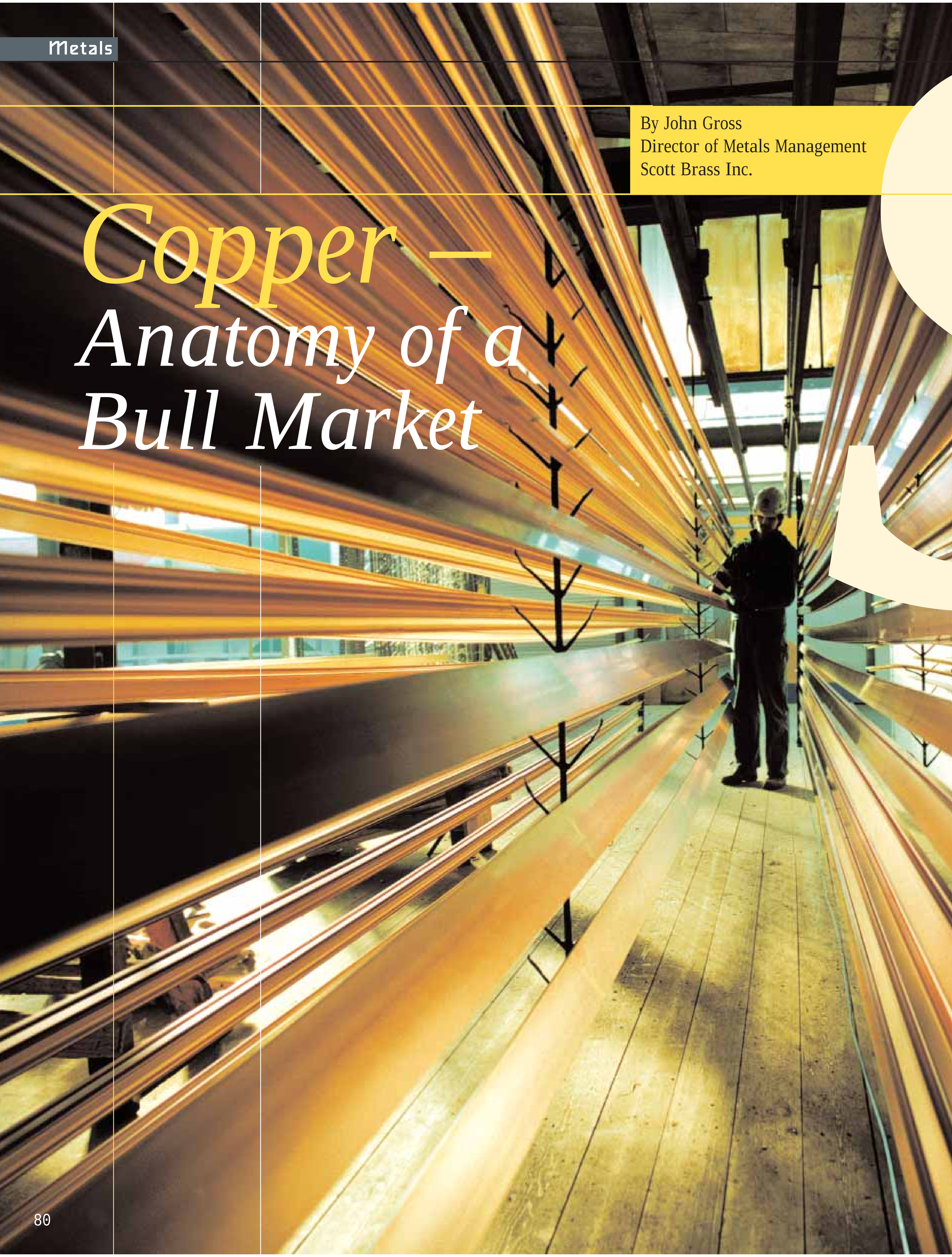


By John Gross
Director of Metals Management
Scott Brass Inc.

Copper – Anatomy of a Bull Market

Sometimes, the simplest of questions are the hardest to answer – much like, “why is the sky blue?”

As relates to copper, the simple questions are: 1) When did the current bull market begin? 2) What prompted it to commence? 3) Where are we in the cycle now? 4) What might we expect in the future? Simple questions indeed, but not easily answered, even though prices ratcheted to unprecedented levels in a short period of time.

