Understanding the Fundamentals of Coal Trading

Coal Trading Glossary

Prepared

by

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Trading Terms and Definitions

Definitions: There are several trading terms and phrases that have different meanings to different people within different organizations. In order to improve communication and create a coherent hedging/trading strategy, it is helpful that all parties involved agree on the meaning of the various trading terms and phrases.

- **American Option**: An option that can be exercised on or before the expiration date is called an American option. This is in contrast to a European option that can be exercised only on the expiration date. Coal options are mostly European.
- **Arbitrage**: refers to the near riskless, simultaneous execution of two or more trades designed to profit from an inefficiency in the market: between brokerage shops; between voice broker and screen; between OTC market and "traditional" market; FFA's and implied freight; etc.
- **Asian Option**: Refers to an option whose payments are determined retroactively. Used most frequently in the swaps market. The payment in calculated by comparing the index settlement to the option's strike price. No formal option exercise is required.
- **Ask**: Same as "offer" (see definition for "offer")
- **At-the-money**: The strike price and the prevailing forward price are identical.
- **Axe to grind:** It means counterparty has some size to move (or to acquire). Who knows why? Credit exposure with another company might be at work. Maybe his company just landed a tolling deal. Perhaps one of his company's nukes went down. It is a courteous "heads up" to either wait until the dust settles or to take advantage of a buying or selling opportunity.
- **Backwardated**: Refers to a forward curve that is descending (spot is higher than forward price).
- **Basis Spread**: refers to the difference in price between two products due to quality (sulfur, heating content, etc.), location (NSW/ARA, RB1/Bolivar, etc.), time (API 2 prompt quarter/API2 Prompt quarter +1, etc.), financial/physical (API2/ARA physical, etc.) and use (thermal/coking, etc.).
- **Basis Risk**: refers to the exposure when the basis spreads change.
- **Bid**: refers to the price at which one counterparty wants to buy and at which the other counterparty could sell.
- **Bid/Offer Spread**: refers to the difference between the best bid and the best offer (or ask). One sign of a healthy OTC market is its ability to provide narrow bid/ask spreads.
- **Black Scholes Option Model**: refers to a widely used option pricing formula devised by Fischer Black and Myron Scholes. Model assumptions require coal industry participants to use as a guide for assessing an option's value, not as a definitive calculator.

  Black Option Model: The same as the Black-Scholes Model except that the relatively minor effect of interest is removed.

- **Booking Out**: Many counterparties over the course of time will reverse their initial trade by purchasing an opposite position in the marketplace. Rarely will the reverse trade be with the original counterparty. The process of booking-out separates the financial impact from the physical impact and results in an orderly disposition of "daisy chain" trades.
- **Brokerage Commission**: refers to the fee charged by the broker or screen to facilitate the trade. Fees are fixed in advance of the trade, may vary among counterparties depending on the level of OTC activity. Both sides of the trade pay brokerage commissions.
- **Butterfly Option**: An option that combines a straddle option with a strangle option.
- **Call Option**: The holder of a call option has the right (not the obligation) to buy from the option writer a specified quantity for shipment during a specific time period for a specified price.
- **Choice Market:** The bid and ask is the same. One price is given at which a counter party will buy or sell. The strategy is used to gauge the market, to spark some action, or to ease the boredom. If a choice market is not traded within minutes (usually seconds) it is a sign of lethargy and indifference in the market.
- **Clearing:** The two parties in a standardized trade agree to clear their trade through a clearinghouse. This alleviates the credit issue and the end of the month booking-out chaos. The names of the counterparties do not even need to be revealed to each other. The underlying contract must be standardized. Clearing services are not feasible for "one-off" trades. Some FFA swaps are cleared. Clearing services for coal trades are available for NYMEX look-alike (physical), PRB 8800 (swap), and CSX 1% (swap) coals.
- **Commoditization**: refers to the market transition of a product from non-standardized transactions principally between producers, end users and physical traders to a generic standardized product transacted between producers, end users, physical traders and speculators facilitated by OTC brokers (voice and screen).
- **Contango**: Refers to a forward curve that is ascending (spot is lower than forward price).
- **Convenience Yield**: Refers to the premium or penalty that the market places on holding the commodity. Spot price + Storage/financing costs – convenience yield = forward price curve. When the convenience yield is less than the storage/financing costs, the curve is "backwardated." When the convenience yield is more than the storage/financing costs, the curve is "in contango."
- **Costless Collar**: A fence option whose put and call premiums offset each other negating the need to transfer payment. Remember, just because it is "costless" does not mean it is "riskless." See definition for fence collar.
- **Covered Option**: The writer of the call or put option has the underlying coal (in the case of a call option) or the underlying requirement (in the case of a put option).
- **Cuffing:** In the short-term, it can be very embarrassing for an OTC broker to have no markets when his competitors are actively quoting markets. In the long-term, the broker will not be in business. Sometimes a desperate broker will pretend that he has a real bid/ask and hope that the other traders will join or get inside of his bid/ask and establish a legitimate market. A more upstanding broker will patiently grovel until a trader gives him a market to work. Cuffing has been often used to start activity in options and basis markets. It can be very costly for a broker if he miscalculates and his invented bid/ask gets hit or lifted. However, in such cases, the brokerage house is expected to perform.

