TRILAND METALS

EXPERT GUIDE

OPTIONS

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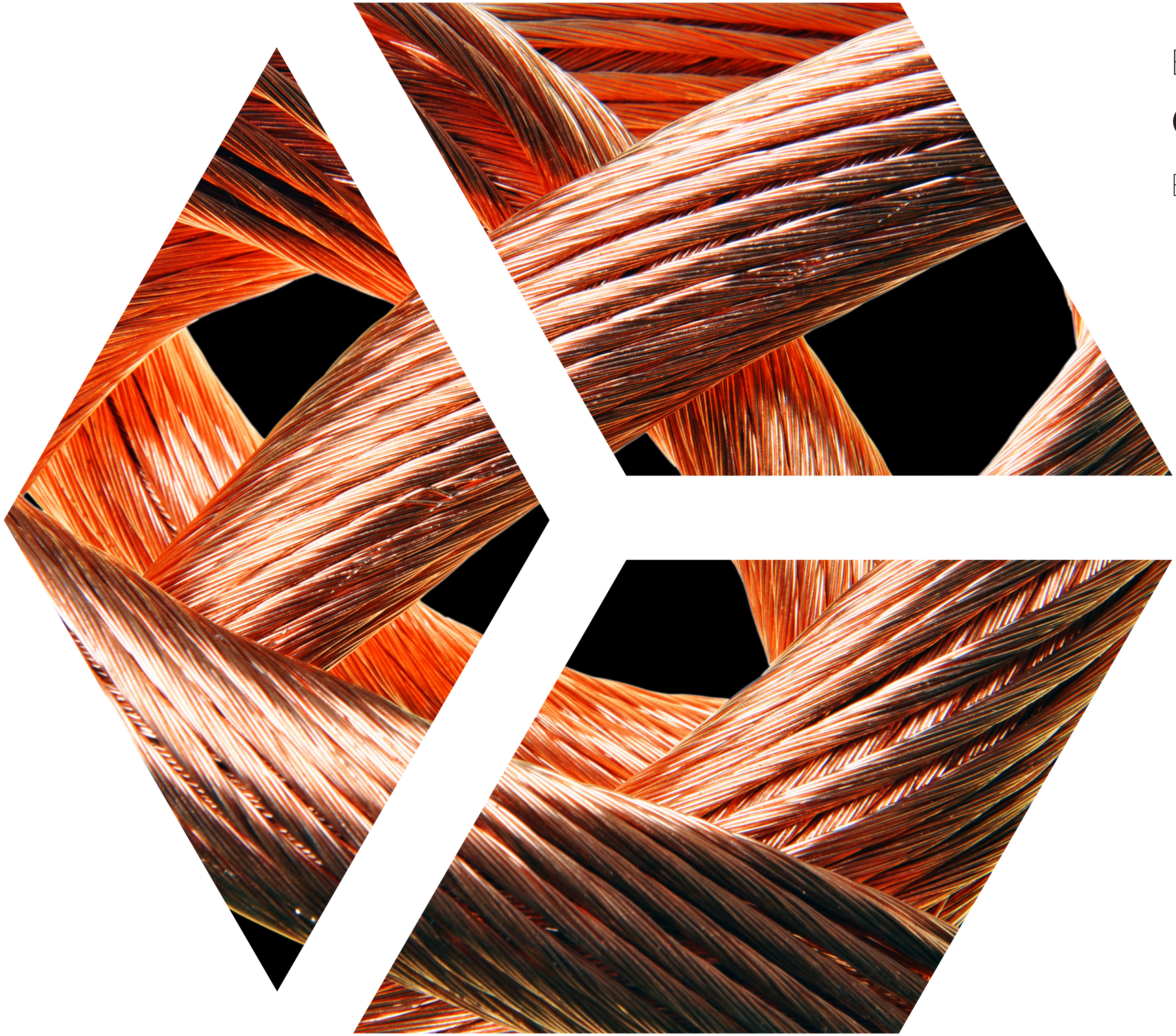