From the outset, let us say that similar to art, the beauty and structure of the market is in the eye of the beholder and, in large part, reflects opinion rather than fact.

We must also bear in mind that because of the complex nature of data gathering and the necessary lag time in producing the numbers, even the most recent of statistics are old news by the time they are published.

Nevertheless, our basic premise is that ultimately all markets share similar characteristics because, at the end of the day, markets are a reflection of their participants. Sure, over time there are differing facts, figures, prices, and personalities in the market, but the one constant through it all is human nature – and that doesn’t change.

Also, our analysis is predicated upon wave theory, wherein it is believed that a complete market cycle will be comprised of five waves, with three waves in the direction of the main trend and two counter or corrective waves. So, with this road map in hand, let’s take a look at the copper market to see if we can make any sense of it at all.

Technical analysis teaches us to first look at the big picture to ascertain overall market direction, then rotate down to medium-term trends and finally review the short-term picture to determine how the pieces all fit together. In other words, if we were looking at price action alone, we would start with a review of monthly charts to determine the major orientation or trend in the market, and then see how the weekly charts correlate and finally examine daily charts for more detailed clues.

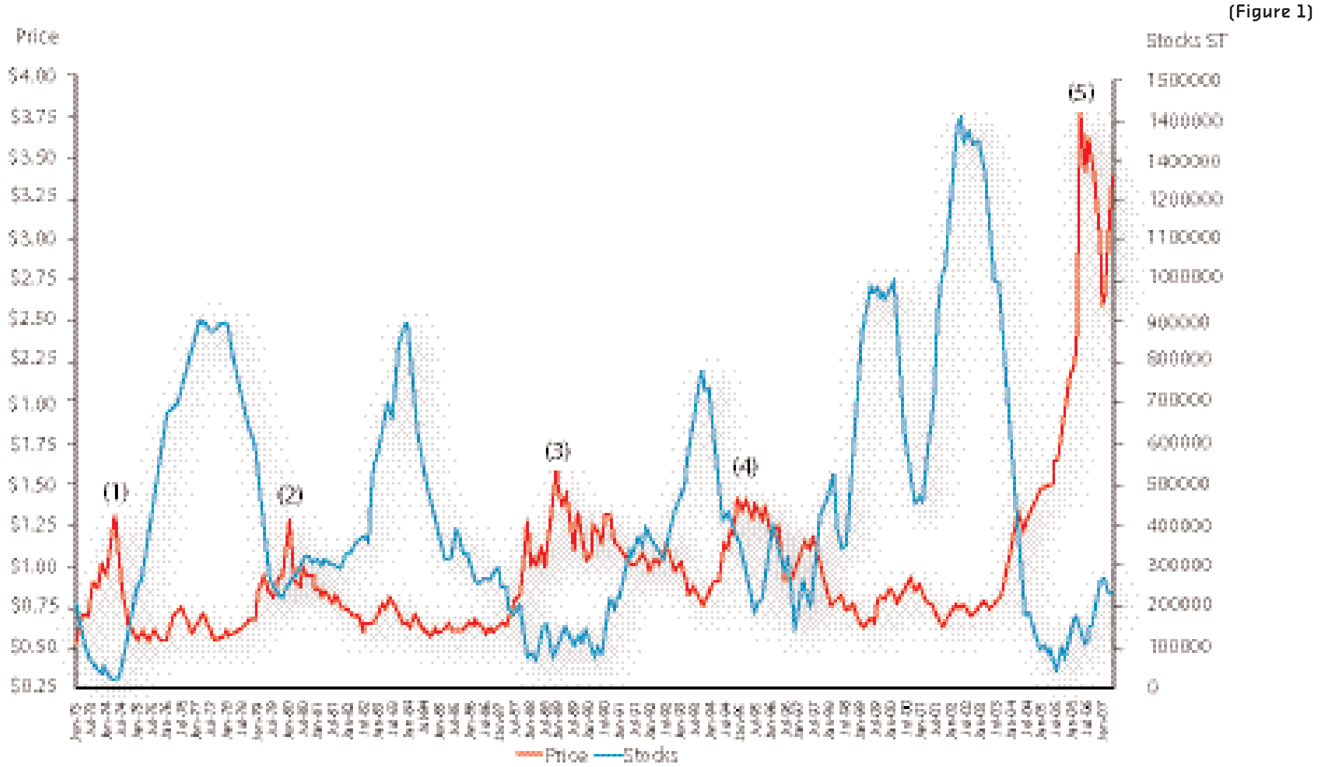
> **The beauty and structure of the market is in the eye of the beholder**