- **Delta**: One of "the Greeks." Refers to the change in an option's value for each $1 change in the forward market. Also known as a "hedge ratio" and can be viewed as the option's equivalent forward contract. (An at-the-money call option has a delta of approximately .50%. An ATM call option for one million tons has a forward contract equivalent of 500,000 tons.)
- **Derivative**: refers to any instrument that derives its value from something else. A swap is derived from an index. An option's premium is derived from expiration date, strike vs. forward price, implied volatility, etc.
- **Delivery Period**: Most coal options cover shipments for delivery in specified calendar quarters. Can be any time period the two parties negotiate.
- **Double the Ticket:** Often times a trade is completed and one side or the other asks to "double the ticket." This means the party wants to double the volume. It is totally voluntary. Sometimes a counter party does this simply to demonstrate his convictions to the other side. If a party wants to double the ticket again, a rational counterparty would wait, back up his price and let the market come to him. Egos get involved, however, and irrational things happen.
- **European Option**: An option that can be exercised only on the expiration date is called a European option. This is in contrast to an American option that can be exercised any time prior to the expiration date. Coal options are principally European.
- **Expiration Date**: The date and time the option expires.
- **Extrinsic Value of Put or Call Option (Time Value)**: Also known as time value. Option premium – Intrinsic value = Extrinsic value. Call option example: [($1.50 Premium) – ($32 Forward Price - $35 Strike Price) = $1.50 Extrinsic Value ($32- $35 = - $3 or Zero Intrinsic Value). See definition for Intrinsic Value.
- **FAS**: Financial Accounting Standards are established standards of financial accounting that govern the preparation of financial reports by nongovernmental entities.

  FASB Financial Accounting Standards Board is the private sector group recognized by the Securities and Exchange Commission and the American Institute of Certified Public Accountants to establish and improve FAS standards.
- **Fence Option**: From a coal producer's perspective, a fence would entail buying a put option (as protection against the market collapsing) and selling a call option (giving up some upside in order to "finance" a portion of the put option premium). From a generator's perspective, a fence would be buying a call option (as protection against the market soaring) and selling a put option (giving up some downside in order to "finance" a portion of the call option premium). See definition for costless collar.
- **Flake:** (verb or noun) A bad label for a counterparty. Basically, it is someone who reneged on a deal. There are obviously different degrees of flaking (i.e. finding a lame clause to dispute, selectively using credit issues as a reason, etc.).
- **Flat Position:** Your "longs" (purchases) offset your "shorts" (sales). You may have hundreds of trades in your trading book and still have a flat position.
- **Follow Market:** After executing a trade, if your broker asks you what your "follow" is, he wants to know if you are still buying or selling and, if so, what is your follow bid or offer.
- **Forward Contract:** refers to an OTC contract to buy or sell coal, typically a standardized generic contract for delivery at a specified time period in the future.

