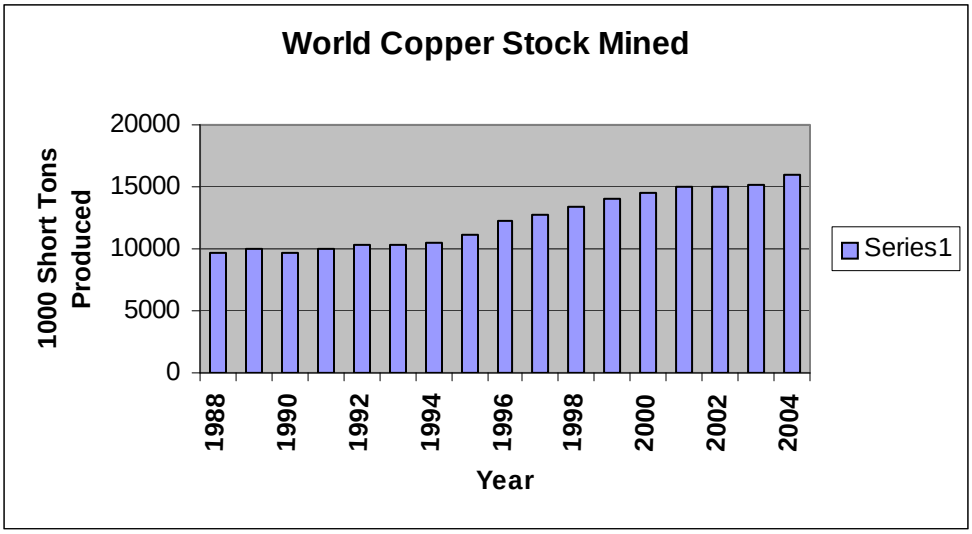
While production grew 6.2% between 2003 and 2004, stocks declined by 574,000 tons. Copper consumption growth by China is speculated to be anywhere between 5 and10% per year; and, in 2003, Chinese copper purchase growth accounted for most of the world’s additional copper usage.
See Chart “A1” Global Copper Consumption

# Global Copper Consumption




Source: World Bureau of Metal Statistics

Higher prices encouraged the development of additional mining capacity; but new mine production is forecast to be slower in the first decade of the 2000s than it was in the 1990s, while consumption is expected to continue to rise (Chart “A”). Prices may remain high for the short term, and supply growth’s slower increase could delay the traditional cyclical price downturns.



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