To put this into the context of a market cycle, we can say that on a macro basis, we are experiencing the fifth bull market to have occurred over the past 35 years (Figure 1). Although the current market completely and unequivocally overwhelms previous cycles, the inherent characteristics and shape of the trends are similar. One issue we are faced with, however, is determining precisely when one market phase ends, thereby enabling a new cycle to begin.

This is not as arbitrary as it may sound. Because, while a cursory look at

Exchange Warehouse Stocks vs Monthly Average Price January 1973 – April 2007

(Figure 1)



Wave Theory of a Bull Market
January 1998 – February 2007

(Figure 2)

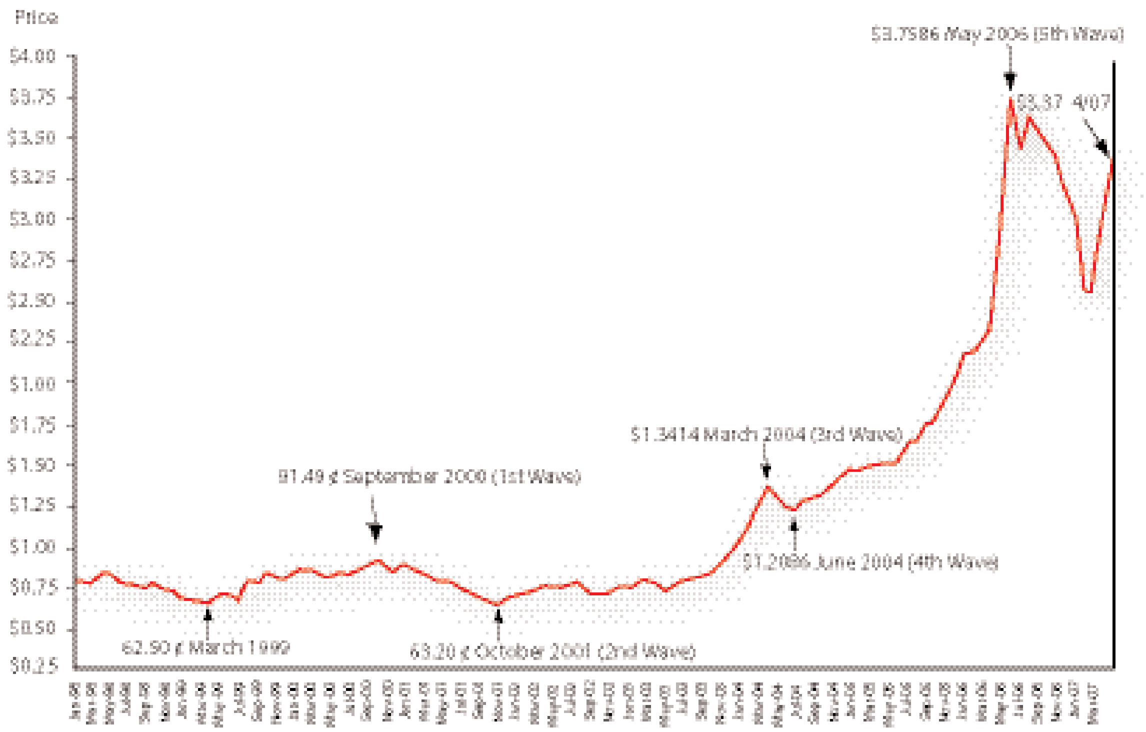


Figure 2 might suggest that this bull market started in the first quarter of 2003, its real roots go back to April of 1999 when the market began rising from an absolute low point. Clearly, and only with the benefit of hindsight can we see that the bear market, which prevailed in the late 1990s, finally ran its course as it hit bottom, reaching a multi-year low on a monthly average basis in March 1999 at 62.50¢ per pound on COMEX® – the lowest level since April 1987.

