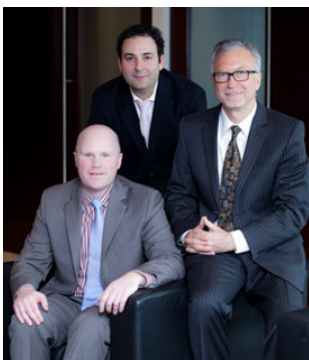


Hedging with copper futures

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In recent years, copper futures prices have often gone into “backwardation”. This means nearby futures prices are higher than deferred futures prices. Under normal market conditions, back month or deferred month prices are higher than front month prices as the commodities have to be stored. The difference between the prices should reflect largely the storage, insurance and other costs involved. A backwardation scenario usually occurs in strong demand and/or tight supply situations, where buyers who need supplies are willing to bid prices higher for immediate delivery.

In a backwardation scenario, a business that requires copper at a future date, but expects continued strong demand to result in higher copper prices by the time they need to buy, can use copper futures to retain a competitive edge on pricing, as the following case study shows.

CASE STUDY #1

In April, a household appliances manufacturer is looking to buy 100,000 pounds of electrolytic grade copper in December. The current price of copper is \$4.36 per pound. Copper futures trade on the New York Mercantile Exchange (Comex) and the London Metal Exchange (LME). The contract size for New York Comex copper futures is 25,000 pounds.

Since the market is in backwardation, the December contract is trading at a discount at \$4.20 per pound. The manufacturer, while willing to structure his cost around \$4.20 per pound copper, is also concerned that demand is

likely to stay firm, and that with all things remaining equal, by December, copper price is likely to be closer to the current level of \$4.36. So to keep a competitive edge over pricing, he decides to hedge against potential higher prices by going long four December copper futures contracts.

By December, cash copper indeed rises to \$4.40 per pound. The manufacturer closes out his futures position by selling December copper futures at \$4.39, and simultaneously purchases his copper in the cash market.

Gain in futures:

$$4.39 - \$4.20 = \$0.19 \times 25,000 \times 4 \text{ contracts} = \$19,000$$

Net Cost:

$$\$4.40 - \$0.19 \text{ (gain on futures)} = \$4.21$$

The gain in his futures position helps the manufacturer to pretty much offset the higher price he has to pay for cash copper in December. So by using the copper futures market, he is able to sell his products containing the physical copper at his hedge price of \$4.20, compared to \$4.40 if he doesn't hedge. But if by December, physical copper price instead has dropped to \$4.10 per pound, he would have liquidated his December futures for a loss of 10 cents per pound, and locked in the sale of his products based on copper at \$4.20 (\$4.10 cash price + \$0.10 loss on futures).

CASE STUDY #2

In the case of a copper producer, in the above scenario, he would be looking to lock in the historically high prices. A copper producer estimates that he would produce and sell 500 tons (1 million pounds) or 40 Comex copper futures contracts at 25,000 pounds per contract of copper by December this year. December copper is currently at \$4.20 per pound, while cash copper is at \$4.36 per pound. While he is satisfied with the current high prices, he is also of the view that with all things equal, cash copper price is likely to be closer to the \$4.40 level by year-end.

Instead of selling short 40 Comex copper futures contracts to hedge the full production, the producer decides to be 75% hedged, and sells short 30 contracts (750,000 pounds) at \$4.20, and leave the rest unhedged. By December, the producer sells his production in the cash market and simultaneously closes out his short futures positions.

Loss in futures:

$$(\$4.39 - \$4.20) = \$0.19 \times 25,000 \times 30 = \$142,500$$

Gain in cash:

$$(\$4.40 - \$4.20) = \$0.20 \times 25,000 \times 40 = \$200,000$$

In this case, had the producer been fully hedged, any gain in the cash position would have been almost offset by the loss in futures, locking in a price of \$4.20. But in this case, his average price is higher.

Average price:

$$\$4.20 + (\$200,000 - \$142,500) / 750,000 = \$4.2767$$

If by December, cash price falls to \$4.10 instead, his positions are as follows:

Gain in futures:

$$(\$4.39 - \$4.10) = \$0.29 \times 25,000 \times 30 = \$217,500$$

Loss in cash:

$$(\$4.20 - \$4.10) = \$0.10 \times 25,000 \times 40 = \$100,000$$

Average price:

$$\$4.20 + (\$217,500 - \$100,000) / 1,000,000 = \$4.3175$$

Had the producer been fully hedged, the gain in futures would more or less offset the loss in the cash position. The average price in this case is lowered mainly due to the 25% or 10 contracts of unhedged position.

For more information about copper price hedging, or commodity/financial futures, please contact us.



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