- **Forward Price Curves**: refers to market-derived prices of a specific product for delivery over specific time horizons. Forward price curves are different than price forecasts. Forward curves reflect the price where the product could be bought or sold today for shipment in specific future time periods. Forecasts reflect an opinion of where prices will be in specific future time periods and are not necessarily where transactions could be made today for shipments in specific future time periods. Forward curves are derived from bids/offers in the OTC and traditional markets.
- **Forward Freight Agreements (FFA)**: refers to the swaps market for ocean freight. The indices are compiled by the Baltic Freight Exchange and cover voyage, time charter and basket indices.
- **Futures Contract**: Refers to a standardized contract that is traded on a regulated futures exchange. [As opposed to forward contracts, swaps and options that are traded over-the-counter (OTC)] The only futures contract in the coal sector is the NYMEX Capp contract traded on the New York Mercantile Exchange. The trading of the "NYMEX look-alike" in the OTC market overshadows liquidity in the NYMEX Capp contract.
- **Gamma**: One of "the Greeks." Refers to the change in an option's delta for each $1 change in forward market.
- **Greeks**: Refers to an option's non-linear properties measured by Black Scholes-derived "delta," "gamma," "rho," "theta" and "vega." The movements are intuitive: price, time and volatility. The science comes in quantifying the amounts.
- **Hedging**: refers to any transactions or decisions, whether it is in the traditional or OTC market, that reduce a company's exposure to price volatility.
- **Hit the Bid:** You sell at the bidder's price.
- **Hub risk**: The risk factors that affect the entire hub as opposed to Basis risk which assesses how your product varies from the hub product.
- **I'm out:** If your bid or offer has not been hit or lifted, you can walk away at any time (after you inform the broker). However, you will have people scratching their heads. If you were a buyer two minutes ago, why are you not now? However, markets move on information. At any time prior to a trade, you can exit.
- **Implied and Historical Price Volatility**: Typically expressed in annualized terms, volatility depicts the percentage that the price of a commodity will fluctuate around its mean (with a probability of one standard deviation). Two types of volatility are important to the options trader: historical and implied. Historical volatility is a mathematical calculation of actual price gyrations. Implied volatility is the option market's view of future volatility. It is derived from the Black-Scholes model using the option premium and the other inputs that are known at the time of execution: the forward price, the strike price, the expiration date and the risk-free interest rate.
- **Implied Freight**: API 2 (ARA Index) – API 4 (RB1 Index) = Implied Freight
- **Index**: refers to a price marker that is supposed to be representative of the underlying market price of a specific product for delivery during a specific time period. ("All Brokers Index," Platts, API 2, GlobalCOAL's NEWC Index, Barlow Jonkers, etc.) Can be objectively or subjectively derived. Traditional transactions can be linked to indices. Swap trades are always based on an index.

- **In Jail**: refers to a trader that "disciplines" its OTC broker by refraining to trade for a specific time period. The reasons vary from poor trade execution to blaming the broker for the trader's own stupidity.
- **In-the-money**: An option with intrinsic and extrinsic value (If exercised today, the contractual purchase or sale price of the underlying would result in an immediate profit.)
- **Intrinsic Value/Call Option**: How much the option is in-the-money. Forward price - Strike price =. Intrinsic value (negative number = zero). $55 Forward Price - $52 Strike Price = $3 Intrinsic Value
- **Intrinsic Value/Put Option**: How much the option is in-the-money. Strike price - Forward price =. Intrinsic value (negative number = zero). $55 Put Strike Price - $52 Forward Price = $3 Intrinsic Value
- **ISDA Contract**: refers to the standardized terms and conditions for swaps and derivatives as adopted by the International Swaps and Derivative Association. (see www.isda.org)
- **Lift the Offer:** You buy at the offered price.
- **Liquidated Damages**: refers to the penalties for non-performance in an OTC contract. Standardized contracts are not mine-specific and, unless acts of God affect the entire shipping or mining sector, performance is mandatory. Unlike traditional contracts, there is virtually no "wiggle room" for delays, postponements or relaxation of quality specifications. The aggrieved party is made financially whole if it has to buy or sell coal to fulfill the other party's obligations. Instead of giving the other party a "blank check," the counterparty with the performance problem typically pays whatever it must to honor the contracts terms and conditions. Liquidated damages removes the main focus from the coal mines, power plants and/or coal trading experience to the quality of the counterparty's balance sheet.
- **Liquidity**: refers to the number of regular, ready buyers/sellers of particular products for specific time periods (i.e. PRB 8800 Cal 2009, API 2 Q4 2009, CSX 12500 Cal 2010, etc.). A mature OTC market consistently has multiple buyers/sellers who are bidding/offering within a narrow price range and for time periods that range from prompt delivery to delivery several years hence. A developing OTC market often has only one or two bids/offers for each product and time period and not always on a daily basis. Typically there is more liquidity in the prompt trading periods than further out on the time line.
- **Long Position**: your "longs" (purchases) outnumber your "shorts" (sales). Refers to a counterparty that has bought something that it has not yet sold or to a counterparty that will produce something that it has not yet sold.
- **Marked to Market (M2M)**: refers to the method of valuing contracts (OTC and traditional) by comparing the original transaction price to the current forward price curves over the life of the contract. Essential for measuring the credit exposure to counterparties. Essential for reporting the value of options. Essential for calculating VaR (Value at Risk) and other "revenue at risk" metrics. M2M can be a useful management tool for determining the effectiveness of risk management strategies.
- **Mine:** If you say "mine," it means you just bought at the offer price. If the broker says "mine," it means you just sold at the offer price.
- **Natural Long**: refers to a counterparty that has a long position by virtue of its role in the marketplace (coal producer).