Coincident with this turning point, you may also recall in the late 1990s that the global economy was expanding and equity markets were trending higher. Within the United States, the unemployment rate fell below 5% for the first time since the early 1970s, and without any signs of inflation on the horizon, interest rates were falling as well. This was also the era of the dot-com boom that was going to change the world forever, taking us to undreamed heights.

Indeed, it was almost a foregone conclusion that bricks and mortar were going to be replaced by wire and the internet, which caused copper consumption to rise dramatically and with it, the price. The situation was exacerbated by Y2K concerns – the fear that many computers would cease working when the clock ticked from December 31, 1999, to January 1, 2000, necessitating more spending to build redundant backup systems.

Meanwhile, the equity markets marched forward with the Standard & Poor's 500 Index climbing from 900 in June 1997 to 1,300 by the end of 1998, representing an impressive 45% increase. With the rising valuations, volatility was also increasing dramatically, despite concerns expressed by then Federal Reserve Chairman Alan Greenspan a couple of years earlier in 1996, when he opined that the markets were experiencing "irrational exuberance." The speculative herd mentality held strong as if the markets would continue to rise indefinitely.

Looking back, it was nothing less than an extraordinary period. From 1995 to 1999, the S&P 500 soared more than 1,000 points to 1,500; the Dow Jones Industrial Average posted a 7,000-point gain to reach 11,500, with most other indices following suit. The environment of low-cost money, coupled with strong and rising confidence reverberated throughout nearly aspect of the economy, resulting in three consecutive years of annual growth in gross domestic product (GDP) exceeding 4%.

Of course, the copper market also benefited as strong global demand reduced inventories from more than 900,000 tons in February 1999, to less than 450,000 tons by the end of 2000, while the spot COMEX price climbed 50% to 91¢ by September 2000 (Figure 1).

The 1st Wave of the Bull Market Is Complete

Finally, when it looked like this time might be different, the gods of fate began to restore a sense of reality. Perceiving the potential of inflation creeping into the economy, along with the heightened level of speculative trading in the equity markets, the Fed began raising rates in the third quarter of 1999, but the markets still paid little heed.

Just as the New Year got underway, the atmosphere changed in 2000. The Y2K meltdown didn't materialize – as if to suggest that all the spending and worrying was for naught. Likewise, after years of seeing and expecting big gains in the stock market, sentiment changed here too, as people came to realize that valuations were based more on speculation rather than on fundamentals. Very quickly, things went from bad to worse. The Fed kept the pressure on as the prime lending rate inched higher, reaching 9% by the end of the first quarter of 2000 and soon cracks began to appear, it seemed in every sector of the economy. Of course, copper was unable to escape the damage as weakness spread far and wide.

Indeed, the copper industry was facing a dire situation, the depth of which could not be foreseen at the time. During 2001, global production of refined copper rose nearly 825,000 metric tons to 15.6 million tons, a 5.6% increase over 2000, while consumption fell 230,000 metric tons or 1.5% to 14.9 million tons, thereby generating an annual surplus of some 700,000 tons that found its way into exchange warehouses.

However, the damage had already been done before production was cut back. The summer of 2001 also saw the bubble burst in the equity markets with each of the Dow components, the S&P 500, Nasdaq, and the New York Stock Exchange index all beating a hasty retreat in a flight toward safety and racing to avoid risk at all costs.

Adding to the market meltdown, a wave of corporate scandals swept through the economy, led by Enron Corp., which was one of the largest, most well respected and presumed to be most successful companies in the United States – until it imploded, taking with it the livelihoods and pensions of thousands of employees along the way. As Enron's problems were unfolding, the unthinkable occurred on September 11, 2001, when the United States was attacked, throwing the world into turmoil and straining the global financial system.

In an effort to stem the panic, central banks immediately infused liquidity into the markets and within the United States, the Federal Reserve Board, which had already become more accommodative earlier in the year, rapidly accelerated the process.

Nevertheless, economic activity slowed dramatically with third quarter gross domestic product contracting 1.4%, and the full year posting a minor 0.8% gain in 2001.