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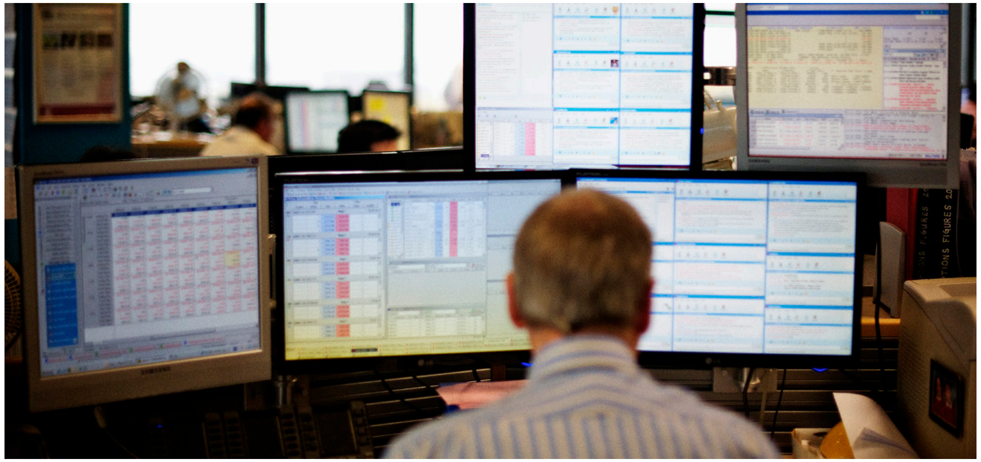

Options are an extremely flexible financial tool which can be tailor-made to suit the requirements to create or protect a market position for many scenarios.

The London Metal Exchange (LME) has traded options in their current form, give or take, since the 1980s, and at Triland we have run an options volatility risk book since 1992. The LME uses the Black 76 formula for calculating marked to market premium valuations for revaluation purposes.

The LME Option Format

The purchaser (taker) of an option pays a premium, normally payable in full the next banking day, to buy (call option) or to sell (put option) at an agreed price (strike price), on a pre-set date (expiration date) for delivery/settlement (prompt date) on an amount of metal agreed at the time of trading (trade/business date). The holder of an options position only risks the amount he has paid out in premium yet his profit potential is unlimited, unless a leg is lifted by trading against the option. The seller (grantor) of an option will receive the premium from the buyer the following day. Unless a leg is lifted by a trade in the underlying market, counteracting the option direction, the loss potential is unlimited; in this way the seller's profit potential is limited to the premium income alone.

With options traded through the LME Clear system, the expiration date is the first Wednesday of the required month with the prompt/settlement date set at the third Wednesday of that month. This coincides with the monthly structure of the third Wednesday prompts of the underlying on the LME. All LME options are European-style; which means that they can only be declared on the expiration date (and any payments due made on the prompt date), as opposed to an American-style option which can be declared at any time up to and including the expiration date.

Outside the clearing system it is possible to trade LME-style options with any expiration date (any specific date), prompt date or strike price combination. This or any other tailor-made option is known as an over-the-counter option (OTC) and will incur counterpart credit risk, so requiring a principal to principal client/credit risk agreement adhering to the guidelines of the Financial Conduct Authority, the LME's regulatory body.

TAPOs – Traded Average Price Options

The LME also has Asian-style, cash-settled contracts known as TAPOs (Traded Average Price Options. These work in the same way as the standard LME options but are cash settled (no physical metal delivery takes place) against the average cash price of the option month traded.

If a client had bought 500 m.t. (20 lots) of an August $5,500 put at $50 premium ($25,000 premium paid, as an LME European option, on the next dollar banking day) and the known cash copper average for August was $5,000, (calculated by totalling the official cash settlement, second AM ring sellers price, for each day and divided by the number of days in the sampled month), the client would receive on the prompt date a profit of $500 per m.t. (+$250,000) showing a total profit, less the premium originally paid ($25,000), of $225,000.

As it is based on a monthly average and has no physical delivery, this style of option is very attractive to the hedger. Producers and fabricators, pricing metal in and out based on the monthly average settlements of the LME, find Asian options fit very well with put / call price protection or min max (risk reversal) strategies.

What Determines an Options Price?

At Triland we mainly manage our options risk by utilising the mathematical derivatives of an option by volatility hedging rather than the directional premium bias that a market user would use.
That said, it is important to understand the factors that affect an options premium value:

1. The underlying price of the metal linked to the prompt date (**Delta**).
2. The strike price in relation to how close to the underlying price it is.
   The closer (**deeper in the money**) a strike selection is the higher the premium will be.
3. The life of the option – how much time there is to the expiration date (**Theta**).
   The more time value an option has, the more expensive the premium.
4. The risk-free interest rate in the underlying currency (**Rho**).
5. Predicted market volatility or implied volatility (**Vega**). This is a freely quoted instrument of market activity. The more volatile a market, the higher the premium will be.

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