- **Natural Short**: refers to a counterparty that has a short position by virtue of its role in the marketplace (power generators, steel makers, cement companies, etc.).
- **Notional Volume**: Refers to the volume used in a swap contract.
- **Offer**: refers to the price at which a counterparty <u>wants</u> to sell and where the other counterparty <u>could</u> buy.
- **Options**: refers to a contract that provides the option holder with the right to sell (a put option) or buy (a call option) a product at a fixed price for shipment on a fixed date in the future.
- **Option Holder:** The party that buys the option.
- **Option Notification**: Method of exercising option. Many trading entities have recorded lines and accept verbal notification to exercise an option. Some parties insist on dual notification (verbal and fax). Date, time, method and manner must be specifically stated in the contract.
- **Option Writer:** The party that sells the option.
- **OTC Market**: <u>O</u>ver <u>the</u> <u>C</u>ounter. The OTC market refers to transactions between two counterparties for standardized physical or financial products and facilitated by OTC brokers or proprietary trading screens (GlobalCoal). Prior to the matching up of the two counterparties, the bid and the offer are anonymous to the market.
- **OTC Screen Trading**: instead of voice brokers canvassing the market for the highest bid and lowest offer, market participants use a proprietary internet venue to place bids to purchase and offers to sell. In both formats, the bids and offers remain anonymous until the transaction in executed. In the case of the screen, the mouse click executes the transaction. GlobalCoal and ICE are the dominant screen brokers in the coal industry although many "voice brokers" are adding the ability to trade on screen.
- **OTC Voice Brokers**: refers to the individuals that continually canvas the market for the highest bid and the lowest offer in a wide array of products and time periods. The companies behind the bids and offers remain anonymous until the two are matched up in a transaction. All conversations are recorded. Brokerage firms are highly regulated. OTC brokers do not take positions and charge each side of the transaction a minimal fixed commission (between $0.01 - $0.05/ton).
- **Out-of-the-money**: An option without intrinsic value and with extrinsic value (time value). If exercised today, the contractual purchase or sales price of the underlying would result in a loss.
- **P & C:** Private & Confidential. From time to time, some companies will request that you keep the trade details P&C (counterparty names are never announced anyway). Sometimes it is for a legitimate reason, such as saving face with another trading partner or avoiding an embarrassing situation with another broker. Other times, the request is to further a trading agenda, in which case it may not necessarily be in your best interest to comply. It is considered good manners to comply with a p & c request, but if you suspect the other side of the trade is using it as a reason to get off as many trades without spooking the market or for another trading strategy that does not seem to be in your best interest, you have every right to refuse. This does not occur with screen trading.
- **P/L**: refers to a profit and loss statement. P/Ls are usually generated daily using the Marked-to-Market accounting method.
- **Pedagogy:** The study or art of teaching. Also, the strategies or order of instruction.

- **Premium**: The price the option holder pays the option writer for the option. The premium is equal to the intrinsic and the extrinsic value. Premiums are always paid at the beginning of the contract.
- **Price Volatility**: refers to the percentage (usually annualized) that the price of a commodity fluctuates around its mean over a specified time period. Historical price volatility is a snapshot of past fluctuations. Implied price volatility is the market's perception of future volatility and is derived from mathematical modeling, the most famous of which is the Black-Scholes Option Model. High price volatility is not necessarily a sign that prices will trend higher or lower. It is a sign of market uncertainty and the expected propensity of prices to fluctuate erratically.
- **Procedures & Protocol**: refers to the document that defines all facets of trading: position limits, authorized products, authorized trading venues, trading authority, credit procedures, hedging strategies, composition of the risk management committee, separation of treasury/back-office/trading, VaR (Value at Risk), etc.
- **Put Option:** The holder of a put option has the right (not the obligation) to sell to the option writer a specified quantity for shipment during a specific time period at a specified price.
- **Real Option**: refers to a physical asset that has imbedded optionality: power plant, stockpile, ocean-going vessel, coal mine, etc.
- **Roach Motel**: refers to the ease of entering into a trade and the difficulty of exiting. This is a sign of an illiquid market.
- **Rho**: One of "the Greeks." Refers to the change in an option's value for each 1% change in risk free interest rate.
- **Risk Management Committee**: refers to an "in-house" oversight committee comprised of various departments: executive, credit, legal, back-office and trading.
- **Risk Management Instruments**: refers to products available in the OTC market that are used by risk-averse participants to reduce exposure to market fluctuations and by speculators to take on risk. These products include options, swaps, basis spreads, standardized physicals, etc.
- **Rogue Trader Risk**: refers to worst case outcomes that arise when the treasury, operations and transaction functions are not properly separated and controlled. The term is a misnomer. Even in risk-averse organizations that have no "trading" function, the unfortunate combination of poor controls, poor risk management strategies, human error and price swings have led to significant losses that are labeled as rogue trader risk. Examples -Ford: Palladium +$ 1 billion losses; Volkswagen: FX/+$200 million losses; Procter & Gamble: Interest Rate/+$150 million losses; etc.
- **Settlement Date**: refers to the date at which the financial settlement of a swap trade is transferred.
- **Settlement Price**: refers to the method of determining the index (average of month, average of three months, etc.)
- **Short Position**: your "shorts" (sales) outnumber your "longs" (purchases). Refers to a counterparty that has sold something that it does not yet own or to a counterparty that will consume something that it has not yet bought.