As for copper, with inventories still rising, more production cuts were announced along with plans to manage excess stocks, thereby lending an element of support to prices, which finally bottomed in the fourth quarter of 2001. Looking back, of critical importance, we can see that despite the severity of the price decline, wherein the market fell from 91.49¢ in September 2000 to 63.20¢ in October 2001, it held above the prior low reached in 1999.

Adding to the market meltdown, a wave of corporate scandals swept through the economy

The 2nd Wave Is Complete

Throughout 2002 and into the first quarter of 2003 with the recovery underway, the market essentially moved sideways in the 75¢ range, providing little incentive for producers to ramp up output. However, although it wasn't very obvious, the market was in fact beginning to signal that positive changes were finally occurring. Early in the second half of 2003, spot copper moved up to the 80¢ range and forward spreads were narrowing, as the contango market structure gradually gave way to a small backwardation.

Elsewhere, although more evidence was coming to the surface that a significant change was occurring, the trade was still not convinced that we were out of the woods. Indeed, the severity of the downturn over the prior three years had taken such a severe toll on the industry overall, that one was hard pressed to expect a bull market anytime soon.

Here too though, as we have seen in the past, it is precisely because of this very view that bull markets emerge – because we refuse to believe what the market is telling us.

For example, companies that should cover forward risk exposure hesitate to buy, fearing that prices will fall back and they will have bought too high. Initially, this approach may work, thereby providing a false sense of security that their assessment of the market was correct. But shortly thereafter, company managers come into the office one morning and find for some inexplicable reason, that the market has risen 5¢, putting their price objective out of reach. What to do? Lock in the loss, or wait for the market to come back? The market doesn't come back, however, and the 5¢ price increase becomes 10¢ which becomes 15¢. You know the story – at some point management has to bite the bullet.

By November 2003 with the market in a solid backwardation and the monthly average price at 92¢, copper has now surpassed the previous important high of nearly 91.5¢ seen in September 2000.

As 2004 gets underway, the global economy is strengthening. Japan is exiting a protracted slump, China is posting double digit growth rates and Europe is also expanding. Within the United States, interest rates have fallen to 50-year lows, with the Federal Funds target rate at just 1%; housing starts, new home sales and existing home sales are all rising sharply, driven in large part by low cost financing. Consumer spending overall is also climbing rapidly as people refinance existing mortgages, or take out second mortgages to remodel or add home improvements; auto sales are improving dramatically with the first annual increase posted in three years.

The whole equation has changed for copper. Global production rose 4.2% in 2004 to 15.8 million metric tons but can't keep up with the 7.1% advance in consumption which now stands at 16.8 million tons. Exchange inventories which stood at 1.4 million tons just two years earlier have been depleted and by March 2004 fall below 500,000 tons.

Prices continue rising in response to strong fundamentals with the spot COMEX price in the $1.30 range and beginning to challenge the previous high of $1.36 per pound set in 1995 when Sumitomo was accused of manipulating the market. As the price approaches that level of resistance, it has already more than doubled from the low and technically is severely overbought. The market pauses to correct.

The 3rd Wave Appears to Be Complete

Subsequent to hitting the $1.34 high in March, the monthly average falls 13¢ or 10% to $1.21 in June 2004. Over this same period, however, inventories have fallen some 210,000 tons and now stand at just a shade over 200,000 tons, a seriously low level, particularly given the continued strong demand. The market resumes its upward advance.

The 4th Wave Appears to Be Complete

Up to this point, one could reasonably argue that the market was being driven primarily by the fundamentals. However, given the heightened awareness of strong global demand for industrial metals and depleting supplies, speculative interest begins to accumulate in earnest – not only in copper, but in the overall basket of base and precious metals as well.

By the end of 2004, spot copper is flirting with $1.50 and the annual average is just shy of $1.30, representing a near 10-year high. The rising trend continues into 2005 with the prices now challenging the record high monthly average set in December 1988 at $1.55 and sentiment is now clearly bullish. The focus of attention is on the lack of available metal, continued strength in China, and the recognition that countries are now competing for scarce industrial raw materials.

The U.S. economy is still expanding rapidly as housing starts reach a 27-year high, existing home sales set new records of turnover and concern is growing that a bubble is developing in the real estate market as land and home values have soared to unparalleled heights.

The view gaining currency in the market is that the economy has entered a super cycle in commodities, wherein a protracted period of high prices will be with us for years to come. This sentiment, coupled with the spot average rising to yet another new high, opened the flood gates of highly leveraged speculative money coming into the market. The steady climb higher was

> With prices continuing to advance at unprecedented rates, it was apparent that something unusual was occurring, beyond what might be expected

relentless, as buying fed upon itself and it was no longer a question of if we would see $2.00 copper, but when.

Now the market was entering a dangerous stage as the trajectory was beginning to move vertically, and with it, the belief that we had indeed entered a new world order. It was accepted as fact that production could not keep up with demand, therefore the price could only go higher still.

A typical characteristic of any bull market is that bullish news, supporting the trend in place, will gain laser-like focus, while bearish news is either ignored, or discarded as unimportant. Thus, the news making headlines included labor strikes, production losses for a variety of reasons, critically low inventories, and political unrest, as well as transportation difficulties delaying delivery of metal. Missing was the 4.2% back-to-back gain in production in 2004 and 2005, and the expectation of another 5% increase in 2006.

Nevertheless, with prices continuing to advance higher at unprecedented rates, it was apparent that something very unusual was occurring – above and beyond what might be expected, even under the most extraordinary of circumstances. This is where it gets really interesting:

At the end of 2005, exchange warehouse stocks stood at 105,000 tons, up some 60,000 tons from the low in July of 2005 (Figure 1). Thus, despite all the hype, one might have logically concluded that the global copper market had returned to a balanced position. Further, given the forecasts of new production coming on stream, one might have also decided that the price was too high and would soon be coming down. The case became more compelling as January saw another 12,000 tons of metal go on warrant – that is, become eligible for delivery against short futures positions on the Exchange – followed by an additional 40,000 tons in February 2006, bringing the total held to almost 160,000 tons. Coincident with the increase in stocks, the price seemed to be wavering, as it traded in a relatively narrow range during February, and over the course of the month lost 5¢, to close at $2.18 per pound.

Inventories rose another 12,000 tons in March 2006, but now the price appeared to be resuming its upward trend as a series of new record highs were posted over the course of the month, with spot copper finishing March at $2.49, up 30¢. Obviously, something was amiss, but April was even worse. That month, the market set no less than 13 record high closes and surpassed $3.00 for the first time. For the month overall, spot copper soared an incomprehensible 85¢ per pound to $3.34. Clearly, someone was in serious trouble.

Yet May saw no relief, as the price soared another 70¢ within the first two weeks, blasting through $4.00, but then suddenly fell back to $3.60, leading one to conclude that the struggle was finally over. On May 23, 2006, however, in one final and fatal blow, capitulation came, when the spot copper price soared a record 44¢ that day, to close at $4.0755 per pound.

Shortly thereafter, it was revealed that two hedge funds, on opposite sides of the market, with conflicting views, different strategies, financial backing and unequal elements of luck, were locked in a battle that only one could win. Time will tell if the fifth wave is completed

Looking ahead, this theory will be severely tested. During 2006, we saw global production increase 5.1%, or by 840,000 metric tons to 17.4 million metric tons. Consumption, however, rose just 2.2% or 375,000 metric tons to 17.0 million tons, thereby generating a 400,000-metric ton surplus.

Nevertheless, as April 2007 came to a close, copper futures prices were above $3.50 per pound, after falling to a low of $2.57 in January, in what appears to be a strong technical correction. In order for our theory to remain intact, the $3.76 May 2006 high must hold, as an upside breach of this level portends something of much greater significance that has not yet revealed itself.

John E. Gross is director of metals for Scott Brass, Inc., Cranston, RI.

Mr. Gross has worked with worldwide leaders in the copper industry for some 30 years, beginning in 1972 with U.S. Metals Refining Co., a division of Amax, Inc. In 1981, he joined Hudson Bay Mining and Smelting as manager of trading and in 1983 became a futures broker with Johnson Matthey, specializing in metals on the Commodity Exchange, Inc. and London Metal Exchange. In 1985, he joined BICC Cables Corp., where he was vice president of strategic metals for their North American operations.

In addition to his corporate responsibilities, Mr. Gross has been a consultant to the metals industry since 1987 and was publisher of The Copper Journal, *an industry newsletter from 1989 to 2002.*