- **Spark Spread**: refers to the generator's gross profit margin (cost of fuel vs. price of electricity). Counterparties will enter into spark spreads to lock in the profit margin (or basis spread) or to take speculative positions. The "dark spread" is often used to denote a coal/electricity spark spread.
- **"Split the Middle":** Instead of going back and forth with counter offers, this is a "meet half way approach." There is always a chance that someone else will jump inside of the trade, and one side or the other will not get done. This method makes sure that does not happen and speeds up the trade.
- **Standardized Physicals**: refers to standardized quality specifications, premiums, penalties, rejections, etc. that have been accepted by the OTC participants to represent a standardized generic product (ARA, Bolivar, NEWC, RB1, NYMEX look-alike, PRB 8800, etc.).
- **Standardized Contract**: refers to a standardized, "master contract" whose terms and conditions are pre-approved by the OTC market participants (i.e., the SCoTA: Standardized Coal Trading Agreement). The only variables are: product, volume, price and time period. Active OTC participants typically sign master contracts with each other that outline the terms and conditions as well as the generic quality specifications. When the transaction is executed, a two-page confirmation is all that is required to memorialize the transaction. Companies without master contracts must exchange long form standardized contracts for each transaction.
- **Straddle Option**: An option that combines a put and call with the same strike price and expiration date.
- **Strangle Option**: An option that combines a put and call with different strike prices and the same expiration date.
- **Strike Price**: The price at which the underlying commodity can be sold or purchased.
- **Strip**: Refers to the individual components of a large time period. Cal 2009 = Q1 + Q2 + Q3 + Q4. Q1 = Jan + Feb + Mar
- **Structured Product**: refers to OTC risk management instruments that are bundled together, or to a traditional purchase/sale transaction. For example, a sale to an end user that allows it to increase volume (call option + forward contract), change from fixed to floating (indexed sale + swaption) and walk-away from the contract at any time (put option + forward contract).
- **Swaps**: refers to contracts to exchange cash flows based on an agreed upon index (fixed for floating). Used by risk-averse participants to lock-in prices of physical transactions that are linked to the same index and used by speculators to take market positions.
- **Swaption**: refers to a call or put option on a swap.
- **Synthetic Options and Forward Contracts**: Refers to the Black Scholes put/call parity. Combinations of call, put and forward contracts can result in instruments whose payouts mimic a different instrument. For example, a call combined with a long forward contract equals a short put position.
- **Theta**: One of "the Greeks." Refers to the change in an option's value for each one day change in time. Also known as time decay.
- **Trading**: refers to an all-encompassing term that covers everything from using the OTC market to reduce risk to using the OTC market for speculative purposes.

- **Traditional Market**: refers to non-standardized terms & conditions, bilateral negotiations between end user/producer/physical trader, usually mine or power plant-specific, usually lots of "give and take" on both side regarding scheduling and performance problems.
- **VaR (Value at Risk):** refers to a maximum loss that a trading position can incur within a certain time frame and a certain confidence level (1 – 2 standard deviations). The time frame is usually determined by the time required to liquidate the position in an orderly manner.
- **Vega**: One of "the Greeks." Refers to the change in an option's value for each 1% change in implied volatility.
- **You're done:** It means you were matched up with a willing buyer or seller.
- **Yours:** Brokers and traders speak in short hand. By the time they say a complete sentence, someone else may have bought or sold. If you say "yours," it means you just sold at the bid price. If the broker says "yours," it means you just bought at the bid price.